

The New American Ephemeris for the 21st Century

2000-2100 at Midnight

The Michelsen Memorial Edition

Two months per page, Moon given twice daily. Note Ceres between Mars & Jupiter. At the bottom of the page under "Astro Data", monthly positions for GC (Galactic Center), Eris, Chiron, Pallas, Juno & Vesta. Eclipses are shown by tiny conjunction (Solar) and opposition (Lunar) symbols. This page shows one of each.

March 2099

LONGITUDE

| Day | Sid.Time | ☉ | 0 hr ☾ | Noon ☽ | True ♀ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♂ | ♆ |
|-------|----------|-----------|------------|------------|---------|----------|---------|----------|----------|----------|----------|----------|----------|---------|---|
| 1 Su | 10 36 31 | 10H 42 16 | 19II 44 30 | 26II 29 43 | 5Y 50.2 | 1X 43.9 | 4W 31.0 | 10Y 21.9 | 20H 10.7 | 19M 18.2 | 13Q 04.7 | 15Y 36.1 | 13M 51.1 | 1C 45.6 | |
| 2 M | 10 40 28 | 11 42 31 | 3S 21 49 | 10S 20 54 | 5R 48.8 | 0R 50.3 | 5 43.6 | 11 03.5 | 20 34.3 | 19R 10.5 | 13R 01.1 | 15 39.0 | 13R 49.4 | 1 46.6 | |
| 3 Tu | 10 44 24 | 12 42 44 | 17 26 54 | 24 39 36 | 5 46.4 | 0 02.4 | 6 56.3 | 11 45.1 | 20 57.9 | 19 02.8 | 12 57.4 | 15 42.0 | 13 47.8 | 1 47.5 | |
| 4 W | 10 48 21 | 13 42 55 | 1Q 58 33 | 9Q 23 09 | 5 43.5 | 29W 20.8 | 8 09.0 | 12 26.7 | 21 21.5 | 18 55.0 | 12 53.7 | 15 45.0 | 13 46.1 | 1 48.5 | |
| 5 Th | 10 52 17 | 14 43 04 | 16 52 36 | 24 25 53 | 5 40.5 | 28 45.9 | 9 21.7 | 13 08.3 | 21 45.1 | 18 47.2 | 12 49.9 | 15 48.1 | 13 44.4 | 1 49.5 | |
| 6 F | 10 56 14 | 15 43 11 | 2M 01 55 | 9M 39 26 | 5 38.0 | 28 17.8 | 10 34.5 | 13 50.0 | 22 08.8 | 18 39.4 | 12 46.1 | 15 51.1 | 13 42.7 | 1 50.5 | |
| 7 Sa | 11 00 10 | 16 43 16 | 17 17 11 | 24 53 52 | 5 36.3 | 27 56.7 | 11 47.2 | 14 31.7 | 22 32.4 | 18 31.6 | 12 42.2 | 15 54.2 | 13 41.1 | 1 51.5 | |
| 8 Su | 11 04 07 | 17 43 19 | 2A 28 15 | 9A 59 11 | 5D 35.6 | 27 42.4 | 13 00.0 | 15 13.3 | 22 56.1 | 18 23.8 | 12 38.2 | 15 57.3 | 13 39.4 | 1 52.5 | |
| 9 M | 11 08 03 | 18 43 20 | 17 25 41 | 24 46 55 | 5 35.8 | 27D 34.9 | 14 12.9 | 15 55.0 | 23 19.7 | 18 15.9 | 12 34.2 | 16 00.4 | 13 37.7 | 1 53.6 | |
| 10 Tu | 11 12 00 | 19 43 19 | 2M 02 12 | 9M 11 04 | 5 36.7 | 27 33.9 | 15 25.7 | 16 36.7 | 23 43.4 | 18 08.1 | 12 30.1 | 16 03.6 | 13 36.1 | 1 54.6 | |
| 11 W | 11 15 57 | 20 43 17 | 16 13 15 | 23 08 36 | 5 37.9 | 27 39.1 | 16 38.6 | 17 18.5 | 24 07.1 | 18 00.3 | 12 26.0 | 16 06.7 | 13 34.4 | 1 55.7 | |
| 12 Th | 11 19 53 | 21 43 14 | 29 57 10 | 6A 39 05 | 5 39.0 | 27 50.2 | 17 51.6 | 18 00.2 | 24 30.8 | 17 52.5 | 12 21.8 | 16 09.9 | 13 32.8 | 1 56.8 | |
| 13 F | 11 23 50 | 22 43 08 | 13A 14 38 | 19 44 09 | 5R 39.8 | 28 07.0 | 19 04.5 | 18 42.0 | 24 54.5 | 17 44.7 | 12 17.6 | 16 13.1 | 13 31.1 | 1 57.9 | |
| 14 Sa | 11 27 46 | 23 43 02 | 26 08 04 | 2Y 26 51 | 5 39.9 | 28 29.0 | 20 17.5 | 19 23.8 | 25 18.2 | 17 36.9 | 12 13.3 | 16 16.4 | 13 29.5 | 1 59.0 | |
| 15 Su | 11 31 43 | 24 42 53 | 8Y 40 59 | 14 50 59 | 5 39.5 | 28 56.0 | 21 30.5 | 20 05.5 | 25 41.9 | 17 29.1 | 12 09.0 | 16 19.6 | 13 27.8 | 2 00.2 | |
| 16 M | 11 35 39 | 25 42 43 | 20 57 20 | 27 00 34 | 5 38.7 | 29 27.7 | 22 43.5 | 20 47.3 | 26 05.6 | 17 21.4 | 12 04.6 | 16 22.8 | 13 26.2 | 2 01.3 | |
| 17 Tu | 11 39 36 | 26 42 31 | 3W 01 10 | 8W 59 35 | 5 37.6 | 0X 03.7 | 23 56.5 | 21 29.2 | 26 29.3 | 17 13.8 | 12 00.2 | 16 26.1 | 13 24.6 | 2 02.4 | |
| 18 W | 11 43 32 | 27 42 17 | 14 56 18 | 20 51 42 | 5 36.3 | 0 43.8 | 25 09.5 | 22 11.0 | 26 53.0 | 17 06.1 | 11 55.8 | 16 29.4 | 13 23.0 | 2 03.6 | |
| 19 Th | 11 47 29 | 28 42 02 | 26 46 11 | 2H 40 08 | 5 35.3 | 1 27.7 | 26 22.6 | 22 52.8 | 27 16.7 | 16 58.6 | 11 51.3 | 16 32.7 | 13 21.4 | 2 04.8 | |
| 20 F | 11 51 26 | 29 41 44 | 8H 33 53 | 14 27 45 | 5 34.4 | 2 15.2 | 27 35.7 | 23 34.7 | 27 40.4 | 16 51.1 | 11 46.8 | 16 36.0 | 13 19.8 | 2 06.0 | |
| 21 Sa | 11 55 22 | 0T 41 25 | 20 22 02 | 26 17 00 | 5 34.0 | 3 06.2 | 28 48.8 | 24 16.5 | 28 04.1 | 16 43.6 | 11 42.3 | 16 39.3 | 13 18.2 | 2 07.2 | |
| 22 Su | 11 59 19 | 1 41 03 | 2Y 12 56 | 8Y 10 05 | 5D 33.8 | 4 00.1 | 0X 01.9 | 24 58.4 | 28 27.8 | 16 36.2 | 11 37.7 | 16 42.7 | 13 16.6 | 2 08.4 | |
| 23 M | 12 03 15 | 2 40 40 | 14 08 41 | 20 09 01 | 5 33.8 | 4 57.0 | 1 15.0 | 25 40.2 | 28 51.4 | 16 28.9 | 11 33.1 | 16 46.0 | 13 15.0 | 2 09.6 | |
| 24 Tu | 12 07 12 | 3 40 14 | 26 11 20 | 2C 15 52 | 5 33.9 | 5 56.8 | 2 28.1 | 26 22.1 | 29 15.1 | 16 21.7 | 11 28.5 | 16 49.4 | 13 13.5 | 2 10.8 | |
| 25 W | 12 11 08 | 4 39 47 | 8C 22 55 | 14 32 45 | 5R 34.1 | 6 59.2 | 3 41.3 | 27 04.0 | 29 38.8 | 16 14.5 | 11 23.9 | 16 52.7 | 13 12.0 | 2 12.1 | |
| 26 Th | 12 15 05 | 5 39 17 | 20 45 40 | 27 01 58 | 5 34.1 | 8 04.2 | 4 54.4 | 27 45.8 | 0T 02.5 | 16 07.5 | 11 19.3 | 16 56.1 | 13 10.4 | 2 13.3 | |
| 27 F | 12 19 01 | 6 38 45 | 3II 21 58 | 9II 45 59 | 5 34.0 | 9 11.5 | 6 07.6 | 28 27.6 | 0 26.1 | 16 00.5 | 11 14.6 | 16 59.5 | 13 08.9 | 2 14.6 | |
| 28 Sa | 12 22 58 | 7 38 11 | 16 14 19 | 22 47 17 | 5 33.9 | 10 21.0 | 7 20.8 | 29 09.6 | 0 49.8 | 15 53.6 | 11 09.9 | 17 02.9 | 13 07.4 | 2 15.9 | |
| 29 Su | 12 26 54 | 8 37 35 | 29 25 10 | 6S 08 11 | 5D 33.8 | 11 32.7 | 8 33.9 | 29 51.5 | 1 13.4 | 15 46.9 | 11 05.3 | 17 06.3 | 13 05.9 | 2 17.1 | |
| 30 M | 12 30 51 | 9 36 56 | 12S 56 32 | 19 50 21 | 5 33.7 | 12 46.5 | 9 47.1 | 0X 33.4 | 1 37.0 | 15 40.2 | 11 00.6 | 17 09.7 | 13 04.5 | 2 18.4 | |
| 31 Tu | 12 34 48 | 10 36 15 | 26 49 41 | 3Q 54 27 | 5 33.9 | 14 02.2 | 11 00.3 | 1 15.3 | 2 00.6 | 15 33.6 | 10 55.9 | 17 13.1 | 13 03.0 | 2 19.7 | |

April 2099

LONGITUDE

| Day | Sid.Time | ☉ | 0 hr ☾ | Noon ☽ | True ♀ | ♃ | ♄ | ♅ | ♆ | ♁ | ♂ | ♆ | ♁ | ♂ | ♆ |
|-------|----------|-----------|-----------|-----------|---------|----------|----------|---------|---------|----------|----------|----------|----------|---------|---|
| 1 W | 12 38 44 | 11Y 35 32 | 11Q 04 29 | 18Q 19 28 | 5Y 34.3 | 15H 19.9 | 12H 13.5 | 1W 57.2 | 2Y 24.2 | 15M 27.2 | 10Q 51.3 | 17Y 16.5 | 13M 01.6 | 2C 21.0 | |
| 2 Th | 12 42 41 | 12 34 46 | 25 38 59 | 3M 02 25 | 5 34.9 | 16 39.4 | 13 26.7 | 2 39.1 | 2 47.8 | 15R 20.9 | 10R 46.6 | 17 20.0 | 13R 00.2 | 2 22.3 | |
| 3 F | 12 46 37 | 13 33 58 | 10M 29 04 | 17 58 04 | 5 35.5 | 18 00.7 | 14 39.9 | 3 21.0 | 3 11.4 | 15 14.7 | 10 41.9 | 17 23.4 | 12 58.8 | 2 23.7 | |
| 4 Sa | 12 50 34 | 14 33 08 | 25 28 28 | 2A 59 15 | 5R 36.0 | 19 23.8 | 15 53.1 | 4 02.9 | 3 34.9 | 15 08.6 | 10 37.3 | 17 26.8 | 12 57.4 | 2 25.0 | |
| 5 Su | 12 54 30 | 15 32 15 | 10A 29 21 | 17 57 41 | 5 36.0 | 20 48.5 | 17 06.4 | 4 44.8 | 3 58.4 | 15 02.7 | 10 32.6 | 17 30.2 | 12 56.1 | 2 26.3 | |
| 6 M | 12 58 27 | 16 31 20 | 25 23 13 | 2M 45 00 | 5 35.6 | 22 15.0 | 18 19.6 | 5 26.8 | 4 21.9 | 14 56.9 | 10 28.0 | 17 33.7 | 12 54.7 | 2 27.6 | |
| 7 Tu | 13 02 23 | 17 30 24 | 10M 02 10 | 17 14 00 | 5 34.5 | 23 43.0 | 19 32.8 | 6 08.7 | 4 45.4 | 14 51.2 | 10 23.3 | 17 37.1 | 12 53.4 | 2 29.0 | |
| 8 W | 13 06 20 | 18 29 26 | 24 19 55 | 1A 19 30 | 5 33.0 | 25 12.7 | 20 46.1 | 6 50.6 | 5 08.9 | 14 45.7 | 10 18.7 | 17 40.5 | 12 52.1 | 2 30.3 | |
| 9 Th | 13 10 17 | 19 28 25 | 8A 12 30 | 14 58 50 | 5 31.3 | 26 44.0 | 21 59.4 | 7 32.6 | 5 32.4 | 14 40.3 | 10 14.1 | 17 43.9 | 12 50.8 | 2 31.7 | |
| 10 F | 13 14 13 | 20 27 24 | 21 38 32 | 28 11 47 | 5 29.5 | 28 16.9 | 23 12.6 | 8 14.5 | 5 55.8 | 14 35.1 | 10 09.6 | 17 47.4 | 12 49.6 | 2 33.0 | |
| 11 Sa | 13 18 10 | 21 26 20 | 4Y 38 52 | 11Y 00 10 | 5 28.2 | 29 51.3 | 24 25.9 | 9 56.5 | 6 19.2 | 14 30.0 | 10 05.0 | 17 50.8 | 12 48.3 | 2 34.4 | |
| 12 Su | 13 22 06 | 22 25 14 | 17 16 09 | 23 27 19 | 5D 27.5 | 1Y 27.3 | 25 39.2 | 9 38.4 | 6 42.6 | 14 25.1 | 10 00.5 | 17 54.2 | 12 47.1 | 2 35.8 | |
| 13 M | 13 26 03 | 23 24 07 | 29 34 14 | 5W 37 29 | 5 27.5 | 3 04.8 | 26 52.5 | 10 20.3 | 7 06.0 | 14 20.3 | 9 56.0 | 17 57.7 | 12 45.9 | 2 37.1 | |
| 14 Tu | 13 29 59 | 24 22 58 | 11W 37 39 | 17 35 21 | 5 28.3 | 4 43.9 | 28 05.8 | 11 02.3 | 7 29.4 | 14 15.6 | 9 51.5 | 18 01.1 | 12 44.8 | 2 38.5 | |
| 15 W | 13 33 56 | 25 21 47 | 23 31 10 | 29 25 39 | 5 29.6 | 6 24.6 | 29 19.1 | 11 44.2 | 7 52.7 | 14 11.2 | 9 47.1 | 18 04.5 | 12 43.6 | 2 39.9 | |
| 16 Th | 13 37 52 | 26 20 35 | 5H 19 24 | 11H 12 55 | 5 31.3 | 8 06.8 | 0Y 32.4 | 12 26.1 | 8 16.0 | 14 06.9 | 9 42.7 | 18 07.9 | 12 42.5 | 2 41.3 | |
| 17 F | 13 41 49 | 27 19 21 | 17 06 41 | 23 01 12 | 5 32.8 | 9 50.6 | 1 45.7 | 13 08.1 | 8 39.3 | 14 02.7 | 9 38.4 | 18 11.3 | 12 41.4 | 2 42.6 | |
| 18 Sa | 13 45 46 | 28 18 04 | 28 56 52 | 4Y 54 04 | 5R 33.8 | 11 36.0 | 2 59.1 | 13 50.0 | 9 02.5 | 13 58.7 | 9 34.0 | 18 14.7 | 12 40.3 | 2 44.0 | |
| 19 Su | 13 49 42 | 29 16 46 | 10Y 53 09 | 16 54 25 | 5 33.8 | 13 23.0 | 4 12.4 | 14 31.9 | 9 25.8 | 13 54.9 | 9 29.8 | 18 18.1 | 12 39.3 | 2 45.4 | |
| 20 M | 13 53 39 | 30 15 27 | 22 58 08 | 29 04 30 | 5 32.7 | 15 11.6 | 5 25.7 | 15 13.8 | 9 49.0 | 13 51.3 | 9 25.5 | 18 21.5 | 12 38.3 | 2 46.8 | |
| 21 Tu | 13 57 35 | 1 14 05 | 5C 13 44 | 11C 25 59 | 5 30.3 | 17 01.7 | 6 39.0 | 15 55.6 | 10 12.1 | 13 47.8 | 9 21.4 | 18 24.8 | 12 37.3 | 2 48.2 | |
| 22 W | 14 01 32 | 2 12 41 | 17 41 20 | 23 59 55 | 5 26.7 | 18 53.5 | 7 52.4 | 16 37.5 | 10 35.3 | 13 44.5 | 9 17.2 | 18 28.2 | 12 36.3 | 2 49.6 | |
| 23 Th | 14 05 28 | 3 11 16 | 0II 21 48 | 6II 47 02 | 5 22.4 | 20 46.9 | 9 05.7 | 17 19.3 | 10 58.4 | 13 41.4 | 9 13.1 | 18 31.6 | 12 35.4 | 2 50.9 | |
| 24 F | 14 09 25 | 4 09 48 | 13 15 39 | 19 47 41 | 5 17.7 | 22 41.9 | 10 19.0 | 18 01.2 | 11 21.4 | 13 38.5 | 9 09.1 | 18 34.9 | 12 34.5 | 2 52.3 | |
| 25 Sa | 14 13 21 | 5 08 19 | 26 23 12 | 3S 02 11 | 5 13.4 | 24 38.5 | 11 32.4 | 18 43.0 | 11 44.5 | 13 35.7 | 9 05.2 | 18 38.2 | 12 33.6 | 2 53.7 | |
| 26 Su | 14 17 18 | 6 06 47 | 9S 44 41 | 16 30 44 | 5 09.9 | 26 36.6 | 12 45.7 | 19 24.8 | 12 07.5 | 13 33.2 | 9 01.2 | 18 41.5 | 12 32.7 | 2 55.1 | |
| 27 M | 14 21 15 | 7 05 13 | 23 20 19 | 0Q 13 26 | 5 07.7 | 28 36.4 | 13 59.0 | 20 06.6 | 12 30.4 | 13 30.8 | 8 57.4 | 18 44.9 | 12 31.9 | 2 56.5 | |
| 28 Tu | 14 25 11 | | | | | | | | | | | | | | |