



# Astrodienst Ephemeris Tables for the year 1499

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 1499  
geocentric

JANUARY 1499 JC

00:00 UT

| Day  | Sid.t   | ☉        | ☽        | ♀        | ♂        | ♂        | ♂        | ♂       | ♂        | ♂        | ♂        | ♂       | ♂       | ♂        | ♂       | Day  |
|------|---------|----------|----------|----------|----------|----------|----------|---------|----------|----------|----------|---------|---------|----------|---------|------|
| T 1  | 7 16 43 | 19°34'03 | 29°02'29 | 4°35'59  | 6°41'29  | 0°31'31  | 27°34'4  | 0°11'11 | 20°17'17 | 12°45'45 | 22°11'11 | 5°R 6   | 4°26'26 | 8°52'52  | 6°R40   | T 1  |
| W 2  | 7 20 39 | 20°42'09 | 13°08'8  | 6°30'30  | 7°33'33  | 1°12'12  | 27°19'19 | 0°12'12 | 20°20'20 | 12°47'47 | 22°13'13 | 5°D 4   | 4°23'23 | 8°58'58  | 6°II38  | W 2  |
| T 3  | 7 24 36 | 21°43'14 | 26°57'57 | 8°1'1    | 8°36'36  | 1°52'52  | 27°33'33 | 0°13'13 | 20°23'23 | 12°49'49 | 22°14'14 | 5°2'2   | 4°20'20 | 9°5'5    | 6°36'36 | T 3  |
| F 4  | 7 28 32 | 22°44'19 | 10°15'56 | 9°34'34  | 9°39'39  | 2°33'33  | 27°47'47 | 0°15'15 | 20°26'26 | 12°51'51 | 22°16'16 | 5°1'1   | 4°17'17 | 9°12'12  | 6°34'34 | F 4  |
| S 5  | 7 32 29 | 23°45'24 | 25°1'1   | 11°6'6   | 10°42'42 | 3°13'13  | 28°1'1   | 0°16'16 | 20°29'29 | 12°54'54 | 22°17'17 | 5°D 0   | 4°14'14 | 9°19'19  | 6°31'31 | S 5  |
| S 6  | 7 36 25 | 24°46'28 | 9°13'13  | 12°40'40 | 11°45'45 | 3°54'54  | 28°15'15 | 0°17'17 | 20°32'32 | 12°56'56 | 22°18'18 | 5°1'1   | 4°10'10 | 9°25'25  | 6°29'29 | S 6  |
| M 7  | 7 40 22 | 25°47'32 | 23°28'28 | 14°14'14 | 12°47'47 | 4°35'35  | 28°30'30 | 0°19'19 | 20°36'36 | 12°58'58 | 22°20'20 | 5°2'2   | 4°7'7   | 9°32'32  | 6°27'27 | M 7  |
| T 8  | 7 44 19 | 26°48'35 | 7°14'44  | 15°48'48 | 13°48'48 | 5°15'15  | 28°44'44 | 0°21'21 | 20°39'39 | 13°0'0   | 22°21'21 | 5°4'4   | 4°4'4   | 9°39'39  | 6°25'25 | T 8  |
| W 9  | 7 48 15 | 27°49'38 | 21°59'59 | 17°23'23 | 14°49'49 | 5°56'56  | 28°58'58 | 0°22'22 | 20°42'42 | 13°3'3   | 22°22'22 | 5°5'5   | 4°1'1   | 9°45'45  | 6°24'24 | W 9  |
| T 10 | 7 52 12 | 28°50'40 | 6°38'8   | 18°59'59 | 15°50'50 | 6°37'37  | 29°12'12 | 0°24'24 | 20°45'45 | 13°5'5   | 22°24'24 | 5°R 5   | 3°58'58 | 9°52'52  | 6°22'22 | T 10 |
| F 11 | 7 56 8  | 29°51'41 | 20°8'8   | 20°35'35 | 16°51'51 | 7°17'17  | 29°26'26 | 0°26'26 | 20°49'49 | 13°7'7   | 22°25'25 | 5°5'5   | 3°55'55 | 9°59'59  | 6°20'20 | F 11 |
| S 12 | 8 0 5   | 0°52'42  | 3°55'55  | 22°12'12 | 17°50'50 | 7°58'58  | 29°41'41 | 0°29'29 | 20°52'52 | 13°9'9   | 22°26'26 | 5°2'2   | 3°51'51 | 10°5'5   | 6°18'18 | S 12 |
| S 13 | 8 4 1   | 1°53'41  | 17°26'26 | 23°50'50 | 18°50'50 | 8°39'39  | 29°55'55 | 0°31'31 | 20°55'55 | 13°11'11 | 22°27'27 | 4°59'59 | 3°48'48 | 10°12'12 | 6°17'17 | S 13 |
| M14  | 8 7 58  | 2°54'39  | 0°38'38  | 25°28'28 | 19°49'49 | 9°19'19  | 0°33'33  | 0°33'33 | 20°59'59 | 13°14'14 | 22°28'28 | 4°54'54 | 3°45'45 | 10°19'19 | 6°15'15 | M14  |
| T 15 | 8 11 54 | 3°55'36  | 13°31'31 | 27°7'7   | 20°47'47 | 10°0'0   | 0°23'23  | 0°36'36 | 21°2'2   | 13°16'16 | 22°29'29 | 4°49'49 | 3°42'42 | 10°25'25 | 6°14'14 | T 15 |
| W16  | 8 15 51 | 4°56'32  | 26°6'6   | 28°47'47 | 21°45'45 | 10°41'41 | 0°38'38  | 0°38'38 | 21°5'5   | 13°18'18 | 22°30'30 | 4°45'45 | 3°39'39 | 10°32'32 | 6°12'12 | W16  |
| T 17 | 8 19 48 | 5°57'26  | 8°14'24  | 0°27'27  | 22°43'43 | 11°22'22 | 0°52'52  | 0°41'41 | 21°9'9   | 13°20'20 | 22°31'31 | 4°40'40 | 3°36'36 | 10°39'39 | 6°11'11 | T 17 |
| F 18 | 8 23 44 | 6°58'19  | 20°29'29 | 2°8'8    | 23°40'40 | 12°3'3   | 1°6'6    | 0°43'43 | 21°12'12 | 13°22'22 | 22°32'32 | 4°38'38 | 3°32'32 | 10°46'46 | 6°10'10 | F 18 |
| S 19 | 8 27 41 | 7°59'11  | 2°24'24  | 3°50'50  | 24°36'36 | 12°43'43 | 1°20'20  | 0°46'46 | 21°15'15 | 13°24'24 | 22°33'33 | 4°36'36 | 3°29'29 | 10°52'52 | 6°9'9   | S 19 |
| S 20 | 8 31 37 | 9°0'01   | 14°15'15 | 5°33'33  | 25°32'32 | 13°24'24 | 1°34'34  | 0°49'49 | 21°19'19 | 13°26'26 | 22°34'34 | 4°D36   | 3°26'26 | 10°59'59 | 6°8'8   | S 20 |
| M21  | 8 35 34 | 10°0'50  | 26°6'6   | 7°16'16  | 26°27'27 | 14°5'5   | 1°49'49  | 0°52'52 | 21°22'22 | 13°29'29 | 22°35'35 | 4°37'37 | 3°23'23 | 11°6'6   | 6°7'7   | M21  |
| T 22 | 8 39 30 | 11°1'37  | 8°11'3   | 9°0'0    | 27°21'21 | 14°46'46 | 2°3'3    | 0°55'55 | 21°26'26 | 13°31'31 | 22°36'36 | 4°39'39 | 3°20'20 | 11°12'12 | 6°6'6   | T 22 |
| W23  | 8 43 27 | 12°2'23  | 20°11'11 | 10°45'45 | 28°15'15 | 15°27'27 | 2°17'17  | 0°59'59 | 21°29'29 | 13°33'33 | 22°37'37 | 4°41'41 | 3°16'16 | 11°19'19 | 6°5'5   | W23  |
| T 24 | 8 47 23 | 13°3'07  | 2°31'31  | 12°31'31 | 29°8'8   | 16°8'8   | 2°31'31  | 1°2'2   | 21°33'33 | 13°35'35 | 22°38'38 | 4°R42   | 3°13'13 | 11°26'26 | 6°4'4   | T 24 |
| F 25 | 8 51 20 | 14°3'50  | 15°13'13 | 14°17'17 | 0°14'14  | 16°49'49 | 2°45'45  | 1°6'6   | 21°36'36 | 13°37'37 | 22°39'39 | 4°41'41 | 3°10'10 | 11°32'32 | 6°3'3   | F 25 |
| S 26 | 8 55 17 | 15°4'31  | 28°12'12 | 16°4'4   | 0°52'52  | 17°29'29 | 2°59'59  | 1°9'9   | 21°39'39 | 13°39'39 | 22°39'39 | 4°39'39 | 3°7'7   | 11°39'39 | 6°3'3   | S 26 |
| S 27 | 8 59 13 | 16°5'10  | 11°12'33 | 17°52'52 | 1°43'43  | 18°10'10 | 3°13'13  | 1°13'13 | 21°43'43 | 13°41'41 | 22°40'40 | 4°34'34 | 3°4'4   | 11°46'46 | 6°2'2   | S 27 |
| M28  | 9 3 10  | 17°5'49  | 25°12'12 | 19°41'41 | 2°33'33  | 18°51'51 | 3°27'27  | 1°17'17 | 21°46'46 | 13°43'43 | 22°41'41 | 4°28'28 | 3°1'1   | 11°53'53 | 6°2'2   | M28  |
| T 29 | 9 7 6   | 18°6'25  | 9°11'3   | 21°30'30 | 3°22'22  | 19°32'32 | 3°41'41  | 1°20'20 | 21°50'50 | 13°45'45 | 22°41'41 | 4°21'41 | 2°57'57 | 11°59'59 | 6°1'1   | T 29 |
| W30  | 9 11 3  | 19°7'00  | 23°15'15 | 23°20'20 | 4°11'11  | 20°13'13 | 3°55'55  | 1°24'24 | 21°53'53 | 13°47'47 | 22°42'42 | 4°13'13 | 2°54'54 | 12°6'6   | 6°1'1   | W30  |
| T 31 | 9 14 59 | 20°7'34  | 7°12'30  | 25°11'11 | 4°14'58  | 20°14'54 | 4°33'33  | 1°28'28 | 21°55'55 | 13°49'49 | 22°42'42 | 4°7'7   | 2°51'51 | 12°13'13 | 6°II1   | T 31 |

Delta T = 293.79 sec Julian Calendar 1 Jan. 1499 == Greg. Calendar 10 Jan. 1499

FEBRUARY 1499 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽     | ♀     | ♂     | ♂     | ♂     | ♂    | ♂     | ♂     | ♂      | ♂     | ♂    | ♂     | ♂      | Day  |
|------|----------|----------|-------|-------|-------|-------|-------|------|-------|-------|--------|-------|------|-------|--------|------|
| F 1  | 9 18 56  | 21°8'07  | 21°47 | 27°2  | 5°45  | 21°35 | 4°23  | 1°32 | 22°0  | 13°51 | 22°43  | 4°R 1 | 2°48 | 12°19 | 6°R 1  | F 1  |
| S 2  | 9 22 52  | 22°8'38  | 6°3   | 28°54 | 6°30  | 22°16 | 4°37  | 1°37 | 22°4  | 13°52 | 22°43  | 3°58  | 2°45 | 12°26 | 6°D 1  | S 2  |
| S 3  | 9 26 49  | 23°9'08  | 20°14 | 0°45  | 7°15  | 22°57 | 4°51  | 1°41 | 22°7  | 13°54 | 22°44  | 3°D57 | 2°42 | 12°33 | 6°II 1 | S 3  |
| M 4  | 9 30 46  | 24°9'37  | 4°19  | 2°37  | 7°58  | 23°38 | 5°5   | 1°45 | 22°11 | 13°56 | 22°44  | 3°57  | 2°38 | 12°39 | 6°1    | M 4  |
| T 5  | 9 34 42  | 25°10'05 | 18°17 | 4°29  | 8°41  | 24°20 | 5°19  | 1°50 | 22°14 | 13°58 | 22°45  | 3°58  | 2°35 | 12°46 | 6°1    | T 5  |
| W 6  | 9 38 39  | 26°10'31 | 2°7   | 6°20  | 9°22  | 25°1  | 5°33  | 1°54 | 22°18 | 14°0  | 22°45  | 3°R59 | 2°32 | 12°53 | 6°1    | W 6  |
| T 7  | 9 42 35  | 27°10'56 | 15°48 | 8°11  | 10°2  | 25°42 | 5°46  | 1°59 | 22°21 | 14°2  | 22°45  | 3°58  | 2°29 | 12°59 | 6°2    | T 7  |
| F 8  | 9 46 32  | 28°11'19 | 29°21 | 10°2  | 10°41 | 26°23 | 6°0   | 2°4  | 22°24 | 14°3  | 22°46  | 3°55  | 2°26 | 13°6  | 6°2    | F 8  |
| S 9  | 9 50 28  | 29°11'41 | 12°43 | 11°51 | 11°19 | 27°4  | 6°14  | 2°9  | 22°28 | 14°5  | 22°46  | 3°50  | 2°22 | 13°13 | 6°2    | S 9  |
| S 10 | 9 54 25  | 0°12'01  | 25°53 | 13°38 | 11°55 | 27°45 | 6°27  | 2°13 | 22°31 | 14°7  | 22°46  | 3°42  | 2°19 | 13°20 | 6°3    | S 10 |
| M11  | 9 58 21  | 1°12'19  | 8°50  | 15°24 | 12°30 | 28°26 | 6°41  | 2°18 | 22°35 | 14°9  | 22°46  | 3°32  | 2°16 | 13°26 | 6°4    | M11  |
| T 12 | 10 2 18  | 2°12'35  | 21°33 | 17°7  | 13°4  | 29°7  | 6°55  | 2°23 | 22°38 | 14°10 | 22°46  | 3°21  | 2°13 | 13°33 | 6°4    | T 12 |
| W13  | 10 6 15  | 3°12'50  | 4°12  | 18°48 | 13°36 | 29°49 | 7°8   | 2°29 | 22°42 | 14°12 | 22°46  | 3°10  | 2°10 | 13°40 | 6°5    | W13  |
| T 14 | 10 10 11 | 4°13'02  | 16°17 | 20°25 | 14°7  | 0°30  | 7°22  | 2°34 | 22°45 | 14°14 | 22°46  | 2°59  | 2°7  | 13°46 | 6°6    | T 14 |
| F 15 | 10 14 8  | 5°13'12  | 28°20 | 21°58 | 14°36 | 1°11  | 7°35  | 2°39 | 22°49 | 14°15 | 22°R46 | 2°51  | 2°3  | 13°53 | 6°7    | F 15 |
| S 16 | 10 18 4  | 6°13'21  | 10°14 | 23°26 | 15°3  | 1°52  | 7°49  | 2°44 | 22°52 | 14°17 | 22°46  | 2°45  | 2°0  | 14°0  | 6°8    | S 16 |
| S 17 | 10 22 1  | 7°13'27  | 22°4  | 24°50 | 15°29 | 2°33  | 8°2   | 2°50 | 22°55 | 14°18 | 22°46  | 2°42  | 1°57 | 14°6  | 6°9    | S 17 |
| M18  | 10 25 57 | 8°13'31  | 3°15  | 26°7  | 15°53 | 3°14  | 8°15  | 2°55 | 22°59 | 14°20 | 22°46  | 2°D40 | 1°54 | 14°13 | 6°10   | M18  |
| T 19 | 10 29 54 | 9°13'33  | 15°49 | 27°19 | 16°15 | 3°56  | 8°28  | 3°1  | 23°2  | 14°21 | 22°46  | 2°40  | 1°51 | 14°20 | 6°12   | T 19 |
| W20  | 10 33 50 | 10°13'33 | 27°55 | 28°24 | 16°35 | 4°37  | 8°42  | 3°7  | 23°5  | 14°23 | 22°46  | 2°R41 | 1°47 | 14°26 | 6°13   | W20  |
| T 21 | 10 37 47 | 11°13'31 | 10°17 | 29°22 | 16°53 | 5°18  | 8°55  | 3°12 | 23°9  | 14°24 | 22°46  | 2°41  | 1°44 | 14°33 | 6°14   | T 21 |
| F 22 | 10 41 44 | 12°13'26 | 23°0  | 0°12  | 17°9  | 5°59  | 9°8   | 3°18 | 23°12 | 14°26 | 22°46  | 2°39  | 1°41 | 14°40 | 6°16   | F 22 |
| S 23 | 10 45 40 | 13°13'20 | 6°12  | 0°53  | 17°23 | 6°41  | 9°21  | 3°24 | 23°15 | 14°27 | 22°45  | 2°35  | 1°38 | 14°46 | 6°18   | S 23 |
| S 24 | 10 49 37 | 14°13'11 | 19°40 | 1°27  | 17°35 | 7°22  | 9°34  | 3°30 | 23°19 | 14°29 | 22°45  | 2°28  | 1°35 | 14°53 | 6°19   | S 24 |
| M25  | 10 53 33 | 15°13'00 | 3°13  | 1°52  | 17°44 | 8°3   | 9°47  | 3°36 | 23°22 | 14°30 | 22°45  | 2°18  | 1°32 | 15°0  | 6°21   | M25  |
| T 26 | 10 57 30 | 16°12'46 | 17°57 | 2°9   | 17°52 | 8°44  | 10°0  | 3°42 | 23°25 | 14°31 | 22°44  | 2°8   | 1°28 | 15°7  | 6°23   | T 26 |
| W27  | 11 1 26  | 17°12'31 | 2°12  | 2°R17 | 17°57 | 9°26  | 10°12 | 3°48 | 23°29 | 14°32 | 22°44  | 1°56  | 1°25 | 15°13 | 6°25   | W27  |
| T 28 | 11 5 23  | 18°12'14 | 17°16 | 2°16  | 17°59 | 10°13 | 10°25 | 3°54 | 23°32 | 14°34 | 22°44  | 1°45  | 1°22 | 15°20 | 6°26   | T 28 |

## ASTRODIENST EPHEMERIS for the year 1499

geocentric

MARCH 1499 JC

00:00 UT

| Day  | Sid.t    | ☉         | ☽       | ♀      | ♂      | ♂      | ♂      | ♂     | ♂      | ♂      | ♂      | ♂       | ♂       | ♂      | ♂      | Day  |
|------|----------|-----------|---------|--------|--------|--------|--------|-------|--------|--------|--------|---------|---------|--------|--------|------|
| F 1  | 11 9 19  | 19°11'55  | 1°15'59 | 2°R 7  | 17°R59 | 10°348 | 10°338 | 4°8 0 | 23°335 | 14°335 | 22°R43 | 1°R37   | 1°19    | 15°827 | 6°II28 | F 1  |
| S 2  | 11 13 16 | 20°11'34  | 16°35   | 1°Y51  | 17°Y57 | 11°29  | 10°50  | 4° 7  | 23°38  | 14°36  | 22°M43 | 1°31    | 1°16    | 15°33  | 6°31   | S 2  |
| S 3  | 11 17 12 | 21°11'12  | 1° 0    | 1°26   | 17°53  | 12°11  | 11° 3  | 4°13  | 23°41  | 14°37  | 22°42  | 1°27    | 1°13    | 15°40  | 6°33   | S 3  |
| M 4  | 11 21 9  | 22°10'48  | 15° 9   | 0°55   | 17°45  | 12°52  | 11°15  | 4°19  | 23°45  | 14°38  | 22°41  | 1°26    | 1° 9    | 15°47  | 6°35   | M 4  |
| T 5  | 11 25 6  | 23°10'22  | 29° 3   | 0°18   | 17°36  | 13°33  | 11°28  | 4°26  | 23°48  | 14°40  | 22°41  | 1°26    | 1° 6    | 15°53  | 6°37   | T 5  |
| W 6  | 11 29 2  | 24° 9'55  | 12°341  | 29°36  | 17°24  | 14°15  | 11°40  | 4°32  | 23°51  | 14°41  | 22°40  | 1°26    | 1° 3    | 16° 0  | 6°40   | W 6  |
| T 7  | 11 32 59 | 25° 9'25  | 26° 5   | 28°50  | 17° 9  | 14°56  | 11°52  | 4°39  | 23°54  | 14°42  | 22°40  | 1°24    | 1° 0    | 16° 7  | 6°42   | T 7  |
| F 8  | 11 36 55 | 26° 8'54  | 9°16    | 28° 0  | 16°52  | 15°37  | 12° 5  | 4°46  | 23°57  | 14°43  | 22°39  | 1°20    | 0°57    | 16°13  | 6°44   | F 8  |
| S 9  | 11 40 52 | 27° 8'21  | 22°16   | 27° 9  | 16°33  | 16°19  | 12°17  | 4°52  | 24° 0  | 14°44  | 22°38  | 1°13    | 0°53    | 16°20  | 6°47   | S 9  |
| S 10 | 11 44 48 | 28° 7'46  | 5°H 5   | 26°16  | 16°11  | 17° 0  | 12°29  | 4°59  | 24° 3  | 14°45  | 22°37  | 1° 3    | 0°50    | 16°27  | 6°50   | S 10 |
| M 11 | 11 48 45 | 29° 7'09  | 17°43   | 25°24  | 15°47  | 17°41  | 12°41  | 5° 6  | 24° 6  | 14°46  | 22°37  | 0°50    | 0°47    | 16°33  | 6°52   | M 11 |
| T 12 | 11 52 41 | 0°Y 6'30  | 0°Y10   | 24°32  | 15°21  | 18°23  | 12°53  | 5°13  | 24° 9  | 14°47  | 22°36  | 0°36    | 0°44    | 16°40  | 6°55   | T 12 |
| W 13 | 11 56 38 | 1° 5'49   | 12°27   | 23°43  | 14°53  | 19° 4  | 13° 4  | 5°19  | 24°12  | 14°47  | 22°35  | 0°22    | 0°41    | 16°47  | 6°58   | W 13 |
| T 14 | 12 0 35  | 2° 5'05   | 24°34   | 22°57  | 14°23  | 19°45  | 13°16  | 5°26  | 24°15  | 14°48  | 22°34  | 0° 9    | 0°38    | 16°53  | 7° 1   | T 14 |
| F 15 | 12 4 31  | 3° 4'20   | 6°32    | 22°15  | 13°51  | 20°27  | 13°28  | 5°33  | 24°18  | 14°49  | 22°33  | 29°II58 | 0°34    | 17° 0  | 7° 4   | F 15 |
| S 16 | 12 8 28  | 4° 3'32   | 18°24   | 21°37  | 13°18  | 21° 8  | 13°39  | 5°40  | 24°21  | 14°50  | 22°32  | 29°49   | 0°31    | 17° 7  | 7° 7   | S 16 |
| S 17 | 12 12 24 | 5° 2'42   | 0°II12  | 21° 3  | 12°43  | 21°49  | 13°51  | 5°47  | 24°23  | 14°51  | 22°31  | 29°44   | 0°28    | 17°13  | 7°10   | S 17 |
| M 18 | 12 16 21 | 6° 1'50   | 12° 0   | 20°35  | 12° 7  | 22°30  | 14° 2  | 5°54  | 24°26  | 14°51  | 22°30  | 29°41   | 0°25    | 17°20  | 7°13   | M 18 |
| T 19 | 12 20 17 | 7° 0'56   | 23°54   | 20°12  | 11°31  | 23°12  | 14°13  | 6° 1  | 24°29  | 14°52  | 22°29  | 29°40   | 0°22    | 17°27  | 7°16   | T 19 |
| W 20 | 12 24 14 | 7°59'59   | 5°58    | 19°55  | 10°53  | 23°53  | 14°24  | 6° 9  | 24°32  | 14°53  | 22°28  | 29°40   | 0°19    | 17°34  | 7°19   | W 20 |
| T 21 | 12 28 10 | 8°59'00   | 18°17   | 19°43  | 10°16  | 24°34  | 14°35  | 6°16  | 24°34  | 14°53  | 22°27  | 29°39   | 0°15    | 17°40  | 7°23   | T 21 |
| F 22 | 12 32 7  | 9°57'59   | 0°58    | 19°37  | 9°38   | 25°16  | 14°46  | 6°23  | 24°37  | 14°54  | 22°26  | 29°38   | 0°12    | 17°47  | 7°26   | F 22 |
| S 23 | 12 36 4  | 10°56'55  | 14° 3   | 19°D36 | 9° 0   | 25°57  | 14°57  | 6°30  | 24°40  | 14°54  | 22°25  | 29°34   | 0° 9    | 17°54  | 7°30   | S 23 |
| S 24 | 12 40 0  | 11°55'49  | 27°38   | 19°40  | 8°22   | 26°38  | 15° 8  | 6°38  | 24°42  | 14°55  | 22°24  | 29°28   | 0° 6    | 18° 0  | 7°33   | S 24 |
| M 25 | 12 43 57 | 12°54'41  | 11°M41  | 19°50  | 7°45   | 27°19  | 15°19  | 6°45  | 24°45  | 14°55  | 22°23  | 29°19   | 0° 3    | 18° 7  | 7°37   | M 25 |
| T 26 | 12 47 53 | 13°53'30  | 26°11   | 20° 5  | 7° 9   | 28° 1  | 15°29  | 6°52  | 24°48  | 14°56  | 22°22  | 29° 9   | 29°II59 | 18°14  | 7°40   | T 26 |
| W 27 | 12 51 50 | 14°52'18  | 11°2    | 20°25  | 6°34   | 28°42  | 15°40  | 7° 0  | 24°50  | 14°56  | 22°21  | 28°58   | 29°56   | 18°20  | 7°44   | W 27 |
| T 28 | 12 55 46 | 15°51'03  | 26° 6   | 20°49  | 6° 0   | 29°23  | 15°50  | 7° 7  | 24°53  | 14°57  | 22°19  | 28°48   | 29°53   | 18°27  | 7°48   | T 28 |
| F 29 | 12 59 43 | 16°49'46  | 11°M12  | 21°17  | 5°28   | 0°4    | 16° 0  | 7°14  | 24°55  | 14°57  | 22°18  | 28°39   | 29°50   | 18°34  | 7°51   | F 29 |
| S 30 | 13 3 39  | 17°48'28  | 26°11   | 21°50  | 4°57   | 0°45   | 16°10  | 7°22  | 24°57  | 14°57  | 22°17  | 28°33   | 29°47   | 18°40  | 7°55   | S 30 |
| S 31 | 13 7 36  | 18°Y47'08 | 10°Y55  | 22°H27 | 4°Y28  | 1°227  | 16°221 | 7°B29 | 25°0   | 14°58  | 22°M15 | 28°II30 | 29°II44 | 18°47  | 7°II59 | S 31 |

Delta T = 293.45 sec

Julian Calendar 1 March 1499 == Greg. Calendar 10 March 1499

APRIL 1499 JC

00:00 UT

| Day  | Sid.t    | ☉         | ☽      | ♀      | ♂     | ♂     | ♂     | ♂      | ♂     | ♂      | ♂      | ♂       | ♂       | ♂      | ♂       | Day  |
|------|----------|-----------|--------|--------|-------|-------|-------|--------|-------|--------|--------|---------|---------|--------|---------|------|
| M 1  | 13 11 33 | 19°Y45'46 | 25°Y19 | 23°H 8 | 4°R 1 | 2° 8  | 16°30 | 7°B37  | 25° 2 | 14°58  | 22°R14 | 28°D29  | 29°II40 | 18°54  | 8°II 3  | M 1  |
| T 2  | 13 15 29 | 20°44'22  | 9°30   | 23°53  | 3°Y37 | 2°49  | 16°40 | 7°44   | 25° 4 | 14°58  | 22°M13 | 28°II29 | 29°37   | 19° 0  | 8° 7    | T 2  |
| W 3  | 13 19 26 | 21°42'57  | 23° 0  | 24°41  | 3°14  | 3°30  | 16°50 | 7°52   | 25° 7 | 14°58  | 22°11  | 28°R30  | 29°34   | 19° 7  | 8°11    | W 3  |
| T 4  | 13 23 22 | 22°41'30  | 6°19   | 25°32  | 2°54  | 4°11  | 17° 0 | 8° 0   | 25° 9 | 14°58  | 22°10  | 28°29   | 29°31   | 19°14  | 8°15    | T 4  |
| F 5  | 13 27 19 | 23°40'02  | 19°20  | 26°27  | 2°36  | 4°52  | 17° 9 | 8° 7   | 25°11 | 14°58  | 22° 9  | 28°26   | 29°28   | 19°20  | 8°19    | F 5  |
| S 6  | 13 31 15 | 24°38'31  | 2°H 6  | 27°24  | 2°20  | 5°33  | 17°18 | 8°15   | 25°13 | 14°59  | 22° 7  | 28°21   | 29°24   | 19°27  | 8°23    | S 6  |
| S 7  | 13 35 12 | 25°36'59  | 14°39  | 28°25  | 2° 7  | 6°14  | 17°28 | 8°22   | 25°15 | 14°59  | 22° 6  | 28°13   | 29°21   | 19°34  | 8°27    | S 7  |
| M 8  | 13 39 8  | 26°35'26  | 27° 1  | 29°28  | 1°57  | 6°55  | 17°37 | 8°30   | 25°18 | 14°R59 | 22° 4  | 28° 3   | 29°18   | 19°40  | 8°32    | M 8  |
| T 9  | 13 43 5  | 27°33'50  | 9°Y14  | 0°Y34  | 1°48  | 7°37  | 17°46 | 8°38   | 25°20 | 14°59  | 22° 3  | 27°52   | 29°15   | 19°47  | 8°36    | T 9  |
| W 10 | 13 47 2  | 28°32'13  | 21°19  | 1°42   | 1°43  | 8°17  | 17°55 | 8°45   | 25°22 | 14°59  | 22° 2  | 27°40   | 29°12   | 19°54  | 8°40    | W 10 |
| T 11 | 13 50 58 | 29°30'34  | 3°B17  | 2°53   | 1°39  | 8°58  | 18° 3 | 8°53   | 25°24 | 14°59  | 22° 0  | 27°29   | 29° 9   | 20° 0  | 8°45    | T 11 |
| F 12 | 13 54 55 | 0°28'53   | 15° 9  | 4° 7   | 1°D38 | 9°39  | 18°12 | 9° 1   | 25°25 | 14°58  | 21°59  | 27°21   | 29° 5   | 20° 7  | 8°49    | F 12 |
| S 13 | 13 58 51 | 1°27'10   | 26°58  | 5°22   | 1°40  | 10°20 | 18°20 | 9° 9   | 25°27 | 14°58  | 21°57  | 27°14   | 29° 2   | 20°14  | 8°53    | S 13 |
| S 14 | 14 2 48  | 2°25'26   | 8°II46 | 6°40   | 1°43  | 11° 1 | 18°29 | 9°16   | 25°29 | 14°58  | 21°55  | 27°10   | 28°59   | 20°20  | 8°58    | S 14 |
| M 15 | 14 6 44  | 3°23'39   | 20°35  | 8° 1   | 1°49  | 11°42 | 18°37 | 9°24   | 25°31 | 14°58  | 21°54  | 27° 8   | 28°56   | 20°27  | 9° 2    | M 15 |
| T 16 | 14 10 41 | 4°21'51   | 2°30   | 9°23   | 1°57  | 12°23 | 18°45 | 9°32   | 25°33 | 14°58  | 21°52  | 27°D 8  | 28°53   | 20°34  | 9° 7    | T 16 |
| W 17 | 14 14 37 | 5°20'01   | 14°34  | 10°48  | 2° 8  | 13° 4 | 18°53 | 9°40   | 25°34 | 14°57  | 21°51  | 27° 9   | 28°50   | 20°41  | 9°12    | W 17 |
| T 18 | 14 18 34 | 6°18'08   | 26°52  | 12°14  | 2°20  | 13°44 | 19° 1 | 9°47   | 25°36 | 14°57  | 21°49  | 27°10   | 28°46   | 20°47  | 9°16    | T 18 |
| F 19 | 14 22 31 | 7°16'14   | 9°B30  | 13°43  | 2°35  | 14°25 | 19° 8 | 9°55   | 25°38 | 14°57  | 21°48  | 27°R10  | 28°43   | 20°54  | 9°21    | F 19 |
| S 20 | 14 26 27 | 8°14'17   | 22°31  | 15°13  | 2°51  | 15° 6 | 19°16 | 10° 3  | 25°39 | 14°56  | 21°46  | 27° 9   | 28°40   | 21° 1  | 9°26    | S 20 |
| S 21 | 14 30 24 | 9°12'19   | 6°M 0  | 16°46  | 3° 9  | 15°46 | 19°23 | 10°11  | 25°41 | 14°56  | 21°44  | 27° 6   | 28°37   | 21° 7  | 9°30    | S 21 |
| M 22 | 14 34 20 | 10°10'19  | 19°59  | 18°21  | 3°29  | 16°27 | 19°30 | 10°18  | 25°42 | 14°56  | 21°43  | 27° 1   | 28°34   | 21°14  | 9°35    | M 22 |
| T 23 | 14 38 17 | 11° 8'17  | 4°26   | 19°58  | 3°51  | 17° 7 | 19°37 | 10°26  | 25°44 | 14°55  | 21°41  | 26°55   | 28°30   | 21°21  | 9°40    | T 23 |
| W 24 | 14 42 13 | 12° 6'13  | 19°17  | 21°36  | 4°15  | 17°48 | 19°44 | 10°34  | 25°45 | 14°55  | 21°40  | 26°48   | 28°27   | 21°27  | 9°45    | W 24 |
| T 25 | 14 46 10 | 13° 4'07  | 4°M25  | 23°17  | 4°40  | 18°28 | 19°51 | 10°42  | 25°46 | 14°54  | 21°38  | 26°42   | 28°24   | 21°34  | 9°50    | T 25 |
| F 26 | 14 50 6  | 14° 2'00  | 19°40  | 25° 0  | 5° 7  | 19° 8 | 19°58 | 10°49  | 25°48 | 14°53  | 21°36  | 26°37   | 28°21   | 21°41  | 9°54    | F 26 |
| S 27 | 14 54 3  | 14°59'51  | 4°Y53  | 26°44  | 5°36  | 19°49 | 20° 4 | 10°57  | 25°49 | 14°53  | 21°35  | 26°33   | 28°18   | 21°47  | 9°59    | S 27 |
| S 28 | 14 57 59 | 15°57'41  | 19°52  | 28°31  | 6° 6  | 20°29 | 20°11 | 11° 5  | 25°50 | 14°52  | 21°33  | 26°D32  | 28°15   | 21°54  | 10° 4   | S 28 |
| M 29 | 15 1 56  | 16°55'30  | 4°31   | 0°B20  | 6°37  | 21° 9 | 20°17 | 11°13  | 25°51 | 14°52  | 21°31  | 26°32   | 28°11   | 22° 1  | 10° 9   | M 29 |
| T 30 | 15 5 53  | 17°53'17  | 18°B46 | 2°B10  | 7°Y10 | 21°50 | 20°23 | 11°B20 | 25°52 | 14°51  | 21°M30 | 26°II33 | 28°II 8 | 22°B 7 | 10°II14 | T 30 |

Delta T = 293.26 sec

Julian Calendar

## ASTRODIENST EPHEMERIS for the year 1499

geocentric

MAY 1499 JC

00:00 UT

| Day  | Sid.t    | ☉          | ☽       | ♀      | ♂      | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | Day  |
|------|----------|------------|---------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| W 1  | 15 9 49  | 18°51'03   | 2°35    | 48° 3  | 7°44   | 22°30   | 20°29   | 11°28   | 25°53   | 14°R50  | 21°R28  | 26°II34 | 28°II 5 | 22°814  | 10°II19 | W 1  |
| T 2  | 15 13 46 | 19°48'48   | 15°59   | 5°58   | 8°20   | 23°10   | 20°34   | 11°36   | 25°55   | 14°R50  | 21°R26  | 26°R35  | 28° 2   | 22°21   | 10°24   | T 2  |
| F 3  | 15 17 42 | 20°46'32   | 29° 1   | 7°54   | 8°57   | 23°50   | 20°40   | 11°44   | 25°55   | 14°49   | 21°25   | 26°35   | 27°59   | 22°27   | 10°29   | F 3  |
| S 4  | 15 21 39 | 21°44'15   | 11°42   | 9°53   | 9°35   | 24°30   | 20°45   | 11°51   | 25°56   | 14°48   | 21°23   | 26°33   | 27°56   | 22°34   | 10°34   | S 4  |
| S 5  | 15 25 35 | 22°41'57   | 24° 8   | 11°53  | 10°14  | 25°10   | 20°50   | 11°59   | 25°57   | 14°47   | 21°21   | 26°30   | 27°52   | 22°41   | 10°39   | S 5  |
| M 6  | 15 29 32 | 23°39'37   | 6°21    | 13°55  | 10°54  | 25°49   | 20°55   | 12° 7   | 25°58   | 14°46   | 21°20   | 26°25   | 27°49   | 22°47   | 10°45   | M 6  |
| T 7  | 15 33 29 | 24°37'17   | 18°24   | 15°59  | 11°35  | 26°29   | 21° 0   | 12°14   | 25°59   | 14°45   | 21°18   | 26°20   | 27°46   | 22°54   | 10°50   | T 7  |
| W 8  | 15 37 25 | 25°34'55   | 0°20    | 18° 5  | 12°17  | 27° 9   | 21° 5   | 12°22   | 26° 0   | 14°45   | 21°16   | 26°14   | 27°43   | 23° 1   | 10°55   | W 8  |
| T 9  | 15 41 22 | 26°32'32   | 12°11   | 20°12  | 13° 0  | 27°48   | 21° 9   | 12°30   | 26° 0   | 14°44   | 21°15   | 26° 9   | 27°40   | 23° 7   | 11° 0   | T 9  |
| F 10 | 15 45 18 | 27°30'08   | 24° 0   | 22°20  | 13°44  | 28°28   | 21°14   | 12°37   | 26° 1   | 14°43   | 21°13   | 26° 5   | 27°36   | 23°14   | 11° 5   | F 10 |
| S 11 | 15 49 15 | 28°27'43   | 5°II48  | 24°30  | 14°29  | 29° 7   | 21°18   | 12°45   | 26° 2   | 14°42   | 21°11   | 26° 2   | 27°33   | 23°21   | 11°10   | S 11 |
| S 12 | 15 53 11 | 29°25'17   | 17°38   | 26°41  | 15°15  | 29°47   | 21°22   | 12°52   | 26° 2   | 14°41   | 21°10   | 26° 0   | 27°30   | 23°27   | 11°16   | S 12 |
| M13  | 15 57 8  | 0°II22'50  | 29°32   | 28°52  | 16° 2  | 0°II26  | 21°26   | 13° 0   | 26° 3   | 14°40   | 21° 8   | 26°D 0  | 27°27   | 23°34   | 11°21   | M13  |
| T 14 | 16 1 4   | 1°20'21    | 11°33   | 1°II 4 | 16°49  | 1° 5    | 21°29   | 13° 7   | 26° 3   | 14°39   | 21° 7   | 26° 1   | 27°24   | 23°41   | 11°26   | T 14 |
| W15  | 16 5 1   | 2°17'52    | 23°43   | 3°16   | 17°37  | 1°44    | 21°33   | 13°15   | 26° 3   | 14°38   | 21° 5   | 26° 2   | 27°21   | 23°47   | 11°31   | W15  |
| T 16 | 16 8 58  | 3°15'21    | 6°II 6  | 5°28   | 18°26  | 2°23    | 21°36   | 13°22   | 26° 4   | 14°37   | 21° 3   | 26° 4   | 27°17   | 23°54   | 11°37   | T 16 |
| F 17 | 16 12 54 | 4°12'48    | 18°46   | 7°39   | 19°16  | 3° 2    | 21°39   | 13°30   | 26° 4   | 14°35   | 21° 2   | 26° 5   | 27°14   | 24° 1   | 11°42   | F 17 |
| S 18 | 16 16 51 | 5°10'15    | 1°II46  | 9°50   | 20° 6  | 3°41    | 21°42   | 13°37   | 26° 4   | 14°34   | 21° 0   | 26°R 6  | 27°11   | 24° 7   | 11°47   | S 18 |
| S 19 | 16 20 47 | 6° 7'40    | 15°10   | 12° 0  | 20°57  | 4°19    | 21°45   | 13°45   | 26° 4   | 14°33   | 20°58   | 26° 6   | 27° 8   | 24°14   | 11°52   | S 19 |
| M20  | 16 24 44 | 7° 5'03    | 29° 0   | 14° 9  | 21°49  | 4°58    | 21°47   | 13°52   | 26° 5   | 14°32   | 20°57   | 26° 5   | 27° 5   | 24°21   | 11°58   | M20  |
| T 21 | 16 28 40 | 8° 2'26    | 13°II15 | 16°17  | 22°41  | 5°36    | 21°49   | 13°59   | 26° 5   | 14°31   | 20°55   | 26° 3   | 27° 2   | 24°27   | 12° 3   | T 21 |
| W22  | 16 32 37 | 8°59'47    | 27°54   | 18°23  | 23°33  | 6°15    | 21°52   | 14° 7   | 26°R 5  | 14°30   | 20°54   | 26° 1   | 26°58   | 24°34   | 12° 8   | W22  |
| T 23 | 16 36 33 | 9°57'08    | 12°II15 | 20°28  | 24°27  | 6°53    | 21°54   | 14°14   | 26° 5   | 14°28   | 20°52   | 25°59   | 26°55   | 24°41   | 12°14   | T 23 |
| F 24 | 16 40 30 | 10°54'27   | 27°59   | 22°30  | 25°21  | 7°31    | 21°55   | 14°21   | 26° 5   | 14°27   | 20°51   | 25°57   | 26°52   | 24°47   | 12°19   | F 24 |
| S 25 | 16 44 27 | 11°51'46   | 13°II10 | 24°31  | 26°15  | 8° 9    | 21°57   | 14°29   | 26° 5   | 14°26   | 20°49   | 25°56   | 26°49   | 24°54   | 12°24   | S 25 |
| S 26 | 16 48 23 | 12°49'04   | 28°12   | 26°29  | 27°10  | 8°47    | 21°58   | 14°36   | 26° 4   | 14°24   | 20°48   | 25°D56  | 26°46   | 25° 1   | 12°30   | S 26 |
| M27  | 16 52 20 | 13°46'22   | 12°II59 | 28°25  | 28° 5  | 9°24    | 22° 0   | 14°43   | 26° 4   | 14°23   | 20°46   | 25°57   | 26°42   | 25° 7   | 12°35   | M27  |
| T 28 | 16 56 16 | 14°43'38   | 27°24   | 0°II19 | 29° 1  | 10° 2   | 22° 1   | 14°50   | 26° 4   | 14°22   | 20°45   | 25°57   | 26°39   | 25°14   | 12°40   | T 28 |
| W29  | 17 0 13  | 15°40'55   | 11°II22 | 2°11   | 29°58  | 10°39   | 22° 1   | 14°57   | 26° 4   | 14°20   | 20°43   | 25°58   | 26°36   | 25°21   | 12°46   | W29  |
| T 30 | 17 4 9   | 16°38'11   | 24°55   | 4° 1   | 0°II54 | 11°17   | 22° 2   | 15° 4   | 26° 3   | 14°19   | 20°42   | 25°59   | 26°33   | 25°27   | 12°51   | T 30 |
| F 31 | 17 8 6   | 17°II35'26 | 8°II 1  | 5°II48 | 1°II52 | 11°II54 | 22°II 3 | 15°II11 | 26°II 3 | 14°II18 | 20°II40 | 25°II59 | 26°II30 | 25°II34 | 12°II56 | F 31 |

Delta T = 293.09 sec

Julian Calendar 1 May 1499 == Greg. Calendar 10 May 1499

JUNE 1499 JC

00:00 UT

| Day  | Sid.t    | ☉          | ☽       | ♀      | ♂      | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | Day  |
|------|----------|------------|---------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------|
| S 1  | 17 12 2  | 18°II32'42 | 20°II45 | 7°II32 | 2°II49 | 12°II31 | 22°II 3 | 15°II18 | 26°R 3  | 14°R16  | 20°R39  | 26°R 0  | 26°II27 | 25°II41 | 13°II 2 | S 1  |
| S 2  | 17 15 59 | 19°29'57   | 3°II10  | 9°14   | 3°47   | 13° 8   | 22°R 3  | 15°25   | 26°II 2 | 14°II15 | 20°II37 | 25°II59 | 26°23   | 25°47   | 13° 7   | S 2  |
| M 3  | 17 19 56 | 20°27'11   | 15°20   | 10°54  | 4°46   | 13°45   | 22° 3   | 15°32   | 26° 2   | 14°13   | 20°36   | 25°59   | 26°20   | 25°54   | 13°12   | M 3  |
| T 4  | 17 23 52 | 21°24'26   | 27°19   | 12°31  | 5°45   | 14°21   | 22° 2   | 15°39   | 26° 1   | 14°12   | 20°35   | 25°58   | 26°17   | 26° 1   | 13°18   | T 4  |
| W 5  | 17 27 49 | 22°21'40   | 9°II10  | 14° 6  | 6°44   | 14°58   | 22° 2   | 15°46   | 26° 0   | 14°10   | 20°33   | 25°58   | 26°14   | 26° 7   | 13°23   | W 5  |
| T 6  | 17 31 45 | 23°18'54   | 20°59   | 15°39  | 7°43   | 15°34   | 22° 1   | 15°52   | 26° 0   | 14° 9   | 20°32   | 25°57   | 26°11   | 26°14   | 13°28   | T 6  |
| F 7  | 17 35 42 | 24°16'08   | 2°II47  | 17° 9  | 8°43   | 16°10   | 22° 0   | 15°59   | 25°59   | 14° 7   | 20°31   | 25°57   | 26° 8   | 26°21   | 13°33   | F 7  |
| S 8  | 17 39 38 | 25°13'22   | 14°38   | 18°36  | 9°43   | 16°46   | 21°59   | 16° 6   | 25°58   | 14° 6   | 20°29   | 25°57   | 26° 4   | 26°27   | 13°39   | S 8  |
| S 9  | 17 43 35 | 26°10'35   | 26°34   | 20° 1  | 10°44  | 17°21   | 21°58   | 16°12   | 25°57   | 14° 4   | 20°28   | 25°57   | 26° 1   | 26°34   | 13°44   | S 9  |
| M10  | 17 47 31 | 27° 7'49   | 8°II37  | 21°23  | 11°45  | 17°57   | 21°56   | 16°19   | 25°57   | 14° 3   | 20°27   | 25°57   | 25°58   | 26°41   | 13°49   | M10  |
| T 11 | 17 51 28 | 28° 5'02   | 20°49   | 22°43  | 12°46  | 18°32   | 21°55   | 16°25   | 25°56   | 14° 1   | 20°26   | 25°57   | 25°55   | 26°47   | 13°54   | T 11 |
| W12  | 17 55 25 | 29° 2'14   | 3°II12  | 24° 0  | 13°47  | 19° 7   | 21°53   | 16°32   | 25°55   | 14° 0   | 20°24   | 25°57   | 25°52   | 26°54   | 14° 0   | W12  |
| T 13 | 17 59 21 | 29°59'26   | 15°47   | 25°15  | 14°49  | 19°42   | 21°51   | 16°38   | 25°54   | 13°58   | 20°23   | 25°56   | 25°48   | 27° 1   | 14° 5   | T 13 |
| F 14 | 18 3 18  | 0°II56'38  | 28°37   | 26°26  | 15°51  | 20°16   | 21°49   | 16°44   | 25°53   | 13°57   | 20°22   | 25°56   | 25°45   | 27° 7   | 14°10   | F 14 |
| S 15 | 18 7 14  | 1°53'50    | 11°II44 | 27°35  | 16°53  | 20°51   | 21°46   | 16°51   | 25°52   | 13°55   | 20°21   | 25°55   | 25°42   | 27°14   | 14°15   | S 15 |
| S 16 | 18 11 11 | 2°51'01    | 25° 9   | 28°41  | 17°55  | 21°25   | 21°44   | 16°57   | 25°51   | 13°54   | 20°20   | 25°55   | 25°39   | 27°21   | 14°20   | S 16 |
| M17  | 18 15 7  | 3°48'11    | 8°II53  | 29°44  | 18°58  | 21°59   | 21°41   | 17° 3   | 25°49   | 13°52   | 20°19   | 25°D55  | 25°36   | 27°27   | 14°26   | M17  |
| T 18 | 18 19 4  | 4°45'22    | 22°57   | 0°II44 | 20° 1  | 22°32   | 21°38   | 17° 9   | 25°48   | 13°50   | 20°18   | 25°55   | 25°33   | 27°34   | 14°31   | T 18 |
| W19  | 18 23 0  | 5°42'32    | 7°II20  | 1°41   | 21° 4  | 23° 6   | 21°35   | 17°15   | 25°47   | 13°49   | 20°17   | 25°56   | 25°29   | 27°41   | 14°36   | W19  |
| T 20 | 18 26 57 | 6°39'42    | 21°58   | 2°34   | 22° 7  | 23°39   | 21°31   | 17°21   | 25°46   | 13°47   | 20°16   | 25°57   | 25°26   | 27°47   | 14°41   | T 20 |
| F 21 | 18 30 54 | 7°36'52    | 6°II47  | 3°24   | 23°11  | 24°12   | 21°28   | 17°27   | 25°44   | 13°46   | 20°15   | 25°57   | 25°23   | 27°54   | 14°46   | F 21 |
| S 22 | 18 34 50 | 8°34'02    | 21°40   | 4°11   | 24°15  | 24°45   | 21°24   | 17°33   | 25°43   | 13°44   | 20°14   | 25°R58  | 25°20   | 28° 1   | 14°51   | S 22 |
| S 23 | 18 38 47 | 9°31'12    | 6°II31  | 4°54   | 25°19  | 25°17   | 21°20   | 17°39   | 25°42   | 13°42   | 20°13   | 25°58   | 25°17   | 28° 7   | 14°56   | S 23 |
| M24  | 18 42 43 | 10°28'22   | 21°11   | 5°33   | 26°23  | 25°49   | 21°16   | 17°45   | 25°40   | 13°41   | 20°12   | 25°57   | 25°14   | 28°14   | 15° 1   | M24  |
| T 25 | 18 46 40 | 11°25'32   | 5°II35  | 6° 8   | 27°28  | 26°21   | 21°12   | 17°50   | 25°39   | 13°39   | 20°11   | 25°55   | 25°10   | 28°21   | 15° 6   | T 25 |
| W26  | 18 50 36 | 12°22'43   | 19°36   | 6°39   | 28°32  | 26°53   | 21° 8   | 17°56   | 25°37   | 13°38   | 20°10   | 25°53   | 25° 7   | 28°27   | 15°11   | W26  |
| T 27 | 18 54 33 | 13°19'54   | 3°II13  | 7° 7   | 29°37  | 27°24   | 21° 3   | 18° 1   | 25°36   | 13°36   | 20° 9   | 25°51   | 25° 4   | 28°34   | 15°16   | T 27 |
| F 28 | 18 58 30 | 14°17'06   | 16°24   | 7°29   | 0°II42 | 27°55   | 20°58   | 18° 7   | 25°34   | 13°34   | 20° 9   | 25°49   | 25° 1   | 28°41   | 15°21   | F 28 |
| S 29 | 19 2 26  | 15°14'18   | 29°12   | 7°48   | 1°48   | 28°25   | 20°54   | 18°12   | 25°33   | 13°33   | 20° 8   | 25°47   | 24°58   | 28°47   | 15°26   | S 29 |
| S 30 | 19 6 23  | 16°II11'31 | 11°II39 | 8°II 1 | 2°II53 | 28°II56 | 20°II49 | 18°II18 | 25°II31 | 13°II31 | 20°II 7 | 25°D47  | 24°II54 | 28°II54 | 15°II30 | S 30 |

Delta T = 292.90 sec

Julian Calendar

## ASTRODIENST EPHEMERIS for the year 1499

geocentric

JULY 1499 JC

00:00 UT

| Day  | Sid.t    | ☉         | ☽      | ♀      | ♂        | ♂      | ♂      | ♂      | ♂      | ♂      | ♂      | ♂      | ♂      | ♂      | ♂      | Day  |
|------|----------|-----------|--------|--------|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| M 1  | 19 10 19 | 17° 8'44  | 23° 49 | 8° 10  | 3° 11.59 | 29° 26 | 20° 43 | 18° 23 | 25° 29 | 13° 29 | 20° 6  | 25° 47 | 24° 51 | 29° 8  | 15° 35 | M 1  |
| T 2  | 19 14 16 | 18° 5'58  | 5° 48  | 8° 14  | 5° 5     | 29° 55 | 20° 38 | 18° 28 | 25° 28 | 13° 28 | 20° 6  | 25° 48 | 24° 48 | 29° 7  | 15° 40 | T 2  |
| W 3  | 19 18 12 | 19° 3'13  | 17° 39 | 8° 14  | 6° 11    | 0° 25  | 20° 33 | 18° 33 | 25° 26 | 13° 26 | 20° 5  | 25° 49 | 24° 45 | 29° 14 | 15° 45 | W 3  |
| T 4  | 19 22 9  | 20° 0'29  | 29° 27 | 8° 8   | 7° 17    | 0° 54  | 20° 27 | 18° 38 | 25° 24 | 13° 25 | 20° 4  | 25° 51 | 24° 42 | 29° 21 | 15° 49 | T 4  |
| F 5  | 19 26 5  | 20° 57'45 | 11° 17 | 7° 58  | 8° 23    | 1° 22  | 20° 21 | 18° 43 | 25° 22 | 13° 23 | 20° 4  | 25° 52 | 24° 39 | 29° 27 | 15° 54 | F 5  |
| S 6  | 19 30 2  | 21° 55'02 | 23° 12 | 7° 43  | 9° 30    | 1° 50  | 20° 15 | 18° 48 | 25° 20 | 13° 21 | 20° 3  | 25° 53 | 24° 35 | 29° 34 | 15° 59 | S 6  |
| S 7  | 19 33 59 | 22° 52'20 | 5° 16  | 7° 23  | 10° 36   | 2° 18  | 20° 9  | 18° 53 | 25° 18 | 13° 20 | 20° 3  | 25° 53 | 24° 32 | 29° 41 | 16° 3  | S 7  |
| M 8  | 19 37 55 | 23° 49'39 | 17° 31 | 6° 58  | 11° 43   | 2° 45  | 20° 3  | 18° 58 | 25° 17 | 13° 18 | 20° 2  | 25° 51 | 24° 29 | 29° 47 | 16° 8  | M 8  |
| T 9  | 19 41 52 | 24° 46'58 | 29° 58 | 6° 29  | 12° 50   | 3° 12  | 19° 57 | 19° 2  | 25° 15 | 13° 17 | 20° 2  | 25° 48 | 24° 26 | 29° 54 | 16° 13 | T 9  |
| W10  | 19 45 48 | 25° 44'18 | 12° 40 | 5° 56  | 13° 57   | 3° 39  | 19° 50 | 19° 7  | 25° 13 | 13° 15 | 20° 1  | 25° 44 | 24° 23 | 0° 11  | 16° 17 | W10  |
| T 11 | 19 49 45 | 26° 41'39 | 25° 35 | 5° 20  | 15° 4    | 4° 5   | 19° 44 | 19° 11 | 25° 11 | 13° 13 | 20° 1  | 25° 39 | 24° 20 | 0° 7   | 16° 22 | T 11 |
| F 12 | 19 53 41 | 27° 39'00 | 8° 43  | 4° 41  | 16° 12   | 4° 31  | 19° 37 | 19° 16 | 25° 9  | 13° 12 | 20° 1  | 25° 34 | 24° 16 | 0° 14  | 16° 26 | F 12 |
| S 13 | 19 57 38 | 28° 36'22 | 22° 6  | 3° 59  | 17° 19   | 4° 56  | 19° 30 | 19° 20 | 25° 7  | 13° 10 | 20° 0  | 25° 30 | 24° 13 | 0° 20  | 16° 30 | S 13 |
| S 14 | 20 1 34  | 29° 33'44 | 5° 41  | 3° 15  | 18° 27   | 5° 21  | 19° 23 | 19° 24 | 25° 5  | 13° 9  | 20° 0  | 25° 26 | 24° 10 | 0° 27  | 16° 35 | S 14 |
| M15  | 20 5 31  | 0° 31'07  | 19° 29 | 2° 31  | 19° 34   | 5° 45  | 19° 16 | 19° 29 | 25° 2  | 13° 7  | 20° 0  | 25° 24 | 24° 7  | 0° 34  | 16° 39 | M15  |
| T 16 | 20 9 28  | 1° 28'30  | 3° 28  | 1° 46  | 20° 42   | 6° 9   | 19° 9  | 19° 33 | 25° 0  | 13° 6  | 19° 59 | 25° 24 | 24° 4  | 0° 40  | 16° 43 | T 16 |
| W17  | 20 13 24 | 2° 25'54  | 17° 38 | 1° 1   | 21° 50   | 6° 32  | 19° 2  | 19° 37 | 24° 58 | 13° 4  | 19° 59 | 25° 24 | 24° 0  | 0° 47  | 16° 47 | W17  |
| T 18 | 20 17 21 | 3° 23'19  | 1° 57  | 0° 18  | 22° 58   | 6° 55  | 18° 55 | 19° 41 | 24° 56 | 13° 3  | 19° 59 | 25° 26 | 23° 57 | 0° 54  | 16° 52 | T 18 |
| F 19 | 20 21 17 | 4° 20'45  | 16° 23 | 29° 37 | 24° 7    | 7° 17  | 18° 48 | 19° 44 | 24° 54 | 13° 1  | 19° 59 | 25° 27 | 23° 54 | 1° 0   | 16° 56 | F 19 |
| S 20 | 20 25 14 | 5° 18'11  | 0° 53  | 28° 59 | 25° 15   | 7° 39  | 18° 40 | 19° 48 | 24° 52 | 13° 0  | 19° 59 | 25° 27 | 23° 51 | 1° 7   | 17° 0  | S 20 |
| S 21 | 20 29 10 | 6° 15'38  | 15° 21 | 28° 25 | 26° 24   | 8° 0   | 18° 33 | 19° 52 | 24° 49 | 12° 58 | 19° 59 | 25° 26 | 23° 48 | 1° 14  | 17° 4  | S 21 |
| M22  | 20 33 7  | 7° 13'06  | 29° 42 | 27° 55 | 27° 32   | 8° 20  | 18° 25 | 19° 55 | 24° 47 | 12° 57 | 19° 59 | 25° 22 | 23° 45 | 1° 20  | 17° 8  | M22  |
| T 23 | 20 37 3  | 8° 10'35  | 13° 25 | 27° 31 | 28° 41   | 8° 40  | 18° 18 | 19° 59 | 24° 45 | 12° 55 | 19° 59 | 25° 17 | 23° 41 | 1° 27  | 17° 12 | T 23 |
| W24  | 20 41 0  | 9° 8'05   | 27° 45 | 27° 12 | 29° 50   | 9° 0   | 18° 10 | 20° 2  | 24° 43 | 12° 54 | 19° 59 | 25° 10 | 23° 38 | 1° 34  | 17° 16 | W24  |
| T 25 | 20 44 57 | 10° 5'36  | 11° 17 | 26° 59 | 0° 59    | 9° 19  | 18° 2  | 20° 5  | 24° 40 | 12° 53 | 19° 59 | 25° 3  | 23° 35 | 1° 40  | 17° 20 | T 25 |
| F 26 | 20 48 53 | 11° 3'09  | 24° 27 | 26° 52 | 2° 8     | 9° 37  | 17° 55 | 20° 9  | 24° 38 | 12° 51 | 19° 59 | 24° 56 | 23° 32 | 1° 47  | 17° 23 | F 26 |
| S 27 | 20 52 50 | 12° 0'43  | 7° 15  | 26° 52 | 3° 17    | 9° 55  | 17° 47 | 20° 12 | 24° 36 | 12° 50 | 19° 59 | 24° 50 | 23° 29 | 1° 54  | 17° 27 | S 27 |
| S 28 | 20 56 46 | 12° 58'18 | 19° 43 | 27° 0  | 4° 27    | 10° 12 | 17° 39 | 20° 15 | 24° 33 | 12° 48 | 19° 59 | 24° 45 | 23° 25 | 2° 0   | 17° 31 | S 28 |
| M29  | 21 0 43  | 13° 55'55 | 1° 54  | 27° 14 | 5° 36    | 10° 28 | 17° 31 | 20° 17 | 24° 31 | 12° 47 | 19° 59 | 24° 42 | 23° 22 | 2° 7   | 17° 34 | M29  |
| T 30 | 21 4 39  | 14° 53'33 | 13° 53 | 27° 35 | 6° 46    | 10° 44 | 17° 23 | 20° 20 | 24° 29 | 12° 46 | 20° 0  | 24° 42 | 23° 19 | 2° 14  | 17° 38 | T 30 |
| W31  | 21 8 36  | 15° 51'13 | 25° 44 | 28° 4  | 7° 55    | 10° 59 | 17° 16 | 20° 23 | 24° 26 | 12° 45 | 20° 0  | 24° 42 | 23° 16 | 2° 19  | 17° 42 | W31  |

Delta T = 292.73 sec

Julian Calendar 1 July 1499 == Greg. Calendar 10 July 1499

AUGUST 1499 JC

00:00 UT

| Day  | Sid.t    | ☉          | ☽       | ♀       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂       | ♂      | ♂       | Day  |
|------|----------|------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|---------|------|
| T 1  | 21 12 32 | 16° 48'55" | 7° 32'  | 28° 40' | 9° 5'   | 11° 14' | 17° 8'  | 20° 26' | 24° 24' | 12° 43' | 20° 0'  | 24° 43' | 23° 13' | 2° 27' | 17° 45' | T 1  |
| F 2  | 21 16 29 | 17° 46'38" | 19° 24' | 29° 23' | 10° 15' | 11° 27' | 17° 0'  | 20° 28' | 24° 22' | 12° 42' | 20° 1'  | 24° 44' | 23° 10' | 2° 34' | 17° 49' | F 2  |
| S 3  | 21 20 26 | 18° 44'23" | 1° 23'  | 0° 14'  | 11° 25' | 11° 40' | 16° 52' | 20° 30' | 24° 19' | 12° 41' | 20° 1'  | 24° 44' | 23° 6'  | 2° 40' | 17° 52' | S 3  |
| S 4  | 21 24 22 | 19° 42'09" | 13° 35' | 1° 11'  | 12° 35' | 11° 52' | 16° 44' | 20° 33' | 24° 17' | 12° 40' | 20° 1'  | 24° 42' | 23° 3'  | 2° 47' | 17° 55' | S 4  |
| M 5  | 21 28 19 | 20° 39'57" | 26° 1'  | 2° 14'  | 13° 45' | 12° 4'  | 16° 36' | 20° 35' | 24° 15' | 12° 38' | 20° 2'  | 24° 38' | 23° 0'  | 2° 54' | 17° 58' | M 5  |
| T 6  | 21 32 15 | 21° 37'47" | 8° 44'  | 3° 24'  | 14° 56' | 12° 14' | 16° 29' | 20° 37' | 24° 12' | 12° 37' | 20° 2'  | 24° 31' | 22° 57' | 3° 0'  | 18° 2'  | T 6  |
| W 7  | 21 36 12 | 22° 35'38" | 21° 45' | 4° 40'  | 16° 6'  | 12° 24' | 16° 21' | 20° 39' | 24° 10' | 12° 36' | 20° 3'  | 24° 23' | 22° 54' | 3° 7'  | 18° 5'  | W 7  |
| T 8  | 21 40 8  | 23° 33'30" | 5° 11'  | 6° 1'   | 17° 16' | 12° 34' | 16° 13' | 20° 41' | 24° 7'  | 12° 35' | 20° 3'  | 24° 13' | 22° 51' | 3° 14' | 18° 8'  | T 8  |
| F 9  | 21 44 5  | 24° 31'24" | 18° 37' | 7° 28'  | 18° 27' | 12° 42' | 16° 5'  | 20° 43' | 24° 5'  | 12° 34' | 20° 4'  | 24° 3'  | 22° 47' | 3° 20' | 18° 11' | F 9  |
| S 10 | 21 48 1  | 25° 29'20" | 2° 23'  | 9° 0'   | 19° 38' | 12° 49' | 15° 58' | 20° 44' | 24° 3'  | 12° 33' | 20° 5'  | 23° 54' | 22° 44' | 3° 27' | 18° 14' | S 10 |
| S 11 | 21 51 58 | 26° 27'16" | 16° 18' | 10° 36' | 20° 48' | 12° 56' | 15° 50' | 20° 46' | 24° 0'  | 12° 32' | 20° 5'  | 23° 46' | 22° 41' | 3° 33' | 18° 17' | S 11 |
| M12  | 21 55 55 | 27° 25'14" | 0° 20'  | 12° 16' | 21° 59' | 13° 2'  | 15° 42' | 20° 47' | 23° 58' | 12° 31' | 20° 6'  | 23° 41' | 22° 38' | 3° 40' | 18° 20' | M12  |
| T 13 | 21 59 51 | 28° 23'14" | 14° 25' | 14° 0'  | 23° 10' | 13° 7'  | 15° 35' | 20° 49' | 23° 55' | 12° 30' | 20° 7'  | 23° 38' | 22° 35' | 3° 47' | 18° 22' | T 13 |
| W14  | 22 3 48  | 29° 21'14" | 28° 32' | 15° 46' | 24° 21' | 13° 11' | 15° 27' | 20° 50' | 23° 53' | 12° 29' | 20° 7'  | 23° 38' | 22° 31' | 3° 53' | 18° 25' | W14  |
| T 15 | 22 7 44  | 0° 19'16"  | 12° 40' | 17° 35' | 25° 32' | 13° 15' | 15° 20' | 20° 51' | 23° 51' | 12° 28' | 20° 8'  | 23° 38' | 22° 28' | 4° 0'  | 18° 28' | T 15 |
| F 16 | 22 11 41 | 1° 17'20"  | 26° 48' | 19° 27' | 26° 44' | 13° 17' | 15° 13' | 20° 52' | 23° 48' | 12° 27' | 20° 9'  | 23° 38' | 22° 25' | 4° 7'  | 18° 30' | F 16 |
| S 17 | 22 15 37 | 2° 15'25"  | 10° 54' | 21° 20' | 27° 55' | 13° 19' | 15° 6'  | 20° 53' | 23° 46' | 12° 26' | 20° 10' | 23° 37' | 22° 22' | 4° 13' | 18° 33' | S 17 |
| S 18 | 22 19 34 | 3° 13'31"  | 24° 57' | 23° 14' | 29° 6'  | 13° 20' | 14° 58' | 20° 54' | 23° 44' | 12° 25' | 20° 11' | 23° 34' | 22° 19' | 4° 20' | 18° 35' | S 18 |
| M19  | 22 23 30 | 4° 11'39"  | 8° 53'  | 25° 9'  | 0° 18'  | 13° 20' | 14° 51' | 20° 55' | 23° 41' | 12° 24' | 20° 11' | 23° 28' | 22° 16' | 4° 27' | 18° 37' | M19  |
| T 20 | 22 27 27 | 5° 9'49"   | 22° 40' | 27° 5'  | 1° 29'  | 13° 19' | 14° 45' | 20° 55' | 23° 39' | 12° 23' | 20° 12' | 23° 19' | 22° 12' | 4° 33' | 18° 40' | T 20 |
| W21  | 22 31 24 | 6° 8'00"   | 6° 14'  | 29° 1'  | 2° 41'  | 13° 17' | 14° 38' | 20° 56' | 23° 37' | 12° 22' | 20° 13' | 23° 8'  | 22° 9'  | 4° 40' | 18° 42' | W21  |
| T 22 | 22 35 20 | 7° 6'12"   | 19° 32' | 0° 57'  | 3° 53'  | 13° 15' | 14° 31' | 20° 56' | 23° 34' | 12° 22' | 20° 14' | 22° 56' | 22° 6'  | 4° 47' | 18° 44' | T 22 |
| F 23 | 22 39 17 | 8° 4'27"   | 2° 33'  | 2° 53'  | 5° 4'   | 13° 11' | 14° 24' | 20° 56' | 23° 32' | 12° 21' | 20° 15' | 22° 44' | 22° 3'  | 4° 53' | 18° 46' | F 23 |
| S 24 | 22 43 13 | 9° 2'43"   | 15° 15' | 4° 49'  | 6° 16'  | 13° 7'  | 14° 18' | 20° 56' | 23° 30' | 12° 20' | 20° 16' | 22° 34' | 22° 0'  | 5° 0'  | 18° 48' | S 24 |
| S 25 | 22 47 10 | 10° 1'02"  | 27° 39' | 6° 44'  | 7° 28'  | 13° 2'  | 14° 12' | 20° 57' | 23° 27' | 12° 19' | 20° 18' | 22° 25' | 21° 57' | 5° 7'  | 18° 50' | S 25 |
| M26  | 22 51 6  | 10° 59'23" | 9° 48'  | 8° 39'  | 8° 40'  | 12° 56' | 14° 5'  | 20° 56' | 23° 25' | 12° 19' | 20° 19' | 22° 19' | 21° 53' | 5° 13' | 18° 52' | M26  |
| T 27 | 22 55 3  | 11° 57'45" | 21° 46' | 10° 32' | 9° 52'  | 12° 49' | 13° 59' | 20° 56' | 23° 23' | 12° 18' | 20° 20' | 22° 15' | 21° 50' | 5° 20' | 18° 54' | T 27 |
| W28  | 22 58 59 | 12° 56'10" | 3° 36'  | 12° 25' | 11° 5'  | 12° 41' | 13° 53' | 20° 56' | 23° 21' | 12° 18' | 20° 21' | 22° 13' | 21° 47' | 5° 27' | 18° 56' | W28  |
| T 29 | 23 2 56  | 13° 54'37" | 15° 24' | 14° 17' | 12° 17' | 12° 32' | 13° 47' | 20° 56' | 23° 19' | 12° 17' | 20° 22' | 22° 13' | 21° 44' | 5° 33' | 18° 57' | T 29 |
| F 30 | 23 6 52  | 14° 53'06" | 27° 16' | 16° 8'  | 13° 29' | 12° 23' | 13° 42' | 20° 55' | 23° 16' | 12° 16' | 20° 23' | 22° 13' | 21° 41' | 5° 40' | 18° 59' | F 30 |
| S 31 | 23 10 49 | 15° 51'38" | 9° 57'  | 17° 59' | 14° 42' | 12° 13' | 13° 36' | 20° 55' | 23° 14' | 12° 16' | 20° 25' | 22° 12' | 21° 37' | 5° 47' | 19° 0'  | S 31 |

Delta T = 292.54 sec

Julian Calendar

## ASTRODIENST EPHEMERIS for the year 1499

geocentric

SEPTEMBER 1499 JC

00:00 UT

| Day  | Sid.t    | ☉        | ☽       | ♀     | ♂      | ♂      | ♂      | ♂      | ♂      | ♂      | ♂      | ♂       | ♂       | ♂      | ♂       | Day  |
|------|----------|----------|---------|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|---------|------|
| S 1  | 23 14 46 | 16°50'11 | 21°32   | 19°48 | 15°54  | 12°R 2 | 13°R31 | 20°R54 | 23°R12 | 12°R15 | 20°M26 | 22°R10  | 21°II34 | 5°II53 | 19°II 2 | S 1  |
| M 2  | 23 18 42 | 17°48'47 | 4°Ω 5   | 21°36 | 17° 7  | 11°Y50 | 13°326 | 20°B53 | 23°310 | 12°Z15 | 20°27  | 22°II 4 | 21°31   | 6° 0   | 19° 3   | M 2  |
| T 3  | 23 22 39 | 18°47'25 | 16°59   | 23°23 | 18°20  | 11°38  | 13°20  | 20°52  | 23° 8  | 12°15  | 20°29  | 21°57   | 21°28   | 6° 6   | 19° 4   | T 3  |
| W 4  | 23 26 35 | 19°46'05 | 0°M16   | 25° 9 | 19°32  | 11°25  | 13°16  | 20°51  | 23° 6  | 12°14  | 20°30  | 21°46   | 21°25   | 6°13   | 19° 6   | W 4  |
| T 5  | 23 30 32 | 20°44'47 | 13°55   | 26°54 | 20°45  | 11°11  | 13°11  | 20°50  | 23° 4  | 12°14  | 20°32  | 21°34   | 21°22   | 6°20   | 19° 7   | T 5  |
| F 6  | 23 34 28 | 21°43'31 | 27°53   | 28°38 | 21°58  | 10°57  | 13° 6  | 20°49  | 23° 2  | 12°14  | 20°33  | 21°22   | 21°18   | 6°26   | 19° 8   | F 6  |
| S 7  | 23 38 25 | 22°42'17 | 12°Ω 6  | 0°Ω21 | 23°11  | 10°42  | 13° 2  | 20°47  | 23° 0  | 12°13  | 20°34  | 21°10   | 21°15   | 6°33   | 19° 9   | S 7  |
| S 8  | 23 42 21 | 23°41'04 | 26°27   | 2° 3  | 24°24  | 10°26  | 12°57  | 20°46  | 22°58  | 12°13  | 20°36  | 21° 1   | 21°12   | 6°40   | 19°10   | S 8  |
| M 9  | 23 46 18 | 24°39'54 | 10°M51  | 3°45  | 25°37  | 10°10  | 12°53  | 20°44  | 22°56  | 12°13  | 20°38  | 20°54   | 21° 9   | 6°46   | 19°10   | M 9  |
| T 10 | 23 50 15 | 25°38'46 | 25°M15  | 5°25  | 26°50  | 9°54   | 12°50  | 20°43  | 22°54  | 12°13  | 20°39  | 20°50   | 21° 6   | 6°53   | 19°11   | T 10 |
| W11  | 23 54 11 | 26°37'39 | 9°M30   | 7° 4  | 28° 3  | 9°37   | 12°46  | 20°41  | 22°52  | 12°12  | 20°41  | 20°48   | 21° 3   | 7° 0   | 19°12   | W11  |
| T 12 | 23 58 8  | 27°36'34 | 23°39   | 8°42  | 29°17  | 9°19   | 12°42  | 20°39  | 22°50  | 12°12  | 20°42  | 20°48   | 20°59   | 7° 6   | 19°12   | T 12 |
| F 13 | 0 2 4    | 28°35'31 | 7°Z39   | 10°20 | 0°M30  | 9° 2   | 12°39  | 20°37  | 22°48  | 12°12  | 20°44  | 20°48   | 20°56   | 7°13   | 19°13   | F 13 |
| S 14 | 0 6 1    | 29°34'29 | 21°30   | 11°56 | 1°43   | 8°44   | 12°36  | 20°35  | 22°47  | 12°12  | 20°46  | 20°47   | 20°53   | 7°20   | 19°13   | S 14 |
| S 15 | 0 9 57   | 0°Ω33'30 | 5°32    | 13°32 | 2°57   | 8°26   | 12°33  | 20°33  | 22°45  | 12°D12 | 20°47  | 20°43   | 20°50   | 7°26   | 19°14   | S 15 |
| M16  | 0 13 54  | 1°32'32  | 18°44   | 15° 7 | 4°10   | 8° 7   | 12°30  | 20°31  | 22°43  | 12°12  | 20°49  | 20°37   | 20°47   | 7°33   | 19°14   | M16  |
| T 17 | 0 17 50  | 2°31'35  | 2°H 7   | 16°41 | 5°24   | 7°49   | 12°27  | 20°28  | 22°42  | 12°12  | 20°51  | 20°27   | 20°43   | 7°40   | 19°14   | T 17 |
| W18  | 0 21 47  | 3°30'41  | 15°17   | 18°14 | 6°37   | 7°30   | 12°25  | 20°26  | 22°40  | 12°12  | 20°52  | 20°16   | 20°40   | 7°46   | 19°14   | W18  |
| T 19 | 0 25 44  | 4°29'49  | 28°16   | 19°47 | 7°51   | 7°11   | 12°23  | 20°23  | 22°38  | 12°12  | 20°54  | 20° 3   | 20°37   | 7°53   | 19°14   | T 19 |
| F 20 | 0 29 40  | 5°28'58  | 11°Y 0  | 21°18 | 9° 5   | 6°53   | 12°21  | 20°21  | 22°37  | 12°13  | 20°56  | 19°50   | 20°34   | 7°59   | 19°14   | F 20 |
| S 21 | 0 33 37  | 6°28'10  | 23°30   | 22°49 | 10°18  | 6°34   | 12°19  | 20°18  | 22°35  | 12°13  | 20°58  | 19°39   | 20°31   | 8° 6   | 19°14   | S 21 |
| S 22 | 0 37 33  | 7°27'24  | 5°B46   | 24°19 | 11°32  | 6°16   | 12°17  | 20°15  | 22°34  | 12°13  | 21° 0  | 19°29   | 20°28   | 8°13   | 19°14   | S 22 |
| M23  | 0 41 30  | 8°26'40  | 17°50   | 25°48 | 12°46  | 5°57   | 12°16  | 20°12  | 22°32  | 12°13  | 21° 2  | 19°22   | 20°24   | 8°19   | 19°13   | M23  |
| T 24 | 0 45 26  | 9°25'58  | 29°45   | 27°16 | 14° 0  | 5°39   | 12°15  | 20° 9  | 22°31  | 12°13  | 21° 4  | 19°18   | 20°21   | 8°26   | 19°13   | T 24 |
| W25  | 0 49 23  | 10°25'19 | 11°II33 | 28°44 | 15°14  | 5°21   | 12°14  | 20° 6  | 22°30  | 12°14  | 21° 5  | 19°16   | 20°18   | 8°33   | 19°13   | W25  |
| T 26 | 0 53 19  | 11°24'42 | 23°20   | 0°M11 | 16°28  | 5° 3   | 12°13  | 20° 3  | 22°28  | 12°14  | 21° 7  | 19°D16  | 20°15   | 8°39   | 19°12   | T 26 |
| F 27 | 0 57 16  | 12°24'07 | 5°Ω11   | 1°37  | 17°42  | 4°46   | 12°12  | 20° 0  | 22°27  | 12°14  | 21° 9  | 19°16   | 20°12   | 8°46   | 19°11   | F 27 |
| S 28 | 1 1 13   | 13°23'35 | 17°10   | 3° 2  | 18°56  | 4°29   | 12°12  | 19°56  | 22°26  | 12°15  | 21°11  | 19°R17  | 20° 8   | 8°53   | 19°11   | S 28 |
| S 29 | 1 5 9    | 14°23'05 | 29°24   | 4°26  | 20°11  | 4°13   | 12°12  | 19°53  | 22°24  | 12°15  | 21°13  | 19°15   | 20° 5   | 8°59   | 19°10   | S 29 |
| M30  | 1 9 6    | 15°22'37 | 11°Ω57  | 5°M49 | 21°M25 | 3°Y56  | 12°D12 | 19°B49 | 22°23  | 12°Z16 | 21°M15 | 19°II12 | 20°II 2 | 9°II 6 | 19°II 9 | M30  |

Delta T = 292.36 sec

Julian Calendar 1 Sept. 1499 == Greg. Calendar 10 Sept. 1499

OCTOBER 1499 JC

00:00 UT

| Day  | Sid.t   | ☉         | ☽      | ♀      | ♂      | ♂     | ♂      | ♂      | ♂      | ♂      | ♂      | ♂       | ♂       | ♂       | ♂       | Day  |
|------|---------|-----------|--------|--------|--------|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|------|
| T 1  | 1 13 2  | 16°Ω22'12 | 24°Ω54 | 7°M12  | 22°M39 | 3°R41 | 12°32  | 19°R46 | 22°R22 | 12°Z16 | 21°M17 | 19°R 6  | 19°II59 | 9°II13  | 19°R 8  | T 1  |
| W 2  | 1 16 59 | 17°21'49  | 8°M17  | 8°33   | 23°54  | 3°Y26 | 12°12  | 19°B42 | 22°21  | 12°17  | 21°19  | 18°II59 | 19°56   | 9°19    | 19°II 7 | W 2  |
| T 3  | 1 20 55 | 18°21'28  | 22° 6  | 9°53   | 25° 8  | 3°11  | 12°13  | 19°38  | 22°20  | 12°17  | 21°21  | 18°49   | 19°53   | 9°26    | 19° 6   | T 3  |
| F 4  | 1 24 52 | 19°21'09  | 6°Ω20  | 11°12  | 26°22  | 2°57  | 12°13  | 19°34  | 22°19  | 12°18  | 21°24  | 18°39   | 19°49   | 9°33    | 19° 5   | F 4  |
| S 5  | 1 28 48 | 20°20'52  | 20°54  | 12°30  | 27°37  | 2°44  | 12°14  | 19°30  | 22°18  | 12°19  | 21°26  | 18°30   | 19°46   | 9°39    | 19° 4   | S 5  |
| S 6  | 1 32 45 | 21°20'37  | 5°M39  | 13°47  | 28°51  | 2°31  | 12°16  | 19°26  | 22°17  | 12°19  | 21°28  | 18°22   | 19°43   | 9°46    | 19° 2   | S 6  |
| M 7  | 1 36 41 | 22°20'24  | 20°29  | 15° 3  | 0°Ω 6  | 2°19  | 12°17  | 19°22  | 22°16  | 12°20  | 21°30  | 18°17   | 19°40   | 9°52    | 19° 1   | M 7  |
| T 8  | 1 40 38 | 23°20'14  | 5°M16  | 16°17  | 1°20   | 2° 8  | 12°19  | 19°18  | 22°16  | 12°21  | 21°32  | 18°14   | 19°37   | 9°59    | 18°59   | T 8  |
| W 9  | 1 44 35 | 24°20'04  | 19°52  | 17°29  | 2°35   | 1°57  | 12°20  | 19°14  | 22°15  | 12°22  | 21°34  | 18°D13  | 19°34   | 10° 6   | 18°58   | W 9  |
| T 10 | 1 48 31 | 25°19'57  | 4°Z14  | 18°39  | 3°50   | 1°48  | 12°22  | 19°10  | 22°14  | 12°22  | 21°36  | 18°14   | 19°30   | 10°12   | 18°56   | T 10 |
| F 11 | 1 52 28 | 26°19'51  | 18°19  | 19°48  | 5° 4   | 1°39  | 12°25  | 19° 6  | 22°14  | 12°23  | 21°39  | 18°15   | 19°27   | 10°19   | 18°55   | F 11 |
| S 12 | 1 56 24 | 27°19'47  | 2°38 8 | 20°54  | 6°19   | 1°31  | 12°27  | 19° 1  | 22°13  | 12°24  | 21°41  | 18°R15  | 19°24   | 10°26   | 18°53   | S 12 |
| S 13 | 2 0 21  | 28°19'45  | 15°40  | 21°58  | 7°34   | 1°23  | 12°30  | 18°57  | 22°12  | 12°25  | 21°43  | 18°13   | 19°21   | 10°32   | 18°51   | S 13 |
| M14  | 2 4 17  | 29°19'44  | 28°57  | 23° 0  | 8°49   | 1°17  | 12°32  | 18°53  | 22°12  | 12°26  | 21°45  | 18°10   | 19°18   | 10°39   | 18°49   | M14  |
| T 15 | 2 8 14  | 0°M19'45  | 12°H 0 | 23°58  | 10° 3  | 1°11  | 12°35  | 18°48  | 22°11  | 12°27  | 21°48  | 18° 4   | 19°14   | 10°46   | 18°47   | T 15 |
| W16  | 2 12 10 | 1°19'47   | 24°50  | 24°53  | 11°18  | 1° 6  | 12°38  | 18°43  | 22°11  | 12°28  | 21°50  | 17°56   | 19°11   | 10°52   | 18°45   | W16  |
| T 17 | 2 16 7  | 2°19'51   | 7°Y28  | 25°45  | 12°33  | 1° 2  | 12°42  | 18°39  | 22°11  | 12°29  | 21°52  | 17°48   | 19° 8   | 10°59   | 18°43   | T 17 |
| F 18 | 2 20 4  | 3°19'57   | 19°54  | 26°32  | 13°48  | 0°58  | 12°45  | 18°34  | 22°10  | 12°30  | 21°54  | 17°39   | 19° 5   | 11° 6   | 18°41   | F 18 |
| S 19 | 2 24 0  | 4°20'05   | 2°B 9  | 27°15  | 15° 3  | 0°56  | 12°49  | 18°30  | 22°10  | 12°31  | 21°57  | 17°32   | 19° 2   | 11°12   | 18°39   | S 19 |
| S 20 | 2 27 57 | 5°20'14   | 14°15  | 27°53  | 16°18  | 0°54  | 12°53  | 18°25  | 22°10  | 12°32  | 21°59  | 17°25   | 18°59   | 11°19   | 18°36   | S 20 |
| M21  | 2 31 53 | 6°20'25   | 26°12  | 28°26  | 17°33  | 0°53  | 12°57  | 18°20  | 22°10  | 12°33  | 22° 1  | 17°21   | 18°55   | 11°26   | 18°34   | M21  |
| T 22 | 2 35 50 | 7°20'39   | 8°II 3 | 28°52  | 18°48  | 0°D53 | 13° 1  | 18°15  | 22°10  | 12°34  | 22° 4  | 17°19   | 18°52   | 11°32   | 18°31   | T 22 |
| W23  | 2 39 46 | 8°20'54   | 19°50  | 29°11  | 20° 3  | 0°53  | 13° 6  | 18°11  | 22°10  | 12°36  | 22° 6  | 17°D18  | 18°49   | 11°39   | 18°29   | W23  |
| T 24 | 2 43 43 | 9°21'11   | 1°Ω36  | 29°22  | 21°18  | 0°55  | 13°11  | 18° 6  | 22°D10 | 12°37  | 22° 8  | 17°19   | 18°46   | 11°45   | 18°26   | T 24 |
| F 25 | 2 47 39 | 10°21'30  | 13°26  | 29°R26 | 22°33  | 0°57  | 13°15  | 18° 1  | 22°10  | 12°38  | 22°11  | 17°21   | 18°43   | 11°52   | 18°24   | F 25 |
| S 26 | 2 51 36 | 11°21'51  | 25°24  | 29°20  | 23°48  | 1° 0  | 13°20  | 17°56  | 22°10  | 12°39  | 22°13  | 17°23   | 18°40   | 11°59   | 18°21   | S 26 |
| S 27 | 2 55 33 | 12°22'14  | 7°Ω36  | 29° 5  | 25° 3  | 1° 3  | 13°26  | 17°51  | 22°10  | 12°41  | 22°15  | 17°R24  | 18°36   | 12° 5   | 18°18   | S 27 |
| M28  | 2 59 29 | 13°22'39  | 20° 5  | 28°40  | 26°18  | 1° 8  | 13°31  | 17°46  | 22°10  | 12°42  | 22°18  | 17°23   | 18°33   | 12°12   | 18°16   | M28  |
| T 29 | 3 3 26  | 14°23'06  | 2°M57  | 28° 5  | 27°34  | 1°13  | 13°36  | 17°42  | 22°10  | 12°43  | 22°20  | 17°22   | 18°30   | 12°19   | 18°13   | T 29 |
| W30  | 3 7 22  | 15°23'35  | 16°16  | 27°19  | 28°49  | 1°19  | 13°42  | 17°37  | 22°11  | 12°45  | 22°23  | 17°19   | 18°27   | 12°25   | 18°10   | W30  |
| T 31 | 3 11 19 | 16°M24'06 | 0°Ω 3  | 26°M24 | 0°M 4  | 1°Y26 | 13°348 | 17°B32 | 22°311 | 12°Z46 | 22°M25 | 17°II15 | 18°II24 | 12°II32 | 18°II 7 | T 31 |

Delta T = 292.18 sec

Julian Calendar

ASTRODIENST EPHEMERIS for the year 1499  
geocentric

NOVEMBER 1499 JC

00:00 UT

| Day  | Sid.t   | ☉                      | ☽                    | ♀                   | ♂                  | ♂                  | ♂                   | ♂                   | ♂                   | ♂                   | ♂                   | ♂                  | ♂                   | ♂                   | ♂                   | Day  |
|------|---------|------------------------|----------------------|---------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|---------------------|---------------------|---------------------|------|
| F 1  | 3 15 15 | 17 <sup>11</sup> 24'38 | 14 <sup>11</sup> 18  | 25°R20              | 1 <sup>11</sup> 19 | 1 <sup>11</sup> 33 | 13 <sup>11</sup> 54 | 17°R27              | 22 <sup>11</sup> 11 | 12 <sup>11</sup> 48 | 22 <sup>11</sup> 27 | 17°R10             | 18 <sup>11</sup> 20 | 12 <sup>11</sup> 39 | 18°R 4              | F 1  |
| S 2  | 3 19 12 | 18°25'12               | 28°57                | 24 <sup>11</sup> 8  | 2°35               | 1°41               | 14° 0               | 17 <sup>11</sup> 22 | 22°12               | 12°49               | 22°30               | 17 <sup>11</sup> 6 | 18°17               | 12°45               | 18 <sup>11</sup> 1  | S 2  |
| S 3  | 3 23 8  | 19°25'48               | 13 <sup>11</sup> 55  | 22°51               | 3°50               | 1°50               | 14° 7               | 17°17               | 22°12               | 12°51               | 22°32               | 17° 2              | 18°14               | 12°52               | 17°58               | S 3  |
| M 4  | 3 27 5  | 20°26'25               | 29° 2                | 21°31               | 5° 5               | 2° 0               | 14°13               | 17°12               | 22°13               | 12°52               | 22°34               | 17° 0              | 18°11               | 12°59               | 17°54               | M 4  |
| T 5  | 3 31 2  | 21°27'04               | 14 <sup>11</sup> 9   | 20° 9               | 6°20               | 2°10               | 14°20               | 17° 7               | 22°14               | 12°54               | 22°37               | 16°D59             | 18° 8               | 13° 5               | 17°51               | T 5  |
| W 6  | 3 34 58 | 22°27'45               | 29° 8                | 18°49               | 7°36               | 2°21               | 14°27               | 17° 2               | 22°14               | 12°55               | 22°39               | 16°59              | 18° 5               | 13°12               | 17°48               | W 6  |
| T 7  | 3 38 55 | 23°28'26               | 13 <sup>11</sup> 51  | 17°34               | 8°51               | 2°32               | 14°34               | 16°57               | 22°15               | 12°57               | 22°42               | 17° 0              | 18° 1               | 13°19               | 17°45               | T 7  |
| F 8  | 3 42 51 | 24°29'09               | 28°12                | 16°26               | 10° 6              | 2°44               | 14°41               | 16°53               | 22°16               | 12°59               | 22°44               | 17° 2              | 17°58               | 13°25               | 17°41               | F 8  |
| S 9  | 3 46 48 | 25°29'53               | 12 <sup>11</sup> 11  | 15°27               | 11°22              | 2°57               | 14°49               | 16°48               | 22°17               | 13° 0               | 22°46               | 17° 3              | 17°55               | 13°32               | 17°38               | S 9  |
| S 10 | 3 50 44 | 26°30'38               | 25°46                | 14°38               | 12°37              | 3°10               | 14°56               | 16°43               | 22°17               | 13° 2               | 22°49               | 17°R 4             | 17°52               | 13°38               | 17°34               | S 10 |
| M 11 | 3 54 41 | 27°31'23               | 8 <sup>11</sup> 59   | 14° 1               | 13°53              | 3°24               | 15° 4               | 16°38               | 22°18               | 13° 4               | 22°51               | 17° 3              | 17°49               | 13°45               | 17°31               | M 11 |
| T 12 | 3 58 37 | 28°32'10               | 21°53                | 13°35               | 15° 8              | 3°39               | 15°12               | 16°33               | 22°19               | 13° 6               | 22°54               | 17° 2              | 17°46               | 13°52               | 17°27               | T 12 |
| W 13 | 4 2 34  | 29°32'58               | 4 <sup>11</sup> 29   | 13°20               | 16°23              | 3°54               | 15°20               | 16°29               | 22°20               | 13° 7               | 22°56               | 17° 0              | 17°42               | 13°58               | 17°24               | W 13 |
| T 14 | 4 6 31  | 0 <sup>11</sup> 33'46  | 16°52                | 13°D17              | 17°39              | 4°10               | 15°28               | 16°24               | 22°21               | 13° 9               | 22°58               | 16°57              | 17°39               | 14° 5               | 17°20               | T 14 |
| F 15 | 4 10 27 | 1°34'36                | 29° 4                | 13°24               | 18°54              | 4°26               | 15°36               | 16°19               | 22°23               | 13°11               | 23° 1               | 16°55              | 17°36               | 14°12               | 17°17               | F 15 |
| S 16 | 4 14 24 | 2°35'27                | 11 <sup>11</sup> 6   | 13°41               | 20°10              | 4°43               | 15°44               | 16°15               | 22°24               | 13°13               | 23° 3               | 16°52              | 17°33               | 14°18               | 17°13               | S 16 |
| S 17 | 4 18 20 | 3°36'18                | 23° 2                | 14° 7               | 21°25              | 5° 0               | 15°53               | 16°10               | 22°25               | 13°14               | 23° 6               | 16°51              | 17°30               | 14°25               | 17° 9               | S 17 |
| M 18 | 4 22 17 | 4°37'11                | 4 <sup>11</sup> 52   | 14°41               | 22°40              | 5°18               | 16° 2               | 16° 6               | 22°26               | 13°16               | 23° 8               | 16°50              | 17°26               | 14°32               | 17° 6               | M 18 |
| T 19 | 4 26 13 | 5°38'05                | 16°40                | 15°22               | 23°56              | 5°36               | 16°10               | 16° 1               | 22°27               | 13°18               | 23°10               | 16°D49             | 17°23               | 14°38               | 17° 2               | T 19 |
| W 20 | 4 30 10 | 6°39'00                | 28°28                | 16° 9               | 25°11              | 5°55               | 16°19               | 15°57               | 22°29               | 13°20               | 23°13               | 16°49              | 17°20               | 14°45               | 16°58               | W 20 |
| T 21 | 4 34 7  | 7°39'57                | 10 <sup>11</sup> 517 | 17° 3               | 26°27              | 6°14               | 16°29               | 15°52               | 22°30               | 13°22               | 23°15               | 16°50              | 17°17               | 14°52               | 16°55               | T 21 |
| F 22 | 4 38 3  | 8°40'54                | 22°11                | 18° 1               | 27°42              | 6°34               | 16°38               | 15°48               | 22°32               | 13°24               | 23°17               | 16°51              | 17°14               | 14°58               | 16°51               | F 22 |
| S 23 | 4 42 0  | 9°41'53                | 4 <sup>11</sup> 12   | 19° 3               | 28°58              | 6°54               | 16°47               | 15°44               | 22°33               | 13°26               | 23°20               | 16°52              | 17°11               | 15° 5               | 16°47               | S 23 |
| S 24 | 4 45 56 | 10°42'52               | 16°25                | 20° 9               | 0 <sup>11</sup> 13 | 7°15               | 16°57               | 15°40               | 22°35               | 13°28               | 23°22               | 16°53              | 17° 7               | 15°11               | 16°43               | S 24 |
| M 25 | 4 49 53 | 11°43'53               | 28°53                | 21°19               | 1°29               | 7°36               | 17° 6               | 15°35               | 22°36               | 13°30               | 23°24               | 16°53              | 17° 4               | 15°18               | 16°40               | M 25 |
| T 26 | 4 53 49 | 12°44'54               | 11 <sup>11</sup> 41  | 22°31               | 2°44               | 7°57               | 17°16               | 15°31               | 22°38               | 13°32               | 23°26               | 16°R53             | 17° 1               | 15°25               | 16°36               | T 26 |
| W 27 | 4 57 46 | 13°45'57               | 24°51                | 23°46               | 4° 0               | 8°19               | 17°26               | 15°27               | 22°40               | 13°34               | 23°29               | 16°53              | 16°58               | 15°31               | 16°32               | W 27 |
| T 28 | 5 1 42  | 14°47'01               | 8 <sup>11</sup> 27   | 25° 3               | 5°15               | 8°41               | 17°36               | 15°23               | 22°41               | 13°36               | 23°31               | 16°53              | 16°55               | 15°38               | 16°28               | T 28 |
| F 29 | 5 5 39  | 15°48'06               | 22°29                | 26°21               | 6°31               | 9° 4               | 17°46               | 15°19               | 22°43               | 13°38               | 23°33               | 16°53              | 16°51               | 15°45               | 16°24               | F 29 |
| S 30 | 5 9 36  | 16 <sup>11</sup> 49'12 | 6 <sup>11</sup> 58   | 27 <sup>11</sup> 42 | 7 <sup>11</sup> 46 | 9 <sup>11</sup> 27 | 17 <sup>11</sup> 56 | 15 <sup>11</sup> 16 | 22 <sup>11</sup> 45 | 13 <sup>11</sup> 40 | 23 <sup>11</sup> 36 | 16°D53             | 16 <sup>11</sup> 48 | 15 <sup>11</sup> 51 | 16 <sup>11</sup> 20 | S 30 |

Delta T = 292.00 sec

Julian Calendar 1 Nov. 1499 == Greg. Calendar 10 Nov. 1499

DECEMBER 1499 JC

00:00 UT

| Day  | Sid.t   | ☉                      | ☽                   | ♀                   | ♂                   | ♂                   | ♂                  | ♂                  | ♂                   | ♂                   | ♂                   | ♂                   | ♂                   | ♂                   | ♂                   | Day  |
|------|---------|------------------------|---------------------|---------------------|---------------------|---------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|------|
| S 1  | 5 13 32 | 17 <sup>11</sup> 50'18 | 21 <sup>11</sup> 49 | 29 <sup>11</sup> 4  | 9 <sup>11</sup> 2   | 9 <sup>11</sup> 50  | 18 <sup>11</sup> 7 | 15°R12             | 22 <sup>11</sup> 47 | 13 <sup>11</sup> 42 | 23 <sup>11</sup> 38 | 16 <sup>11</sup> 53 | 16 <sup>11</sup> 45 | 15 <sup>11</sup> 58 | 16°R17              | S 1  |
| M 2  | 5 17 29 | 18°51'26               | 6 <sup>11</sup> 55  | 0 <sup>11</sup> 27  | 10°17               | 10°14               | 18°17              | 15 <sup>11</sup> 8 | 22°49               | 13°44               | 23°40               | 16°53               | 16°42               | 16° 5               | 16 <sup>11</sup> 13 | M 2  |
| T 3  | 5 21 25 | 19°52'34               | 22° 9               | 1°51                | 11°33               | 10°38               | 18°28              | 15° 5              | 22°51               | 13°46               | 23°42               | 16°R53              | 16°39               | 16°11               | 16° 9               | T 3  |
| W 4  | 5 25 22 | 20°53'43               | 7 <sup>11</sup> 31  | 3°16                | 12°48               | 11° 2               | 18°38              | 15° 1              | 22°53               | 13°49               | 23°44               | 16°53               | 16°36               | 16°18               | 16° 5               | W 4  |
| T 5  | 5 29 18 | 21°54'52               | 22°20               | 4°41                | 14° 4               | 11°27               | 18°49              | 14°58              | 22°55               | 13°51               | 23°47               | 16°52               | 16°32               | 16°25               | 16° 1               | T 5  |
| F 6  | 5 33 15 | 22°56'02               | 6 <sup>11</sup> 59  | 6° 8                | 15°19               | 11°52               | 19° 0              | 14°54              | 22°57               | 13°53               | 23°49               | 16°52               | 16°29               | 16°31               | 15°58               | F 6  |
| S 7  | 5 37 11 | 23°57'11               | 21°13               | 7°35                | 16°35               | 12°17               | 19°11              | 14°51              | 22°59               | 13°55               | 23°51               | 16°51               | 16°26               | 16°38               | 15°54               | S 7  |
| S 8  | 5 41 8  | 24°58'21               | 5 <sup>11</sup> 0   | 9° 3                | 17°50               | 12°43               | 19°22              | 14°48              | 23° 1               | 13°57               | 23°53               | 16°50               | 16°23               | 16°45               | 15°50               | S 8  |
| M 9  | 5 45 5  | 25°59'31               | 18°19               | 10°31               | 19° 6               | 13° 9               | 19°34              | 14°45              | 23° 3               | 13°59               | 23°55               | 16°50               | 16°20               | 16°51               | 15°46               | M 9  |
| T 10 | 5 49 1  | 27° 0'41               | 1 <sup>11</sup> 14  | 12° 0               | 20°21               | 13°36               | 19°45              | 14°42              | 23° 6               | 14° 2               | 23°57               | 16°D50              | 16°17               | 16°58               | 15°42               | T 10 |
| W 11 | 5 52 58 | 28° 1'50               | 13°47               | 13°30               | 21°37               | 14° 2               | 19°56              | 14°39              | 23° 8               | 14° 4               | 23°59               | 16°50               | 16°13               | 17° 4               | 15°39               | W 11 |
| T 12 | 5 56 54 | 29° 3'00               | 16° 3               | 14°59               | 22°52               | 14°29               | 20° 8              | 14°36              | 23°10               | 14° 6               | 24° 1               | 16°51               | 16°10               | 17°11               | 15°35               | T 12 |
| F 13 | 6 0 51  | 0 <sup>11</sup> 3 4'10 | 8 <sup>11</sup> 6   | 16°30               | 24° 8               | 14°56               | 20°19              | 14°34              | 23°13               | 14° 8               | 24° 3               | 16°52               | 16° 7               | 17°18               | 15°31               | F 13 |
| S 14 | 6 4 47  | 1° 5'19                | 20° 1               | 18° 0               | 25°23               | 15°24               | 20°31              | 14°31              | 23°15               | 14°10               | 24° 5               | 16°54               | 16° 4               | 17°24               | 15°28               | S 14 |
| S 15 | 6 8 44  | 2° 6'29                | 1 <sup>11</sup> 50  | 19°31               | 26°39               | 15°51               | 20°43              | 14°28              | 23°17               | 14°13               | 24° 7               | 16°55               | 16° 1               | 17°31               | 15°24               | S 15 |
| M 16 | 6 12 40 | 3° 7'39                | 13°37               | 21° 2               | 27°54               | 16°19               | 20°55              | 14°26              | 23°20               | 14°15               | 24° 9               | 16°R55              | 15°57               | 17°38               | 15°20               | M 16 |
| T 17 | 6 16 37 | 4° 8'48                | 25°25               | 22°34               | 29°10               | 16°47               | 21° 7              | 14°24              | 23°22               | 14°17               | 24°11               | 16°55               | 15°54               | 17°44               | 15°17               | T 17 |
| W 18 | 6 20 34 | 5° 9'58                | 7 <sup>11</sup> 36  | 24° 6               | 0 <sup>11</sup> 35  | 17°16               | 21°19              | 14°22              | 23°25               | 14°19               | 24°13               | 16°54               | 15°51               | 17°51               | 15°13               | W 18 |
| T 19 | 6 24 30 | 6°11'08                | 19°12               | 25°38               | 1°41                | 17°44               | 21°31              | 14°19              | 23°28               | 14°22               | 24°15               | 16°52               | 15°48               | 17°58               | 15°10               | T 19 |
| F 20 | 6 28 27 | 7°12'17                | 1 <sup>11</sup> 15  | 27°11               | 2°56                | 18°13               | 21°43              | 14°18              | 23°30               | 14°24               | 24°17               | 16°49               | 15°45               | 18° 4               | 15° 6               | F 20 |
| S 21 | 6 32 23 | 8°13'27                | 13°27               | 28°44               | 4°12                | 18°42               | 21°56              | 14°16              | 23°33               | 14°26               | 24°19               | 16°45               | 15°42               | 18°11               | 15° 3               | S 21 |
| S 22 | 6 36 20 | 9°14'36                | 25°49               | 0 <sup>11</sup> 18  | 5°27                | 19°11               | 22° 8              | 14°14              | 23°35               | 14°28               | 24°21               | 16°41               | 15°38               | 18°18               | 14°59               | S 22 |
| M 23 | 6 40 16 | 10°15'46               | 8 <sup>11</sup> 24  | 1°52                | 6°43                | 19°41               | 22°20              | 14°12              | 23°38               | 14°31               | 24°23               | 16°38               | 15°35               | 18°24               | 14°56               | M 23 |
| T 24 | 6 44 13 | 11°16'56               | 21°14               | 3°26                | 7°58                | 20°11               | 22°33              | 14°11              | 23°41               | 14°33               | 24°25               | 16°36               | 15°32               | 18°31               | 14°53               | T 24 |
| W 25 | 6 48 9  | 12°18'05               | 4 <sup>11</sup> 21  | 5° 1                | 9°14                | 20°40               | 22°46              | 14° 9              | 23°44               | 14°35               | 24°26               | 16°34               | 15°29               | 18°37               | 14°50               | W 25 |
| T 26 | 6 52 6  | 13°19'15               | 17°48               | 6°36                | 10°29               | 21°10               | 22°58              | 14° 8              | 23°47               | 14°38               | 24°28               | 16°D34              | 15°26               | 18°44               | 14°46               | T 26 |
| F 27 | 6 56 3  | 14°20'24               | 1 <sup>11</sup> 37  | 8°11                | 11°45               | 21°41               | 23°11              | 14° 7              | 23°49               | 14°40               | 24°30               | 16°35               | 15°23               | 18°51               | 14°43               | F 27 |
| S 28 | 6 59 59 | 15°21'33               | 15°47               | 9°47                | 13° 0               | 22°11               | 23°24              | 14° 5              | 23°52               | 14°42               | 24°32               | 16°36               | 15°19               | 18°57               | 14°40               | S 28 |
| S 29 | 7 3 56  | 16°22'43               | 0 <sup>11</sup> 18  | 11°24               | 14°16               | 22°42               | 23°37              | 14° 4              | 23°55               | 14°44               | 24°33               | 16°38               | 15°16               | 19° 4               | 14°37               | S 29 |
| M 30 | 7 7 52  | 17°23'52               | 15° 7               | 13° 1               | 15°31               | 23°12               | 23°50              | 14° 4              | 23°58               | 14°47               | 24°35               | 16°R38              | 15°13               | 19°11               | 14°34               | M 30 |
| T 31 | 7 11 49 | 18 <sup>11</sup> 25'01 | 0 <sup>11</sup> 8   | 14 <sup>11</sup> 39 | 16 <sup>11</sup> 47 | 23 <sup>11</sup> 43 | 24 <sup>11</sup> 3 | 14 <sup>11</sup> 3 | 24 <sup>11</sup> 1  | 14 <sup>11</sup> 49 | 24 <sup>11</sup> 36 | 16 <sup>11</sup> 38 | 15 <sup>11</sup> 10 | 19 <sup>11</sup> 17 | 14 <sup>11</sup> 31 | T 31 |

Delta T = 291.82 sec

Julian Calendar