



# Astrodienst Ephemeris Tables for the year 1531

tropical geocentric zodiac

contains Sun, Moon, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, True Node, Moon's Node, Lilith, Chiron

Programming  
Dieter Koch and Alois Treindl  
based on Swiss Ephemeris  
Code D5EPH

# ASTRODIENST EPHEMERIS for the year 1531

## geocentric

JANUARY 1531 JC

00:00 UT

| Day  | Sid.t   | ☉        | ☽     | ♀     | ♂     | ♂     | ♂     | ♂      | ♂     | ♂     | ♂     | ♂      | ♂      | ♂     | ♂     | Day  |
|------|---------|----------|-------|-------|-------|-------|-------|--------|-------|-------|-------|--------|--------|-------|-------|------|
| S 1  | 7 17 43 | 19°55'40 | 17°46 | 27°32 | 7°2   | 4°10  | 24°41 | 6°R30  | 1°R27 | 21°21 | 27°22 | 15°R25 | 15°531 | 20°47 | 24°13 | S 1  |
| M 2  | 7 21 39 | 20°56'45 | 2°54  | 28°49 | 8°2   | 4°51  | 24°46 | 6°II27 | 1°25  | 21°23 | 27°24 | 15°15  | 15°28  | 20°54 | 24°15 | M 2  |
| T 3  | 7 25 36 | 21°57'50 | 18°6  | 0°3   | 9°2   | 5°32  | 24°51 | 6°24   | 1°23  | 21°24 | 27°26 | 15°3   | 15°25  | 21°1  | 24°17 | T 3  |
| W 4  | 7 29 32 | 22°58'53 | 3°10  | 1°26  | 10°2  | 6°13  | 24°56 | 6°22   | 1°20  | 21°25 | 27°27 | 14°51  | 15°21  | 21°7  | 24°19 | W 4  |
| T 5  | 7 33 29 | 23°59'56 | 17°57 | 2°47  | 11°0  | 6°55  | 25°1  | 6°19   | 1°18  | 21°27 | 27°29 | 14°41  | 15°18  | 21°14 | 24°21 | T 5  |
| F 6  | 7 37 25 | 25°0'59  | 2°18  | 4°9   | 11°59 | 7°36  | 25°6  | 6°17   | 1°16  | 21°28 | 27°31 | 14°33  | 15°15  | 21°21 | 24°23 | F 6  |
| S 7  | 7 41 22 | 26°2'01  | 16°10 | 5°31  | 12°57 | 8°17  | 25°10 | 6°14   | 1°13  | 21°30 | 27°33 | 14°27  | 15°12  | 21°28 | 24°26 | S 7  |
| S 8  | 7 45 19 | 27°3'02  | 29°33 | 6°55  | 13°54 | 8°59  | 25°15 | 6°12   | 1°11  | 21°31 | 27°35 | 14°25  | 15°9   | 21°34 | 24°28 | S 8  |
| M 9  | 7 49 15 | 28°4'02  | 12°28 | 8°20  | 14°51 | 9°40  | 25°19 | 6°10   | 1°9   | 21°33 | 27°37 | 14°D24 | 15°6   | 21°41 | 24°30 | M 9  |
| T 10 | 7 53 12 | 29°5'03  | 25°0  | 9°46  | 15°47 | 10°21 | 25°23 | 6°8    | 1°6   | 21°34 | 27°39 | 14°R24 | 15°2   | 21°48 | 24°33 | T 10 |
| W11  | 7 57 8  | 0°6'02   | 7°13  | 11°12 | 16°43 | 11°3  | 25°27 | 6°6    | 1°4   | 21°36 | 27°41 | 14°24  | 14°59  | 21°54 | 24°35 | W11  |
| T 12 | 8 1 5   | 1°7'01   | 19°13 | 12°39 | 17°37 | 11°44 | 25°31 | 6°4    | 1°2   | 21°37 | 27°43 | 14°22  | 14°56  | 22°1  | 24°38 | T 12 |
| F 13 | 8 5 1   | 2°7'59   | 1°5   | 14°7  | 18°32 | 12°25 | 25°34 | 6°3    | 1°0   | 21°39 | 27°45 | 14°18  | 14°53  | 22°8  | 24°40 | F 13 |
| S 14 | 8 8 58  | 3°8'57   | 12°54 | 15°36 | 19°25 | 13°7  | 25°37 | 6°1    | 0°58  | 21°41 | 27°47 | 14°12  | 14°50  | 22°15 | 24°43 | S 14 |
| S 15 | 8 12 54 | 4°9'54   | 24°44 | 17°6  | 20°18 | 13°48 | 25°41 | 6°0    | 0°56  | 21°42 | 27°48 | 14°2   | 14°46  | 22°21 | 24°45 | S 15 |
| M16  | 8 16 51 | 5°10'49  | 6°39  | 18°36 | 21°11 | 14°30 | 25°44 | 5°58   | 0°54  | 21°44 | 27°50 | 13°51  | 14°43  | 22°28 | 24°48 | M16  |
| T 17 | 8 20 48 | 6°11'44  | 18°40 | 20°7  | 22°2  | 15°11 | 25°46 | 5°57   | 0°52  | 21°46 | 27°52 | 13°38  | 14°40  | 22°35 | 24°51 | T 17 |
| W18  | 8 24 44 | 7°12'38  | 0°48  | 21°39 | 22°53 | 15°53 | 25°49 | 5°56   | 0°50  | 21°47 | 27°54 | 13°24  | 14°37  | 22°41 | 24°54 | W18  |
| T 19 | 8 28 41 | 8°13'31  | 13°6  | 23°12 | 23°43 | 16°35 | 25°51 | 5°55   | 0°48  | 21°49 | 27°56 | 13°12  | 14°34  | 22°48 | 24°56 | T 19 |
| F 20 | 8 32 37 | 9°14'22  | 25°33 | 24°45 | 24°32 | 17°16 | 25°54 | 5°54   | 0°46  | 21°51 | 27°58 | 13°2   | 14°31  | 22°55 | 24°59 | F 20 |
| S 21 | 8 36 34 | 10°15'12 | 8°10  | 26°20 | 25°20 | 17°58 | 25°56 | 5°53   | 0°44  | 21°53 | 28°0  | 12°54  | 14°27  | 23°2  | 25°2  | S 21 |
| S 22 | 8 40 30 | 11°16'01 | 20°58 | 27°55 | 26°8  | 18°39 | 25°58 | 5°52   | 0°42  | 21°54 | 28°2  | 12°49  | 14°24  | 23°8  | 25°5  | S 22 |
| M23  | 8 44 27 | 12°16'48 | 3°57  | 29°30 | 26°54 | 19°21 | 25°59 | 5°52   | 0°41  | 21°56 | 28°4  | 12°46  | 14°21  | 23°15 | 25°8  | M23  |
| T 24 | 8 48 23 | 13°17'34 | 17°9  | 1°8   | 27°39 | 20°3  | 26°1  | 5°51   | 0°39  | 21°58 | 28°5  | 12°D46 | 14°18  | 23°22 | 25°11 | T 24 |
| W25  | 8 52 20 | 14°18'18 | 0°35  | 2°44  | 28°24 | 20°44 | 26°2  | 5°51   | 0°37  | 22°0  | 28°7  | 12°47  | 14°15  | 23°28 | 25°14 | W25  |
| T 26 | 8 56 17 | 15°19'00 | 14°18 | 4°22  | 29°7  | 21°26 | 26°3  | 5°51   | 0°36  | 22°2  | 28°9  | 12°R47 | 14°11  | 23°35 | 25°17 | T 26 |
| F 27 | 9 0 13  | 16°19'41 | 28°18 | 6°1   | 29°49 | 22°8  | 26°4  | 5°51   | 0°34  | 22°4  | 28°11 | 12°47  | 14°8   | 23°42 | 25°20 | F 27 |
| S 28 | 9 4 10  | 17°20'20 | 12°35 | 7°41  | 0°30  | 22°49 | 26°5  | 5°D51  | 0°33  | 22°6  | 28°13 | 12°44  | 14°5   | 23°49 | 25°23 | S 28 |
| S 29 | 9 8 6   | 18°20'58 | 27°7  | 9°21  | 1°10  | 23°31 | 26°6  | 5°51   | 0°31  | 22°8  | 28°15 | 12°39  | 14°2   | 23°55 | 25°26 | S 29 |
| M30  | 9 12 3  | 19°21'33 | 11°51 | 11°3  | 1°49  | 24°13 | 26°6  | 5°51   | 0°30  | 22°10 | 28°16 | 12°32  | 13°59  | 24°2  | 25°29 | M30  |
| T 31 | 9 15 59 | 20°22'07 | 26°38 | 12°45 | 2°26  | 24°55 | 26°6  | 5°II51 | 0°28  | 22°12 | 28°18 | 12°24  | 13°56  | 24°9  | 25°32 | T 31 |

Delta T = 222.20 sec

Julian Calendar 1 Jan. 1531 == Greg. Calendar 11 Jan. 1531

FEBRUARY 1531 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽      | ♀     | ♂     | ♂     | ♂      | ♂      | ♂     | ♂     | ♂     | ♂      | ♂     | ♂     | ♂     | Day  |
|------|----------|----------|--------|-------|-------|-------|--------|--------|-------|-------|-------|--------|-------|-------|-------|------|
| W 1  | 9 19 56  | 21°22'39 | 11°22  | 14°28 | 3°2   | 25°37 | 26°R 6 | 5°II52 | 0°R27 | 22°14 | 28°20 | 12°R15 | 13°52 | 24°15 | 25°36 | W 1  |
| T 2  | 9 23 52  | 22°23'10 | 25°53  | 16°12 | 3°37  | 26°18 | 26°6   | 5°52   | 0°25  | 22°16 | 28°22 | 12°8   | 13°49 | 24°22 | 25°39 | T 2  |
| F 3  | 9 27 49  | 23°23'39 | 10°16  | 17°57 | 4°10  | 27°0  | 26°6   | 5°53   | 0°24  | 22°18 | 28°24 | 12°2   | 13°46 | 24°29 | 25°42 | F 3  |
| S 4  | 9 31 46  | 24°24'06 | 23°56  | 19°43 | 4°41  | 27°42 | 26°5   | 5°54   | 0°23  | 22°20 | 28°25 | 11°58  | 13°43 | 24°36 | 25°45 | S 4  |
| S 5  | 9 35 42  | 25°24'32 | 7°20   | 21°30 | 5°11  | 28°24 | 26°4   | 5°55   | 0°22  | 22°22 | 28°27 | 11°D57 | 13°40 | 24°42 | 25°49 | S 5  |
| M 6  | 9 39 39  | 26°24'57 | 20°20  | 23°18 | 5°40  | 29°6  | 26°4   | 5°56   | 0°21  | 22°24 | 28°29 | 11°57  | 13°37 | 24°49 | 25°52 | M 6  |
| T 7  | 9 43 35  | 27°25'20 | 2°56   | 25°7  | 6°6   | 29°48 | 26°2   | 5°57   | 0°20  | 22°26 | 28°31 | 11°58  | 13°33 | 24°56 | 25°55 | T 7  |
| W 8  | 9 47 32  | 28°25'42 | 15°14  | 26°56 | 6°31  | 0°30  | 26°1   | 5°58   | 0°18  | 22°28 | 28°32 | 11°59  | 13°30 | 25°2  | 25°59 | W 8  |
| T 9  | 9 51 28  | 29°26'02 | 27°18  | 28°47 | 6°54  | 1°12  | 26°0   | 5°59   | 0°17  | 22°30 | 28°34 | 12°R 0 | 13°27 | 25°9  | 26°2  | T 9  |
| F 10 | 9 55 25  | 0°26'21  | 9°13   | 0°38  | 7°16  | 1°54  | 25°58  | 6°1    | 0°17  | 22°32 | 28°36 | 12°0   | 13°24 | 25°16 | 26°6  | F 10 |
| S 11 | 9 59 21  | 1°26'38  | 21°4   | 2°31  | 7°35  | 2°36  | 25°56  | 6°3    | 0°16  | 22°35 | 28°37 | 11°58  | 13°21 | 25°23 | 26°9  | S 11 |
| S 12 | 10 3 18  | 2°26'54  | 2°56   | 4°24  | 7°53  | 3°18  | 25°54  | 6°4    | 0°15  | 22°37 | 28°39 | 11°54  | 13°17 | 25°29 | 26°12 | S 12 |
| M13  | 10 7 15  | 3°27'08  | 14°54  | 6°18  | 8°8   | 4°0   | 25°52  | 6°6    | 0°14  | 22°39 | 28°41 | 11°48  | 13°14 | 25°36 | 26°16 | M13  |
| T 14 | 10 11 11 | 4°27'21  | 26°59  | 8°12  | 8°21  | 4°42  | 25°49  | 6°8    | 0°13  | 22°41 | 28°42 | 11°42  | 13°11 | 25°43 | 26°19 | T 14 |
| W15  | 10 15 8  | 5°27'32  | 9°16   | 10°8  | 8°32  | 5°24  | 25°47  | 6°10   | 0°13  | 22°43 | 28°44 | 11°35  | 13°8  | 25°49 | 26°23 | W15  |
| T 16 | 10 19 4  | 6°27'41  | 21°45  | 12°3  | 8°41  | 6°6   | 25°44  | 6°12   | 0°12  | 22°45 | 28°46 | 11°28  | 13°5  | 25°56 | 26°27 | T 16 |
| F 17 | 10 23 1  | 7°27'48  | 4°28   | 13°59 | 8°48  | 6°49  | 25°41  | 6°14   | 0°11  | 22°48 | 28°47 | 11°23  | 13°2  | 26°3  | 26°30 | F 17 |
| S 18 | 10 26 57 | 8°27'54  | 17°25  | 15°55 | 8°52  | 7°31  | 25°38  | 6°17   | 0°11  | 22°50 | 28°49 | 11°19  | 12°58 | 26°10 | 26°34 | S 18 |
| S 19 | 10 30 54 | 9°27'57  | 0°34   | 17°51 | 8°R54 | 8°13  | 25°34  | 6°19   | 0°10  | 22°52 | 28°50 | 11°17  | 12°55 | 26°16 | 26°37 | S 19 |
| M20  | 10 34 50 | 10°27'59 | 13°56  | 19°47 | 8°53  | 8°55  | 25°31  | 6°22   | 0°10  | 22°54 | 28°52 | 11°D16 | 12°52 | 26°23 | 26°41 | M20  |
| T 21 | 10 38 47 | 11°27'58 | 27°29  | 21°43 | 8°50  | 9°37  | 25°27  | 6°24   | 0°10  | 22°56 | 28°53 | 11°17  | 12°49 | 26°30 | 26°45 | T 21 |
| W22  | 10 42 44 | 12°27'56 | 11°12  | 23°37 | 8°45  | 10°19 | 25°23  | 6°27   | 0°9   | 22°59 | 28°55 | 11°19  | 12°46 | 26°36 | 26°48 | W22  |
| T 23 | 10 46 40 | 13°27'51 | 25°6   | 25°30 | 8°36  | 11°2  | 25°19  | 6°30   | 0°9   | 23°1  | 28°56 | 11°20  | 12°43 | 26°43 | 26°52 | T 23 |
| F 24 | 10 50 37 | 14°27'44 | 9°II 8 | 27°22 | 8°26  | 11°44 | 25°15  | 6°33   | 0°9   | 23°3  | 28°58 | 11°R21 | 12°39 | 26°50 | 26°55 | F 24 |
| S 25 | 10 54 33 | 15°27'35 | 23°19  | 29°11 | 8°13  | 12°26 | 25°11  | 6°36   | 0°9   | 23°5  | 28°59 | 11°21  | 12°36 | 26°57 | 26°59 | S 25 |
| S 26 | 10 58 30 | 16°27'23 | 7°35   | 0°59  | 7°57  | 13°8  | 25°6   | 6°39   | 0°9   | 23°8  | 29°0  | 11°20  | 12°33 | 27°3  | 27°3  | S 26 |
| M27  | 11 2 26  | 17°27'09 | 21°54  | 2°43  | 7°39  | 13°50 | 25°2   | 6°42   | 0°D 9 | 23°10 | 29°2  | 11°17  | 12°30 | 27°10 | 27°6  | M27  |
| T 28 | 11 6 23  | 18°26'53 | 6°13   | 4°24  | 7°19  | 14°33 | 24°57  | 6°II46 | 0°28  | 23°12 | 29°3  | 11°14  | 12°27 | 27°17 | 27°10 | T 28 |

Delta T = 222.00 sec

Julian Calendar

# ASTRODIENST EPHEMERIS for the year 1531

## geocentric

MARCH 1531 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽        | ♂      | ♀     | ♂     | ♂      | ♂    | ♂    | ♂     | ♂     | ♂      | ♂     | ♂     | ♂     | Day  |
|------|----------|----------|----------|--------|-------|-------|--------|------|------|-------|-------|--------|-------|-------|-------|------|
| W 1  | 11 10 19 | 19°26'35 | 20°27'27 | 6°11   | 6°R56 | 15°15 | 24°R52 | 6°11 | 0°9  | 23°15 | 29°5  | 11°R11 | 12°23 | 27°23 | 27°14 | W 1  |
| T 2  | 11 14 16 | 20°26'14 | 4°11     | 7°33   | 6°11  | 15°57 | 24°47  | 6°53 | 0°9  | 23°17 | 29°6  | 11°8   | 12°20 | 27°30 | 27°18 | T 2  |
| F 3  | 11 18 12 | 21°25'51 | 18°22    | 9°1    | 6°4   | 16°40 | 24°42  | 6°56 | 0°9  | 23°19 | 29°7  | 11°6   | 12°17 | 27°37 | 27°21 | F 3  |
| S 4  | 11 22 9  | 22°25'26 | 1°55     | 10°23  | 5°35  | 17°22 | 24°36  | 7°0  | 0°9  | 23°21 | 29°9  | 11°5   | 12°14 | 27°44 | 27°25 | S 4  |
| S 5  | 11 26 6  | 23°25'00 | 15°9     | 11°40  | 5°4   | 18°4  | 24°31  | 7°4  | 0°9  | 23°24 | 29°10 | 11°D 5 | 12°11 | 27°50 | 27°29 | S 5  |
| M 6  | 11 30 2  | 24°24'31 | 28°4     | 12°50  | 4°31  | 18°47 | 24°25  | 7°8  | 0°10 | 23°26 | 29°11 | 11°5   | 12°8  | 27°57 | 27°32 | M 6  |
| T 7  | 11 33 59 | 25°24'00 | 10°40    | 13°55  | 3°57  | 19°29 | 24°19  | 7°12 | 0°10 | 23°28 | 29°12 | 11°7   | 12°4  | 28°4  | 27°36 | T 7  |
| W 8  | 11 37 55 | 26°23'28 | 23°0     | 14°52  | 3°22  | 20°11 | 24°13  | 7°16 | 0°11 | 23°30 | 29°13 | 11°8   | 12°1  | 28°10 | 27°40 | W 8  |
| T 9  | 11 41 52 | 27°22'54 | 5°7      | 15°42  | 2°46  | 20°54 | 24°7   | 7°20 | 0°11 | 23°33 | 29°15 | 11°9   | 11°58 | 28°17 | 27°44 | T 9  |
| F 10 | 11 45 48 | 28°22'18 | 17°4     | 16°25  | 2°9   | 21°36 | 24°1   | 7°25 | 0°12 | 23°35 | 29°16 | 11°10  | 11°55 | 28°24 | 27°47 | F 10 |
| S 11 | 11 49 45 | 29°21'40 | 28°57    | 17°1   | 1°31  | 22°19 | 23°55  | 7°29 | 0°12 | 23°37 | 29°17 | 11°R10 | 11°52 | 28°31 | 27°51 | S 11 |
| S 12 | 11 53 41 | 0°21'00  | 10°50    | 17°29  | 0°53  | 23°1  | 23°48  | 7°33 | 0°13 | 23°40 | 29°18 | 11°10  | 11°48 | 28°37 | 27°55 | S 12 |
| M13  | 11 57 38 | 1°20'19  | 22°49    | 17°50  | 0°15  | 23°43 | 23°42  | 7°38 | 0°13 | 23°42 | 29°19 | 11°9   | 11°45 | 28°44 | 27°59 | M13  |
| T 14 | 12 1 35  | 2°19'35  | 4°56     | 18°3   | 29°38 | 24°26 | 23°35  | 7°43 | 0°14 | 23°44 | 29°20 | 11°8   | 11°42 | 28°51 | 28°2  | T 14 |
| W15  | 12 5 31  | 3°18'50  | 17°17    | 18°R 9 | 29°1  | 25°8  | 23°28  | 7°47 | 0°15 | 23°46 | 29°21 | 11°7   | 11°39 | 28°58 | 28°6  | W15  |
| T 16 | 12 9 28  | 4°18'03  | 29°54    | 18°7   | 28°24 | 25°51 | 23°22  | 7°52 | 0°16 | 23°49 | 29°22 | 11°6   | 11°36 | 29°4  | 28°10 | T 16 |
| F 17 | 12 13 24 | 5°17'14  | 12°48    | 17°59  | 27°49 | 26°33 | 23°15  | 7°57 | 0°17 | 23°51 | 29°23 | 11°6   | 11°33 | 29°11 | 28°13 | F 17 |
| S 18 | 12 17 21 | 6°16'23  | 26°2     | 17°44  | 27°15 | 27°16 | 23°8   | 8°2  | 0°18 | 23°53 | 29°24 | 11°5   | 11°29 | 29°18 | 28°17 | S 18 |
| S 19 | 12 21 17 | 7°15'30  | 9°33     | 17°22  | 26°42 | 27°58 | 23°1   | 8°7  | 0°19 | 23°55 | 29°25 | 11°D 5 | 11°26 | 29°24 | 28°21 | S 19 |
| M20  | 12 25 14 | 8°14'35  | 23°20    | 16°55  | 26°10 | 28°40 | 22°53  | 8°12 | 0°20 | 23°57 | 29°26 | 11°5   | 11°23 | 29°31 | 28°24 | M20  |
| T 21 | 12 29 10 | 9°13'38  | 7°21     | 16°23  | 25°41 | 29°23 | 22°46  | 8°17 | 0°21 | 24°0  | 29°27 | 11°5   | 11°20 | 29°38 | 28°28 | T 21 |
| W22  | 12 33 7  | 10°12'39 | 21°31    | 15°46  | 25°13 | 0°5   | 22°39  | 8°23 | 0°22 | 24°2  | 29°28 | 11°5   | 11°17 | 29°45 | 28°32 | W22  |
| T 23 | 12 37 4  | 11°11'38 | 5°11     | 15°6   | 24°47 | 0°48  | 22°31  | 8°28 | 0°23 | 24°4  | 29°29 | 11°R 5 | 11°14 | 29°51 | 28°35 | T 23 |
| F 24 | 12 41 0  | 12°10'34 | 20°6     | 14°23  | 24°23 | 1°30  | 22°24  | 8°33 | 0°25 | 24°6  | 29°29 | 11°5   | 11°10 | 29°58 | 28°39 | F 24 |
| S 25 | 12 44 57 | 13°9'28  | 4°23     | 13°38  | 24°2  | 2°13  | 22°17  | 8°39 | 0°26 | 24°8  | 29°30 | 11°5   | 11°7  | 0°5   | 28°43 | S 25 |
| S 26 | 12 48 53 | 14°8'20  | 18°35    | 12°53  | 23°43 | 2°55  | 22°9   | 8°45 | 0°27 | 24°11 | 29°31 | 11°D 5 | 11°4  | 0°11  | 28°46 | S 26 |
| M27  | 12 52 50 | 15°7'09  | 2°41     | 12°7   | 23°26 | 3°38  | 22°2   | 8°50 | 0°29 | 24°13 | 29°32 | 11°5   | 11°1  | 0°18  | 28°50 | M27  |
| T 28 | 12 56 46 | 16°5'56  | 16°38    | 11°22  | 23°12 | 4°20  | 21°54  | 8°56 | 0°30 | 24°15 | 29°32 | 11°6   | 10°58 | 0°25  | 28°54 | T 28 |
| W29  | 13 0 43  | 17°4'40  | 0°11     | 10°38  | 23°0  | 5°2   | 21°46  | 9°2  | 0°32 | 24°17 | 29°33 | 11°6   | 10°54 | 0°32  | 28°57 | W29  |
| T 30 | 13 4 39  | 18°3'23  | 14°1     | 9°57   | 22°50 | 5°45  | 21°39  | 9°8  | 0°33 | 24°19 | 29°34 | 11°7   | 10°51 | 0°38  | 29°1  | T 30 |
| F 31 | 13 8 36  | 19°2'03  | 27°25    | 9°18   | 22°43 | 6°27  | 21°31  | 9°13 | 0°35 | 24°21 | 29°34 | 11°7   | 10°48 | 0°45  | 29°4  | F 31 |

Delta T = 221.83 sec

Julian Calendar 1 March 1531 == Greg. Calendar 11 March 1531

APRIL 1531 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽     | ♂     | ♀      | ♂     | ♂      | ♂     | ♂    | ♂     | ♂      | ♂      | ♂     | ♂    | ♂     | Day  |
|------|----------|----------|-------|-------|--------|-------|--------|-------|------|-------|--------|--------|-------|------|-------|------|
| S 1  | 13 12 32 | 20°0'41  | 10°34 | 8°R43 | 22°R39 | 7°10  | 21°R23 | 9°11  | 0°37 | 24°23 | 29°35  | 11°R 8 | 10°45 | 0°52 | 29°8  | S 1  |
| S 2  | 13 16 29 | 20°59'17 | 23°30 | 8°13  | 22°D37 | 7°52  | 21°16  | 9°25  | 0°38 | 24°25 | 29°35  | 11°7   | 10°42 | 0°58 | 29°11 | S 2  |
| M 3  | 13 20 26 | 21°57'51 | 6°11  | 7°46  | 22°37  | 8°34  | 21°8   | 9°32  | 0°40 | 24°28 | 29°36  | 11°7   | 10°39 | 1°5  | 29°15 | M 3  |
| T 4  | 13 24 22 | 22°56'24 | 18°40 | 7°24  | 22°39  | 9°17  | 21°0   | 9°38  | 0°42 | 24°30 | 29°36  | 11°5   | 10°35 | 1°12 | 29°18 | T 4  |
| W 5  | 13 28 19 | 23°54'54 | 0°55  | 7°7   | 22°44  | 9°59  | 20°53  | 9°44  | 0°44 | 24°32 | 29°37  | 11°4   | 10°32 | 1°19 | 29°22 | W 5  |
| T 6  | 13 32 15 | 24°53'23 | 13°0  | 6°55  | 22°52  | 10°42 | 20°45  | 9°50  | 0°46 | 24°34 | 29°37  | 11°2   | 10°29 | 1°25 | 29°25 | T 6  |
| F 7  | 13 36 12 | 25°51'50 | 24°58 | 6°48  | 23°1   | 11°24 | 20°37  | 9°57  | 0°48 | 24°36 | 29°38  | 11°0   | 10°26 | 1°32 | 29°29 | F 7  |
| S 8  | 13 40 8  | 26°50'16 | 6°51  | 6°D47 | 23°12  | 12°6  | 20°30  | 10°3  | 0°49 | 24°38 | 29°38  | 10°58  | 10°23 | 1°39 | 29°32 | S 8  |
| S 9  | 13 44 5  | 27°48'40 | 18°45 | 6°50  | 23°26  | 12°49 | 20°22  | 10°9  | 0°52 | 24°40 | 29°39  | 10°57  | 10°20 | 1°46 | 29°36 | S 9  |
| M10  | 13 48 1  | 28°47'02 | 0°43  | 6°58  | 23°42  | 13°31 | 20°15  | 10°16 | 0°54 | 24°42 | 29°39  | 10°D57 | 10°16 | 1°52 | 29°39 | M10  |
| T 11 | 13 51 58 | 29°45'23 | 12°49 | 7°11  | 23°59  | 14°13 | 20°7   | 10°23 | 0°56 | 24°44 | 29°39  | 10°57  | 10°13 | 1°59 | 29°42 | T 11 |
| W12  | 13 55 55 | 0°43'42  | 25°9  | 7°28  | 24°19  | 14°56 | 20°0   | 10°29 | 0°58 | 24°46 | 29°40  | 10°58  | 10°10 | 2°6  | 29°46 | W12  |
| T 13 | 13 59 51 | 1°41'59  | 7°47  | 7°50  | 24°40  | 15°38 | 19°52  | 10°36 | 1°0  | 24°47 | 29°40  | 11°0   | 10°7  | 2°12 | 29°49 | T 13 |
| F 14 | 14 3 48  | 2°40'15  | 20°46 | 8°17  | 25°3   | 16°20 | 19°45  | 10°43 | 1°2  | 24°49 | 29°40  | 11°1   | 10°4  | 2°19 | 29°52 | F 14 |
| S 15 | 14 7 44  | 3°38'29  | 4°8   | 8°48  | 25°28  | 17°3  | 19°38  | 10°49 | 1°5  | 24°51 | 29°40  | 11°R 2 | 10°0  | 2°26 | 29°55 | S 15 |
| S 16 | 14 11 41 | 4°36'42  | 17°54 | 9°22  | 25°55  | 17°45 | 19°30  | 10°56 | 1°7  | 24°53 | 29°40  | 11°2   | 9°57  | 2°33 | 29°59 | S 16 |
| M17  | 14 15 37 | 5°34'53  | 2°2   | 10°1  | 26°23  | 18°27 | 19°23  | 11°3  | 1°9  | 24°55 | 29°41  | 11°1   | 9°54  | 2°39 | 0°12  | M17  |
| T 18 | 14 19 34 | 6°33'02  | 16°28 | 10°43 | 26°52  | 19°9  | 19°16  | 11°10 | 1°12 | 24°57 | 29°41  | 10°59  | 9°51  | 2°46 | 0°5   | T 18 |
| W19  | 14 23 30 | 7°31'10  | 1°11  | 11°30 | 27°23  | 19°51 | 19°9   | 11°17 | 1°14 | 24°59 | 29°41  | 10°55  | 9°48  | 2°53 | 0°8   | W19  |
| T 20 | 14 27 27 | 8°29'16  | 15°51 | 12°19 | 27°56  | 20°34 | 19°2   | 11°24 | 1°16 | 25°0  | 29°41  | 10°52  | 9°45  | 2°59 | 0°11  | T 20 |
| F 21 | 14 31 24 | 9°27'20  | 0°32  | 13°12 | 28°29  | 21°16 | 18°55  | 11°31 | 1°19 | 25°2  | 29°41  | 10°48  | 9°41  | 3°6  | 0°14  | F 21 |
| S 22 | 14 35 20 | 10°25'22 | 15°6  | 14°8  | 29°4   | 21°58 | 18°49  | 11°38 | 1°22 | 25°4  | 29°R41 | 10°45  | 9°38  | 3°13 | 0°17  | S 22 |
| S 23 | 14 39 17 | 11°23'22 | 29°27 | 15°7  | 29°41  | 22°40 | 18°42  | 11°45 | 1°24 | 25°6  | 29°41  | 10°43  | 9°35  | 3°20 | 0°20  | S 23 |
| M24  | 14 43 13 | 12°21'20 | 13°21 | 16°9  | 0°11   | 23°22 | 18°35  | 11°52 | 1°27 | 25°7  | 29°41  | 10°D42 | 9°32  | 3°26 | 0°23  | M24  |
| T 25 | 14 47 10 | 13°19'17 | 27°19 | 17°14 | 0°57   | 24°4  | 18°29  | 11°59 | 1°29 | 25°9  | 29°41  | 10°43  | 9°29  | 3°33 | 0°26  | T 25 |
| W26  | 14 51 6  | 14°17'11 | 10°49 | 18°22 | 1°36   | 24°46 | 18°23  | 12°7  | 1°32 | 25°11 | 29°41  | 10°44  | 9°25  | 3°40 | 0°29  | W26  |
| T 27 | 14 55 3  | 15°15'04 | 24°4  | 19°32 | 2°17   | 25°28 | 18°16  | 12°14 | 1°35 | 25°12 | 29°40  | 10°46  | 9°22  | 3°47 | 0°32  | T 27 |
| F 28 | 14 58 59 | 16°12'54 | 7°4   | 20°45 | 2°59   | 26°9  | 18°10  | 12°21 | 1°38 | 25°14 | 29°40  | 10°R47 | 9°19  | 3°53 | 0°35  | F 28 |
| S 29 | 15 2 56  | 17°10'44 | 19°52 | 22°1  | 3°42   | 26°51 | 18°4   | 12°29 | 1°40 | 25°15 | 29°40  | 10°47  | 9°16  | 4°0  | 0°38  | S 29 |
| S 30 | 15 6 53  | 18°8'31  | 2°28  | 23°19 | 4°11   | 27°33 | 17°58  | 12°36 | 1°43 | 25°17 | 29°40  | 10°45  | 9°13  | 4°7  | 0°41  | S 30 |

Delta T = 221.64 sec

Julian Calendar

# ASTRODIENST EPHEMERIS for the year 1531

## geocentric

MAY 1531 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽      | ♀      | ♂     | ♂      | ♂      | ♂      | ♂     | ♂      | ♂      | ♂      | ♂     | ♂     | ♂     | Day  |
|------|----------|----------|--------|--------|-------|--------|--------|--------|-------|--------|--------|--------|-------|-------|-------|------|
| M 1  | 15 10 49 | 19♈ 6'17 | 14♍ 53 | 24♊ 39 | 5♊ 10 | 28♈ 15 | 17°R53 | 12♐ 43 | 1♈ 46 | 25♋ 18 | 29°R40 | 10°R41 | 9♎ 10 | 4♌ 13 | 0♊ 43 | M 1  |
| T 2  | 15 14 46 | 20° 4'02 | 27° 9  | 26° 2  | 5°55  | 28°57  | 17♌ 47 | 12°51  | 1°49  | 25°20  | 29♌ 39 | 10♌ 35 | 9° 6  | 4°20  | 0°46  | T 2  |
| W 3  | 15 18 42 | 21° 1'45 | 9♈ 17  | 27°28  | 6°42  | 29°38  | 17°42  | 12°58  | 1°52  | 25°21  | 29°39  | 10°28  | 9° 3  | 4°27  | 0°49  | W 3  |
| T 4  | 15 22 39 | 21°59'27 | 21°17  | 28°55  | 7°29  | 0♈ 20  | 17°36  | 13° 6  | 1°55  | 25°23  | 29°39  | 10°21  | 9° 0  | 4°34  | 0°51  | T 4  |
| F 5  | 15 26 35 | 22°57'08 | 3♌ 13  | 0♈ 25  | 8°17  | 1° 1   | 17°31  | 13°13  | 1°58  | 25°24  | 29°38  | 10°13  | 8°57  | 4°40  | 0°54  | F 5  |
| S 6  | 15 30 32 | 23°54'48 | 15° 5  | 1°58   | 9° 6  | 1°43   | 17°26  | 13°21  | 2° 1  | 25°26  | 29°38  | 10° 6  | 8°54  | 4°47  | 0°56  | S 6  |
| S 7  | 15 34 28 | 24°52'26 | 26°58  | 3°32   | 9°55  | 2°25   | 17°21  | 13°28  | 2° 4  | 25°27  | 29°38  | 10° 1  | 8°51  | 4°54  | 0°59  | S 7  |
| M 8  | 15 38 25 | 25°50'04 | 8♈ 55  | 5° 9   | 10°45 | 3° 6   | 17°17  | 13°36  | 2° 7  | 25°28  | 29°37  | 9°58   | 8°47  | 5° 1  | 1° 1  | M 8  |
| T 9  | 15 42 22 | 26°47'40 | 20°59  | 6°49   | 11°36 | 3°47   | 17°12  | 13°44  | 2°10  | 25°30  | 29°37  | 9°56   | 8°44  | 5° 7  | 1° 4  | T 9  |
| W10  | 15 46 18 | 27°45'16 | 3♈ 17  | 8°30   | 12°28 | 4°29   | 17° 8  | 13°51  | 2°13  | 25°31  | 29°36  | 9°D56  | 8°41  | 5°14  | 1° 6  | W10  |
| T 11 | 15 50 15 | 28°42'50 | 15°51  | 10°14  | 13°20 | 5°10   | 17° 3  | 13°59  | 2°16  | 25°32  | 29°36  | 9°57   | 8°38  | 5°21  | 1° 9  | T 11 |
| F 12 | 15 54 11 | 29°40'24 | 28°48  | 12° 0  | 14°12 | 5°51   | 16°59  | 14° 7  | 2°19  | 25°33  | 29°35  | 9°58   | 8°35  | 5°27  | 1°11  | F 12 |
| S 13 | 15 58 8  | 0♐ 37'56 | 12♊ 11 | 13°48  | 15° 6 | 6°32   | 16°55  | 14°14  | 2°22  | 25°35  | 29°35  | 9°R58  | 8°31  | 5°34  | 1°13  | S 13 |
| S 14 | 16 2 4   | 1°35'28  | 26° 1  | 15°39  | 15°59 | 7°13   | 16°51  | 14°22  | 2°26  | 25°36  | 29°34  | 9°57   | 8°28  | 5°41  | 1°15  | S 14 |
| M15  | 16 6 1   | 2°32'59  | 10♈ 18 | 17°32  | 16°54 | 7°54   | 16°48  | 14°30  | 2°29  | 25°37  | 29°34  | 9°54   | 8°25  | 5°48  | 1°18  | M15  |
| T 16 | 16 9 57  | 3°30'29  | 24°59  | 19°27  | 17°49 | 8°35   | 16°44  | 14°37  | 2°32  | 25°38  | 29°33  | 9°49   | 8°22  | 5°54  | 1°20  | T 16 |
| W17  | 16 13 54 | 4°27'59  | 9♐ 57  | 21°24  | 18°44 | 9°16   | 16°41  | 14°45  | 2°35  | 25°39  | 29°32  | 9°41   | 8°19  | 6° 1  | 1°22  | W17  |
| T 18 | 16 17 51 | 5°25'27  | 25° 4  | 23°23  | 19°40 | 9°57   | 16°38  | 14°53  | 2°39  | 25°40  | 29°32  | 9°33   | 8°16  | 6° 8  | 1°24  | T 18 |
| F 19 | 16 21 47 | 6°22'54  | 10♌ 9  | 25°25  | 20°36 | 10°38  | 16°35  | 15° 1  | 2°42  | 25°41  | 29°31  | 9°25   | 8°12  | 6°14  | 1°26  | F 19 |
| S 20 | 16 25 44 | 7°20'20  | 25° 2  | 27°28  | 21°33 | 11°18  | 16°32  | 15° 9  | 2°45  | 25°42  | 29°30  | 9°18   | 8° 9  | 6°21  | 1°28  | S 20 |
| S 21 | 16 29 40 | 8°17'45  | 9♎ 38  | 29°33  | 22°30 | 11°59  | 16°30  | 15°16  | 2°49  | 25°43  | 29°29  | 9°13   | 8° 6  | 6°28  | 1°30  | S 21 |
| M22  | 16 33 37 | 9°15'08  | 23°50  | 1♐ 39  | 23°27 | 12°39  | 16°27  | 15°24  | 2°52  | 25°44  | 29°29  | 9°10   | 8° 3  | 6°35  | 1°32  | M22  |
| T 23 | 16 37 33 | 10°12'31 | 7♐ 38  | 3°47   | 24°25 | 13°19  | 16°25  | 15°32  | 2°56  | 25°45  | 29°28  | 9°D 9  | 8° 0  | 6°41  | 1°33  | T 23 |
| W24  | 16 41 30 | 11° 9'52 | 21° 3  | 5°57   | 25°24 | 14° 0  | 16°23  | 15°40  | 2°59  | 25°46  | 29°27  | 9° 9   | 7°57  | 6°48  | 1°35  | W24  |
| T 25 | 16 45 26 | 12° 7'12 | 4♌ 8   | 8° 7   | 26°22 | 14°40  | 16°21  | 15°48  | 3° 2  | 25°47  | 29°26  | 9°R10  | 7°53  | 6°55  | 1°37  | T 25 |
| F 26 | 16 49 23 | 13° 4'31 | 16°54  | 10°18  | 27°21 | 15°20  | 16°19  | 15°56  | 3° 6  | 25°48  | 29°25  | 9° 9   | 7°50  | 7° 2  | 1°39  | F 26 |
| S 27 | 16 53 20 | 14° 1'49 | 29°26  | 12°30  | 28°21 | 16° 0  | 16°18  | 16° 3  | 3° 9  | 25°49  | 29°25  | 9° 8   | 7°47  | 7° 8  | 1°40  | S 27 |
| S 28 | 16 57 16 | 14°59'07 | 11♍ 47 | 14°42  | 29°21 | 16°40  | 16°16  | 16°11  | 3°13  | 25°49  | 29°24  | 9° 3   | 7°44  | 7°15  | 1°42  | S 28 |
| M29  | 17 1 13  | 15°56'23 | 23°59  | 16°54  | 0♌ 21 | 17°19  | 16°15  | 16°19  | 3°16  | 25°50  | 29°23  | 8°56   | 7°41  | 7°22  | 1°43  | M29  |
| T 30 | 17 5 9   | 16°53'39 | 6♈ 4   | 19° 5  | 1°21  | 17°59  | 16°14  | 16°27  | 3°20  | 25°51  | 29°22  | 8°47   | 7°37  | 7°28  | 1°45  | T 30 |
| W31  | 17 9 6   | 17°50'54 | 18♈ 3  | 21♐ 16 | 2♈ 22 | 18♈ 39 | 16♌ 13 | 16♐ 35 | 3°23  | 25°51  | 29°21  | 8♌ 35  | 7♌ 34 | 7♌ 35 | 1°46  | W31  |

Delta T = 221.45 sec

Julian Calendar 1 May 1531 == Greg. Calendar 11 May 1531

JUNE 1531 JC

00:00 UT

| Day  | Sid.t    | ☉         | ☽      | ♀      | ♂     | ♂      | ♂      | ♂      | ♂    | ♂     | ♂      | ♂     | ♂     | ♂      | ♂     | Day  |
|------|----------|-----------|--------|--------|-------|--------|--------|--------|------|-------|--------|-------|-------|--------|-------|------|
| T 1  | 17 13 2  | 18♐ 48'09 | 29♈ 59 | 23♐ 27 | 3♌ 23 | 19♈ 18 | 16°R13 | 16♐ 43 | 3°27 | 25°52 | 29°R20 | 8°R23 | 7♎ 31 | 7♌ 42  | 1°48  | T 1  |
| F 2  | 17 16 59 | 19°45'23  | 11♌ 52 | 25°36  | 4°24  | 19°57  | 16♌ 12 | 16°50  | 3°30 | 25°53 | 29♌ 19 | 8♌ 10 | 7°28  | 7°49   | 1°49  | F 2  |
| S 3  | 17 20 55 | 20°42'37  | 23°44  | 27°44  | 5°26  | 20°37  | 16°12  | 16°58  | 3°34 | 25°53 | 29°18  | 7°59  | 7°25  | 7°55   | 1°50  | S 3  |
| S 4  | 17 24 52 | 21°39'50  | 5♈ 38  | 29°50  | 6°28  | 21°16  | 16°D12 | 17° 6  | 3°37 | 25°54 | 29°17  | 7°49  | 7°22  | 8° 2   | 1°52  | S 4  |
| M 5  | 17 28 49 | 22°37'03  | 17°35  | 19°55  | 7°30  | 21°55  | 16°12  | 17°14  | 3°41 | 25°54 | 29°16  | 7°42  | 7°18  | 8° 9   | 1°53  | M 5  |
| T 6  | 17 32 45 | 23°34'16  | 29°40  | 3°59   | 8°32  | 22°34  | 16°12  | 17°22  | 3°45 | 25°55 | 29°15  | 7°37  | 7°15  | 8°16   | 1°54  | T 6  |
| W 7  | 17 36 42 | 24°31'28  | 11♈ 56 | 6° 0   | 9°35  | 23°12  | 16°13  | 17°30  | 3°48 | 25°55 | 29°14  | 7°35  | 7°12  | 8°22   | 1°55  | W 7  |
| T 8  | 17 40 38 | 25°28'41  | 24°27  | 8° 0   | 10°38 | 23°51  | 16°13  | 17°37  | 3°52 | 25°56 | 29°13  | 7°D35 | 7° 9  | 8°29   | 1°56  | T 8  |
| F 9  | 17 44 35 | 26°25'53  | 7♊ 20  | 9°57   | 11°41 | 24°29  | 16°14  | 17°45  | 3°55 | 25°56 | 29°11  | 7°R35 | 7° 6  | 8°36   | 1°57  | F 9  |
| S 10 | 17 48 31 | 27°23'06  | 20°37  | 11°53  | 12°44 | 25° 8  | 16°15  | 17°53  | 3°59 | 25°56 | 29°10  | 7°34  | 7° 3  | 8°42   | 1°58  | S 10 |
| S 11 | 17 52 28 | 28°20'18  | 4♌ 23  | 13°46  | 13°48 | 25°46  | 16°16  | 18° 1  | 4° 3 | 25°57 | 29° 9  | 7°32  | 6°59  | 8°49   | 1°59  | S 11 |
| M12  | 17 56 24 | 29°17'31  | 18°38  | 15°38  | 14°52 | 26°24  | 16°18  | 18° 8  | 4° 6 | 25°57 | 29° 8  | 7°28  | 6°56  | 8°56   | 1°59  | M12  |
| T 13 | 18 0 21  | 0♐ 14'44  | 3♐ 20  | 17°27  | 15°56 | 27° 2  | 16°19  | 18°16  | 4°10 | 25°57 | 29° 7  | 7°21  | 6°53  | 9° 3   | 2° 0  | T 13 |
| W14  | 18 4 18  | 1°11'56   | 18°23  | 19°14  | 17° 0 | 27°39  | 16°21  | 18°24  | 4°13 | 25°57 | 29° 6  | 7°12  | 6°50  | 9° 9   | 2° 1  | W14  |
| T 15 | 18 8 14  | 2° 9'09   | 3♌ 40  | 20°59  | 18° 4 | 28°17  | 16°23  | 18°32  | 4°17 | 25°57 | 29° 4  | 7° 1  | 6°47  | 9°16   | 2° 2  | T 15 |
| F 16 | 18 12 11 | 3° 6'22   | 18°58  | 22°42  | 19° 9 | 28°54  | 16°25  | 18°39  | 4°21 | 25°58 | 29° 3  | 6°50  | 6°43  | 9°23   | 2° 2  | F 16 |
| S 17 | 18 16 7  | 4° 3'34   | 4♎ 6   | 24°22  | 20°14 | 29°31  | 16°27  | 18°47  | 4°24 | 25°58 | 29° 2  | 6°41  | 6°40  | 9°29   | 2° 3  | S 17 |
| S 18 | 18 20 4  | 5° 0'46   | 18°55  | 26° 1  | 21°19 | 0♊ 8   | 16°29  | 18°55  | 4°28 | 25°58 | 29° 1  | 6°33  | 6°37  | 9°36   | 2° 3  | S 18 |
| M19  | 18 24 0  | 5°57'58   | 3♐ 19  | 27°37  | 22°24 | 0°45   | 16°32  | 19° 2  | 4°31 | 25°58 | 28°59  | 6°29  | 6°34  | 9°43   | 2° 4  | M19  |
| T 20 | 18 27 57 | 6°55'10   | 17°15  | 29°12  | 23°29 | 1°21   | 16°35  | 19°10  | 4°35 | 25°58 | 28°58  | 6°26  | 6°31  | 9°50   | 2° 4  | T 20 |
| W21  | 18 31 53 | 7°52'21   | 0♌ 43  | 0♎ 44  | 24°35 | 1°58   | 16°38  | 19°18  | 4°39 | 25°58 | 28°57  | 6°26  | 6°28  | 9°56   | 2° 4  | W21  |
| T 22 | 18 35 50 | 8°49'32   | 13°46  | 2°13   | 25°41 | 2°34   | 16°41  | 19°25  | 4°42 | 25°58 | 28°56  | 6°26  | 6°24  | 10° 3  | 2° 5  | T 22 |
| F 23 | 18 39 47 | 9°46'44   | 26°28  | 3°41   | 26°46 | 3°10   | 16°44  | 19°33  | 4°46 | 25°58 | 28°54  | 6°25  | 6°21  | 10°10  | 2° 5  | F 23 |
| S 24 | 18 43 43 | 10°43'55  | 8♍ 53  | 5° 6   | 27°52 | 3°46   | 16°47  | 19°40  | 4°50 | 25°58 | 28°53  | 6°23  | 6°18  | 10°17  | 2° 5  | S 24 |
| S 25 | 18 47 40 | 11°41'06  | 21° 5  | 6°29   | 28°59 | 4°21   | 16°51  | 19°48  | 4°53 | 25°57 | 28°52  | 6°18  | 6°15  | 10°23  | 2° 5  | S 25 |
| M26  | 18 51 36 | 12°38'17  | 3♈ 9   | 7°50   | 0♐ 5  | 4°57   | 16°55  | 19°55  | 4°57 | 25°57 | 28°50  | 6°11  | 6°12  | 10°30  | 2°R 5 | M26  |
| T 27 | 18 55 33 | 13°35'28  | 15° 7  | 9° 9   | 1°11  | 5°32   | 16°59  | 20° 3  | 5° 0 | 25°57 | 28°49  | 6° 0  | 6° 9  | 10°37  | 2° 5  | T 27 |
| W28  | 18 59 29 | 14°32'39  | 27° 1  | 10°25  | 2°18  | 6° 7   | 17° 3  | 20°10  | 5° 4 | 25°57 | 28°48  | 5°48  | 6° 5  | 10°43  | 2° 5  | W28  |
| T 29 | 19 3 26  | 15°29'51  | 8♌ 54  | 11°38  | 3°25  | 6°41   | 17° 7  | 20°17  | 5° 8 | 25°57 | 28°46  | 5°35  | 6° 2  | 10°50  | 2° 5  | T 29 |
| F 30 | 19 7 22  | 16°27'03  | 20♌ 47 | 12♎ 49 | 4♐ 32 | 7°16   | 17♌ 11 | 20♐ 25 | 5°11 | 25°56 | 28°45  | 5♌ 21 | 5♌ 59 | 10♌ 57 | 2°Y 5 | F 30 |

Delta T = 221.26 sec

Julian Calendar

# ASTRODIENST EPHEMERIS for the year 1531

## geocentric

JULY 1531 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽       | ♀      | ♂     | ♂      | ♂      | ♂       | ♂    | ♂      | ♂      | ♂     | ♂    | ♂     | ♂     | Day  |
|------|----------|----------|---------|--------|-------|--------|--------|---------|------|--------|--------|-------|------|-------|-------|------|
| S 1  | 19 11 19 | 17°24'15 | 2°41    | 13°58  | 5°11  | 7°50   | 17°16  | 20°32   | 5°15 | 25°R56 | 28°R44 | 5°R 9 | 5°56 | 11°3  | 2°R 5 | S 1  |
| S 2  | 19 15 16 | 18°21'28 | 14°38   | 15° 4  | 6°46  | 8°24   | 17°20  | 20°39   | 5°18 | 25°R56 | 28°R42 | 4°58  | 5°53 | 11°10 | 2°Y 4 | S 2  |
| M 3  | 19 19 12 | 19°18'41 | 26°40   | 16° 7  | 7°53  | 8°58   | 17°25  | 20°47   | 5°22 | 25°55  | 28°41  | 4°50  | 5°49 | 11°17 | 2° 4  | M 3  |
| T 4  | 19 23 9  | 20°15'55 | 8°50    | 17° 7  | 9° 1  | 9°31   | 17°30  | 20°54   | 5°25 | 25°55  | 28°40  | 4°45  | 5°46 | 11°24 | 2° 4  | T 4  |
| W 5  | 19 27 5  | 21°13'10 | 21°10   | 18° 4  | 10° 9 | 10° 4  | 17°35  | 21° 1   | 5°29 | 25°54  | 28°38  | 4°43  | 5°43 | 11°31 | 2° 3  | W 5  |
| T 6  | 19 31 2  | 22°10'25 | 3°Y43   | 18°58  | 11°16 | 10°37  | 17°41  | 21° 8   | 5°32 | 25°54  | 28°37  | 4°D42 | 5°40 | 11°37 | 2° 3  | T 6  |
| F 7  | 19 34 58 | 23° 7'41 | 16°35   | 19°49  | 12°24 | 11°10  | 17°46  | 21°15   | 5°36 | 25°53  | 28°35  | 4°R42 | 5°37 | 11°44 | 2° 2  | F 7  |
| S 8  | 19 38 55 | 24° 4'59 | 29°48   | 20°37  | 13°32 | 11°42  | 17°52  | 21°22   | 5°39 | 25°53  | 28°34  | 4°42  | 5°34 | 11°51 | 2° 1  | S 8  |
| S 9  | 19 42 51 | 25° 2'17 | 13°8'27 | 21°21  | 14°40 | 12°14  | 17°58  | 21°29   | 5°43 | 25°52  | 28°33  | 4°41  | 5°30 | 11°57 | 2° 1  | S 9  |
| M10  | 19 46 48 | 25°59'36 | 27°33   | 22° 2  | 15°49 | 12°46  | 18° 3  | 21°36   | 5°46 | 25°51  | 28°31  | 4°38  | 5°27 | 12° 4 | 2° 0  | M10  |
| T 11 | 19 50 45 | 26°56'56 | 12°II 5 | 22°39  | 16°57 | 13°17  | 18°10  | 21°43   | 5°50 | 25°51  | 28°30  | 4°32  | 5°24 | 12°11 | 1°59  | T 11 |
| W12  | 19 54 41 | 27°54'18 | 27° 0   | 23°11  | 18° 5 | 13°48  | 18°16  | 21°50   | 5°53 | 25°50  | 28°28  | 4°24  | 5°21 | 12°18 | 1°59  | W12  |
| T 13 | 19 58 38 | 28°51'40 | 12°510  | 23°40  | 19°14 | 14°19  | 18°22  | 21°57   | 5°57 | 25°49  | 28°27  | 4°15  | 5°18 | 12°24 | 1°58  | T 13 |
| F 14 | 20 2 34  | 29°49'03 | 27°25   | 24° 5  | 20°23 | 14°49  | 18°28  | 22° 4   | 6° 0 | 25°49  | 28°26  | 4° 5  | 5°14 | 12°31 | 1°57  | F 14 |
| S 15 | 20 6 31  | 0°46'27  | 12°5135 | 24°25  | 21°32 | 15°19  | 18°35  | 22°10   | 6° 3 | 25°48  | 28°24  | 3°57  | 5°11 | 12°38 | 1°56  | S 15 |
| S 16 | 20 10 27 | 1°43'51  | 27°29   | 24°40  | 22°41 | 15°49  | 18°42  | 22°17   | 6° 7 | 25°47  | 28°23  | 3°51  | 5° 8 | 12°44 | 1°55  | S 16 |
| M17  | 20 14 24 | 2°41'17  | 11°59   | 24°50  | 23°50 | 16°18  | 18°49  | 22°24   | 6°10 | 25°46  | 28°21  | 3°46  | 5° 5 | 12°51 | 1°54  | M17  |
| T 18 | 20 18 20 | 3°38'43  | 26° 2   | 24°56  | 24°59 | 16°47  | 18°56  | 22°30   | 6°13 | 25°46  | 28°20  | 3°44  | 5° 2 | 12°58 | 1°53  | T 18 |
| W19  | 20 22 17 | 4°36'09  | 9°56    | 24°R56 | 26° 8 | 17°15  | 19° 3  | 22°37   | 6°17 | 25°45  | 28°19  | 3°D44 | 4°59 | 13° 5 | 1°51  | W19  |
| T 20 | 20 26 14 | 5°33'37  | 22°44   | 24°51  | 27°17 | 17°43  | 19°10  | 22°43   | 6°20 | 25°44  | 28°17  | 3°45  | 4°55 | 13°11 | 1°50  | T 20 |
| F 21 | 20 30 10 | 6°31'05  | 5°1128  | 24°41  | 28°27 | 18°11  | 19°18  | 22°50   | 6°23 | 25°43  | 28°16  | 3°R46 | 4°52 | 13°18 | 1°49  | F 21 |
| S 22 | 20 34 7  | 7°28'34  | 17°53   | 24°25  | 29°36 | 18°38  | 19°25  | 22°56   | 6°26 | 25°42  | 28°14  | 3°45  | 4°49 | 13°25 | 1°48  | S 22 |
| S 23 | 20 38 3  | 8°26'04  | 0°3     | 24° 4  | 0°56  | 19° 5  | 19°33  | 23° 2   | 6°30 | 25°41  | 28°13  | 3°43  | 4°46 | 13°32 | 1°46  | S 23 |
| M24  | 20 42 0  | 9°23'34  | 12° 4   | 23°38  | 1°56  | 19°32  | 19°40  | 23° 9   | 6°33 | 25°40  | 28°12  | 3°38  | 4°43 | 13°38 | 1°45  | M24  |
| T 25 | 20 45 56 | 10°21'06 | 23°59   | 23° 8  | 3° 6  | 19°58  | 19°48  | 23°15   | 6°36 | 25°39  | 28°10  | 3°31  | 4°40 | 13°45 | 1°43  | T 25 |
| W26  | 20 49 53 | 11°18'39 | 5°51    | 22°32  | 4°15  | 20°23  | 19°56  | 23°21   | 6°39 | 25°38  | 28° 9  | 3°23  | 4°36 | 13°52 | 1°42  | W26  |
| T 27 | 20 53 49 | 12°16'12 | 17°44   | 21°52  | 5°25  | 20°48  | 20° 5  | 23°27   | 6°42 | 25°37  | 28° 8  | 3°13  | 4°33 | 13°58 | 1°40  | T 27 |
| F 28 | 20 57 46 | 13°13'47 | 29°39   | 21° 9  | 6°36  | 21°13  | 20°13  | 23°33   | 6°45 | 25°36  | 28° 6  | 3° 4  | 4°30 | 14° 5 | 1°39  | F 28 |
| S 29 | 21 1 43  | 14°11'23 | 11°38   | 20°22  | 7°46  | 21°37  | 20°21  | 23°39   | 6°48 | 25°34  | 28° 5  | 2°55  | 4°27 | 14°12 | 1°37  | S 29 |
| S 30 | 21 5 39  | 15° 9'00 | 23°43   | 19°33  | 8°56  | 22° 1  | 20°30  | 23°45   | 6°51 | 25°33  | 28° 4  | 2°48  | 4°24 | 14°19 | 1°35  | S 30 |
| M31  | 21 9 36  | 16° 6'38 | 5°56    | 18°43  | 10°5  | 22°Y24 | 20°538 | 23°II51 | 6°54 | 25°R32 | 28°R 2 | 2°43  | 4°20 | 14°25 | 1°Y34 | M31  |

Delta T = 221.07 sec

Julian Calendar 1 July 1531 == Greg. Calendar 11 July 1531

AUGUST 1531 JC

00:00 UT

| Day  | Sid.t    | ☉         | ☽      | ♀      | ♂      | ♂      | ♂      | ♂       | ♂     | ♂      | ♂      | ♂     | ♂    | ♂      | ♂     | Day  |
|------|----------|-----------|--------|--------|--------|--------|--------|---------|-------|--------|--------|-------|------|--------|-------|------|
| T 1  | 21 13 32 | 17°18'418 | 18°16  | 17°R52 | 11°517 | 22°Y47 | 20°447 | 23°II57 | 6°557 | 25°R31 | 28°R 1 | 2°R39 | 4°17 | 14°332 | 1°R32 | T 1  |
| W 2  | 21 17 29 | 18° 1'59  | 0°Y47  | 17°18  | 12°28  | 23° 9  | 20°56  | 24° 2   | 7° 0  | 25°R30 | 28°R 0 | 2°D38 | 4°14 | 14°39  | 1°Y30 | W 2  |
| T 3  | 21 21 25 | 18°59'41  | 13°31  | 16°12  | 13°38  | 23°30  | 21° 5  | 24° 8   | 7° 3  | 25°28  | 27°58  | 2°D39 | 4°11 | 14°45  | 1°28  | T 3  |
| F 4  | 21 25 22 | 19°57'26  | 26°29  | 15°26  | 14°49  | 23°51  | 21°14  | 24°13   | 7° 6  | 25°27  | 27°57  | 2°40  | 4° 8 | 14°52  | 1°26  | F 4  |
| S 5  | 21 29 18 | 20°55'12  | 9°546  | 14°42  | 16° 0  | 24°12  | 21°23  | 24°19   | 7° 9  | 25°26  | 27°56  | 2°41  | 4° 5 | 14°59  | 1°24  | S 5  |
| S 6  | 21 33 15 | 21°53'00  | 23°22  | 14° 4  | 17°11  | 24°32  | 21°32  | 24°24   | 7°12  | 25°25  | 27°55  | 2°R42 | 4° 1 | 15° 6  | 1°22  | S 6  |
| M 7  | 21 37 12 | 22°50'49  | 7°II19 | 13°30  | 18°22  | 24°51  | 21°42  | 24°30   | 7°15  | 25°23  | 27°53  | 2°41  | 3°58 | 15°12  | 1°20  | M 7  |
| T 8  | 21 41 8  | 23°48'41  | 21°38  | 13° 2  | 19°33  | 25° 9  | 21°51  | 24°35   | 7°17  | 25°22  | 27°52  | 2°38  | 3°55 | 15°19  | 1°18  | T 8  |
| W 9  | 21 45 5  | 24°46'34  | 6°515  | 12°41  | 20°44  | 25°28  | 22° 1  | 24°40   | 7°20  | 25°21  | 27°51  | 2°34  | 3°52 | 15°26  | 1°16  | W 9  |
| T 10 | 21 49 1  | 25°44'29  | 21° 6  | 12°27  | 21°56  | 25°45  | 22°10  | 24°45   | 7°23  | 25°19  | 27°50  | 2°29  | 3°49 | 15°33  | 1°14  | T 10 |
| F 11 | 21 52 58 | 26°42'26  | 6°14   | 12°D21 | 23° 7  | 26° 2  | 22°20  | 24°50   | 7°25  | 25°18  | 27°48  | 2°24  | 3°46 | 15°39  | 1°12  | F 11 |
| S 12 | 21 56 54 | 27°40'24  | 20°59  | 12°23  | 24°18  | 26°18  | 22°30  | 24°55   | 7°28  | 25°16  | 27°47  | 2°19  | 3°42 | 15°46  | 1° 9  | S 12 |
| S 13 | 22 0 51  | 28°38'24  | 5°1143 | 12°33  | 25°30  | 26°33  | 22°40  | 25° 0   | 7°31  | 25°15  | 27°46  | 2°16  | 3°39 | 15°53  | 1° 7  | S 13 |
| M14  | 22 4 47  | 29°36'26  | 20°10  | 12°51  | 26°42  | 26°48  | 22°50  | 25° 5   | 7°33  | 25°14  | 27°45  | 2°13  | 3°36 | 15°59  | 1° 5  | M14  |
| T 15 | 22 8 44  | 0°1134'28 | 4°13   | 13°17  | 27°53  | 27° 2  | 23° 0  | 25°10   | 7°36  | 25°12  | 27°44  | 2°D13 | 3°33 | 16° 6  | 1° 3  | T 15 |
| W16  | 22 12 41 | 1°32'33   | 17°50  | 13°52  | 29° 5  | 27°15  | 23°10  | 25°14   | 7°38  | 25°11  | 27°43  | 2°14  | 3°30 | 16°13  | 1° 0  | W16  |
| T 17 | 22 16 37 | 2°30'39   | 1°11   | 14°34  | 0°117  | 27°27  | 23°20  | 25°19   | 7°41  | 25° 9  | 27°42  | 2°15  | 3°26 | 16°20  | 0°58  | T 17 |
| F 18 | 22 20 34 | 3°28'46   | 13°50  | 15°25  | 1°29   | 27°39  | 23°31  | 25°23   | 7°43  | 25° 8  | 27°40  | 2°17  | 3°23 | 16°26  | 0°55  | F 18 |
| S 19 | 22 24 30 | 4°26'55   | 26°18  | 16°22  | 2°41   | 27°50  | 23°41  | 25°28   | 7°45  | 25° 6  | 27°39  | 2°18  | 3°20 | 16°33  | 0°53  | S 19 |
| S 20 | 22 28 27 | 5°25'06   | 8°31   | 17°27  | 3°53   | 28° 1  | 23°52  | 25°32   | 7°48  | 25° 5  | 27°38  | 2°R18 | 3°17 | 16°40  | 0°51  | S 20 |
| M21  | 22 32 23 | 6°23'18   | 20°32  | 18°38  | 5° 5   | 28°10  | 24° 3  | 25°36   | 7°50  | 25° 3  | 27°37  | 2°17  | 3°14 | 16°46  | 0°48  | M21  |
| T 22 | 22 36 20 | 7°21'31   | 2°37   | 19°56  | 6°17   | 28°19  | 24°13  | 25°40   | 7°52  | 25° 1  | 27°36  | 2°15  | 3°11 | 16°53  | 0°45  | T 22 |
| W23  | 22 40 16 | 8°19'46   | 14°19  | 21°19  | 7°30   | 28°27  | 24°24  | 25°45   | 7°54  | 25° 0  | 27°35  | 2°12  | 3° 7 | 17° 0  | 0°43  | W23  |
| T 24 | 22 44 13 | 9°18'03   | 26°13  | 22°47  | 8°42   | 28°34  | 24°35  | 25°48   | 7°57  | 24°58  | 27°34  | 2° 9  | 3° 4 | 17° 7  | 0°40  | T 24 |
| F 25 | 22 48 10 | 10°16'21  | 8°12   | 24°20  | 9°54   | 28°40  | 24°46  | 25°52   | 7°59  | 24°57  | 27°33  | 2° 5  | 3° 1 | 17°13  | 0°38  | F 25 |
| S 26 | 22 52 6  | 11°14'41  | 20°18  | 25°56  | 11° 7  | 28°46  | 24°57  | 25°56   | 8° 1  | 24°55  | 27°32  | 2° 2  | 2°58 | 17°20  | 0°35  | S 26 |
| S 27 | 22 56 3  | 12°13'02  | 2°33   | 27°37  | 12°19  | 28°50  | 25° 8  | 26° 0   | 8° 3  | 24°53  | 27°32  | 1°59  | 2°55 | 17°27  | 0°32  | S 27 |
| M28  | 22 59 59 | 13°11'26  | 14°59  | 29°20  | 13°32  | 28°54  | 25°19  | 26° 3   | 8° 5  | 24°52  | 27°31  | 1°57  | 2°51 | 17°33  | 0°30  | M28  |
| T 29 | 23 3 56  | 14° 9'51  | 27°36  | 1°11   | 14°45  | 28°57  | 25°31  | 26° 7   | 8° 7  | 24°50  | 27°30  | 1°D56 | 2°48 | 17°40  | 0°27  | T 29 |
| W30  | 23 7 52  | 15° 8'18  | 10°Y26 | 2°53   | 15°57  | 28°59  | 25°42  | 26°10   | 8° 9  | 24°49  | 27°29  | 1°56  | 2°45 | 17°47  | 0°24  | W30  |
| T 31 | 23 11 49 | 16° 6'47  | 23°Y28 | 4°112  | 17°10  | 29°Y 0 | 25°53  | 26°II14 | 8°51  | 24°47  | 27°28  | 1°57  | 2°42 | 17°54  | 0°Y22 | T 31 |

Delta T = 220.88 sec

Julian Calendar

# ASTRODIENST EPHEMERIS for the year 1531

## geocentric

SEPTEMBER 1531 JC

00:00 UT

| Day  | Sid.t    | ☉                       | ☽                      | ♀                   | ♂                   | ♂                   | ♂                   | ♂                   | ♂                  | ♂                   | ♂                   | ♂                  | ♂                  | ♂                   | ♂                   | Day  |
|------|----------|-------------------------|------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------------------|--------------------|--------------------|---------------------|---------------------|------|
| F 1  | 23 15 45 | 17 <sup>h</sup> 51' 19" | 6 <sup>h</sup> 44'     | 6 <sup>h</sup> 32'  | 18 <sup>h</sup> 23' | 29 <sup>h</sup> 1'  | 26 <sup>h</sup> 5'  | 26 <sup>h</sup> 11' | 8 <sup>h</sup> 12' | 24 <sup>h</sup> 45' | 27 <sup>h</sup> 27' | 1 <sup>h</sup> 58' | 2 <sup>h</sup> 39' | 18 <sup>h</sup> 0'  | 0 <sup>h</sup> 19'  | F 1  |
| S 2  | 23 19 42 | 18 <sup>h</sup> 3' 52"  | 20 <sup>h</sup> 13'    | 8 <sup>h</sup> 24'  | 19 <sup>h</sup> 36' | 29 <sup>h</sup> 0'  | 26 <sup>h</sup> 16' | 26 <sup>h</sup> 20' | 8 <sup>h</sup> 14' | 24 <sup>h</sup> 44' | 27 <sup>h</sup> 27' | 2 <sup>h</sup> 0'  | 2 <sup>h</sup> 36' | 18 <sup>h</sup> 7'  | 0 <sup>h</sup> 16'  | S 2  |
| S 3  | 23 23 38 | 19 <sup>h</sup> 2' 28"  | 3 <sup>h</sup> 11' 57" | 10 <sup>h</sup> 15' | 20 <sup>h</sup> 49' | 28 <sup>h</sup> 59' | 26 <sup>h</sup> 28' | 26 <sup>h</sup> 23' | 8 <sup>h</sup> 16' | 24 <sup>h</sup> 42' | 27 <sup>h</sup> 26' | 2 <sup>h</sup> 0'  | 2 <sup>h</sup> 32' | 18 <sup>h</sup> 14' | 0 <sup>h</sup> 13'  | S 3  |
| M 4  | 23 27 35 | 20 <sup>h</sup> 1' 06"  | 17 <sup>h</sup> 54'    | 12 <sup>h</sup> 7'  | 22 <sup>h</sup> 2'  | 28 <sup>h</sup> 56' | 26 <sup>h</sup> 40' | 26 <sup>h</sup> 26' | 8 <sup>h</sup> 17' | 24 <sup>h</sup> 40' | 27 <sup>h</sup> 25' | 2 <sup>h</sup> 0'  | 2 <sup>h</sup> 29' | 18 <sup>h</sup> 20' | 0 <sup>h</sup> 11'  | M 4  |
| T 5  | 23 31 32 | 20 <sup>h</sup> 59' 47" | 2 <sup>h</sup> 59' 47" | 13 <sup>h</sup> 59' | 23 <sup>h</sup> 15' | 28 <sup>h</sup> 53' | 26 <sup>h</sup> 51' | 26 <sup>h</sup> 29' | 8 <sup>h</sup> 19' | 24 <sup>h</sup> 39' | 27 <sup>h</sup> 24' | 2 <sup>h</sup> 1'  | 2 <sup>h</sup> 26' | 18 <sup>h</sup> 27' | 0 <sup>h</sup> 8'   | T 5  |
| W 6  | 23 35 28 | 21 <sup>h</sup> 58' 30" | 16 <sup>h</sup> 24'    | 15 <sup>h</sup> 51' | 24 <sup>h</sup> 29' | 28 <sup>h</sup> 49' | 27 <sup>h</sup> 3'  | 26 <sup>h</sup> 31' | 8 <sup>h</sup> 21' | 24 <sup>h</sup> 37' | 27 <sup>h</sup> 24' | 2 <sup>h</sup> 0'  | 2 <sup>h</sup> 23' | 18 <sup>h</sup> 34' | 0 <sup>h</sup> 5'   | W 6  |
| T 7  | 23 39 25 | 22 <sup>h</sup> 57' 15" | 0 <sup>h</sup> 52'     | 17 <sup>h</sup> 42' | 25 <sup>h</sup> 42' | 28 <sup>h</sup> 44' | 27 <sup>h</sup> 15' | 26 <sup>h</sup> 34' | 8 <sup>h</sup> 22' | 24 <sup>h</sup> 35' | 27 <sup>h</sup> 23' | 1 <sup>h</sup> 59' | 2 <sup>h</sup> 20' | 18 <sup>h</sup> 41' | 0 <sup>h</sup> 2'   | T 7  |
| F 8  | 23 43 21 | 23 <sup>h</sup> 56' 02" | 15 <sup>h</sup> 23'    | 19 <sup>h</sup> 33' | 26 <sup>h</sup> 55' | 28 <sup>h</sup> 38' | 27 <sup>h</sup> 27' | 26 <sup>h</sup> 36' | 8 <sup>h</sup> 24' | 24 <sup>h</sup> 34' | 27 <sup>h</sup> 22' | 1 <sup>h</sup> 58' | 2 <sup>h</sup> 17' | 18 <sup>h</sup> 47' | 29 <sup>h</sup> 59' | F 8  |
| S 9  | 23 47 18 | 24 <sup>h</sup> 54' 51" | 29 <sup>h</sup> 53'    | 21 <sup>h</sup> 24' | 28 <sup>h</sup> 9'  | 28 <sup>h</sup> 31' | 27 <sup>h</sup> 39' | 26 <sup>h</sup> 39' | 8 <sup>h</sup> 25' | 24 <sup>h</sup> 32' | 27 <sup>h</sup> 22' | 1 <sup>h</sup> 57' | 2 <sup>h</sup> 13' | 18 <sup>h</sup> 54' | 29 <sup>h</sup> 57' | S 9  |
| S 10 | 23 51 14 | 25 <sup>h</sup> 53' 44" | 14 <sup>h</sup> 14'    | 23 <sup>h</sup> 14' | 29 <sup>h</sup> 22' | 28 <sup>h</sup> 23' | 27 <sup>h</sup> 51' | 26 <sup>h</sup> 41' | 8 <sup>h</sup> 26' | 24 <sup>h</sup> 30' | 27 <sup>h</sup> 21' | 1 <sup>h</sup> 57' | 2 <sup>h</sup> 10' | 19 <sup>h</sup> 1'  | 29 <sup>h</sup> 54' | S 10 |
| M 11 | 23 55 11 | 26 <sup>h</sup> 52' 36" | 28 <sup>h</sup> 23'    | 25 <sup>h</sup> 3'  | 0 <sup>h</sup> 36'  | 28 <sup>h</sup> 15' | 28 <sup>h</sup> 3'  | 26 <sup>h</sup> 43' | 8 <sup>h</sup> 28' | 24 <sup>h</sup> 29' | 27 <sup>h</sup> 21' | 1 <sup>h</sup> 56' | 2 <sup>h</sup> 7'  | 19 <sup>h</sup> 8'  | 29 <sup>h</sup> 51' | M 11 |
| T 12 | 23 59 7  | 27 <sup>h</sup> 51' 32" | 12 <sup>h</sup> 15'    | 26 <sup>h</sup> 51' | 1 <sup>h</sup> 49'  | 28 <sup>h</sup> 5'  | 28 <sup>h</sup> 15' | 26 <sup>h</sup> 45' | 8 <sup>h</sup> 29' | 24 <sup>h</sup> 27' | 27 <sup>h</sup> 20' | 1 <sup>h</sup> 57' | 2 <sup>h</sup> 4'  | 19 <sup>h</sup> 14' | 29 <sup>h</sup> 48' | T 12 |
| W 13 | 0 3 4    | 28 <sup>h</sup> 50' 29" | 25 <sup>h</sup> 47'    | 28 <sup>h</sup> 39' | 3 <sup>h</sup> 3'   | 27 <sup>h</sup> 55' | 28 <sup>h</sup> 27' | 26 <sup>h</sup> 47' | 8 <sup>h</sup> 30' | 24 <sup>h</sup> 25' | 27 <sup>h</sup> 19' | 1 <sup>h</sup> 57' | 2 <sup>h</sup> 1'  | 19 <sup>h</sup> 21' | 29 <sup>h</sup> 45' | W 13 |
| T 14 | 0 7 1    | 29 <sup>h</sup> 49' 29" | 8 <sup>h</sup> 15'     | 0 <sup>h</sup> 26'  | 4 <sup>h</sup> 17'  | 27 <sup>h</sup> 44' | 28 <sup>h</sup> 40' | 26 <sup>h</sup> 49' | 8 <sup>h</sup> 31' | 24 <sup>h</sup> 24' | 27 <sup>h</sup> 19' | 1 <sup>h</sup> 57' | 1 <sup>h</sup> 57' | 19 <sup>h</sup> 28' | 29 <sup>h</sup> 42' | T 14 |
| F 15 | 0 10 57  | 0 <sup>h</sup> 48' 30"  | 21 <sup>h</sup> 46'    | 2 <sup>h</sup> 12'  | 5 <sup>h</sup> 30'  | 27 <sup>h</sup> 32' | 28 <sup>h</sup> 52' | 26 <sup>h</sup> 51' | 8 <sup>h</sup> 33' | 24 <sup>h</sup> 22' | 27 <sup>h</sup> 19' | 1 <sup>h</sup> 57' | 1 <sup>h</sup> 54' | 19 <sup>h</sup> 34' | 29 <sup>h</sup> 40' | F 15 |
| S 16 | 0 14 54  | 1 <sup>h</sup> 47' 33"  | 4 <sup>h</sup> 17'     | 3 <sup>h</sup> 57'  | 6 <sup>h</sup> 44'  | 27 <sup>h</sup> 20' | 29 <sup>h</sup> 4'  | 26 <sup>h</sup> 53' | 8 <sup>h</sup> 34' | 24 <sup>h</sup> 20' | 27 <sup>h</sup> 18' | 1 <sup>h</sup> 57' | 1 <sup>h</sup> 51' | 19 <sup>h</sup> 41' | 29 <sup>h</sup> 37' | S 16 |
| S 17 | 0 18 50  | 2 <sup>h</sup> 46' 39"  | 16 <sup>h</sup> 32'    | 5 <sup>h</sup> 41'  | 7 <sup>h</sup> 58'  | 27 <sup>h</sup> 7'  | 29 <sup>h</sup> 17' | 26 <sup>h</sup> 54' | 8 <sup>h</sup> 35' | 24 <sup>h</sup> 19' | 27 <sup>h</sup> 18' | 1 <sup>h</sup> 57' | 1 <sup>h</sup> 48' | 19 <sup>h</sup> 48' | 29 <sup>h</sup> 34' | S 17 |
| M 18 | 0 22 47  | 3 <sup>h</sup> 45' 45"  | 28 <sup>h</sup> 34'    | 7 <sup>h</sup> 24'  | 9 <sup>h</sup> 12'  | 26 <sup>h</sup> 53' | 29 <sup>h</sup> 29' | 26 <sup>h</sup> 56' | 8 <sup>h</sup> 36' | 24 <sup>h</sup> 17' | 27 <sup>h</sup> 17' | 1 <sup>h</sup> 57' | 1 <sup>h</sup> 45' | 19 <sup>h</sup> 55' | 29 <sup>h</sup> 31' | M 18 |
| T 19 | 0 26 43  | 4 <sup>h</sup> 44' 54"  | 10 <sup>h</sup> 23'    | 9 <sup>h</sup> 7'   | 10 <sup>h</sup> 26' | 26 <sup>h</sup> 38' | 29 <sup>h</sup> 41' | 26 <sup>h</sup> 57' | 8 <sup>h</sup> 37' | 24 <sup>h</sup> 15' | 27 <sup>h</sup> 17' | 1 <sup>h</sup> 57' | 1 <sup>h</sup> 42' | 20 <sup>h</sup> 1'  | 29 <sup>h</sup> 28' | T 19 |
| W 20 | 0 30 40  | 5 <sup>h</sup> 44' 05"  | 22 <sup>h</sup> 23'    | 10 <sup>h</sup> 48' | 11 <sup>h</sup> 40' | 26 <sup>h</sup> 23' | 29 <sup>h</sup> 54' | 26 <sup>h</sup> 58' | 8 <sup>h</sup> 37' | 24 <sup>h</sup> 14' | 27 <sup>h</sup> 17' | 1 <sup>h</sup> 57' | 1 <sup>h</sup> 38' | 20 <sup>h</sup> 8'  | 29 <sup>h</sup> 26' | W 20 |
| T 21 | 0 34 36  | 6 <sup>h</sup> 43' 17"  | 4 <sup>h</sup> 17'     | 12 <sup>h</sup> 29' | 12 <sup>h</sup> 54' | 26 <sup>h</sup> 7'  | 0 <sup>h</sup> 11'  | 26 <sup>h</sup> 59' | 8 <sup>h</sup> 38' | 24 <sup>h</sup> 12' | 27 <sup>h</sup> 16' | 1 <sup>h</sup> 58' | 1 <sup>h</sup> 35' | 20 <sup>h</sup> 15' | 29 <sup>h</sup> 23' | T 21 |
| F 22 | 0 38 33  | 7 <sup>h</sup> 42' 31"  | 16 <sup>h</sup> 18'    | 14 <sup>h</sup> 9'  | 14 <sup>h</sup> 8'  | 25 <sup>h</sup> 50' | 0 <sup>h</sup> 19'  | 27 <sup>h</sup> 0'  | 8 <sup>h</sup> 39' | 24 <sup>h</sup> 11' | 27 <sup>h</sup> 16' | 1 <sup>h</sup> 58' | 1 <sup>h</sup> 32' | 20 <sup>h</sup> 21' | 29 <sup>h</sup> 20' | F 22 |
| S 23 | 0 42 30  | 8 <sup>h</sup> 41' 47"  | 28 <sup>h</sup> 28'    | 15 <sup>h</sup> 49' | 15 <sup>h</sup> 22' | 25 <sup>h</sup> 33' | 0 <sup>h</sup> 32'  | 27 <sup>h</sup> 1'  | 8 <sup>h</sup> 40' | 24 <sup>h</sup> 9'  | 27 <sup>h</sup> 16' | 1 <sup>h</sup> 59' | 1 <sup>h</sup> 29' | 20 <sup>h</sup> 28' | 29 <sup>h</sup> 17' | S 23 |
| S 24 | 0 46 26  | 9 <sup>h</sup> 41' 05"  | 10 <sup>h</sup> 52'    | 17 <sup>h</sup> 27' | 16 <sup>h</sup> 36' | 25 <sup>h</sup> 16' | 0 <sup>h</sup> 44'  | 27 <sup>h</sup> 2'  | 8 <sup>h</sup> 40' | 24 <sup>h</sup> 7'  | 27 <sup>h</sup> 16' | 2 <sup>h</sup> 0'  | 1 <sup>h</sup> 26' | 20 <sup>h</sup> 35' | 29 <sup>h</sup> 14' | S 24 |
| M 25 | 0 50 23  | 10 <sup>h</sup> 40' 24" | 23 <sup>h</sup> 31'    | 19 <sup>h</sup> 5'  | 17 <sup>h</sup> 51' | 24 <sup>h</sup> 58' | 0 <sup>h</sup> 57'  | 27 <sup>h</sup> 3'  | 8 <sup>h</sup> 41' | 24 <sup>h</sup> 6'  | 27 <sup>h</sup> 15' | 2 <sup>h</sup> 0'  | 1 <sup>h</sup> 23' | 20 <sup>h</sup> 42' | 29 <sup>h</sup> 12' | M 25 |
| T 26 | 0 54 19  | 11 <sup>h</sup> 39' 46" | 6 <sup>h</sup> 26'     | 20 <sup>h</sup> 42' | 19 <sup>h</sup> 5'  | 24 <sup>h</sup> 39' | 1 <sup>h</sup> 10'  | 27 <sup>h</sup> 3'  | 8 <sup>h</sup> 42' | 24 <sup>h</sup> 4'  | 27 <sup>h</sup> 15' | 2 <sup>h</sup> 0'  | 1 <sup>h</sup> 19' | 20 <sup>h</sup> 48' | 29 <sup>h</sup> 9'  | T 26 |
| W 27 | 0 58 16  | 12 <sup>h</sup> 39' 10" | 19 <sup>h</sup> 38'    | 22 <sup>h</sup> 18' | 20 <sup>h</sup> 19' | 24 <sup>h</sup> 20' | 1 <sup>h</sup> 23'  | 27 <sup>h</sup> 4'  | 8 <sup>h</sup> 42' | 24 <sup>h</sup> 3'  | 27 <sup>h</sup> 15' | 2 <sup>h</sup> 0'  | 1 <sup>h</sup> 16' | 20 <sup>h</sup> 55' | 29 <sup>h</sup> 6'  | W 27 |
| T 28 | 1 2 12   | 13 <sup>h</sup> 38' 35" | 3 <sup>h</sup> 6'      | 23 <sup>h</sup> 54' | 21 <sup>h</sup> 34' | 24 <sup>h</sup> 1'  | 1 <sup>h</sup> 35'  | 27 <sup>h</sup> 4'  | 8 <sup>h</sup> 43' | 24 <sup>h</sup> 1'  | 27 <sup>h</sup> 15' | 1 <sup>h</sup> 59' | 1 <sup>h</sup> 13' | 21 <sup>h</sup> 2'  | 29 <sup>h</sup> 3'  | T 28 |
| F 29 | 1 6 9    | 14 <sup>h</sup> 38' 03" | 16 <sup>h</sup> 48'    | 25 <sup>h</sup> 29' | 22 <sup>h</sup> 48' | 23 <sup>h</sup> 42' | 1 <sup>h</sup> 48'  | 27 <sup>h</sup> 4'  | 8 <sup>h</sup> 43' | 24 <sup>h</sup> 0'  | 27 <sup>h</sup> 15' | 1 <sup>h</sup> 57' | 1 <sup>h</sup> 10' | 21 <sup>h</sup> 8'  | 29 <sup>h</sup> 1'  | F 29 |
| S 30 | 1 10 5   | 15 <sup>h</sup> 37' 34" | 0 <sup>h</sup> 11' 41" | 27 <sup>h</sup> 13' | 24 <sup>h</sup> 11' | 23 <sup>h</sup> 42' | 2 <sup>h</sup> 11'  | 27 <sup>h</sup> 4'  | 8 <sup>h</sup> 43' | 23 <sup>h</sup> 58' | 27 <sup>h</sup> 15' | 1 <sup>h</sup> 55' | 1 <sup>h</sup> 7'  | 21 <sup>h</sup> 15' | 28 <sup>h</sup> 58' | S 30 |

Delta T = 220.69 sec

Julian Calendar 1 Sept. 1531 == Greg. Calendar 11 Sept. 1531

OCTOBER 1531 JC

00:00 UT

| Day  | Sid.t   | ☉                       | ☽                     | ♀                    | ♂                     | ♂                   | ♂                    | ♂                    | ♂                    | ♂                   | ♂                     | ♂                    | ♂                     | ♂                     | ♂                   | Day  |
|------|---------|-------------------------|-----------------------|----------------------|-----------------------|---------------------|----------------------|----------------------|----------------------|---------------------|-----------------------|----------------------|-----------------------|-----------------------|---------------------|------|
| S 1  | 1 14 2  | 16 <sup>h</sup> 37'06   | 14 <sup>h</sup> 11'44 | 28 <sup>h</sup> 37'  | 25 <sup>h</sup> 17'17 | 23 <sup>h</sup> R 3 | 2 <sup>h</sup> 11'14 | 27 <sup>h</sup> R 4  | 8 <sup>h</sup> 54'44 | 23 <sup>h</sup> R57 | 27 <sup>h</sup> D15   | 1 <sup>h</sup> R54   | 1 <sup>h</sup> 3      | 21 <sup>h</sup> 32'22 | 28 <sup>h</sup> R55 | S 1  |
| M 2  | 1 17 58 | 17 <sup>h</sup> 36'41   | 28 <sup>h</sup> 52'   | 0 <sup>h</sup> 11'10 | 26 <sup>h</sup> 31'   | 22 <sup>h</sup> Y43 | 2 <sup>h</sup> 27'   | 27 <sup>h</sup> II 4 | 8 <sup>h</sup> 44'   | 23 <sup>h</sup> K55 | 27 <sup>h</sup> 315   | 1 <sup>h</sup> 52    | 1 <sup>h</sup> 0      | 21 <sup>h</sup> 29'   | 28 <sup>h</sup> K53 | M 2  |
| T 3  | 1 21 55 | 18 <sup>h</sup> 36'18   | 13 <sup>h</sup> 53    | 1 <sup>h</sup> 42'   | 27 <sup>h</sup> 46'   | 22 <sup>h</sup> 23  | 2 <sup>h</sup> 40'   | 27 <sup>h</sup> 4    | 8 <sup>h</sup> 44'   | 23 <sup>h</sup> 54' | 27 <sup>h</sup> 15'   | 1 <sup>h</sup> D52   | 0 <sup>h</sup> 57'    | 21 <sup>h</sup> 35'   | 28 <sup>h</sup> 50' | T 3  |
| W 4  | 1 25 52 | 19 <sup>h</sup> 35'58   | 27 <sup>h</sup> 15'   | 3 <sup>h</sup> 14'   | 29 <sup>h</sup> 1'    | 22 <sup>h</sup> 3   | 2 <sup>h</sup> 53'   | 27 <sup>h</sup> 4    | 8 <sup>h</sup> 44'   | 23 <sup>h</sup> 52' | 27 <sup>h</sup> 15'   | 1 <sup>h</sup> 52'   | 0 <sup>h</sup> 54'    | 21 <sup>h</sup> 42'   | 28 <sup>h</sup> 47' | W 4  |
| T 5  | 1 29 48 | 20 <sup>h</sup> 35'40   | 11 <sup>h</sup> 52'25 | 4 <sup>h</sup> 45'   | 0 <sup>h</sup> 15'    | 21 <sup>h</sup> 43  | 3 <sup>h</sup> 6     | 27 <sup>h</sup> 3    | 8 <sup>h</sup> 44'   | 23 <sup>h</sup> 51' | 27 <sup>h</sup> 15'   | 1 <sup>h</sup> 53'   | 0 <sup>h</sup> 51'    | 21 <sup>h</sup> 49'   | 28 <sup>h</sup> 45' | T 5  |
| F 6  | 1 33 45 | 21 <sup>h</sup> 35'24   | 25 <sup>h</sup> 32'   | 6 <sup>h</sup> 16'   | 1 <sup>h</sup> 30'    | 21 <sup>h</sup> 23  | 3 <sup>h</sup> 19    | 27 <sup>h</sup> 3    | 8 <sup>h</sup> R44   | 23 <sup>h</sup> 49' | 27 <sup>h</sup> 15'   | 1 <sup>h</sup> 54'   | 0 <sup>h</sup> 48'    | 21 <sup>h</sup> 55'   | 28 <sup>h</sup> 42' | F 6  |
| S 7  | 1 37 41 | 22 <sup>h</sup> 35'10   | 9 <sup>h</sup> 34'    | 7 <sup>h</sup> 46'   | 2 <sup>h</sup> 45'    | 21 <sup>h</sup> 3   | 3 <sup>h</sup> 32'   | 27 <sup>h</sup> 2    | 8 <sup>h</sup> 44'   | 23 <sup>h</sup> 48' | 27 <sup>h</sup> 15'   | 1 <sup>h</sup> 55'   | 0 <sup>h</sup> 44'    | 22 <sup>h</sup> 2     | 28 <sup>h</sup> 40' | S 7  |
| S 8  | 1 41 38 | 23 <sup>h</sup> 34'59   | 23 <sup>h</sup> 27'   | 9 <sup>h</sup> 15'   | 3 <sup>h</sup> 59'    | 20 <sup>h</sup> 43' | 3 <sup>h</sup> 45'   | 27 <sup>h</sup> 1    | 8 <sup>h</sup> 44'   | 23 <sup>h</sup> 46' | 27 <sup>h</sup> 15'   | 1 <sup>h</sup> 56'   | 0 <sup>h</sup> 41'    | 22 <sup>h</sup> 9     | 28 <sup>h</sup> 37' | S 8  |
| M 9  | 1 45 34 | 24 <sup>h</sup> 34'49   | 7 <sup>h</sup> 10'    | 10 <sup>h</sup> 44'  | 5 <sup>h</sup> 14'    | 20 <sup>h</sup> 24' | 3 <sup>h</sup> 58'   | 27 <sup>h</sup> 0    | 8 <sup>h</sup> 44'   | 23 <sup>h</sup> 45' | 27 <sup>h</sup> 16'   | 1 <sup>h</sup> R56   | 0 <sup>h</sup> 38'    | 22 <sup>h</sup> 16    | 28 <sup>h</sup> 35' | M 9  |
| T 10 | 1 49 31 | 25 <sup>h</sup> 34'42   | 20 <sup>h</sup> 41'   | 12 <sup>h</sup> 12'  | 6 <sup>h</sup> 29'    | 20 <sup>h</sup> 4   | 4 <sup>h</sup> 11'   | 26 <sup>h</sup> 59'  | 8 <sup>h</sup> 44'   | 23 <sup>h</sup> 44' | 27 <sup>h</sup> 16'   | 1 <sup>h</sup> 55'   | 0 <sup>h</sup> 35'    | 22 <sup>h</sup> 22    | 28 <sup>h</sup> 32' | T 10 |
| W 11 | 1 53 27 | 26 <sup>h</sup> 34'37   | 3 <sup>h</sup> 11'57  | 13 <sup>h</sup> 39'  | 7 <sup>h</sup> 44'    | 19 <sup>h</sup> 46' | 4 <sup>h</sup> 24'   | 26 <sup>h</sup> 58'  | 8 <sup>h</sup> 43'   | 23 <sup>h</sup> 42' | 27 <sup>h</sup> 16'   | 1 <sup>h</sup> 53'   | 0 <sup>h</sup> 32'    | 22 <sup>h</sup> 29    | 28 <sup>h</sup> 30' | W 11 |
| T 12 | 1 57 24 | 27 <sup>h</sup> 34'34   | 16 <sup>h</sup> 57'   | 15 <sup>h</sup> 6    | 8 <sup>h</sup> 59'    | 19 <sup>h</sup> 27' | 4 <sup>h</sup> 37'   | 26 <sup>h</sup> 57'  | 8 <sup>h</sup> 43'   | 23 <sup>h</sup> 41' | 27 <sup>h</sup> 16'   | 1 <sup>h</sup> 49'   | 0 <sup>h</sup> 28'    | 22 <sup>h</sup> 36    | 28 <sup>h</sup> 27' | T 12 |
| F 13 | 2 1 21  | 28 <sup>h</sup> 34'32   | 29 <sup>h</sup> 41'   | 16 <sup>h</sup> 32'  | 10 <sup>h</sup> 14'   | 19 <sup>h</sup> 9   | 4 <sup>h</sup> 51'   | 26 <sup>h</sup> 55'  | 8 <sup>h</sup> 43'   | 23 <sup>h</sup> 40' | 27 <sup>h</sup> 17'   | 1 <sup>h</sup> 45'   | 0 <sup>h</sup> 25'    | 22 <sup>h</sup> 42    | 28 <sup>h</sup> 25' | F 13 |
| S 14 | 2 5 17  | 29 <sup>h</sup> 34'33   | 12 <sup>h</sup> 11'9  | 17 <sup>h</sup> 58'  | 11 <sup>h</sup> 29'   | 18 <sup>h</sup> 51' | 5 <sup>h</sup> 4     | 26 <sup>h</sup> 54'  | 8 <sup>h</sup> 42'   | 23 <sup>h</sup> 38' | 27 <sup>h</sup> 17'   | 1 <sup>h</sup> 40'   | 0 <sup>h</sup> 22'    | 22 <sup>h</sup> 49    | 28 <sup>h</sup> 23' | S 14 |
| S 15 | 2 9 14  | 0 <sup>h</sup> 14'34'35 | 24 <sup>h</sup> 23'   | 19 <sup>h</sup> 22'  | 12 <sup>h</sup> 43'   | 18 <sup>h</sup> 34' | 5 <sup>h</sup> 17'   | 26 <sup>h</sup> 52'  | 8 <sup>h</sup> 42'   | 23 <sup>h</sup> 37' | 27 <sup>h</sup> 17'   | 1 <sup>h</sup> 36'   | 0 <sup>h</sup> 19'    | 22 <sup>h</sup> 56    | 28 <sup>h</sup> 20' | S 15 |
| M 16 | 2 13 10 | 1 <sup>h</sup> 34'39    | 6 <sup>h</sup> 32'26  | 20 <sup>h</sup> 46'  | 13 <sup>h</sup> 58'   | 18 <sup>h</sup> 18' | 5 <sup>h</sup> 30'   | 26 <sup>h</sup> 51'  | 8 <sup>h</sup> 41'   | 23 <sup>h</sup> 36' | 27 <sup>h</sup> 18'   | 1 <sup>h</sup> 32'   | 0 <sup>h</sup> 16'    | 23 <sup>h</sup> 3     | 28 <sup>h</sup> 18' | M 16 |
| T 17 | 2 17 7  | 2 <sup>h</sup> 34'44    | 18 <sup>h</sup> 21'   | 22 <sup>h</sup> 10'  | 15 <sup>h</sup> 13'   | 18 <sup>h</sup> 2   | 5 <sup>h</sup> 43'   | 26 <sup>h</sup> 49'  | 8 <sup>h</sup> 41'   | 23 <sup>h</sup> 35' | 27 <sup>h</sup> 18'   | 1 <sup>h</sup> 29'   | 0 <sup>h</sup> 13'    | 23 <sup>h</sup> 9     | 28 <sup>h</sup> 16' | T 17 |
| W 18 | 2 21 3  | 3 <sup>h</sup> 34'51    | 0 <sup>h</sup> 12'22  | 23 <sup>h</sup> 32'  | 16 <sup>h</sup> 29'   | 17 <sup>h</sup> 46' | 5 <sup>h</sup> 57'   | 26 <sup>h</sup> 47'  | 8 <sup>h</sup> 40'   | 23 <sup>h</sup> 34' | 27 <sup>h</sup> 19'   | 1 <sup>h</sup> D28   | 0 <sup>h</sup> 9      | 23 <sup>h</sup> 16    | 28 <sup>h</sup> 14' | W 18 |
| T 19 | 2 25 0  | 4 <sup>h</sup> 35'00    | 12 <sup>h</sup> 5     | 24 <sup>h</sup> 53'  | 17 <sup>h</sup> 44'   | 17 <sup>h</sup> 32' | 6 <sup>h</sup> 10'   | 26 <sup>h</sup> 45'  | 8 <sup>h</sup> 39'   | 23 <sup>h</sup> 32' | 27 <sup>h</sup> 19'   | 1 <sup>h</sup> 29'   | 0 <sup>h</sup> 6      | 23 <sup>h</sup> 23    | 28 <sup>h</sup> 12' | T 19 |
| F 20 | 2 28 56 | 5 <sup>h</sup> 35'10    | 24 <sup>h</sup> 5     | 26 <sup>h</sup> 13'  | 18 <sup>h</sup> 59'   | 17 <sup>h</sup> 18' | 6 <sup>h</sup> 23'   | 26 <sup>h</sup> 43'  | 8 <sup>h</sup> 39'   | 23 <sup>h</sup> 31' | 27 <sup>h</sup> 20'   | 1 <sup>h</sup> 30'   | 0 <sup>h</sup> 3      | 23 <sup>h</sup> 29    | 28 <sup>h</sup> 9'  | F 20 |
| S 21 | 2 32 53 | 6 <sup>h</sup> 35'22    | 6 <sup>h</sup> 15'    | 27 <sup>h</sup> 33'  | 20 <sup>h</sup> 14'   | 17 <sup>h</sup> 4   | 6 <sup>h</sup> 36'   | 26 <sup>h</sup> 41'  | 8 <sup>h</sup> 38'   | 23 <sup>h</sup> 30' | 27 <sup>h</sup> 20'   | 1 <sup>h</sup> 32'   | 29 <sup>h</sup> 17'59 | 23 <sup>h</sup> 36'   | 28 <sup>h</sup> 7'  | S 21 |
| S 22 | 2 36 50 | 7 <sup>h</sup> 35'35    | 18 <sup>h</sup> 42'   | 28 <sup>h</sup> 51'  | 21 <sup>h</sup> 29'   | 16 <sup>h</sup> 51' | 6 <sup>h</sup> 49'   | 26 <sup>h</sup> 38'  | 8 <sup>h</sup> 37'   | 23 <sup>h</sup> 29' | 27 <sup>h</sup> 21'   | 1 <sup>h</sup> 33'   | 29 <sup>h</sup> 57'   | 23 <sup>h</sup> 43'   | 28 <sup>h</sup> 5   | S 22 |
| M 23 | 2 40 46 | 8 <sup>h</sup> 35'50    | 1 <sup>h</sup> Y28    | 0 <sup>h</sup> 17'   | 22 <sup>h</sup> 44'   | 16 <sup>h</sup> 40' | 7 <sup>h</sup> 3     | 26 <sup>h</sup> 36'  | 8 <sup>h</sup> 36'   | 23 <sup>h</sup> 28' | 27 <sup>h</sup> 21'   | 1 <sup>h</sup> R34   | 29 <sup>h</sup> 54'   | 23 <sup>h</sup> 49'   | 28 <sup>h</sup> 3   | M 23 |
| T 24 | 2 44 43 | 9 <sup>h</sup> 36'06    | 14 <sup>h</sup> 36'   | 1 <sup>h</sup> 22'   | 23 <sup>h</sup> 59'   | 16 <sup>h</sup> 28' | 7 <sup>h</sup> 16'   | 26 <sup>h</sup> 34'  | 8 <sup>h</sup> 35'   | 23 <sup>h</sup> 27' | 27 <sup>h</sup> 22'   | 1 <sup>h</sup> 33'   | 29 <sup>h</sup> 50'   | 23 <sup>h</sup> 56'   | 28 <sup>h</sup> 1   | T 24 |
| W 25 | 2 48 39 | 10 <sup>h</sup> 36'24   | 28 <sup>h</sup> 7'    | 2 <sup>h</sup> 35'   | 25 <sup>h</sup> 14'   | 16 <sup>h</sup> 18' | 7 <sup>h</sup> 29'   | 26 <sup>h</sup> 31'  | 8 <sup>h</sup> 34'   | 23 <sup>h</sup> 26' | 27 <sup>h</sup> 23'   | 1 <sup>h</sup> 30'   | 29 <sup>h</sup> 47'   | 24 <sup>h</sup> 3     | 27 <sup>h</sup> 59  | W 25 |
| T 26 | 2 52 36 | 11 <sup>h</sup> 36'44   | 11 <sup>h</sup> 8'59  | 3 <sup>h</sup> 47'   | 26 <sup>h</sup> 29'   | 16 <sup>h</sup> 8   | 7 <sup>h</sup> 42'   | 26 <sup>h</sup> 28'  | 8 <sup>h</sup> 33'   | 23 <sup>h</sup> 25' | 27 <sup>h</sup> 23'   | 1 <sup>h</sup> 26'   | 29 <sup>h</sup> 44'   | 24 <sup>h</sup> 10'   | 27 <sup>h</sup> 58  | T 26 |
| F 27 | 2 56 32 | 12 <sup>h</sup> 37'05   | 26 <sup>h</sup> 9     | 4 <sup>h</sup> 56'   | 27 <sup>h</sup> 45'   | 15 <sup>h</sup> 59' | 7 <sup>h</sup> 55'   | 26 <sup>h</sup> 26'  | 8 <sup>h</sup> 32'   | 23 <sup>h</sup> 24' | 27 <sup>h</sup> 24'   | 1 <sup>h</sup> 20'   | 29 <sup>h</sup> 41'   | 24 <sup>h</sup> 16'   | 27 <sup>h</sup> 56  | F 27 |
| S 28 | 3 0 29  | 13 <sup>h</sup> 37'29   | 10 <sup>h</sup> II33  | 6 <sup>h</sup> 3     | 29 <sup>h</sup> 0     | 15 <sup>h</sup> 51' | 8 <sup>h</sup> 9     | 26 <sup>h</sup> 23'  | 8 <sup>h</sup> 31'   | 23 <sup>h</sup> 23' | 27 <sup>h</sup> 25'   | 1 <sup>h</sup> 13'   | 29 <sup>h</sup> 38'   | 24 <sup>h</sup> 23'   | 27 <sup>h</sup> 54  | S 28 |
| S 29 | 3 4 25  | 14 <sup>h</sup> 37'54   | 25 <sup>h</sup> 3     | 7 <sup>h</sup> 8     | 0 <sup>h</sup> 11'15  | 15 <sup>h</sup> 44' | 8 <sup>h</sup> 22'   | 26 <sup>h</sup> 20'  | 8 <sup>h</sup> 30'   | 23 <sup>h</sup> 22' | 27 <sup>h</sup> 26'   | 1 <sup>h</sup> 6     | 29 <sup>h</sup> 34'   | 24 <sup>h</sup> 30'   | 27 <sup>h</sup> 52  | S 29 |
| M 30 | 3 8 22  | 15 <sup>h</sup> 38'21   | 9 <sup>h</sup> 33'3   | 8 <sup>h</sup> 9     | 1 <sup>h</sup> 30'    | 15 <sup>h</sup> 37' | 8 <sup>h</sup> 35'   | 26 <sup>h</sup> 17'  | 8 <sup>h</sup> 29'   | 23 <sup>h</sup> 21' | 27 <sup>h</sup> 26'   | 1 <sup>h</sup> 0     | 29 <sup>h</sup> 31'   | 24 <sup>h</sup> 36'   | 27 <sup>h</sup> 51  | M 30 |
| T 31 | 3 12 19 | 16 <sup>h</sup> 13'8'50 | 23 <sup>h</sup> 59'29 | 9 <sup>h</sup> 17'   | 2 <sup>h</sup> 11'46  | 15 <sup>h</sup> Y32 | 8 <sup>h</sup> 11'48 | 26 <sup>h</sup> II13 | 8 <sup>h</sup> 27'27 | 23 <sup>h</sup> K20 | 27 <sup>h</sup> 32'27 | 0 <sup>h</sup> 56'56 | 29 <sup>h</sup> 17'28 | 24 <sup>h</sup> 34'43 | 27 <sup>h</sup> K49 | T 31 |

ASTRODIENST EPHEMERIS for the year 1531  
geocentric

NOVEMBER 1531 JC

00:00 UT

| Day  | Sid.t   | ☉                      | ☽                   | ♀                   | ♂                   | ♂      | ♂                   | ♂                  | ♂     | ♂      | ♂                   | ♂                   | ♂                   | ♂                   | ♂      | Day  |
|------|---------|------------------------|---------------------|---------------------|---------------------|--------|---------------------|--------------------|-------|--------|---------------------|---------------------|---------------------|---------------------|--------|------|
| W 1  | 3 16 15 | 17 <sup>11</sup> 39'20 | 8 <sup>11</sup> 16  | 10 <sup>11</sup> 1  | 4 <sup>11</sup> 1   | 15°R27 | 9 <sup>11</sup> 1   | 26°R10             | 8°R26 | 23°R20 | 27 <sup>11</sup> 28 | 0°R54               | 29 <sup>11</sup> 25 | 24 <sup>11</sup> 50 | 27°R47 | W 1  |
| T 2  | 3 20 12 | 18°39'53               | 22°21               | 10°51               | 5°16                | 15°Y23 | 9°14                | 26 <sup>11</sup> 7 | 8°25  | 23°19  | 27°29               | 0°D54               | 29°22               | 24°57               | 27°K46 | T 2  |
| F 3  | 3 24 8  | 19°40'27               | 6 <sup>11</sup> 14  | 11°36               | 6°32                | 15°19  | 9°27                | 26°3               | 8°23  | 23°18  | 27°30               | 0°54                | 29°19               | 25°3                | 27°44  | F 3  |
| S 4  | 3 28 5  | 20°41'03               | 19°54               | 12°15               | 7°47                | 15°17  | 9°41                | 26°0               | 8°22  | 23°17  | 27°31               | 0°56                | 29°15               | 25°10               | 27°43  | S 4  |
| S 5  | 3 32 1  | 21°41'41               | 3 <sup>11</sup> 23  | 12°48               | 9°2                 | 15°15  | 9°54                | 25°56              | 8°20  | 23°17  | 27°32               | 0°R56               | 29°12               | 25°17               | 27°42  | S 5  |
| M 6  | 3 35 58 | 22°42'21               | 16°40               | 13°15               | 10°18               | 15°14  | 10°7                | 25°53              | 8°19  | 23°16  | 27°33               | 0°55                | 29°9                | 25°23               | 27°40  | M 6  |
| T 7  | 3 39 54 | 23°43'02               | 29°46               | 13°33               | 11°33               | 15°D14 | 10°20               | 25°49              | 8°17  | 23°15  | 27°34               | 0°51                | 29°6                | 25°30               | 27°39  | T 7  |
| W 8  | 3 43 51 | 24°43'45               | 12 <sup>11</sup> 41 | 13°43               | 12°49               | 15°15  | 10°33               | 25°45              | 8°15  | 23°15  | 27°35               | 0°45                | 29°3                | 25°37               | 27°38  | W 8  |
| T 9  | 3 47 47 | 25°44'29               | 25°25               | 13°R44              | 14°4                | 15°17  | 10°46               | 25°41              | 8°14  | 23°14  | 27°36               | 0°36                | 29°0                | 25°44               | 27°36  | T 9  |
| F 10 | 3 51 44 | 26°45'14               | 7 <sup>11</sup> 57  | 13°36               | 15°19               | 15°19  | 10°59               | 25°37              | 8°12  | 23°14  | 27°37               | 0°26                | 28°56               | 25°50               | 27°35  | F 10 |
| S 11 | 3 55 41 | 27°46'01               | 20°17               | 13°16               | 16°35               | 15°22  | 11°12               | 25°33              | 8°10  | 23°13  | 27°38               | 0°14                | 28°53               | 25°57               | 27°34  | S 11 |
| S 12 | 3 59 37 | 28°46'49               | 2 <sup>11</sup> 26  | 12°46               | 17°50               | 15°26  | 11°25               | 25°29              | 8°8   | 23°13  | 27°39               | 0°3                 | 28°50               | 26°4                | 27°33  | S 12 |
| M13  | 4 3 34  | 29°47'39               | 14°26               | 12°5                | 19°6                | 15°31  | 11°38               | 25°25              | 8°7   | 23°12  | 27°40               | 29 <sup>11</sup> 53 | 28°47               | 26°10               | 27°32  | M13  |
| T 14 | 4 7 30  | 0 <sup>11</sup> 48'29  | 26°19               | 11°13               | 20°21               | 15°36  | 11°51               | 25°21              | 8°5   | 23°12  | 27°41               | 29°45               | 28°44               | 26°17               | 27°31  | T 14 |
| W15  | 4 11 27 | 1°49'20                | 8 <sup>11</sup> 9   | 10°11               | 21°37               | 15°42  | 12°3                | 25°16              | 8°3   | 23°11  | 27°43               | 29°39               | 28°40               | 26°24               | 27°30  | W15  |
| T 16 | 4 15 23 | 2°50'12                | 19°59               | 9°1                 | 22°52               | 15°49  | 12°16               | 25°12              | 8°1   | 23°11  | 27°44               | 29°36               | 28°37               | 26°30               | 27°30  | T 16 |
| F 17 | 4 19 20 | 3°51'05                | 1 <sup>11</sup> 55  | 7°44                | 24°8                | 15°57  | 12°29               | 25°8               | 7°59  | 23°11  | 27°45               | 29°D35              | 28°34               | 26°37               | 27°29  | F 17 |
| S 18 | 4 23 17 | 4°51'59                | 14°2                | 6°23                | 25°23               | 16°5   | 12°42               | 25°3               | 7°57  | 23°10  | 27°46               | 29°36               | 28°31               | 26°44               | 27°28  | S 18 |
| S 19 | 4 27 13 | 5°52'53                | 26°26               | 5°0                 | 26°39               | 16°14  | 12°55               | 24°59              | 7°55  | 23°10  | 27°48               | 29°R36              | 28°28               | 26°51               | 27°28  | S 19 |
| M20  | 4 31 10 | 6°53'49                | 9°Y10               | 3°38                | 27°54               | 16°23  | 13°7                | 24°54              | 7°53  | 23°10  | 27°49               | 29°36               | 28°25               | 26°57               | 27°27  | M20  |
| T 21 | 4 35 6  | 7°54'45                | 22°21               | 2°20                | 29°10               | 16°34  | 13°20               | 24°49              | 7°51  | 23°10  | 27°50               | 29°34               | 28°21               | 27°4                | 27°27  | T 21 |
| W22  | 4 39 3  | 8°55'42                | 5 <sup>11</sup> 59  | 1°9                 | 0 <sup>11</sup> 25  | 16°45  | 13°32               | 24°45              | 7°48  | 23°10  | 27°52               | 29°29               | 28°18               | 27°11               | 27°26  | W22  |
| T 23 | 4 42 59 | 9°56'39                | 20°4                | 0°6                 | 1°41                | 16°56  | 13°45               | 24°40              | 7°46  | 23°10  | 27°53               | 29°21               | 28°15               | 27°17               | 27°26  | T 23 |
| F 24 | 4 46 56 | 10°57'38               | 4 <sup>11</sup> 12  | 29 <sup>11</sup> 12 | 2°56                | 17°8   | 13°57               | 24°35              | 7°44  | 23°9   | 27°54               | 29°12               | 28°12               | 27°24               | 27°25  | F 24 |
| S 25 | 4 50 52 | 11°58'37               | 19°23               | 28°30               | 4°12                | 17°21  | 14°10               | 24°30              | 7°42  | 23°D 9 | 27°56               | 29°0                | 28°9                | 27°31               | 27°25  | S 25 |
| S 26 | 4 54 49 | 12°59'38               | 4 <sup>11</sup> 21  | 27°59               | 5°27                | 17°34  | 14°22               | 24°26              | 7°40  | 23°9   | 27°57               | 28°49               | 28°5                | 27°38               | 27°25  | S 26 |
| M27  | 4 58 46 | 14°0'39                | 19°19               | 27°39               | 6°43                | 17°48  | 14°35               | 24°21              | 7°37  | 23°9   | 27°59               | 28°39               | 28°2                | 27°44               | 27°25  | M27  |
| T 28 | 5 2 42  | 15°1'41                | 4 <sup>11</sup> 9   | 27°D30              | 7°58                | 18°3   | 14°47               | 24°16              | 7°35  | 23°10  | 28°0                | 28°31               | 27°59               | 27°51               | 27°25  | T 28 |
| W29  | 5 6 39  | 16°2'44                | 18°42               | 27°31               | 9°14                | 18°18  | 14°59               | 24°11              | 7°33  | 23°10  | 28°2                | 28°26               | 27°56               | 27°58               | 27°24  | W29  |
| T 30 | 5 10 35 | 17°3'48                | 2 <sup>11</sup> 56  | 27 <sup>11</sup> 42 | 10 <sup>11</sup> 29 | 18°Y33 | 15 <sup>11</sup> 12 | 24 <sup>11</sup> 6 | 7°30  | 23°K10 | 28°3                | 28 <sup>11</sup> 24 | 27 <sup>11</sup> 53 | 28°3                | 27°D24 | T 30 |

Delta T = 220.31 sec

Julian Calendar 1 Nov. 1531 == Greg. Calendar 11 Nov. 1531

DECEMBER 1531 JC

00:00 UT

| Day  | Sid.t   | ☉                     | ☽                   | ♀                  | ♂                   | ♂                 | ♂                   | ♂                   | ♂     | ♂      | ♂     | ♂                   | ♂                   | ♂                  | ♂      | Day  |
|------|---------|-----------------------|---------------------|--------------------|---------------------|-------------------|---------------------|---------------------|-------|--------|-------|---------------------|---------------------|--------------------|--------|------|
| F 1  | 5 14 32 | 18 <sup>11</sup> 4'53 | 16 <sup>11</sup> 50 | 28 <sup>11</sup> 2 | 11 <sup>11</sup> 45 | 18°Y49            | 15 <sup>11</sup> 24 | 24°R 1              | 7°R28 | 23°K10 | 28°3  | 28°D23              | 27 <sup>11</sup> 50 | 28°311             | 27°K24 | F 1  |
| S 2  | 5 18 28 | 19°5'59               | 0 <sup>11</sup> 23  | 28°30              | 13°0                | 19°6              | 15°36               | 23 <sup>11</sup> 56 | 7°25  | 23°10  | 28°6  | 28°R23              | 27°46               | 28°18              | 27°25  | S 2  |
| S 3  | 5 22 25 | 20°7'06               | 13°38               | 29°5               | 14°16               | 19°23             | 15°48               | 23°51               | 7°23  | 23°10  | 28°8  | 28 <sup>11</sup> 23 | 27°43               | 28°24              | 27°25  | S 3  |
| M 4  | 5 26 21 | 21°8'13               | 26°38               | 29°46              | 15°31               | 19°41             | 16°0                | 23°46               | 7°21  | 23°11  | 28°9  | 28°20               | 27°40               | 28°31              | 27°25  | M 4  |
| T 5  | 5 30 18 | 22°9'22               | 9 <sup>11</sup> 25  | 0 <sup>11</sup> 33 | 16°47               | 19°59             | 16°12               | 23°41               | 7°18  | 23°11  | 28°11 | 28°15               | 27°37               | 28°38              | 27°25  | T 5  |
| W 6  | 5 34 15 | 23°10'31              | 22°0                | 1°25               | 18°2                | 20°17             | 16°24               | 23°36               | 7°16  | 23°11  | 28°12 | 28°6                | 27°34               | 28°45              | 27°26  | W 6  |
| T 7  | 5 38 11 | 24°11'40              | 4 <sup>11</sup> 26  | 2°22               | 19°18               | 20°36             | 16°36               | 23°31               | 7°13  | 23°12  | 28°14 | 27°54               | 27°31               | 28°51              | 27°26  | T 7  |
| F 8  | 5 42 8  | 25°12'51              | 16°44               | 3°22               | 20°33               | 20°56             | 16°47               | 23°26               | 7°11  | 23°12  | 28°16 | 27°41               | 27°27               | 28°58              | 27°27  | F 8  |
| S 9  | 5 46 4  | 26°14'01              | 28°53               | 4°26               | 21°49               | 21°16             | 16°59               | 23°22               | 7°8   | 23°13  | 28°17 | 27°25               | 27°24               | 29°5               | 27°27  | S 9  |
| S 10 | 5 50 1  | 27°15'12              | 10 <sup>11</sup> 35 | 5°33               | 23°5                | 21°36             | 17°11               | 23°17               | 7°6   | 23°13  | 28°19 | 27°10               | 27°21               | 29°11              | 27°28  | S 10 |
| M11  | 5 53 57 | 28°16'23              | 22°50               | 6°42               | 24°20               | 21°57             | 17°22               | 23°12               | 7°3   | 23°14  | 28°21 | 26°57               | 27°18               | 29°18              | 27°28  | M11  |
| T 12 | 5 57 54 | 29°17'35              | 4 <sup>11</sup> 41  | 7°54               | 25°36               | 22°18             | 17°34               | 23°7                | 7°0   | 23°14  | 28°22 | 26°45               | 27°15               | 29°25              | 27°29  | T 12 |
| W13  | 6 1 50  | 0 <sup>11</sup> 38'46 | 16°29               | 9°8                | 26°51               | 22°39             | 17°45               | 23°2                | 6°58  | 23°15  | 28°24 | 26°37               | 27°11               | 29°32              | 27°30  | W13  |
| T 14 | 6 5 47  | 1°19'57               | 28°18               | 10°24              | 28°7                | 23°1              | 17°56               | 22°57               | 6°55  | 23°15  | 28°26 | 26°31               | 27°8                | 29°38              | 27°31  | T 14 |
| F 15 | 6 9 44  | 2°21'08               | 10 <sup>11</sup> 12 | 11°42              | 29°22               | 23°24             | 18°8                | 22°52               | 6°53  | 23°16  | 28°28 | 26°29               | 27°5                | 29°45              | 27°31  | F 15 |
| S 16 | 6 13 40 | 3°22'19               | 22°16               | 13°1               | 0 <sup>11</sup> 38  | 23°46             | 18°19               | 22°47               | 6°50  | 23°17  | 28°29 | 26°28               | 27°2                | 29°52              | 27°32  | S 16 |
| S 17 | 6 17 37 | 4°23'30               | 4°Y34               | 14°21              | 1°53                | 24°9              | 18°30               | 22°42               | 6°47  | 23°17  | 28°31 | 26°28               | 26°59               | 29°58              | 27°33  | S 17 |
| M18  | 6 21 33 | 5°24'40               | 17°13               | 15°42              | 3°9                 | 24°33             | 18°41               | 22°37               | 6°45  | 23°18  | 28°33 | 26°27               | 26°56               | 0 <sup>11</sup> 8  | 27°34  | M18  |
| T 19 | 6 25 30 | 6°25'50               | 0 <sup>11</sup> 17  | 17°5               | 4°24                | 24°57             | 18°52               | 22°33               | 6°42  | 23°19  | 28°35 | 26°25               | 26°52               | 0°12               | 27°35  | T 19 |
| W20  | 6 29 26 | 7°27'00               | 13°50               | 18°28              | 5°40                | 25°21             | 19°3                | 22°28               | 6°40  | 23°20  | 28°36 | 26°21               | 26°49               | 0°18               | 27°37  | W20  |
| T 21 | 6 33 23 | 8°28'10               | 27°54               | 19°53              | 6°55                | 25°45             | 19°13               | 22°23               | 6°37  | 23°21  | 28°38 | 26°14               | 26°46               | 0°25               | 27°38  | T 21 |
| F 22 | 6 37 19 | 9°29'19               | 12 <sup>11</sup> 27 | 21°18              | 8°11                | 26°10             | 19°24               | 22°19               | 6°34  | 23°22  | 28°40 | 26°5                | 26°43               | 0°32               | 27°39  | F 22 |
| S 23 | 6 41 16 | 10°30'28              | 27°25               | 22°44              | 9°26                | 26°35             | 19°35               | 22°14               | 6°32  | 23°23  | 28°42 | 25°53               | 26°40               | 0°39               | 27°40  | S 23 |
| S 24 | 6 45 13 | 11°31'37              | 12 <sup>11</sup> 38 | 24°10              | 10°42               | 27°0              | 19°45               | 22°9                | 6°29  | 23°24  | 28°44 | 25°42               | 26°37               | 0°45               | 27°42  | S 24 |
| M25  | 6 49 9  | 12°32'45              | 27°55               | 25°38              | 11°57               | 27°26             | 19°55               | 22°5                | 6°27  | 23°24  | 28°46 | 25°32               | 26°33               | 0°52               | 27°43  | M25  |
| T 26 | 6 53 6  | 13°33'53              | 13 <sup>11</sup> 6  | 27°6               | 13°13               | 27°51             | 20°6                | 22°0                | 6°24  | 23°26  | 28°47 | 25°24               | 26°30               | 0°59               | 27°45  | T 26 |
| W27  | 6 57 2  | 14°35'01              | 28°1                | 28°34              | 14°28               | 28°18             | 20°16               | 21°56               | 6°22  | 23°27  | 28°49 | 25°18               | 26°27               | 1°5                | 27°46  | W27  |
| T 28 | 7 0 59  | 15°36'09              | 12 <sup>11</sup> 33 | 0 <sup>11</sup> 3  | 15°43               | 28°44             | 20°26               | 21°52               | 6°19  | 23°28  | 28°51 | 25°16               | 26°24               | 1°12               | 27°48  | T 28 |
| F 29 | 7 4 55  | 16°37'16              | 26°39               | 1°33               | 16°59               | 29°11             | 20°36               | 21°47               | 6°16  | 23°29  | 28°53 | 25°D15              | 26°21               | 1°19               | 27°49  | F 29 |
| S 30 | 7 8 52  | 17°38'24              | 10 <sup>11</sup> 19 | 3°3                | 18°14               | 29°38             | 20°46               | 21°43               | 6°14  | 23°30  | 28°55 | 25°16               | 26°17               | 1°25               | 27°51  | S 30 |
| S 31 | 7 12 48 | 18°39'31              | 23 <sup>11</sup> 34 | 4 <sup>11</sup> 34 | 19°30               | 0 <sup>11</sup> 5 | 20 <sup>11</sup> 56 | 21 <sup>11</sup> 39 | 6°11  | 23°K31 | 28°57 | 25°R16              | 26 <sup>11</sup> 14 | 1 <sup>11</sup> 32 | 27°K53 | S 31 |

Delta T = 220.12 sec

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