

SWISS EPHEMERIS for the year 2116
heliocentric

JANUARY 2116

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♂ |
|------|---------|----------------------|--------------------|---------------------|---------------------|---------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| W 1 | 6 39 30 | 9 ⁵⁴ 1'58 | 9 ⁵⁴ 43 | 13 ²⁶ 26 | 21 ¹² 12 | 18 ⁴² 42 | 11 ⁹ 9 | 24 ⁸ 8 | 26 ³³ 33 | 20 ¹⁹ 19 | 18 ⁴⁴ 44 | 19 ²² 22 |
| T 2 | 6 43 26 | 10 ⁴³ 06 | 10 ⁴⁶ | 18 ⁵² | 22 ⁴⁷ | 19 ¹¹ | 11 ¹⁴ | 24 ¹⁰ | 26 ³⁴ | 20 ¹⁹ | 18 ⁴⁴ | 19 ²³ |
| F 3 | 6 47 23 | 11 ⁴⁴ 14 | 11 ⁴⁹ | 24 ⁹ | 24 ²³ | 19 ⁴¹ | 11 ¹⁹ | 24 ¹³ | 26 ³⁴ | 20 ¹⁹ | 18 ⁴⁴ | 19 ²³ |
| S 4 | 6 51 20 | 12 ⁴⁵ 22 | 12 ⁵² | 29 ¹⁶ | 25 ⁵⁹ | 20 ¹¹ | 11 ²⁵ | 24 ¹⁵ | 26 ³⁵ | 20 ²⁰ | 18 ⁴⁴ | 19 ²⁴ |
| S 5 | 6 55 16 | 13 ⁴⁶ 30 | 13 ⁵⁴ | 4 ¹⁴ 14 | 27 ³⁵ | 20 ⁴¹ | 11 ³⁰ | 24 ¹⁷ | 26 ³⁶ | 20 ²⁰ | 18 ⁴⁴ | 19 ²⁵ |
| M 6 | 6 59 13 | 14 ⁴⁷ 39 | 14 ⁵⁶ | 9 ² | 29 ¹¹ | 21 ¹² | 11 ³⁵ | 24 ¹⁹ | 26 ³⁷ | 20 ²⁰ | 18 ⁴⁵ | 19 ²⁵ |
| T 7 | 7 3 9 | 15 ⁴⁸ 48 | 15 ⁵⁸ | 13 ⁴¹ | 0 ⁴⁶ 46 | 21 ⁴² | 11 ⁴⁰ | 24 ²¹ | 26 ³⁷ | 20 ²¹ | 18 ⁴⁵ | 19 ²⁶ |
| W 8 | 7 7 6 | 16 ⁴⁹ 57 | 16 ⁵⁹ | 18 ¹¹ | 2 ²² | 22 ¹² | 11 ⁴⁵ | 24 ²³ | 26 ³⁸ | 20 ²¹ | 18 ⁴⁵ | 19 ²⁶ |
| T 9 | 7 11 2 | 17 ⁵¹ 07 | 17 ⁵⁹ | 22 ³² | 3 ⁵⁸ | 22 ⁴² | 11 ⁵¹ | 24 ²⁵ | 26 ³⁹ | 20 ²¹ | 18 ⁴⁵ | 19 ²⁷ |
| F 10 | 7 14 59 | 18 ⁵² 17 | 19 ⁰ | 26 ⁴⁵ | 5 ³⁴ | 23 ¹² | 11 ⁵⁶ | 24 ²⁷ | 26 ³⁹ | 20 ²² | 18 ⁴⁵ | 19 ²⁸ |
| S 11 | 7 18 55 | 19 ⁵³ 27 | 20 ⁰ | 0 ⁵⁰ 50 | 7 ¹⁰ | 23 ⁴³ | 12 ¹ | 24 ²⁹ | 26 ⁴⁰ | 20 ²² | 18 ⁴⁵ | 19 ²⁸ |
| S 12 | 7 22 52 | 20 ⁵⁴ 37 | 21 ⁰ | 4 ⁴⁸ | 8 ⁴⁶ | 24 ¹³ | 12 ⁶ | 24 ³¹ | 26 ⁴¹ | 20 ²³ | 18 ⁴⁶ | 19 ²⁹ |
| M13 | 7 26 49 | 21 ⁵⁵ 47 | 21 ⁵⁹ | 8 ³⁹ | 10 ²² | 24 ⁴⁴ | 12 ¹¹ | 24 ³⁴ | 26 ⁴² | 20 ²³ | 18 ⁴⁶ | 19 ³⁰ |
| T 14 | 7 30 45 | 22 ⁵⁶ 56 | 22 ⁵⁹ | 12 ²³ | 11 ⁵⁸ | 25 ¹⁴ | 12 ¹⁷ | 24 ³⁶ | 26 ⁴² | 20 ²³ | 18 ⁴⁶ | 19 ³⁰ |
| W15 | 7 34 42 | 23 ⁵⁸ 06 | 23 ⁵⁸ | 16 ¹ | 13 ³⁴ | 25 ⁴⁵ | 12 ²² | 24 ³⁸ | 26 ⁴³ | 20 ²⁴ | 18 ⁴⁶ | 19 ³¹ |
| T 16 | 7 38 38 | 24 ⁵⁹ 15 | 24 ⁵⁷ | 19 ³⁴ | 15 ¹⁰ | 26 ¹⁵ | 12 ²⁷ | 24 ⁴⁰ | 26 ⁴⁴ | 20 ²⁴ | 18 ⁴⁶ | 19 ³² |
| F 17 | 7 42 35 | 26 ⁰ 23 | 25 ⁵⁷ | 23 ¹ | 16 ⁴⁶ | 26 ⁴⁶ | 12 ³² | 24 ⁴² | 26 ⁴⁴ | 20 ²⁴ | 18 ⁴⁶ | 19 ³² |
| S 18 | 7 46 31 | 27 ¹ 31 | 26 ⁵⁶ | 26 ²⁴ | 18 ²³ | 27 ¹⁷ | 12 ³⁷ | 24 ⁴⁴ | 26 ⁴⁵ | 20 ²⁵ | 18 ⁴⁷ | 19 ³³ |
| S 19 | 7 50 28 | 28 ² 39 | 27 ⁵⁶ | 29 ⁴² | 19 ⁵⁹ | 27 ⁴⁷ | 12 ⁴³ | 24 ⁴⁶ | 26 ⁴⁶ | 20 ²⁵ | 18 ⁴⁷ | 19 ³³ |
| M20 | 7 54 24 | 29 ³ 46 | 28 ⁵⁶ | 2 ⁵⁶ 56 | 21 ³⁵ | 28 ¹⁸ | 12 ⁴⁸ | 24 ⁴⁸ | 26 ⁴⁷ | 20 ²⁵ | 18 ⁴⁷ | 19 ³⁴ |
| T 21 | 7 58 21 | 0 ⁴ 52 | 29 ⁵⁶ | 6 ⁵ | 23 ¹¹ | 28 ⁴⁹ | 12 ⁵³ | 24 ⁵⁰ | 26 ⁴⁷ | 20 ²⁶ | 18 ⁴⁷ | 19 ³⁵ |
| W22 | 8 2 18 | 1 ⁵ 57 | 0 ⁵⁷ 57 | 9 ¹² | 24 ⁴⁷ | 29 ²⁰ | 12 ⁵⁸ | 24 ⁵³ | 26 ⁴⁸ | 20 ²⁶ | 18 ⁴⁷ | 19 ³⁵ |
| T 23 | 8 6 14 | 2 ⁷ 01 | 1 ⁵⁸ | 12 ¹⁵ | 26 ²⁴ | 29 ⁵¹ | 13 ⁴ | 24 ⁵⁵ | 26 ⁴⁹ | 20 ²⁶ | 18 ⁴⁷ | 19 ³⁶ |
| F 24 | 8 10 11 | 3 ⁸ 05 | 2 ⁵⁹ | 15 ¹⁵ | 28 ⁰ | 0 ²² 22 | 13 ⁹ | 24 ⁵⁷ | 26 ⁴⁹ | 20 ²⁷ | 18 ⁴⁷ | 19 ³⁷ |
| S 25 | 8 14 7 | 4 ⁹ 07 | 4 ¹ | 18 ¹³ | 29 ³⁶ | 0 ⁵³ | 13 ¹⁴ | 24 ⁵⁹ | 26 ⁵⁰ | 20 ²⁷ | 18 ⁴⁸ | 19 ³⁷ |
| S 26 | 8 18 4 | 5 ¹⁰ 09 | 5 ³ | 21 ⁹ | 1 ¹³ 13 | 1 ²⁴ | 13 ¹⁹ | 25 ¹ | 26 ⁵¹ | 20 ²⁷ | 18 ⁴⁸ | 19 ³⁸ |
| M27 | 8 22 0 | 6 ¹¹ 09 | 6 ⁶ | 24 ² | 2 ⁴⁹ | 1 ⁵⁵ | 13 ²⁴ | 25 ³ | 26 ⁵² | 20 ²⁸ | 18 ⁴⁸ | 19 ³⁸ |
| T 28 | 8 25 57 | 7 ¹² 09 | 7 ⁹ | 26 ⁵³ | 4 ²⁶ | 2 ²⁶ | 13 ³⁰ | 25 ⁵ | 26 ⁵² | 20 ²⁸ | 18 ⁴⁸ | 19 ³⁹ |
| W29 | 8 29 53 | 8 ¹³ 08 | 8 ¹¹ | 29 ⁴³ | 6 ² | 2 ⁵⁸ | 13 ³⁵ | 25 ⁷ | 26 ⁵³ | 20 ²⁹ | 18 ⁴⁸ | 19 ⁴⁰ |
| T 30 | 8 33 50 | 9 ¹⁴ 06 | 9 ¹⁴ | 2 ³¹ 31 | 7 ³⁹ | 3 ²⁹ | 13 ⁴⁰ | 25 ⁹ | 26 ⁵⁴ | 20 ²⁹ | 18 ⁴⁸ | 19 ⁴⁰ |
| F 31 | 8 37 47 | 10 ¹⁵ 02 | 10 ¹⁷ | 5 ¹⁹ 19 | 9 ¹⁵ 15 | 4 ⁰ | 13 ⁴⁵ | 25 ¹¹ 11 | 26 ⁵⁴ | 20 ²⁹ | 18 ⁴⁹ | 19 ⁴¹ |

Delta T = 250.61 sec.

FEBRUARY 2116

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| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♂ |
|------|----------|---------------------|--------------------|--------------------|---------------------|--------------------|------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| S 1 | 8 41 43 | 11 ¹⁵ 58 | 11 ²⁰ | 8 ⁵ 5 | 10 ⁵² 52 | 4 ³² 32 | 13 ⁵¹ | 25 ¹⁴ 14 | 26 ⁵⁵ 55 | 20 ³⁰ 30 | 18 ⁴⁹ 49 | 19 ⁴² 42 |
| S 2 | 8 45 40 | 12 ¹⁶ 54 | 12 ²³ | 10 ⁵⁰ | 12 ²⁸ | 5 ³ | 13 ⁵⁶ | 25 ¹⁶ | 26 ⁵⁶ | 20 ³⁰ | 18 ⁴⁹ | 19 ⁴² |
| M 3 | 8 49 36 | 13 ¹⁷ 48 | 13 ²⁵ | 13 ³⁶ | 14 ⁵ | 5 ³⁵ | 14 ¹ | 25 ¹⁸ | 26 ⁵⁷ | 20 ³⁰ | 18 ⁴⁹ | 19 ⁴³ |
| T 4 | 8 53 33 | 14 ¹⁸ 42 | 14 ²⁷ | 16 ²⁰ | 15 ⁴² | 6 ⁷ | 14 ⁶ | 25 ²⁰ | 26 ⁵⁷ | 20 ³¹ | 18 ⁴⁹ | 19 ⁴⁴ |
| W 5 | 8 57 29 | 15 ¹⁹ 34 | 15 ²⁸ | 19 ⁵ | 17 ¹⁸ | 6 ³⁸ | 14 ¹¹ | 25 ²² | 26 ⁵⁸ | 20 ³¹ | 18 ⁴⁹ | 19 ⁴⁴ |
| T 6 | 9 1 26 | 16 ²⁰ 27 | 16 ³⁰ | 21 ⁵⁰ | 18 ⁵⁵ | 7 ¹⁰ | 14 ¹⁷ | 25 ²⁴ | 26 ⁵⁹ | 20 ³¹ | 18 ⁴⁹ | 19 ⁴⁵ |
| F 7 | 9 5 22 | 17 ²¹ 18 | 17 ³⁰ | 24 ³⁵ | 20 ³² | 7 ⁴² | 14 ²² | 25 ²⁶ | 26 ⁵⁹ | 20 ³² | 18 ⁵⁰ | 19 ⁴⁵ |
| S 8 | 9 9 19 | 18 ²² 09 | 18 ³⁰ | 27 ²⁰ | 22 ⁸ | 8 ¹³ | 14 ²⁷ | 25 ²⁸ | 27 ⁰ | 20 ³² | 18 ⁵⁰ | 19 ⁴⁶ |
| S 9 | 9 13 16 | 19 ²² 58 | 19 ³⁰ | 0 ⁷ 7 | 23 ⁴⁵ | 8 ⁴⁵ | 14 ³² | 25 ³⁰ | 27 ¹ | 20 ³² | 18 ⁵⁰ | 19 ⁴⁷ |
| M10 | 9 17 12 | 20 ²³ 47 | 20 ³⁰ | 2 ⁵⁴ | 25 ²² | 9 ¹⁷ | 14 ³⁸ | 25 ³³ | 27 ² | 20 ³³ | 18 ⁵⁰ | 19 ⁴⁷ |
| T 11 | 9 21 9 | 21 ²⁴ 35 | 21 ²⁹ | 5 ⁴² | 26 ⁵⁹ | 9 ⁴⁹ | 14 ⁴³ | 25 ³⁵ | 27 ² | 20 ³³ | 18 ⁵⁰ | 19 ⁴⁸ |
| W12 | 9 25 5 | 22 ²⁵ 21 | 22 ²⁸ | 8 ³² | 28 ³⁶ | 10 ²¹ | 14 ⁴⁸ | 25 ³⁷ | 27 ³ | 20 ³⁴ | 18 ⁵⁰ | 19 ⁴⁹ |
| T 13 | 9 29 2 | 23 ²⁶ 06 | 23 ²⁷ | 11 ²³ | 0 ¹³ 13 | 10 ⁵³ | 14 ⁵³ | 25 ³⁹ | 27 ⁴ | 20 ³⁴ | 18 ⁵¹ | 19 ⁴⁹ |
| F 14 | 9 32 58 | 24 ²⁶ 50 | 24 ²⁶ | 14 ¹⁶ | 1 ⁵⁰ | 11 ²⁶ | 14 ⁵⁸ | 25 ⁴¹ | 27 ⁴ | 20 ³⁴ | 18 ⁵¹ | 19 ⁵⁰ |
| S 15 | 9 36 55 | 25 ²⁷ 33 | 25 ²⁵ | 17 ¹¹ | 3 ²⁷ | 11 ⁵⁸ | 15 ⁴ | 25 ⁴³ | 27 ⁵ | 20 ³⁵ | 18 ⁵¹ | 19 ⁵¹ |
| S 16 | 9 40 51 | 26 ²⁸ 14 | 26 ²⁴ | 20 ⁸ | 5 ⁴ | 12 ³⁰ | 15 ⁹ | 25 ⁴⁵ | 27 ⁶ | 20 ³⁵ | 18 ⁵¹ | 19 ⁵¹ |
| M17 | 9 44 48 | 27 ²⁸ 53 | 27 ²³ | 23 ⁸ | 6 ⁴¹ | 13 ² | 15 ¹⁴ | 25 ⁴⁷ | 27 ⁷ | 20 ³⁵ | 18 ⁵¹ | 19 ⁵² |
| T 18 | 9 48 45 | 28 ²⁹ 31 | 28 ²³ | 26 ¹¹ | 8 ¹⁸ | 13 ³⁵ | 15 ¹⁹ | 25 ⁴⁹ | 27 ⁷ | 20 ³⁶ | 18 ⁵¹ | 19 ⁵² |
| W19 | 9 52 41 | 29 ³⁰ 07 | 29 ²² | 29 ¹⁶ | 9 ⁵⁵ | 14 ⁷ | 15 ²⁵ | 25 ⁵¹ | 27 ⁸ | 20 ³⁶ | 18 ⁵¹ | 19 ⁵³ |
| T 20 | 9 56 38 | 0 ³⁰ 42 | 0 ²² 22 | 2 ²⁵ 25 | 11 ³² | 14 ⁴⁰ | 15 ³⁰ | 25 ⁵⁴ | 27 ⁹ | 20 ³⁶ | 18 ⁵² | 19 ⁵⁴ |
| F 21 | 10 0 34 | 1 ³¹ 14 | 1 ²² | 5 ³⁸ | 13 ⁹ | 15 ¹² | 15 ³⁵ | 25 ⁵⁶ | 27 ⁹ | 20 ³⁷ | 18 ⁵² | 19 ⁵⁴ |
| S 22 | 10 4 31 | 2 ³¹ 46 | 2 ²³ | 8 ⁵⁴ | 14 ⁴⁶ | 15 ⁴⁵ | 15 ⁴⁰ | 25 ⁵⁸ | 27 ¹⁰ | 20 ³⁷ | 18 ⁵² | 19 ⁵⁵ |
| S 23 | 10 8 27 | 3 ³² 15 | 3 ²⁴ | 12 ¹⁴ | 16 ²³ | 16 ¹⁸ | 15 ⁴⁶ | 26 ⁰ | 27 ¹¹ | 20 ³⁷ | 18 ⁵² | 19 ⁵⁶ |
| M24 | 10 12 24 | 4 ³² 42 | 4 ²⁵ | 15 ³⁹ | 18 ¹ | 16 ⁵⁰ | 15 ⁵¹ | 26 ² | 27 ¹² | 20 ³⁸ | 18 ⁵² | 19 ⁵⁶ |
| T 25 | 10 16 20 | 5 ³³ 08 | 5 ²⁷ | 19 ⁹ | 19 ³⁸ | 17 ²³ | 15 ⁵⁶ | 26 ⁴ | 27 ¹² | 20 ³⁸ | 18 ⁵² | 19 ⁵⁷ |
| W26 | 10 20 17 | 6 ³³ 31 | 6 ²⁹ | 22 ⁴⁴ | 21 ¹⁵ | 17 ⁵⁶ | 16 ¹ | 26 ⁶ | 27 ¹³ | 20 ³⁹ | 18 ⁵³ | 19 ⁵⁸ |
| T 27 | 10 24 14 | 7 ³³ 53 | 7 ³¹ | 26 ²⁵ | 22 ⁵² | 18 ²⁹ | 16 ⁷ | 26 ⁸ | 27 ¹⁴ | 20 ³⁹ | 18 ⁵³ | 19 ⁵⁸ |
| F 28 | 10 28 10 | 8 ³⁴ 13 | 8 ³⁴ | 0 ¹¹ 11 | 24 ³⁰ | 19 ² | 16 ¹² | 26 ¹⁰ | 27 ¹⁴ | 20 ³⁹ | 18 ⁵³ | 19 ⁵⁹ |
| S 29 | 10 32 7 | 9 ³⁴ 31 | 9 ³⁶ | 4 ⁴ 4 | 26 ⁷ 7 | 19 ³⁵ | 16 ¹⁷ | 26 ¹³ | 27 ¹⁵ | 20 ⁴⁰ | 18 ⁵³ | 19 ⁵⁹ |

Delta T = 250.79 sec.

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SWISS EPHEMERIS for the year 2116
heliocentric

MARCH 2116

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♃ |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| S 1 | 10 36 3 | 10♎34'47 | 10♎38 | 8♃ 3 | 27♄44 | 20♁ 8 | 16♁22 | 26♁15 | 27♁16 | 20♁40 | 18♃53 | 20♁ 0 |
| M 2 | 10 40 0 | 11°35'02 | 11°40 | 12° 9 | 29°22 | 20°41 | 16°27 | 26°17 | 27°17 | 20°40 | 18°53 | 20° 1 |
| T 3 | 10 43 56 | 12°35'15 | 12°42 | 16°23 | 0♄59 | 21°14 | 16°33 | 26°19 | 27°17 | 20°41 | 18°53 | 20° 1 |
| W 4 | 10 47 53 | 13°35'27 | 13°43 | 20°44 | 2°36 | 21°47 | 16°38 | 26°21 | 27°18 | 20°41 | 18°54 | 20° 2 |
| T 5 | 10 51 49 | 14°35'37 | 14°44 | 25°13 | 4°14 | 22°21 | 16°43 | 26°23 | 27°19 | 20°41 | 18°54 | 20° 3 |
| F 6 | 10 55 46 | 15°35'46 | 15°45 | 29°51 | 5°51 | 22°54 | 16°48 | 26°25 | 27°19 | 20°42 | 18°54 | 20° 3 |
| S 7 | 10 59 43 | 16°35'54 | 16°45 | 4♁38 | 7°29 | 23°27 | 16°54 | 26°27 | 27°20 | 20°42 | 18°54 | 20° 4 |
| S 8 | 11 3 39 | 17°35'59 | 17°45 | 9°33 | 9° 6 | 24° 1 | 16°59 | 26°29 | 27°21 | 20°42 | 18°54 | 20° 4 |
| M 9 | 11 7 36 | 18°36'04 | 18°44 | 14°38 | 10°44 | 24°34 | 17° 4 | 26°32 | 27°22 | 20°43 | 18°54 | 20° 5 |
| T 10 | 11 11 32 | 19°36'06 | 19°43 | 19°51 | 12°21 | 25° 8 | 17° 9 | 26°34 | 27°22 | 20°43 | 18°55 | 20° 6 |
| W11 | 11 15 29 | 20°36'07 | 20°42 | 25°14 | 13°59 | 25°42 | 17°15 | 26°36 | 27°23 | 20°43 | 18°55 | 20° 6 |
| T 12 | 11 19 25 | 21°36'06 | 21°40 | 0♄46 | 15°36 | 26°15 | 17°20 | 26°38 | 27°24 | 20°44 | 18°55 | 20° 7 |
| F 13 | 11 23 22 | 22°36'03 | 22°39 | 6°26 | 17°14 | 26°49 | 17°25 | 26°40 | 27°24 | 20°44 | 18°55 | 20° 8 |
| S 14 | 11 27 18 | 23°35'58 | 23°37 | 12°14 | 18°51 | 27°23 | 17°30 | 26°42 | 27°25 | 20°45 | 18°55 | 20° 8 |
| S 15 | 11 31 15 | 24°35'51 | 24°35 | 18°11 | 20°29 | 27°57 | 17°36 | 26°44 | 27°26 | 20°45 | 18°55 | 20° 9 |
| M16 | 11 35 12 | 25°35'43 | 25°33 | 24°13 | 22° 6 | 28°31 | 17°41 | 26°46 | 27°27 | 20°45 | 18°55 | 20°10 |
| T 17 | 11 39 8 | 26°35'32 | 26°31 | 0♁22 | 23°44 | 29° 5 | 17°46 | 26°48 | 27°27 | 20°46 | 18°56 | 20°10 |
| W18 | 11 43 5 | 27°35'19 | 27°30 | 6°36 | 25°21 | 29°39 | 17°51 | 26°50 | 27°28 | 20°46 | 18°56 | 20°11 |
| T 19 | 11 47 1 | 28°35'05 | 28°28 | 12°53 | 26°59 | 0♄13 | 17°57 | 26°53 | 27°29 | 20°46 | 18°56 | 20°11 |
| F 20 | 11 50 58 | 29°34'48 | 29°27 | 19°11 | 28°36 | 0°47 | 18° 2 | 26°55 | 27°29 | 20°47 | 18°56 | 20°12 |
| S 21 | 11 54 54 | 0♁34'28 | 0♁26 | 25°31 | 0♁14 | 1°21 | 18° 7 | 26°57 | 27°30 | 20°47 | 18°56 | 20°13 |
| S 22 | 11 58 51 | 1°34'07 | 1°26 | 1♄49 | 1°51 | 1°55 | 18°12 | 26°59 | 27°31 | 20°47 | 18°56 | 20°13 |
| M23 | 12 2 47 | 2°33'43 | 2°25 | 8° 5 | 3°29 | 2°30 | 18°18 | 27° 1 | 27°32 | 20°48 | 18°57 | 20°14 |
| T 24 | 12 6 44 | 3°33'17 | 3°26 | 14°17 | 5° 6 | 3° 4 | 18°23 | 27° 3 | 27°32 | 20°48 | 18°57 | 20°15 |
| W25 | 12 10 41 | 4°32'48 | 4°26 | 20°23 | 6°44 | 3°39 | 18°28 | 27° 5 | 27°33 | 20°48 | 18°57 | 20°15 |
| T 26 | 12 14 37 | 5°32'18 | 5°27 | 26°24 | 8°21 | 4°13 | 18°33 | 27° 7 | 27°34 | 20°49 | 18°57 | 20°16 |
| F 27 | 12 18 34 | 6°31'44 | 6°29 | 2♁16 | 9°59 | 4°48 | 18°39 | 27° 9 | 27°34 | 20°49 | 18°57 | 20°17 |
| S 28 | 12 22 30 | 7°31'09 | 7°30 | 8° 1 | 11°36 | 5°22 | 18°44 | 27°12 | 27°35 | 20°50 | 18°57 | 20°17 |
| S 29 | 12 26 27 | 8°30'32 | 8°31 | 13°36 | 13°14 | 5°57 | 18°49 | 27°14 | 27°36 | 20°50 | 18°57 | 20°18 |
| M30 | 12 30 23 | 9°29'52 | 9°32 | 19° 2 | 14°51 | 6°32 | 18°55 | 27°16 | 27°37 | 20°50 | 18°58 | 20°18 |
| T 31 | 12 34 20 | 10♁29'11 | 10♁34 | 24♁19 | 16♁28 | 7♄ 6 | 19♁ 0 | 27♁18 | 27♁37 | 20♁51 | 18♃58 | 20♁19 |

Delta T = 250.96 sec.

APRIL 2116

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♃ |
|------|----------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| W 1 | 12 38 16 | 11♁28'28 | 11♁34 | 29♁26 | 18♁ 6 | 7♄41 | 19♁ 5 | 27♁20 | 27♁38 | 20♁51 | 18♃58 | 20♁20 |
| T 2 | 12 42 13 | 12°27'43 | 12°35 | 4♁23 | 19°43 | 8°16 | 19°10 | 27°22 | 27°39 | 20°51 | 18°58 | 20°20 |
| F 3 | 12 46 10 | 13°26'56 | 13°35 | 9°11 | 21°21 | 8°51 | 19°16 | 27°24 | 27°39 | 20°52 | 18°58 | 20°21 |
| S 4 | 12 50 6 | 14°26'08 | 14°35 | 13°49 | 22°58 | 9°26 | 19°21 | 27°26 | 27°40 | 20°52 | 18°58 | 20°22 |
| S 5 | 12 54 3 | 15°25'17 | 15°34 | 18°19 | 24°35 | 10° 1 | 19°26 | 27°28 | 27°41 | 20°52 | 18°59 | 20°22 |
| M 6 | 12 57 59 | 16°24'25 | 16°34 | 22°40 | 26°12 | 10°36 | 19°31 | 27°31 | 27°42 | 20°53 | 18°59 | 20°23 |
| T 7 | 13 1 56 | 17°23'31 | 17°32 | 26°53 | 27°50 | 11°11 | 19°37 | 27°33 | 27°42 | 20°53 | 18°59 | 20°23 |
| W 8 | 13 5 52 | 18°22'36 | 18°30 | 0♁58 | 29°27 | 11°47 | 19°42 | 27°35 | 27°43 | 20°53 | 18°59 | 20°24 |
| T 9 | 13 9 49 | 19°21'38 | 19°28 | 4°55 | 1♁ 4 | 12°22 | 19°47 | 27°37 | 27°44 | 20°54 | 18°59 | 20°25 |
| F 10 | 13 13 45 | 20°20'39 | 20°26 | 8°46 | 2°41 | 12°57 | 19°52 | 27°39 | 27°44 | 20°54 | 18°59 | 20°25 |
| S 11 | 13 17 42 | 21°19'37 | 21°23 | 12°30 | 4°18 | 13°33 | 19°58 | 27°41 | 27°45 | 20°54 | 18°59 | 20°26 |
| S 12 | 13 21 38 | 22°18'34 | 22°21 | 16° 8 | 5°55 | 14° 8 | 20° 3 | 27°43 | 27°46 | 20°55 | 19° 0 | 20°27 |
| M13 | 13 25 35 | 23°17'29 | 23°18 | 19°41 | 7°32 | 14°44 | 20° 8 | 27°45 | 27°47 | 20°55 | 19° 0 | 20°27 |
| T 14 | 13 29 32 | 24°16'22 | 24°15 | 23° 8 | 9° 9 | 15°19 | 20°13 | 27°47 | 27°47 | 20°56 | 19° 0 | 20°28 |
| W15 | 13 33 28 | 25°15'12 | 25°12 | 26°30 | 10°46 | 15°55 | 20°19 | 27°50 | 27°48 | 20°56 | 19° 0 | 20°28 |
| T 16 | 13 37 25 | 26°14'01 | 26° 9 | 29°48 | 12°23 | 16°30 | 20°24 | 27°52 | 27°49 | 20°56 | 19° 0 | 20°29 |
| F 17 | 13 41 21 | 27°12'48 | 27° 6 | 3♁ 2 | 14° 0 | 17° 6 | 20°29 | 27°54 | 27°49 | 20°57 | 19° 0 | 20°30 |
| S 18 | 13 45 18 | 28°11'33 | 28° 4 | 6°11 | 15°37 | 17°42 | 20°35 | 27°56 | 27°50 | 20°57 | 19° 1 | 20°30 |
| S 19 | 13 49 14 | 29°10'15 | 29° 2 | 9°18 | 17°14 | 18°18 | 20°40 | 27°58 | 27°51 | 20°57 | 19° 1 | 20°31 |
| M20 | 13 53 11 | 0♁ 8'55 | 0♁ 0 | 12°21 | 18°51 | 18°53 | 20°45 | 28° 0 | 27°52 | 20°58 | 19° 1 | 20°32 |
| T 21 | 13 57 7 | 1° 7'33 | 0°59 | 15°21 | 20°27 | 19°29 | 20°50 | 28° 2 | 27°52 | 20°58 | 19° 1 | 20°32 |
| W22 | 14 1 4 | 2° 6'08 | 1°58 | 18°19 | 22° 4 | 20° 5 | 20°56 | 28° 4 | 27°53 | 20°58 | 19° 1 | 20°33 |
| T 23 | 14 5 1 | 3° 4'41 | 2°58 | 21°14 | 23°41 | 20°41 | 21° 1 | 28° 7 | 27°54 | 20°59 | 19° 1 | 20°34 |
| F 24 | 14 8 57 | 4° 3'12 | 3°58 | 24° 7 | 25°17 | 21°17 | 21° 6 | 28° 9 | 27°54 | 20°59 | 19° 1 | 20°34 |
| S 25 | 14 12 54 | 5° 1'41 | 4°58 | 26°59 | 26°54 | 21°53 | 21°11 | 28°11 | 27°55 | 20°59 | 19° 2 | 20°35 |
| S 26 | 14 16 50 | 6° 0'08 | 5°58 | 29°48 | 28°30 | 22°30 | 21°17 | 28°13 | 27°56 | 21° 0 | 19° 2 | 20°35 |
| M27 | 14 20 47 | 6°58'33 | 6°58 | 2♁37 | 0♁ 7 | 23° 6 | 21°22 | 28°15 | 27°57 | 21° 0 | 19° 2 | 20°36 |
| T 28 | 14 24 43 | 7°56'56 | 7°59 | 5°24 | 1°43 | 23°42 | 21°27 | 28°17 | 27°57 | 21° 1 | 19° 2 | 20°37 |
| W29 | 14 28 40 | 8°55'18 | 8°59 | 8°10 | 3°20 | 24°18 | 21°33 | 28°19 | 27°58 | 21° 1 | 19° 2 | 20°37 |
| T 30 | 14 32 36 | 9♁53'37 | 9♁59 | 10♁56 | 4♁56 | 24♁55 | 21♁38 | 28♁21 | 27♁59 | 21♁ 1 | 19♃ 2 | 20♁38 |

Delta T = 251.15 sec.

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SWISS EPHEMERIS for the year 2116
heliocentric

MAY 2116

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♁ |
|------|----------|----------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| F 1 | 14 36 33 | 10M51'56 | 10M58 | 13♂41 | 6M32 | 25♂31 | 21♂43 | 28♂23 | 27II59 | 21♂2 | 19♂3 | 20♂39 |
| S 2 | 14 40 30 | 11°50'12 | 11°58 | 16°25 | 8° 8 | 26° 7 | 21°48 | 28°26 | 28° 0 | 21° 2 | 19° 3 | 20°39 |
| S 3 | 14 44 26 | 12°48'27 | 12°57 | 19°10 | 9°45 | 26°44 | 21°54 | 28°28 | 28° 1 | 21° 2 | 19° 3 | 20°40 |
| M 4 | 14 48 23 | 13°46'40 | 13°56 | 21°55 | 11°21 | 27°20 | 21°59 | 28°30 | 28° 2 | 21° 3 | 19° 3 | 20°40 |
| T 5 | 14 52 19 | 14°44'52 | 14°54 | 24°40 | 12°57 | 27°57 | 22° 4 | 28°32 | 28° 2 | 21° 3 | 19° 3 | 20°41 |
| W 6 | 14 56 16 | 15°43'03 | 15°52 | 27°26 | 14°33 | 28°34 | 22°10 | 28°34 | 28° 3 | 21° 3 | 19° 3 | 20°42 |
| T 7 | 15 0 12 | 16°41'12 | 16°50 | 0♂12 | 16° 9 | 29°10 | 22°15 | 28°36 | 28° 4 | 21° 4 | 19° 3 | 20°42 |
| F 8 | 15 4 9 | 17°39'19 | 17°47 | 2°59 | 17°45 | 29°47 | 22°20 | 28°38 | 28° 4 | 21° 4 | 19° 4 | 20°43 |
| S 9 | 15 8 5 | 18°37'25 | 18°44 | 5°47 | 19°21 | 0♂24 | 22°25 | 28°40 | 28° 5 | 21° 4 | 19° 4 | 20°44 |
| S 10 | 15 12 2 | 19°35'30 | 19°40 | 8°37 | 20°57 | 1° 1 | 22°31 | 28°42 | 28° 6 | 21° 5 | 19° 4 | 20°44 |
| M 11 | 15 15 59 | 20°33'33 | 20°37 | 11°28 | 22°33 | 1°37 | 22°36 | 28°45 | 28° 7 | 21° 5 | 19° 4 | 20°45 |
| T 12 | 15 19 55 | 21°31'34 | 21°33 | 14°22 | 24° 8 | 2°14 | 22°41 | 28°47 | 28° 7 | 21° 5 | 19° 4 | 20°46 |
| W 13 | 15 23 52 | 22°29'34 | 22°29 | 17°17 | 25°44 | 2°51 | 22°47 | 28°49 | 28° 8 | 21° 6 | 19° 4 | 20°46 |
| T 14 | 15 27 48 | 23°27'33 | 23°25 | 20°14 | 27°20 | 3°28 | 22°52 | 28°51 | 28° 9 | 21° 6 | 19° 5 | 20°47 |
| F 15 | 15 31 45 | 24°25'30 | 24°21 | 23°14 | 28°56 | 4° 5 | 22°57 | 28°53 | 28° 9 | 21° 7 | 19° 5 | 20°47 |
| S 16 | 15 35 41 | 25°23'25 | 25°18 | 26°17 | 0♂31 | 4°42 | 23° 2 | 28°55 | 28°10 | 21° 7 | 19° 5 | 20°48 |
| S 17 | 15 39 38 | 26°21'19 | 26°14 | 29°22 | 2° 7 | 5°19 | 23° 8 | 28°57 | 28°11 | 21° 7 | 19° 5 | 20°49 |
| M 18 | 15 43 35 | 27°19'11 | 27°11 | 2♂31 | 3°42 | 5°56 | 23°13 | 28°59 | 28°12 | 21° 8 | 19° 5 | 20°49 |
| T 19 | 15 47 31 | 28°17'01 | 28° 9 | 5°44 | 5°18 | 6°33 | 23°18 | 29° 2 | 28°12 | 21° 8 | 19° 5 | 20°50 |
| W 20 | 15 51 28 | 29°14'49 | 29° 6 | 9° 0 | 6°53 | 7°11 | 23°24 | 29° 4 | 28°13 | 21° 8 | 19° 6 | 20°51 |
| T 21 | 15 55 24 | 0♂12'36 | 0♂1 | 12°21 | 8°29 | 7°48 | 23°29 | 29° 6 | 28°14 | 21° 9 | 19° 6 | 20°51 |
| F 22 | 15 59 21 | 1°10'20 | 1° 3 | 15°46 | 10° 4 | 8°25 | 23°34 | 29° 8 | 28°14 | 21° 9 | 19° 6 | 20°52 |
| S 23 | 16 3 17 | 2° 8'04 | 2° 2 | 19°16 | 11°40 | 9° 2 | 23°40 | 29°10 | 28°15 | 21° 9 | 19° 6 | 20°52 |
| S 24 | 16 7 14 | 3° 5'45 | 3° 1 | 22°51 | 13°15 | 9°40 | 23°45 | 29°12 | 28°16 | 21°10 | 19° 6 | 20°53 |
| M 25 | 16 11 10 | 4° 3'25 | 4° 1 | 26°32 | 14°50 | 10°17 | 23°50 | 29°14 | 28°17 | 21°10 | 19° 6 | 20°54 |
| T 26 | 16 15 7 | 5° 1'04 | 5° 0 | 0♂18 | 16°26 | 10°54 | 23°55 | 29°16 | 28°17 | 21°10 | 19° 6 | 20°54 |
| W 27 | 16 19 4 | 5°58'42 | 5°59 | 4°11 | 18° 1 | 11°32 | 24° 1 | 29°19 | 28°18 | 21°11 | 19° 7 | 20°55 |
| T 28 | 16 23 0 | 6°56'18 | 6°59 | 8°10 | 19°36 | 12° 9 | 24° 6 | 29°21 | 28°19 | 21°11 | 19° 7 | 20°56 |
| F 29 | 16 26 57 | 7°53'54 | 7°58 | 12°17 | 21°11 | 12°47 | 24°11 | 29°23 | 28°19 | 21°12 | 19° 7 | 20°56 |
| S 30 | 16 30 53 | 8°51'28 | 8°57 | 16°31 | 22°46 | 13°24 | 24°17 | 29°25 | 28°20 | 21°12 | 19° 7 | 20°57 |
| S 31 | 16 34 50 | 9♂49'01 | 9♂56 | 20♂52 | 24♂21 | 14♂2 | 24♂22 | 29♂27 | 28II21 | 21♂12 | 19♂7 | 20♂58 |

Delta T = 251.33 sec.

JUNE 2116

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| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♁ |
|------|----------|----------|-------|-------|-------|-------|-------|-------|--------|-------|-------|-------|
| M 1 | 16 38 46 | 10♂46'34 | 10♂55 | 25♂22 | 25♂57 | 14♂39 | 24♂27 | 29♂29 | 28II22 | 21♂13 | 19♂7 | 20♂58 |
| T 2 | 16 42 43 | 11°44'05 | 11°53 | 0♂0 | 27°32 | 15°17 | 24°32 | 29°31 | 28°22 | 21°13 | 19° 8 | 20°59 |
| W 3 | 16 46 39 | 12°41'36 | 12°51 | 4°47 | 29° 7 | 15°55 | 24°38 | 29°33 | 28°23 | 21°13 | 19° 8 | 20°59 |
| T 4 | 16 50 36 | 13°39'06 | 13°48 | 9°43 | 0♂42 | 16°32 | 24°43 | 29°35 | 28°24 | 21°14 | 19° 8 | 21° 0 |
| F 5 | 16 54 33 | 14°36'35 | 14°45 | 14°47 | 2°17 | 17°10 | 24°48 | 29°38 | 28°24 | 21°14 | 19° 8 | 21° 1 |
| S 6 | 16 58 29 | 15°34'03 | 15°42 | 20° 1 | 3°52 | 17°48 | 24°54 | 29°40 | 28°25 | 21°14 | 19° 8 | 21° 1 |
| S 7 | 17 2 26 | 16°31'30 | 16°38 | 25°24 | 5°27 | 18°25 | 24°59 | 29°42 | 28°26 | 21°15 | 19° 8 | 21° 2 |
| M 8 | 17 6 22 | 17°28'57 | 17°34 | 0♂56 | 7° 2 | 19° 3 | 25° 4 | 29°44 | 28°27 | 21°15 | 19° 8 | 21° 3 |
| T 9 | 17 10 19 | 18°26'24 | 18°30 | 6°37 | 8°37 | 19°41 | 25°10 | 29°46 | 28°27 | 21°15 | 19° 9 | 21° 3 |
| W 10 | 17 14 15 | 19°23'49 | 19°26 | 12°25 | 10°12 | 20°19 | 25°15 | 29°48 | 28°28 | 21°16 | 19° 9 | 21° 4 |
| T 11 | 17 18 12 | 20°21'14 | 20°21 | 18°22 | 11°47 | 20°56 | 25°20 | 29°50 | 28°29 | 21°16 | 19° 9 | 21° 4 |
| F 12 | 17 22 8 | 21°18'38 | 21°17 | 24°25 | 13°22 | 21°34 | 25°26 | 29°52 | 28°29 | 21°17 | 19° 9 | 21° 5 |
| S 13 | 17 26 5 | 22°16'02 | 22°12 | 0II34 | 14°56 | 22°12 | 25°31 | 29°55 | 28°30 | 21°17 | 19° 9 | 21° 6 |
| S 14 | 17 30 2 | 23°13'24 | 23° 8 | 6°47 | 16°31 | 22°50 | 25°36 | 29°57 | 28°31 | 21°17 | 19° 9 | 21° 6 |
| M 15 | 17 33 58 | 24°10'45 | 24° 4 | 13° 4 | 18° 6 | 23°28 | 25°41 | 29°59 | 28°32 | 21°18 | 19°10 | 21° 7 |
| T 16 | 17 37 55 | 25° 8'06 | 25° 0 | 19°23 | 19°41 | 24° 6 | 25°47 | 0♂1 | 28°32 | 21°18 | 19°10 | 21° 8 |
| W 17 | 17 41 51 | 26° 5'25 | 25°57 | 25°43 | 21°16 | 24°44 | 25°52 | 0° 3 | 28°33 | 21°18 | 19°10 | 21° 8 |
| T 18 | 17 45 48 | 27° 2'44 | 26°54 | 2♂1 | 22°51 | 25°22 | 25°57 | 0° 5 | 28°34 | 21°19 | 19°10 | 21° 9 |
| F 19 | 17 49 44 | 28° 0'01 | 27°52 | 8°17 | 24°26 | 26° 0 | 26° 3 | 0° 7 | 28°34 | 21°19 | 19°10 | 21° 9 |
| S 20 | 17 53 41 | 28°57'18 | 28°50 | 14°28 | 26° 1 | 26°38 | 26° 8 | 0° 9 | 28°35 | 21°19 | 19°10 | 21°10 |
| S 21 | 17 57 37 | 29°54'34 | 29°48 | 20°35 | 27°35 | 27°16 | 26°13 | 0°12 | 28°36 | 21°20 | 19°10 | 21°11 |
| M 22 | 18 1 34 | 0♂51'49 | 0♂47 | 26°35 | 29°10 | 27°54 | 26°19 | 0°14 | 28°37 | 21°20 | 19°11 | 21°11 |
| T 23 | 18 5 31 | 1°49'04 | 1°45 | 2♂27 | 0♂45 | 28°32 | 26°24 | 0°16 | 28°37 | 21°20 | 19°11 | 21°12 |
| W 24 | 18 9 27 | 2°46'18 | 2°44 | 8°11 | 2°20 | 29°10 | 26°29 | 0°18 | 28°38 | 21°21 | 19°11 | 21°13 |
| T 25 | 18 13 24 | 3°43'32 | 3°43 | 13°47 | 3°55 | 29°48 | 26°35 | 0°20 | 28°39 | 21°21 | 19°11 | 21°13 |
| F 26 | 18 17 20 | 4°40'45 | 4°42 | 19°13 | 5°30 | 0♂26 | 26°40 | 0°22 | 28°39 | 21°21 | 19°11 | 21°14 |
| S 27 | 18 21 17 | 5°37'58 | 5°41 | 24°29 | 7° 5 | 1° 4 | 26°45 | 0°24 | 28°40 | 21°22 | 19°11 | 21°15 |
| S 28 | 18 25 13 | 6°35'11 | 6°40 | 29°35 | 8°40 | 1°42 | 26°51 | 0°26 | 28°41 | 21°22 | 19°12 | 21°15 |
| M 29 | 18 29 10 | 7°32'23 | 7°39 | 4♂32 | 10°14 | 2°20 | 26°56 | 0°29 | 28°42 | 21°23 | 19°12 | 21°16 |
| T 30 | 18 33 7 | 8♂29'36 | 8♂37 | 9♂20 | 11♂49 | 2♂58 | 27♂1 | 0♂31 | 28II42 | 21♂23 | 19♂12 | 21♂16 |

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SWISS EPHEMERIS for the year 2116
heliocentric

JULY 2116

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♂ |
|------|----------|----------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
| W 1 | 18 37 3 | 9♁26'48 | 9♁35 | 13♃58 | 13♁24 | 3♃36 | 27♁6 | 0♁33 | 28♂43 | 21♁23 | 19♁12 | 21♃17 |
| T 2 | 18 41 0 | 10°24'01 | 10°33 | 18°27 | 14°59 | 4°14 | 27°12 | 0°35 | 28°44 | 21°24 | 19°12 | 21°18 |
| F 3 | 18 44 56 | 11°21'13 | 11°30 | 22°48 | 16°34 | 4°52 | 27°17 | 0°37 | 28°44 | 21°24 | 19°12 | 21°18 |
| S 4 | 18 48 53 | 12°18'26 | 12°27 | 27° 1 | 18° 9 | 5°31 | 27°22 | 0°39 | 28°45 | 21°24 | 19°13 | 21°19 |
| S 5 | 18 52 49 | 13°15'39 | 13°24 | 1♁ 5 | 19°44 | 6° 9 | 27°28 | 0°41 | 28°46 | 21°25 | 19°13 | 21°20 |
| M 6 | 18 56 46 | 14°12'52 | 14°20 | 5° 3 | 21°19 | 6°47 | 27°33 | 0°43 | 28°47 | 21°25 | 19°13 | 21°20 |
| T 7 | 19 0 42 | 15°10'05 | 15°16 | 8°53 | 22°54 | 7°25 | 27°38 | 0°46 | 28°47 | 21°25 | 19°13 | 21°21 |
| W 8 | 19 4 39 | 16° 7'19 | 16°12 | 12°37 | 24°29 | 8° 3 | 27°44 | 0°48 | 28°48 | 21°26 | 19°13 | 21°21 |
| T 9 | 19 8 36 | 17° 4'33 | 17° 7 | 16°15 | 26° 4 | 8°41 | 27°49 | 0°50 | 28°49 | 21°26 | 19°13 | 21°22 |
| F 10 | 19 12 32 | 18° 1'47 | 18° 3 | 19°47 | 27°39 | 9°19 | 27°54 | 0°52 | 28°49 | 21°26 | 19°13 | 21°23 |
| S 11 | 19 16 29 | 18°59'02 | 18°58 | 23°14 | 29°14 | 9°57 | 28° 0 | 0°54 | 28°50 | 21°27 | 19°14 | 21°23 |
| S 12 | 19 20 25 | 19°56'16 | 19°53 | 26°37 | 0♃49 | 10°35 | 28° 5 | 0°56 | 28°51 | 21°27 | 19°14 | 21°24 |
| M13 | 19 24 22 | 20°53'30 | 20°49 | 29°54 | 2°24 | 11°14 | 28°10 | 0°58 | 28°52 | 21°28 | 19°14 | 21°25 |
| T 14 | 19 28 18 | 21°50'45 | 21°44 | 3♂ 8 | 3°59 | 11°52 | 28°16 | 1° 0 | 28°52 | 21°28 | 19°14 | 21°25 |
| W15 | 19 32 15 | 22°47'59 | 22°41 | 6°18 | 5°34 | 12°30 | 28°21 | 1° 3 | 28°53 | 21°28 | 19°14 | 21°26 |
| T 16 | 19 36 11 | 23°45'13 | 23°37 | 9°24 | 7° 9 | 13° 8 | 28°26 | 1° 5 | 28°54 | 21°29 | 19°14 | 21°26 |
| F 17 | 19 40 8 | 24°42'27 | 24°34 | 12°27 | 8°44 | 13°46 | 28°32 | 1° 7 | 28°54 | 21°29 | 19°15 | 21°27 |
| S 18 | 19 44 5 | 25°39'42 | 25°31 | 15°27 | 10°19 | 14°24 | 28°37 | 1° 9 | 28°55 | 21°29 | 19°15 | 21°28 |
| S 19 | 19 48 1 | 26°36'56 | 26°29 | 18°25 | 11°55 | 15° 2 | 28°42 | 1°11 | 28°56 | 21°30 | 19°15 | 21°28 |
| M20 | 19 51 58 | 27°34'11 | 27°27 | 21°20 | 13°30 | 15°40 | 28°48 | 1°13 | 28°57 | 21°30 | 19°15 | 21°29 |
| T 21 | 19 55 54 | 28°31'26 | 28°25 | 24°13 | 15° 5 | 16°18 | 28°53 | 1°15 | 28°57 | 21°30 | 19°15 | 21°30 |
| W22 | 19 59 51 | 29°28'41 | 29°24 | 27° 4 | 16°40 | 16°56 | 28°58 | 1°17 | 28°58 | 21°31 | 19°15 | 21°30 |
| T 23 | 20 3 47 | 0♁25'56 | 0♁23 | 29°54 | 18°15 | 17°34 | 29° 4 | 1°20 | 28°59 | 21°31 | 19°15 | 21°31 |
| F 24 | 20 7 44 | 1°23'12 | 1°22 | 2♁42 | 19°51 | 18°12 | 29° 9 | 1°22 | 28°59 | 21°31 | 19°16 | 21°31 |
| S 25 | 20 11 40 | 2°20'28 | 2°21 | 5°29 | 21°26 | 18°50 | 29°14 | 1°24 | 29° 0 | 21°32 | 19°16 | 21°32 |
| S 26 | 20 15 37 | 3°17'45 | 3°20 | 8°16 | 23° 1 | 19°28 | 29°20 | 1°26 | 29° 1 | 21°32 | 19°16 | 21°33 |
| M27 | 20 19 34 | 4°15'03 | 4°19 | 11° 1 | 24°37 | 20° 6 | 29°25 | 1°28 | 29° 2 | 21°33 | 19°16 | 21°33 |
| T 28 | 20 23 30 | 5°12'21 | 5°18 | 13°46 | 26°12 | 20°44 | 29°30 | 1°30 | 29° 2 | 21°33 | 19°16 | 21°34 |
| W29 | 20 27 27 | 6° 9'40 | 6°16 | 16°31 | 27°47 | 21°22 | 29°36 | 1°32 | 29° 3 | 21°33 | 19°16 | 21°35 |
| T 30 | 20 31 23 | 7° 7'00 | 7°15 | 19°16 | 29°23 | 22° 0 | 29°41 | 1°34 | 29° 4 | 21°34 | 19°17 | 21°35 |
| F 31 | 20 35 20 | 8° 4'21 | 8°13 | 22♁ 0 | 0♃58 | 22♃38 | 29°46 | 1♁37 | 29♂4 | 21♁34 | 19♁17 | 21♃36 |

Delta T = 251.69 sec.

AUGUST 2116

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♂ |
|------|----------|----------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|
| S 1 | 20 39 16 | 9♁ 1'43 | 9♁11 | 24♁45 | 2♃33 | 23♃16 | 29°52 | 1♁39 | 29♂5 | 21♁34 | 19♁17 | 21♃36 |
| S 2 | 20 43 13 | 9°59'06 | 10° 8 | 27°31 | 4° 9 | 23°54 | 29°57 | 1°41 | 29° 6 | 21°35 | 19°17 | 21°37 |
| M 3 | 20 47 9 | 10°56'31 | 11° 5 | 0♁17 | 5°44 | 24°32 | 0♃ 2 | 1°43 | 29° 7 | 21°35 | 19°17 | 21°38 |
| T 4 | 20 51 6 | 11°53'56 | 12° 2 | 3° 5 | 7°20 | 25°10 | 0° 8 | 1°45 | 29° 7 | 21°35 | 19°17 | 21°38 |
| W 5 | 20 55 3 | 12°51'23 | 12°58 | 5°53 | 8°55 | 25°47 | 0°13 | 1°47 | 29° 8 | 21°36 | 19°17 | 21°39 |
| T 6 | 20 58 59 | 13°48'50 | 13°54 | 8°43 | 10°31 | 26°25 | 0°18 | 1°49 | 29° 9 | 21°36 | 19°18 | 21°40 |
| F 7 | 21 2 56 | 14°46'19 | 14°50 | 11°34 | 12° 7 | 27° 3 | 0°24 | 1°51 | 29°10 | 21°36 | 19°18 | 21°40 |
| S 8 | 21 6 52 | 15°43'49 | 15°45 | 14°27 | 13°42 | 27°41 | 0°29 | 1°54 | 29°10 | 21°37 | 19°18 | 21°41 |
| S 9 | 21 10 49 | 16°41'21 | 16°41 | 17°22 | 15°18 | 28°18 | 0°34 | 1°56 | 29°11 | 21°37 | 19°18 | 21°42 |
| M10 | 21 14 45 | 17°38'52 | 17°36 | 20°20 | 16°53 | 28°56 | 0°40 | 1°58 | 29°12 | 21°38 | 19°18 | 21°42 |
| T 11 | 21 18 42 | 18°36'25 | 18°32 | 23°20 | 18°29 | 29°34 | 0°45 | 2° 0 | 29°12 | 21°38 | 19°18 | 21°43 |
| W12 | 21 22 38 | 19°33'59 | 19°28 | 26°23 | 20° 5 | 0♃11 | 0°50 | 2° 2 | 29°13 | 21°38 | 19°19 | 21°43 |
| T 13 | 21 26 35 | 20°31'34 | 20°24 | 29°28 | 21°40 | 0°49 | 0°56 | 2° 4 | 29°14 | 21°39 | 19°19 | 21°44 |
| F 14 | 21 30 32 | 21°29'09 | 21°21 | 2♁37 | 23°16 | 1°27 | 1° 1 | 2° 6 | 29°15 | 21°39 | 19°19 | 21°45 |
| S 15 | 21 34 28 | 22°26'46 | 22°18 | 5°50 | 24°52 | 2° 4 | 1° 6 | 2° 8 | 29°15 | 21°39 | 19°19 | 21°45 |
| S 16 | 21 38 25 | 23°24'23 | 23°16 | 9° 7 | 26°28 | 2°42 | 1°12 | 2°11 | 29°16 | 21°40 | 19°19 | 21°46 |
| M17 | 21 42 21 | 24°22'01 | 24°14 | 12°27 | 28° 4 | 3°19 | 1°17 | 2°13 | 29°17 | 21°40 | 19°19 | 21°47 |
| T 18 | 21 46 18 | 25°19'41 | 25°12 | 15°53 | 29°39 | 3°57 | 1°22 | 2°15 | 29°17 | 21°40 | 19°19 | 21°47 |
| W19 | 21 50 14 | 26°17'21 | 26°11 | 19°23 | 1♁15 | 4°34 | 1°28 | 2°17 | 29°18 | 21°41 | 19°20 | 21°48 |
| T 20 | 21 54 11 | 27°15'02 | 27°10 | 22°58 | 2°51 | 5°12 | 1°33 | 2°19 | 29°19 | 21°41 | 19°20 | 21°48 |
| F 21 | 21 58 7 | 28°12'45 | 28° 9 | 26°39 | 4°27 | 5°49 | 1°39 | 2°21 | 29°20 | 21°41 | 19°20 | 21°49 |
| S 22 | 22 2 4 | 29°10'29 | 29° 8 | 0♃25 | 6° 3 | 6°26 | 1°44 | 2°23 | 29°20 | 21°42 | 19°20 | 21°50 |
| S 23 | 22 6 1 | 0♃ 8'14 | 0♃ 8 | 4°19 | 7°39 | 7° 4 | 1°49 | 2°25 | 29°21 | 21°42 | 19°20 | 21°50 |
| M24 | 22 9 57 | 1° 6'00 | 1° 7 | 8°18 | 9°15 | 7°41 | 1°55 | 2°28 | 29°22 | 21°42 | 19°20 | 21°51 |
| T 25 | 22 13 54 | 2° 3'48 | 2° 7 | 12°25 | 10°51 | 8°18 | 2° 0 | 2°30 | 29°22 | 21°43 | 19°21 | 21°52 |
| W26 | 22 17 50 | 3° 1'37 | 3° 6 | 16°39 | 12°27 | 8°55 | 2° 5 | 2°32 | 29°23 | 21°43 | 19°21 | 21°52 |
| T 27 | 22 21 47 | 3°59'28 | 4° 5 | 21° 1 | 14° 3 | 9°32 | 2°11 | 2°34 | 29°24 | 21°44 | 19°21 | 21°53 |
| F 28 | 22 25 43 | 4°57'21 | 5° 4 | 25°31 | 15°39 | 10°10 | 2°16 | 2°36 | 29°25 | 21°44 | 19°21 | 21°53 |
| S 29 | 22 29 40 | 5°55'15 | 6° 3 | 0♃ 9 | 17°15 | 10°47 | 2°21 | 2°38 | 29°25 | 21°44 | 19°21 | 21°54 |
| S 30 | 22 33 36 | 6°53'11 | 7° 2 | 4°56 | 18°51 | 11°24 | 2°27 | 2°40 | 29°26 | 21°45 | 19°21 | 21°55 |
| M31 | 22 37 33 | 7♃51'09 | 8♃ 0 | 9♃52 | 20♁28 | 12♃ 1 | 2♃32 | 2♁43 | 29♂27 | 21♁45 | 19♁21 | 21♃55 |

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SWISS EPHEMERIS for the year 2116
heliocentric

SEPTEMBER 2116

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♄ |
|------|----------|----------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|
| T 1 | 22 41 30 | 8♃49°09 | 8♃58 | 14♃57 | 22♃ 4 | 12♃38 | 2♃37 | 2♃45 | 29♂27 | 21♁45 | 19♂22 | 21♃56 |
| W 2 | 22 45 26 | 9°47'11 | 9°55 | 20°11 | 23°40 | 13°15 | 2°43 | 2°47 | 29°28 | 21°46 | 19°22 | 21°57 |
| T 3 | 22 49 23 | 10°45'15 | 10°52 | 25°35 | 25°16 | 13°52 | 2°48 | 2°49 | 29°29 | 21°46 | 19°22 | 21°57 |
| F 4 | 22 53 19 | 11°43'21 | 11°49 | 1♃ 7 | 26°53 | 14°28 | 2°53 | 2°51 | 29°30 | 21°46 | 19°22 | 21°58 |
| S 5 | 22 57 16 | 12°41'28 | 12°45 | 6°48 | 28°29 | 15° 5 | 2°59 | 2°53 | 29°30 | 21°47 | 19°22 | 21°58 |
| S 6 | 23 1 12 | 13°39'37 | 13°42 | 12°37 | 0♂ 5 | 15°42 | 3° 4 | 2°55 | 29°31 | 21°47 | 19°22 | 21°59 |
| M 7 | 23 5 9 | 14°37'48 | 14°38 | 18°33 | 1°42 | 16°19 | 3°10 | 2°57 | 29°32 | 21°47 | 19°23 | 22° 0 |
| T 8 | 23 9 5 | 15°36'01 | 15°34 | 24°37 | 3°18 | 16°55 | 3°15 | 3° 0 | 29°32 | 21°48 | 19°23 | 22° 0 |
| W 9 | 23 13 2 | 16°34'15 | 16°30 | 0♂46 | 4°55 | 17°32 | 3°20 | 3° 2 | 29°33 | 21°48 | 19°23 | 22° 1 |
| T 10 | 23 16 59 | 17°32'31 | 17°27 | 6°59 | 6°31 | 18° 9 | 3°26 | 3° 4 | 29°34 | 21°48 | 19°23 | 22° 2 |
| F 11 | 23 20 55 | 18°30'49 | 18°24 | 13°16 | 8° 8 | 18°45 | 3°31 | 3° 6 | 29°35 | 21°49 | 19°23 | 22° 2 |
| S 12 | 23 24 52 | 19°29'08 | 19°21 | 19°35 | 9°44 | 19°22 | 3°36 | 3° 8 | 29°35 | 21°49 | 19°23 | 22° 3 |
| S 13 | 23 28 48 | 20°27'28 | 20°19 | 25°55 | 11°21 | 19°58 | 3°42 | 3°10 | 29°36 | 21°50 | 19°23 | 22° 3 |
| M14 | 23 32 45 | 21°25'51 | 21°17 | 2♃13 | 12°57 | 20°35 | 3°47 | 3°12 | 29°37 | 21°50 | 19°24 | 22° 4 |
| T 15 | 23 36 41 | 22°24'14 | 22°15 | 8°29 | 14°34 | 21°11 | 3°52 | 3°14 | 29°37 | 21°50 | 19°24 | 22° 5 |
| W16 | 23 40 38 | 23°22'40 | 23°14 | 14°40 | 16°11 | 21°47 | 3°58 | 3°17 | 29°38 | 21°51 | 19°24 | 22° 5 |
| T 17 | 23 44 34 | 24°21'07 | 24°14 | 20°46 | 17°47 | 22°24 | 4° 3 | 3°19 | 29°39 | 21°51 | 19°24 | 22° 6 |
| F 18 | 23 48 31 | 25°19'35 | 25°13 | 26°46 | 19°24 | 23° 0 | 4° 8 | 3°21 | 29°40 | 21°51 | 19°24 | 22° 7 |
| S 19 | 23 52 28 | 26°18'05 | 26°13 | 2♂38 | 21° 1 | 23°36 | 4°14 | 3°23 | 29°40 | 21°52 | 19°24 | 22° 7 |
| S 20 | 23 56 24 | 27°16'37 | 27°13 | 8°22 | 22°37 | 24°12 | 4°19 | 3°25 | 29°41 | 21°52 | 19°25 | 22° 8 |
| M21 | 0 0 21 | 28°15'11 | 28°13 | 13°57 | 24°14 | 24°48 | 4°25 | 3°27 | 29°42 | 21°52 | 19°25 | 22° 8 |
| T 22 | 0 4 17 | 29°13'46 | 29°14 | 19°23 | 25°51 | 25°24 | 4°30 | 3°29 | 29°42 | 21°53 | 19°25 | 22° 9 |
| W23 | 0 8 14 | 0♃12'24 | 0♃14 | 24°39 | 27°28 | 26° 0 | 4°35 | 3°32 | 29°43 | 21°53 | 19°25 | 22°10 |
| T 24 | 0 12 10 | 1°11'03 | 1°14 | 29°45 | 29° 5 | 26°36 | 4°41 | 3°34 | 29°44 | 21°53 | 19°25 | 22°10 |
| F 25 | 0 16 7 | 2° 9'45 | 2°15 | 4♂42 | 0♃42 | 27°12 | 4°46 | 3°36 | 29°45 | 21°54 | 19°25 | 22°11 |
| S 26 | 0 20 3 | 3° 8'28 | 3°15 | 9°29 | 2°19 | 27°48 | 4°51 | 3°38 | 29°45 | 21°54 | 19°26 | 22°11 |
| S 27 | 0 24 0 | 4° 7'14 | 4°15 | 14° 7 | 3°56 | 28°24 | 4°57 | 3°40 | 29°46 | 21°55 | 19°26 | 22°12 |
| M28 | 0 27 56 | 5° 6'02 | 5°14 | 18°36 | 5°33 | 29° 0 | 5° 2 | 3°42 | 29°47 | 21°55 | 19°26 | 22°13 |
| T 29 | 0 31 53 | 6° 4'53 | 6°13 | 22°56 | 7°10 | 29°35 | 5° 7 | 3°44 | 29°47 | 21°55 | 19°26 | 22°13 |
| W30 | 0 35 50 | 7♃3'46 | 7♃12 | 27♂ 9 | 8♃47 | 0♂11 | 5♃13 | 3♃46 | 29♂48 | 21♁56 | 19♂26 | 22♃14 |

Delta T = 252.06 sec.

OCTOBER 2116

00:00 UT

| Day | Sid.t | Terra | ☾ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♄ |
|------|---------|----------|-------|-------|-------|-------|------|------|-------|-------|-------|-------|
| T 1 | 0 39 46 | 8♃2'41 | 8♃11 | 1♁13 | 10♁24 | 0♂47 | 5♃18 | 3♃49 | 29♂49 | 21♁56 | 19♂26 | 22♃15 |
| F 2 | 0 43 43 | 9° 1'38 | 9° 9 | 5°10 | 12° 1 | 1°22 | 5°24 | 3°51 | 29°50 | 21°56 | 19°26 | 22°15 |
| S 3 | 0 47 39 | 10° 0'37 | 10° 7 | 9° 0 | 13°38 | 1°58 | 5°29 | 3°53 | 29°50 | 21°57 | 19°27 | 22°16 |
| S 4 | 0 51 36 | 10°59'39 | 11° 4 | 12°44 | 15°15 | 2°33 | 5°34 | 3°55 | 29°51 | 21°57 | 19°27 | 22°16 |
| M 5 | 0 55 32 | 11°58'43 | 12° 1 | 16°22 | 16°53 | 3° 9 | 5°40 | 3°57 | 29°52 | 21°57 | 19°27 | 22°17 |
| T 6 | 0 59 29 | 12°57'49 | 12°59 | 19°54 | 18°30 | 3°44 | 5°45 | 3°59 | 29°52 | 21°58 | 19°27 | 22°18 |
| W 7 | 1 3 25 | 13°56'57 | 13°56 | 23°21 | 20° 7 | 4°19 | 5°50 | 4° 1 | 29°53 | 21°58 | 19°27 | 22°18 |
| T 8 | 1 7 22 | 14°56'07 | 14°53 | 26°43 | 21°44 | 4°54 | 5°56 | 4° 4 | 29°54 | 21°58 | 19°27 | 22°19 |
| F 9 | 1 11 19 | 15°55'19 | 15°50 | 0♂ 1 | 23°22 | 5°30 | 6° 1 | 4° 6 | 29°55 | 21°59 | 19°28 | 22°20 |
| S 10 | 1 15 15 | 16°54'33 | 16°48 | 3°14 | 24°59 | 6° 5 | 6° 7 | 4° 8 | 29°55 | 21°59 | 19°28 | 22°20 |
| S 11 | 1 19 12 | 17°53'49 | 17°46 | 6°24 | 26°36 | 6°40 | 6°12 | 4°10 | 29°56 | 21°59 | 19°28 | 22°21 |
| M12 | 1 23 8 | 18°53'07 | 18°45 | 9°30 | 28°14 | 7°15 | 6°17 | 4°12 | 29°57 | 22° 0 | 19°28 | 22°21 |
| T 13 | 1 27 5 | 19°52'26 | 19°43 | 12°33 | 29°51 | 7°50 | 6°23 | 4°14 | 29°57 | 22° 0 | 19°28 | 22°22 |
| W14 | 1 31 1 | 20°51'47 | 20°43 | 15°33 | 1♂28 | 8°25 | 6°28 | 4°16 | 29°58 | 22° 1 | 19°28 | 22°23 |
| T 15 | 1 34 58 | 21°51'10 | 21°42 | 18°30 | 3° 6 | 8°59 | 6°33 | 4°19 | 29°59 | 22° 1 | 19°28 | 22°23 |
| F 16 | 1 38 54 | 22°50'34 | 22°42 | 21°25 | 4°43 | 9°34 | 6°39 | 4°21 | 29°59 | 22° 1 | 19°29 | 22°24 |
| S 17 | 1 42 51 | 23°50'01 | 23°43 | 24°18 | 6°21 | 10° 9 | 6°44 | 4°23 | 0♃ 0 | 22° 2 | 19°29 | 22°25 |
| S 18 | 1 46 48 | 24°49'29 | 24°43 | 27°10 | 7°58 | 10°44 | 6°50 | 4°25 | 0° 1 | 22° 2 | 19°29 | 22°25 |
| M19 | 1 50 44 | 25°48'59 | 25°44 | 29°59 | 9°36 | 11°18 | 6°55 | 4°27 | 0° 2 | 22° 2 | 19°29 | 22°26 |
| T 20 | 1 54 41 | 26°48'31 | 26°45 | 2♃47 | 11°13 | 11°53 | 7° 0 | 4°29 | 0° 3 | 22° 3 | 19°29 | 22°26 |
| W21 | 1 58 37 | 27°48'04 | 27°47 | 5°35 | 12°51 | 12°27 | 7° 6 | 4°31 | 0° 3 | 22° 3 | 19°29 | 22°27 |
| T 22 | 2 2 34 | 28°47'40 | 28°48 | 8°21 | 14°28 | 13° 2 | 7°11 | 4°33 | 0° 4 | 22° 3 | 19°30 | 22°28 |
| F 23 | 2 6 30 | 29°47'18 | 29°50 | 11° 6 | 16° 6 | 13°36 | 7°16 | 4°36 | 0° 5 | 22° 4 | 19°30 | 22°28 |
| S 24 | 2 10 27 | 0♂46'58 | 0♂51 | 13°51 | 17°43 | 14°11 | 7°22 | 4°38 | 0° 5 | 22° 4 | 19°30 | 22°29 |
| S 25 | 2 14 23 | 1°46'40 | 1°52 | 16°36 | 19°21 | 14°45 | 7°27 | 4°40 | 0° 6 | 22° 4 | 19°30 | 22°30 |
| M26 | 2 18 20 | 2°46'24 | 2°53 | 19°21 | 20°58 | 15°19 | 7°33 | 4°42 | 0° 7 | 22° 5 | 19°30 | 22°30 |
| T 27 | 2 22 17 | 3°46'10 | 3°54 | 22° 6 | 22°36 | 15°53 | 7°38 | 4°44 | 0° 8 | 22° 5 | 19°30 | 22°31 |
| W28 | 2 26 13 | 4°45'59 | 4°54 | 24°51 | 24°13 | 16°27 | 7°43 | 4°46 | 0° 8 | 22° 6 | 19°30 | 22°31 |
| T 29 | 2 30 10 | 5°45'50 | 5°54 | 27°36 | 25°51 | 17° 1 | 7°49 | 4°48 | 0° 9 | 22° 6 | 19°31 | 22°32 |
| F 30 | 2 34 6 | 6°45'43 | 6°54 | 0♂23 | 27°28 | 17°35 | 7°54 | 4°51 | 0°10 | 22° 6 | 19°31 | 22°33 |
| S 31 | 2 38 3 | 7♃45'38 | 7♃53 | 3♂10 | 29♂ 6 | 18♂ 9 | 8♃ 0 | 4♂53 | 0♁10 | 22♁ 7 | 19♂31 | 22♃33 |

Delta T = 252.24 sec.

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SWISS EPHEMERIS for the year 2116
heliocentric

NOVEMBER 2116

00:00 UT

| Day | Sid.t | Terra | ☾ | ♁ | ♂ | ♄ | ♅ | ♆ | ♁ | ♃ | ♅ | ♁ |
|------|---------|----------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|
| S 1 | 2 41 59 | 8°45'35 | 8°52 | 5°58 | 0°43 | 18°43 | 8° 5 | 4°55 | 0°11 | 22° 7 | 19°31 | 22°34 |
| M 2 | 2 45 56 | 9°45'35 | 9°51 | 8°48 | 2°21 | 19°17 | 8°10 | 4°57 | 0°12 | 22° 7 | 19°31 | 22°35 |
| T 3 | 2 49 52 | 10°45'37 | 10°49 | 11°40 | 3°58 | 19°51 | 8°16 | 4°59 | 0°13 | 22° 8 | 19°31 | 22°35 |
| W 4 | 2 53 49 | 11°45'40 | 11°47 | 14°33 | 5°36 | 20°25 | 8°21 | 5° 1 | 0°13 | 22° 8 | 19°32 | 22°36 |
| T 5 | 2 57 46 | 12°45'46 | 12°45 | 17°28 | 7°13 | 20°58 | 8°26 | 5° 3 | 0°14 | 22° 8 | 19°32 | 22°36 |
| F 6 | 3 1 42 | 13°45'53 | 13°44 | 20°26 | 8°51 | 21°32 | 8°32 | 5° 6 | 0°15 | 22° 9 | 19°32 | 22°37 |
| S 7 | 3 5 39 | 14°46'02 | 14°42 | 23°26 | 10°28 | 22° 5 | 8°37 | 5° 8 | 0°15 | 22° 9 | 19°32 | 22°38 |
| S 8 | 3 9 35 | 15°46'13 | 15°40 | 26°28 | 12° 6 | 22°39 | 8°43 | 5°10 | 0°16 | 22° 9 | 19°32 | 22°38 |
| M 9 | 3 13 32 | 16°46'26 | 16°39 | 29°34 | 13°43 | 23°12 | 8°48 | 5°12 | 0°17 | 22°10 | 19°32 | 22°39 |
| T 10 | 3 17 28 | 17°46'40 | 17°38 | 2°43 | 15°21 | 23°46 | 8°53 | 5°14 | 0°18 | 22°10 | 19°32 | 22°40 |
| W11 | 3 21 25 | 18°46'56 | 18°38 | 5°56 | 16°58 | 24°19 | 8°59 | 5°16 | 0°18 | 22°10 | 19°33 | 22°40 |
| T 12 | 3 25 21 | 19°47'13 | 19°38 | 9°13 | 18°36 | 24°52 | 9° 4 | 5°18 | 0°19 | 22°11 | 19°33 | 22°41 |
| F 13 | 3 29 18 | 20°47'31 | 20°38 | 12°34 | 20°13 | 25°25 | 9°10 | 5°21 | 0°20 | 22°11 | 19°33 | 22°41 |
| S 14 | 3 33 15 | 21°47'51 | 21°39 | 15°59 | 21°50 | 25°59 | 9°15 | 5°23 | 0°20 | 22°12 | 19°33 | 22°42 |
| S 15 | 3 37 11 | 22°48'12 | 22°40 | 19°29 | 23°28 | 26°32 | 9°20 | 5°25 | 0°21 | 22°12 | 19°33 | 22°43 |
| M16 | 3 41 8 | 23°48'35 | 23°41 | 23° 5 | 25° 5 | 27° 5 | 9°26 | 5°27 | 0°22 | 22°12 | 19°33 | 22°43 |
| T 17 | 3 45 4 | 24°48'59 | 24°43 | 26°46 | 26°42 | 27°38 | 9°31 | 5°29 | 0°23 | 22°13 | 19°34 | 22°44 |
| W18 | 3 49 1 | 25°49'24 | 25°45 | 0°33 | 28°19 | 28°11 | 9°37 | 5°31 | 0°23 | 22°13 | 19°34 | 22°44 |
| T 19 | 3 52 57 | 26°49'51 | 26°47 | 4°26 | 29°57 | 28°43 | 9°42 | 5°33 | 0°24 | 22°13 | 19°34 | 22°45 |
| F 20 | 3 56 54 | 27°50'20 | 27°50 | 8°26 | 1°34 | 29°16 | 9°47 | 5°35 | 0°25 | 22°14 | 19°34 | 22°46 |
| S 21 | 4 0 50 | 28°50'50 | 28°52 | 12°33 | 3°11 | 29°49 | 9°53 | 5°38 | 0°25 | 22°14 | 19°34 | 22°46 |
| S 22 | 4 4 47 | 29°51'21 | 29°54 | 16°47 | 4°48 | 0°22 | 9°58 | 5°40 | 0°26 | 22°14 | 19°34 | 22°47 |
| M23 | 4 8 44 | 0°51'55 | 0°57 | 21° 9 | 6°25 | 0°54 | 10° 4 | 5°42 | 0°27 | 22°15 | 19°34 | 22°48 |
| T 24 | 4 12 40 | 1°52'30 | 1°59 | 25°39 | 8° 2 | 1°27 | 10° 9 | 5°44 | 0°28 | 22°15 | 19°35 | 22°48 |
| W25 | 4 16 37 | 2°53'06 | 3° 0 | 0°18 | 9°39 | 1°59 | 10°14 | 5°46 | 0°28 | 22°15 | 19°35 | 22°49 |
| T 26 | 4 20 33 | 3°53'44 | 4° 2 | 5° 5 | 11°16 | 2°32 | 10°20 | 5°48 | 0°29 | 22°16 | 19°35 | 22°49 |
| F 27 | 4 24 30 | 4°54'24 | 5° 3 | 10° 2 | 12°53 | 3° 4 | 10°25 | 5°50 | 0°30 | 22°16 | 19°35 | 22°50 |
| S 28 | 4 28 26 | 5°55'06 | 6° 4 | 15° 7 | 14°30 | 3°37 | 10°31 | 5°53 | 0°30 | 22°17 | 19°35 | 22°51 |
| S 29 | 4 32 23 | 6°55'49 | 7° 4 | 20°22 | 16° 7 | 4° 9 | 10°36 | 5°55 | 0°31 | 22°17 | 19°35 | 22°51 |
| M30 | 4 36 20 | 7°56'34 | 8° 4 | 25°45 | 17°43 | 4°41 | 10°41 | 5°57 | 0°32 | 22°17 | 19°36 | 22°52 |

Delta T = 252.42 sec.

DECEMBER 2116

00:00 UT

| Day | Sid.t | Terra | ☾ | ♁ | ♂ | ♄ | ♅ | ♆ | ♁ | ♃ | ♅ | ♁ |
|------|---------|----------|-------|-------|-------|-------|-------|------|------|-------|-------|-------|
| T 1 | 4 40 16 | 8°57'20 | 9° 3 | 1°18 | 19°20 | 5°13 | 10°47 | 5°59 | 0°33 | 22°18 | 19°36 | 22°53 |
| W 2 | 4 44 13 | 9°58'07 | 10° 2 | 6°59 | 20°57 | 5°45 | 10°52 | 6° 1 | 0°33 | 22°18 | 19°36 | 22°53 |
| T 3 | 4 48 9 | 10°58'57 | 11° 2 | 12°48 | 22°34 | 6°18 | 10°58 | 6° 3 | 0°34 | 22°18 | 19°36 | 22°54 |
| F 4 | 4 52 6 | 11°59'47 | 12° 0 | 18°45 | 24°10 | 6°50 | 11° 3 | 6° 5 | 0°35 | 22°19 | 19°36 | 22°54 |
| S 5 | 4 56 2 | 13° 0'39 | 12°59 | 24°48 | 25°47 | 7°22 | 11° 8 | 6° 8 | 0°36 | 22°19 | 19°36 | 22°55 |
| S 6 | 4 59 59 | 14° 1'32 | 13°58 | 0°58 | 27°23 | 7°53 | 11°14 | 6°10 | 0°36 | 22°19 | 19°37 | 22°56 |
| M 7 | 5 3 55 | 15° 2'25 | 14°58 | 7°11 | 29° 0 | 8°25 | 11°19 | 6°12 | 0°37 | 22°20 | 19°37 | 22°56 |
| T 8 | 5 7 52 | 16° 3'20 | 15°57 | 13°28 | 0°36 | 8°57 | 11°25 | 6°14 | 0°38 | 22°20 | 19°37 | 22°57 |
| W 9 | 5 11 49 | 17° 4'16 | 16°57 | 19°47 | 2°13 | 9°29 | 11°30 | 6°16 | 0°38 | 22°20 | 19°37 | 22°58 |
| T 10 | 5 15 45 | 18° 5'12 | 17°57 | 26° 7 | 3°49 | 10° 0 | 11°35 | 6°18 | 0°39 | 22°21 | 19°37 | 22°58 |
| F 11 | 5 19 42 | 19° 6'09 | 18°57 | 2°25 | 5°26 | 10°32 | 11°41 | 6°20 | 0°40 | 22°21 | 19°37 | 22°59 |
| S 12 | 5 23 38 | 20° 7'06 | 19°58 | 8°40 | 7° 2 | 11° 4 | 11°46 | 6°23 | 0°41 | 22°22 | 19°37 | 22°59 |
| S 13 | 5 27 35 | 21° 8'04 | 20°59 | 14°52 | 8°38 | 11°35 | 11°52 | 6°25 | 0°41 | 22°22 | 19°38 | 23° 0 |
| M14 | 5 31 31 | 22° 9'03 | 22° 0 | 20°58 | 10°14 | 12° 7 | 11°57 | 6°27 | 0°42 | 22°22 | 19°38 | 23° 1 |
| T 15 | 5 35 28 | 23°10'02 | 23° 2 | 26°57 | 11°50 | 12°38 | 12° 2 | 6°29 | 0°43 | 22°23 | 19°38 | 23° 1 |
| W16 | 5 39 24 | 24°11'02 | 24° 4 | 2°49 | 13°26 | 13° 9 | 12° 8 | 6°31 | 0°43 | 22°23 | 19°38 | 23° 2 |
| T 17 | 5 43 21 | 25°12'02 | 25° 7 | 8°33 | 15° 2 | 13°41 | 12°13 | 6°33 | 0°44 | 22°23 | 19°38 | 23° 3 |
| F 18 | 5 47 18 | 26°13'03 | 26° 9 | 14° 8 | 16°39 | 14°12 | 12°19 | 6°35 | 0°45 | 22°24 | 19°38 | 23° 3 |
| S 19 | 5 51 14 | 27°14'05 | 27°12 | 19°33 | 18°14 | 14°43 | 12°24 | 6°38 | 0°46 | 22°24 | 19°39 | 23° 4 |
| S 20 | 5 55 11 | 28°15'07 | 28°15 | 24°49 | 19°50 | 15°14 | 12°29 | 6°40 | 0°46 | 22°24 | 19°39 | 23° 4 |
| M21 | 5 59 7 | 29°16'10 | 29°18 | 29°55 | 21°26 | 15°45 | 12°35 | 6°42 | 0°47 | 22°25 | 19°39 | 23° 5 |
| T 22 | 6 3 4 | 0°17'14 | 0°21 | 4°51 | 23° 2 | 16°17 | 12°40 | 6°44 | 0°48 | 22°25 | 19°39 | 23° 6 |
| W23 | 6 7 0 | 1°18'18 | 1°24 | 9°38 | 24°38 | 16°48 | 12°46 | 6°46 | 0°48 | 22°25 | 19°39 | 23° 6 |
| T 24 | 6 10 57 | 2°19'23 | 2°26 | 14°16 | 26°14 | 17°18 | 12°51 | 6°48 | 0°49 | 22°26 | 19°39 | 23° 7 |
| F 25 | 6 14 54 | 3°20'28 | 3°28 | 18°44 | 27°49 | 17°49 | 12°57 | 6°50 | 0°50 | 22°26 | 19°39 | 23° 8 |
| S 26 | 6 18 50 | 4°21'35 | 4°30 | 23° 4 | 29°25 | 18°20 | 13° 2 | 6°53 | 0°51 | 22°26 | 19°40 | 23° 8 |
| S 27 | 6 22 47 | 5°22'41 | 5°31 | 27°16 | 1° 1 | 18°51 | 13° 7 | 6°55 | 0°51 | 22°27 | 19°40 | 23° 9 |
| M28 | 6 26 43 | 6°23'49 | 6°32 | 1°21 | 2°36 | 19°22 | 13°13 | 6°57 | 0°52 | 22°27 | 19°40 | 23° 9 |
| T 29 | 6 30 40 | 7°24'57 | 7°33 | 5°18 | 4°12 | 19°52 | 13°18 | 6°59 | 0°53 | 22°28 | 19°40 | 23°10 |
| W30 | 6 34 36 | 8°26'06 | 8°33 | 9° 8 | 5°47 | 20°23 | 13°24 | 7° 1 | 0°53 | 22°28 | 19°40 | 23°11 |
| T 31 | 6 38 33 | 9°27'16 | 9°33 | 12°51 | 7°23 | 20°54 | 13°29 | 7° 3 | 0°54 | 22°28 | 19°40 | 23°11 |

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