

Tables for finding the Latitude, &c.

TABLE I.—Sun's Declination for every day at apparent noon, for the meridian of Greenwich, with the differences for 1 hour or 15° of West longitude.

| Day of M. | JANUARY. | | | | FEBRUARY. | | | | MARCH. | | | | APRIL. | | | | MAY. | | | | JUNE. | | | | | | |
|-----------|--------------|----|----|------|--------------|-------|-------|-------|--------------|----|----|------|--------------|-------|-------|-------|--------------|----|----|------|--------------|-------|-------|-------|---|---|----|
| | Declination. | | D. | | Declination. | | D. | | Declination. | | D. | | Declination. | | D. | | Declination. | | D. | | Declination. | | D. | | | | |
| | ° | ' | '' | ''' | ° | ' | '' | ''' | ° | ' | '' | ''' | ° | ' | '' | ''' | ° | ' | '' | ''' | ° | ' | '' | ''' | ° | ' | '' |
| 1 | S 23 | 02 | 40 | N 12 | S 17 | 12 | 15 | N 42 | S 7 | 20 | 44 | N 57 | N 4 | 46 | 31 | N 58 | N 15 | 15 | 19 | N 45 | N 22 | 08 | 25 | N 20 | | | |
| 2 | 22 | 57 | 38 | 13 | 16 | 55 | 08 | 43 | 6 | 57 | 49 | 57 | 5 | 09 | 34 | 58 | 15 | 33 | 12 | 44 | 22 | 16 | 10 | 19 | | | |
| 3 | 22 | 52 | 03 | 14 | 16 | 37 | 42 | 44 | 6 | 34 | 49 | 58 | 5 | 32 | 31 | 57 | 15 | 50 | 49 | 44 | 22 | 23 | 32 | 18 | | | |
| 4 | 22 | 46 | 13 | 16 | 16 | 20 | 00 | 45 | 6 | 11 | 43 | 58 | 5 | 55 | 22 | 57 | 16 | 03 | 11 | 43 | 22 | 30 | 31 | 17 | | | |
| 5 | 22 | 39 | 49 | 17 | 16 | 02 | 00 | 45 | 5 | 48 | 32 | 58 | 6 | 18 | 03 | 57 | 16 | 25 | 17 | 42 | 22 | 37 | 06 | 16 | | | |
| 6 | 22 | 32 | 59 | 18 | 15 | 43 | 43 | 46 | 5 | 25 | 16 | 58 | 6 | 40 | 47 | 56 | 16 | 42 | 03 | 42 | 22 | 43 | 17 | 15 | | | |
| 7 | 22 | 25 | 41 | 19 | 15 | 25 | 11 | 47 | 5 | 01 | 56 | 58 | 7 | 03 | 20 | 56 | 16 | 58 | 39 | 41 | 22 | 49 | 04 | 14 | | | |
| 8 | 22 | 17 | 57 | 20 | 15 | 06 | 23 | 48 | 4 | 38 | 32 | 59 | 7 | 25 | 45 | 56 | 17 | 14 | 55 | 40 | 22 | 54 | 28 | 13 | | | |
| 9 | 22 | 09 | 47 | 21 | 14 | 47 | 19 | 48 | 4 | 15 | 04 | 59 | 7 | 48 | 02 | 56 | 17 | 30 | 54 | 40 | 22 | 59 | 27 | 12 | | | |
| 10 | 22 | 01 | 11 | 22 | 14 | 28 | 01 | 49 | 3 | 51 | 33 | 59 | 8 | 10 | 12 | 55 | 17 | 46 | 35 | 39 | 23 | 04 | 02 | 11 | | | |
| 11 | 21 | 52 | 09 | 23 | 14 | 08 | 28 | 49 | 3 | 27 | 59 | 59 | 8 | 32 | 14 | 55 | 18 | 01 | 59 | 38 | 23 | 08 | 12 | 10 | | | |
| 12 | 21 | 42 | 41 | 24 | 13 | 48 | 41 | 50 | 3 | 04 | 23 | 59 | 8 | 54 | 07 | 55 | 18 | 17 | 04 | 37 | 23 | 11 | 58 | 9 | | | |
| 13 | 21 | 32 | 48 | 25 | 13 | 28 | 41 | 50 | 2 | 40 | 45 | 59 | 9 | 15 | 51 | 54 | 18 | 31 | 51 | 37 | 23 | 15 | 20 | 8 | | | |
| 14 | 21 | 22 | 30 | 26 | 13 | 08 | 27 | 51 | 2 | 17 | 05 | 59 | 9 | 37 | 26 | 54 | 18 | 46 | 19 | 36 | 23 | 18 | 17 | 7 | | | |
| 15 | 21 | 11 | 47 | 27 | 12 | 48 | 01 | 52 | 1 | 53 | 24 | 59 | 9 | 58 | 51 | 53 | 19 | 00 | 28 | 35 | 23 | 20 | 49 | 6 | | | |
| 16 | 21 | 00 | 40 | 28 | 12 | 27 | 22 | 52 | 1 | 29 | 42 | 59 | 10 | 20 | 06 | 53 | 19 | 14 | 17 | 34 | 23 | 22 | 56 | 5 | | | |
| 17 | 20 | 49 | 09 | 29 | 12 | 06 | 32 | 53 | 1 | 05 | 59 | 59 | 10 | 41 | 11 | 52 | 19 | 27 | 47 | 33 | 23 | 24 | 39 | 4 | | | |
| 18 | 20 | 37 | 14 | 30 | 11 | 45 | 30 | 53 | 0 | 42 | 17 | 59 | 11 | 02 | 05 | 52 | 19 | 40 | 57 | 32 | 23 | 25 | 57 | 3 | | | |
| 19 | 20 | 24 | 56 | 31 | 11 | 24 | 17 | 53 | 0 | 18 | 35 | 59 | 11 | 22 | 48 | 52 | 19 | 53 | 47 | 32 | 23 | 26 | 50 | 2 | | | |
| 20 | 20 | 12 | 15 | 32 | 11 | 02 | 54 | 54 | N 0 | 05 | 07 | 59 | 11 | 43 | 20 | 51 | 20 | 06 | 17 | 31 | 23 | 27 | 18 | 1 | | | |
| 21 | 19 | 59 | 11 | 33 | 10 | 41 | 20 | 54 | 0 | 28 | 47 | 59 | 12 | 03 | 41 | 51 | 20 | 18 | 26 | 30 | 22 | 27 | 21 | 0 | | | |
| 22 | 19 | 45 | 45 | 34 | 10 | 19 | 37 | 55 | 0 | 52 | 26 | 59 | 12 | 23 | 49 | 50 | 20 | 30 | 14 | 29 | 23 | 27 | 00 | S 1 | | | |
| 23 | 19 | 31 | 57 | 36 | 9 | 57 | 44 | 55 | 1 | 16 | 04 | 59 | 12 | 43 | 45 | 50 | 20 | 41 | 41 | 28 | 23 | 26 | 14 | 2 | | | |
| 24 | 19 | 17 | 47 | 36 | 9 | 35 | 42 | 55 | 1 | 39 | 39 | 59 | 13 | 03 | 29 | 49 | 20 | 52 | 47 | 27 | 23 | 25 | 04 | 3 | | | |
| 25 | 19 | 03 | 16 | 37 | 9 | 13 | 32 | 56 | 2 | 03 | 12 | 59 | 13 | 23 | 00 | 49 | 21 | 03 | 32 | 26 | 23 | 23 | 23 | 4 | | | |
| 26 | 18 | 48 | 24 | 38 | 8 | 51 | 13 | 56 | 2 | 26 | 43 | 59 | 13 | 42 | 18 | 48 | 21 | 13 | 54 | 25 | 23 | 21 | 28 | 6 | | | |
| 27 | 18 | 33 | 11 | 38 | 8 | 23 | 47 | 56 | 2 | 50 | 10 | 59 | 14 | 01 | 22 | 47 | 21 | 23 | 55 | 25 | 23 | 19 | 04 | 7 | | | |
| 28 | 18 | 17 | 39 | 39 | 8 | 06 | 13 | 57 | 3 | 13 | 34 | 58 | 14 | 20 | 13 | 47 | 21 | 33 | 34 | 24 | 23 | 16 | 14 | 8 | | | |
| 29 | 18 | 01 | 47 | 40 | 7 | 43 | 31 | 57 | 3 | 36 | 55 | 58 | 14 | 38 | 49 | 46 | 21 | 42 | 51 | 23 | 23 | 13 | 00 | 9 | | | |
| 30 | 17 | 45 | 35 | 41 | ..... | ..... | ..... | ..... | 4 | 00 | 11 | 58 | 14 | 57 | 12 | 46 | 21 | 51 | 45 | 22 | 23 | 09 | 22 | 10 | | | |
| 31 | 17 | 29 | 04 | 42 | ..... | ..... | ..... | ..... | 4 | 23 | 24 | 58 | ..... | ..... | ..... | ..... | 22 | 00 | 16 | 21 | ..... | ..... | ..... | ..... |  |  |  |

| Day of M. | JULY. | | | | AUGUST. | | | | SEPTEMBER. | | | | OCTOBER. | | | | NOVEMBER. | | | | DECEMBER. | | | | | | |
|-----------|--------------|----|----|------|--------------|----|----|------|--------------|-------|-------|-------|--------------|----|----|------|--------------|-------|-------|-------|--------------|----|----|------|---|---|----|
| | Declination. | | D. | | Declination. | | D. | | Declination. | | D. | | Declination. | | D. | | Declination. | | D. | | Declination. | | D. | | | | |
| | ° | ' | '' | ''' | ° | ' | '' | ''' | ° | ' | '' | ''' | ° | ' | '' | ''' | ° | ' | '' | ''' | ° | ' | '' | ''' | ° | ' | '' |
| 1 | N 23 | 05 | 20 | S 11 | N 17 | 53 | 47 | S 38 | N 8 | 05 | 16 | S 55 | S 3 | 24 | 37 | S 58 | S 14 | 37 | 55 | S 48 | S 21 | 54 | 55 | S 23 | | | |
| 2 | 23 | 00 | 53 | 12 | 17 | 38 | 22 | 39 | 7 | 43 | 20 | 55 | 3 | 47 | 34 | 58 | 14 | 56 | 55 | 47 | 22 | 03 | 48 | 22 | | | |
| 3 | 22 | 56 | 02 | 13 | 17 | 22 | 39 | 40 | 7 | 21 | 17 | 55 | 4 | 11 | 08 | 58 | 15 | 15 | 41 | 47 | 22 | 12 | 15 | 21 | | | |
| 4 | 22 | 50 | 47 | 14 | 17 | 06 | 40 | 40 | 6 | 59 | 06 | 56 | 4 | 34 | 19 | 58 | 15 | 34 | 12 | 46 | 22 | 20 | 16 | 19 | | | |
| 5 | 22 | 45 | 09 | 15 | 16 | 50 | 24 | 41 | 6 | 36 | 48 | 56 | 4 | 57 | 27 | 58 | 15 | 52 | 26 | 45 | 22 | 27 | 51 | 18 | | | |
| 6 | 22 | 39 | 06 | 16 | 16 | 33 | 51 | 42 | 6 | 14 | 24 | 56 | 5 | 20 | 32 | 58 | 16 | 10 | 26 | 45 | 22 | 34 | 59 | 17 | | | |
| 7 | 22 | 32 | 40 | 17 | 16 | 17 | 03 | 42 | 5 | 51 | 54 | 56 | 5 | 43 | 32 | 57 | 16 | 28 | 08 | 44 | 22 | 41 | 41 | 16 | | | |
| 8 | 22 | 25 | 51 | 18 | 15 | 59 | 58 | 43 | 5 | 29 | 18 | 57 | 6 | 06 | 28 | 57 | 16 | 45 | 34 | 43 | 22 | 47 | 56 | 15 | | | |
| 9 | 22 | 18 | 38 | 19 | 15 | 42 | 39 | 44 | 5 | 06 | 37 | 57 | 6 | 29 | 18 | 57 | 17 | 02 | 43 | 42 | 22 | 53 | 44 | 14 | | | |
| 10 | 22 | 11 | 02 | 19 | 15 | 25 | 04 | 44 | 4 | 43 | 50 | 57 | 6 | 52 | 04 | 57 | 17 | 19 | 34 | 42 | 22 | 59 | 05 | 13 | | | |
| 11 | 22 | 03 | 04 | 20 | 15 | 07 | 15 | 45 | 4 | 20 | 59 | 57 | 7 | 14 | 43 | 57 | 17 | 36 | 07 | 41 | 23 | 03 | 59 | 12 | | | |
| 12 | 21 | 54 | 42 | 21 | 14 | 49 | 11 | 45 | 3 | 58 | 03 | 57 | 7 | 37 | 17 | 56 | 17 | 52 | 22 | 40 | 23 | 08 | 25 | 11 | | | |
| 13 | 21 | 45 | 58 | 22 | 14 | 30 | 53 | 46 | 3 | 35 | 03 | 58 | 7 | 59 | 44 | 56 | 18 | 08 | 18 | 39 | 23 | 12 | 23 | 10 | | | |
| 14 | 21 | 36 | 52 | 23 | 14 | 12 | 21 | 47 | 3 | 12 | 00 | 58 | 8 | 22 | 05 | 56 | 18 | 23 | 55 | 39 | 23 | 15 | 54 | 8 | | | |
| 15 | 21 | 27 | 23 | 24 | 13 | 53 | 35 | 47 | 2 | 48 | 52 | 58 | 8 | 44 | 18 | 55 | 18 | 39 | 13 | 38 | 23 | 18 | 57 | 7 | | | |
| 16 | 21 | 17 | 33 | 25 | 13 | 34 | 37 | 48 | 2 | 25 | 42 | 58 | 9 | 06 | 24 | 55 | 18 | 54 | 10 | 37 | 23 | 21 | 32 | 6 | | | |
| 17 | 21 | 07 | 21 | 26 | 13 | 15 | 26 | 48 | 2 | 02 | 29 | 58 | 9 | 28 | 22 | 55 | 19 | 08 | 48 | 36 | 23 | 23 | 38 | 5 | | | |
| 18 | 20 | 56 | 48 | 27 | 12 | 56 | 02 | 49 | 1 | 39 | 14 | 58 | 9 | 50 | 12 | 54 | 19 | 23 | 05 | 35 | 23 | 25 | 17 | 4 | | | |
| 19 | 20 | 45 | 53 | 28 | 12 | 36 | 26 | 49 | 1 | 15 | 56 | 58 | 10 | 11 | 53 | 54 | 19 | 37 | 01 | 34 | 23 | 26 | 28 | 2 | | | |
| 20 | 20 | 34 | 38 | 29 | 12 | 16 | 38 | 50 | 0 | 52 | 36 | 58 | 10 | 33 | 25 | 54 | 19 | 50 | 36 | 34 | 23 | 27 | 10 | 1 | | | |
| 21 | 20 | 23 | 02 | 29 | 11 | 56 | 38 | 50 | 0 | 29 | 15 | 58 | 10 | 54 | 48 | 53 | 20 | 03 | 50 | 33 | 23 | 27 | 24 | 0 | | | |
| 22 | 20 | 11 | 05 | 30 | 11 | 36 | 27 | 51 | S 0 | 05 | 52 | 58 | 11 | 16 | 02 | 53 | 20 | 16 | 41 | 32 | 23 | 27 | 10 | N 1 | | | |
| 23 | 19 | 58 | 48 | 31 | 11 | 16 | 05 | 51 | S 0 | 17 | 32 | 58 | 11 | 37 | 05 | 52 | 20 | 29 | 10 | 31 | 23 | 26 | 27 | 2 | | | |
| 24 | 19 | 46 | 12 | 32 | 10 | 55 | 31 | 52 | 0 | 40 | 57 | 59 | 11 | 57 | 58 | 52 | 20 | 41 | 16 | 30 | 23 | 25 | 17 | 4 | | | |
| 25 | 19 | 33 | 15 | 33 | 10 | 34 | 48 | 52 | 1 | 04 | 21 | 59 | 12 | 18 | 40 | 52 | 20 | 52 | 59 | 29 | 23 | 23 | 38 | 5 | | | |
| 26 | 19 | 19 | 59 | 34 | 10 | 13 | 54 | 52 | 1 | 27 | 46 | 59 | 12 | 39 | 10 | 51 | 21 | 04 | 19 | 28 | 23 | 21 | 30 | 6 | | | |
| 27 | 19 | 06 | 23 | 34 | 9 | 52 | 51 | 53 | 1 | 51 | 10 | 59 | 12 | 59 | 30 | 51 | 21 | 15 | 15 | 27 | 23 | 18 | 55 | 7 | | | |
| 28 | 18 | 52 | 29 | 35 | 9 | 31 | 37 | 53 | 2 | 14 | 34 | 58 | 13 | 19 | 37 | 50 | 21 | 25 | 47 | 26 | 23 | 15 | 51 | 8 | | | |
| 29 | 18 | 38 | 16 | 36 | 9 | 10 | 15 | 54 | 2 | 37 | 56 | 58 | 13 | 39 | 31 | 50 | 21 | 35 | 54 | 25 | 23 | 12 | 19 | 9 | | | |
| 30 | 18 | 23 | 44 | 37 | 8 | 48 | 44 | 54 | 3 | 01 | 18 | 58 | 13 | 59 | 12 | 49 | 21 | 45 | 37 | 24 | 23 | 08 | 20 | 11 | | | |
| 31 | 18 | 08 | 54 | 37 | 8 | 27 | 04 | 54 | ..... | ..... | ..... | ..... | 14 | 19 | 41 | 48 | ..... | ..... | ..... | ..... | 23 | 03 | 52 | 12 | | | |