



# Astrodienst Ephemeris Tables for the year 1988

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 D5EPX

## ASTRODIENST EPHEMERIS for the year 1988

geocentric

JANUARY 1988

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
F 1	6 39 30	9♌46'31	5♊ 0	14♌51	12♋ 1	24♌56	20♏14	25♎28	27♎40	7♌47	12♌ 0	26°R42	27♋10	15♌ 8	25°R 9	F 1
S 2	6 43 27	10°47'39	17°31	16°29	13°14	25°35	20°18	25°35	27°43	7°49	12° 1	26°R30	27° 7	15°15	25°R 5	S 2
S 3	6 47 23	11°48'48	29°52	18° 6	14°28	26°15	20°21	25°42	27°47	7°52	12° 3	26°17	27° 4	15°21	25° 2	S 3
M 4	6 51 20	12°49'56	12♌ 3	19°44	15°42	26°55	20°25	25°49	27°50	7°54	12° 4	26° 3	27° 1	15°28	24°58	M 4
T 5	6 55 16	13°51'04	24° 7	21°23	16°56	27°35	20°29	25°56	27°54	7°56	12° 6	25°50	26°57	15°35	24°55	T 5
W 6	6 59 13	14°52'13	6♌ 4	23° 1	18°10	28°15	20°33	26° 2	27°58	7°59	12° 7	25°38	26°54	15°41	24°51	W 6
T 7	7 3 10	15°53'21	17°55	24°40	19°23	28°55	20°38	26° 9	28° 1	8° 1	12° 9	25°29	26°51	15°48	24°48	T 7
F 8	7 7 6	16°54'29	29°43	26°19	20°37	29°34	20°42	26°16	28° 5	8° 3	12°10	25°23	26°48	15°55	24°44	F 8
S 9	7 11 3	17°55'37	11♏31	27°58	21°50	0♎14	20°47	26°23	28° 8	8° 5	12°11	25°20	26°45	16° 1	24°41	S 9
S 10	7 14 59	18°56'45	23°23	29°37	23° 4	0°54	20°52	26°30	28°11	8° 8	12°12	25°D19	26°41	16° 8	24°38	S 10
M 11	7 18 56	19°57'54	5♌23	1♋17	24°17	1°34	20°57	26°36	28°15	8°10	12°14	25°19	26°38	16°15	24°34	M 11
T 12	7 22 52	20°59'02	17°37	2°56	25°31	2°14	21° 3	26°43	28°18	8°12	12°15	25°R20	26°35	16°21	24°31	T 12
W 13	7 26 49	22° 0'10	0♌11	4°34	26°44	2°54	21° 8	26°50	28°22	8°14	12°16	25°19	26°32	16°28	24°28	W 13
T 14	7 30 45	23° 1'18	13° 9	6°13	27°58	3°34	21°14	26°56	28°25	8°16	12°17	25°17	26°29	16°35	24°25	T 14
F 15	7 34 42	24° 2'26	26°35	7°50	29°11	4°14	21°20	27° 3	28°29	8°19	12°18	25°13	26°26	16°41	24°21	F 15
S 16	7 38 39	25° 3'34	10♎31	9°28	0♎24	4°54	21°26	27°10	28°32	8°21	12°19	25° 6	26°22	16°48	24°18	S 16
S 17	7 42 35	26° 4'42	24°56	11° 4	1°37	5°34	21°32	27°16	28°35	8°23	12°20	24°58	26°19	16°55	24°15	S 17
M 18	7 46 32	27° 5'50	9♌47	12°39	2°51	6°14	21°39	27°23	28°39	8°25	12°21	24°48	26°16	17° 1	24°12	M 18
T 19	7 50 28	28° 6'57	24°54	14°12	4° 4	6°54	21°45	27°29	28°42	8°27	12°22	24°39	26°13	17° 8	24° 9	T 19
W 20	7 54 25	29° 8'03	10♋ 9	15°43	5°17	7°34	21°52	27°35	28°45	8°30	12°23	24°31	26°10	17°15	24° 6	W 20
T 21	7 58 21	0♋ 9'09	25°20	17°12	6°30	8°14	21°59	27°42	28°48	8°32	12°24	24°25	26° 7	17°21	24° 4	T 21
F 22	8 2 18	1°10'14	10♋17	18°39	7°43	8°54	22° 6	27°48	28°52	8°34	12°25	24°22	26° 3	17°28	24° 1	F 22
S 23	8 6 14	2°11'18	24°55	20° 1	8°55	9°35	22°13	27°54	28°55	8°36	12°26	24°D21	26° 0	17°35	23°58	S 23
S 24	8 10 11	3°12'21	9♏ 7	21°20	10° 8	10°15	22°20	28° 1	28°58	8°38	12°27	24°22	25°57	17°41	23°55	S 24
M 25	8 14 8	4°13'23	22°55	22°34	11°21	10°55	22°28	28° 7	29° 1	8°40	12°27	24°23	25°54	17°48	23°53	M 25
T 26	8 18 4	5°14'24	6♌19	23°43	12°34	11°35	22°36	28°13	29° 4	8°42	12°28	24°R24	25°51	17°55	23°50	T 26
W 27	8 22 1	6°15'24	19°21	24°45	13°46	12°15	22°44	28°19	29° 7	8°44	12°29	24°23	25°47	18° 2	23°48	W 27
T 28	8 25 57	7°16'22	2♊ 5	25°41	14°59	12°55	22°52	28°25	29°10	8°46	12°30	24°20	25°44	18° 8	23°45	T 28
F 29	8 29 54	8°17'20	14°34	26°28	16°11	13°35	23° 0	28°31	29°13	8°48	12°30	24°14	25°41	18°15	23°43	F 29
S 30	8 33 50	9°18'17	26°52	27° 7	17°23	14°15	23° 8	28°37	29°16	8°51	12°31	24° 7	25°38	18°22	23°41	S 30
S 31	8 37 47	10°19'12	8♌59	27°36	18°35	14°56	23°16	28°43	29°19	8♌53	12°31	23°R59	25°35	18°28	23°R39	S 31

Day	☉	☾		♊		♀		♈		♉		♊		♋		♌		♍		♎	♏	♐	♑	♒	♓
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	decl	lat
F 1	23s 5	25n43	4n40	24s38	2s 2	18s56	1s49	18s32	0n29	6n43	1s17	22s15	1n 7	23s35	0s10	22s16	0n57	0s18	15n52	1s19	1s 8	19n36	17n 4	6s18	
S 2	23 0	27 47	4 57	24 29	2 4	18 35	1 48	18 42	0 28	6 44	1 17	22 15	1 7	23 35	0 10	22 15	0 57	0 18	15 53	1 23	1 9	19 33	17 4	6 18	
S 3	22 55	28 26	5 0	24 17	2 6	18 13	1 48	18 52	0 28	6 46	1 17	22 15	1 7	23 35	0 10	22 15	0 57	0 18	15 53	1 29	1 10	19 30	17 4	6 18	
M 4	22 49	27 42	4 49	24 5	2 7	17 51	1 48	19 2	0 27	6 48	1 16	22 16	1 7	23 36	0 10	22 15	0 57	0 18	15 54	1 34	1 11	19 28	17 3	6 18	
T 5	22 43	25 39	4 25	23 51	2 8	17 28	1 47	19 12	0 26	6 50	1 16	22 16	1 7	23 36	0 10	22 15	0 57	0 18	15 54	1 40	1 13	19 25	17 3	6 18	
W 6	22 37	22 28	3 50	23 35	2 8	17 5	1 47	19 21	0 26	6 52	1 16	22 16	1 7	23 36	0 10	22 15	0 57	0 18	15 55	1 44	1 14	19 23	17 3	6 17	
T 7	22 30	18 24	3 5	23 18	2 8	16 41	1 46	19 30	0 25	6 54	1 16	22 16	1 7	23 36	0 10	22 15	0 57	0 18	15 55	1 48	1 15	19 20	17 3	6 17	
F 8	22 22	13 38	2 12	22 59	2 8	16 17	1 45	19 40	0 25	6 56	1 15	22 17	1 7	23 36	0 10	22 15	0 57	0 17	15 55	1 50	1 16	19 17	17 3	6 17	
S 9	22 15	8 22	1 13	22 39	2 7	15 52	1 44	19 49	0 24	6 58	1 15	22 17	1 7	23 36	0 10	22 14	0 57	0 17	15 56	1 51	1 18	19 15	17 3	6 17	
S 10	22 6	2 47	0 10	22 17	2 5	15 27	1 43	19 58	0 23	7 0	1 15	22 17	1 7	23 36	0 10	22 14	0 57	0 17	15 56	1 52	1 19	19 12	17 3	6 17	
M 11	21 57	2s57	0s54	21 53	2 3	15 2	1 42	20 6	0 23	7 2	1 14	22 17	1 7	23 36	0 10	22 14	0 57	0 17	15 57	1 52	1 20	19 9	17 3	6 17	
T 12	21 48	8 42	1 56	21 28	2 1	14 36	1 41	20 15	0 22	7 4	1 14	22 17	1 7	23 36	0 10	22 14	0 57	0 17	15 57	1 51	1 21	19 7	17 3	6 17	
W 13	21 39	14 16	2 55	21 2	1 58	14 10	1 40	20 23	0 22	7 7	1 14	22 18	1 7	23 36	0 10	22 14	0 57	0 17	15 58	1 52	1 23	19 4	17 3	6 17	
T 14	21 29	19 23	3 47	20 34	1 54	13 44	1 39	20 32	0 21	7 9	1 13	22 18	1 7	23 36	0 10	22 14	0 57	0 17	15 58	1 52	1 24	19 1	17 3	6 16	
F 15	21 18	23 44	4 28	20 5	1 50	13 17	1 37	20 40	0 20	7 11	1 13	22 18	1 7	23 36	0 10	22 14	0 57	0 17	15 59	1 54	1 25	18 59	17 3	6 16	
S 16	21 7	26 53	4 55	19 34	1 45	12 50	1 36	20 48	0 20	7 14	1 13	22 18	1 7	23 36	0 10	22 14	0 57	0 17	15 59	1 57	1 27	18 56	17 4	6 16	
S 17	20 56	28 25	5 5	19 2	1 39	12 22	1 34	20 55	0 19	7 17	1 13	22 18	1 7	23 36	0 10	22 13	0 57	0 16	16 0	2 0	1 28	18 53	17 4	6 16	
M 18	20 45	27 59	4 54	18 29	1 32	11 54	1 33	21 3	0 18	7 19	1 12	22 18	1 7	23 36	0 10	22 13	0 57	0 16	16 0	2 4	1 29	18 50	17 4	6 16	
T 19	20 33	25 28	4 24	17 55	1 25	11 26	1 31	21 11	0 18	7 22	1 12	22 19	1 7	23 36	0 10	22 13	0 57	0 16	16 1	2 8	1 30	18 48	17 4	6 15	
W 20	20 20	21 8	3 34	17 21	1 17	10 58	1 29	21 18	0 17	7 25	1 12	22 19	1 7	23 36	0 10	22 13	0 57	0 16	16 1	2 11	1 32	18 45	17 4	6 15	
T 21	20 7	15 25	2 29	16 45	1 8	10 29	1 27	21 25	0 16	7 27	1 12	22 19	1 7	23 37	0 10	22 13	0 57	0 16	16 2	2 13	1 33	18 42	17 4	6 15	
F 22	19 54	8 52	1 15	16 9	0 58	10 0	1 25	21 32	0 16	7 30	1 11	22 19	1 7	23 37	0 10	22 13	0 57	0 15	16 2	2 14	1 34	18 40	17 4	6 15	
S 23	19 41	1 59	0n 3	15 33	0 47	9 31	1 23	21 39	0 15	7 33	1 11	22 19	1 7	23 37	0 10	22 13	0 57	0 15	16 3	2 14	1 35	18 37	17 4	6 15	
S 24	19 27	4n49	1 19	14 57	0 35	9 1	1 21	21 45	0 14	7 36	1 11	22 19	1 7	23 37	0 10	22 12	0 57	0 15	16 3	2 14	1 37	18 34	17 4	6 14	
M 25	19 12	11 12	2 28	14 21	0 23	8 32	1 19	21 52	0 14	7 39	1 10	22 19	1 7	23 37	0 10	22 12	0 57	0 15	16 4	2 14	1 38	18 31	17 4	6 14	
T 26	18 58	16 52	3 26	13 46	0 9	8 2	1 17	21 58	0 13	7 42	1 10	22 19	1 7	23 37	0 10	22 12	0 57	0 14	16 4	2 14	1 39	18 29	17 5	6 14	
W 27	18 43	21 37	4 13	13 11	0n 5	7 32	1 14	22 4	0 12	7 46	1 10	22 19	1 7	23 37	0 10	22 12	0 57	0 14	16 5	2 14	1 40	18 26	17 5	6 14	
T 28	18 27	25 14	4 45	12 39	0 20	7 2	1 12	22 10	0 11	7 49	1 10	22 19	1 7	23 37	0 10	22 12	0 57	0 14	16 5	2 15	1 42	18 23	17 5	6 13	
F 29	18 12	27 35	5 4	12 8	0 36	6 31	1 9	22 16	0 11	7 52	1 9	22 19	1 7	23 37	0 10	22 12	0 57	0 13	16 6	2 17	1 43	18 20	17 5	6 13	
S 30	17 56	28 32	5 8	11 39	0 53	6 1	1 7	22 21	0 10	7 55	1 9	22 20	1 7	23 37	0 10	22 12	0 57	0 13	16 6	2 20	1 44	18 18	17 5	6 13	
S 31	17s39	28n 5	4n58	11s13	1n10	5s30	1s 4	22s26	0n 9	7n59	1s 9	22s20	1n 7	23s37	0s10	22s11	0n57	0s13	16n 7	2s23	1s45	18n15	17n 5	6s12	

# ASTRODIENST EPHEMERIS for the year 1988

## geocentric

FEBRUARY 1988

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	8 41 43	11 <sup>20</sup> 06	21 <sup>00</sup> 00	27 <sup>55</sup> 55	19 <sup>48</sup> 48	15 <sup>36</sup> 36	23 <sup>25</sup> 25	28 <sup>49</sup> 49	29 <sup>22</sup> 22	8 <sup>55</sup> 55	12 <sup>32</sup> 32	23 <sup>30</sup> 30	25 <sup>32</sup> 32	18 <sup>35</sup> 35	23 <sup>36</sup> 36	M 1
T 2	8 45 40	12 <sup>20</sup> 59	2 <sup>00</sup> 55	28 <sup>00</sup> 40	21 <sup>00</sup> 00	16 <sup>16</sup> 16	23 <sup>34</sup> 34	28 <sup>55</sup> 55	29 <sup>25</sup> 25	8 <sup>57</sup> 57	12 <sup>32</sup> 32	23 <sup>34</sup> 42	25 <sup>28</sup> 28	18 <sup>42</sup> 42	23 <sup>34</sup> 34	T 2
W 3	8 49 37	13 <sup>21</sup> 51	14 <sup>47</sup> 47	28 <sup>00</sup> 10	22 <sup>12</sup> 12	16 <sup>56</sup> 56	23 <sup>43</sup> 43	29 <sup>00</sup> 00	29 <sup>28</sup> 28	8 <sup>58</sup> 58	12 <sup>33</sup> 33	23 <sup>35</sup> 35	25 <sup>25</sup> 25	18 <sup>48</sup> 48	23 <sup>32</sup> 32	W 3
T 4	8 53 33	14 <sup>22</sup> 42	26 <sup>36</sup> 36	27 <sup>47</sup> 47	23 <sup>23</sup> 23	17 <sup>37</sup> 37	23 <sup>52</sup> 52	29 <sup>06</sup> 06	29 <sup>31</sup> 31	9 <sup>00</sup> 00	12 <sup>33</sup> 33	23 <sup>30</sup> 30	25 <sup>22</sup> 22	18 <sup>55</sup> 55	23 <sup>30</sup> 30	T 4
F 5	8 57 30	15 <sup>23</sup> 32	8 <sup>00</sup> 25	27 <sup>22</sup> 22	24 <sup>35</sup> 35	18 <sup>17</sup> 17	24 <sup>00</sup> 00	29 <sup>12</sup> 12	29 <sup>34</sup> 34	9 <sup>02</sup> 02	12 <sup>33</sup> 33	23 <sup>27</sup> 27	25 <sup>19</sup> 19	19 <sup>02</sup> 02	23 <sup>28</sup> 28	F 5
S 6	9 1 26	16 <sup>24</sup> 21	20 <sup>16</sup> 16	26 <sup>47</sup> 47	25 <sup>47</sup> 47	18 <sup>57</sup> 57	24 <sup>10</sup> 10	29 <sup>18</sup> 18	29 <sup>37</sup> 37	9 <sup>04</sup> 04	12 <sup>34</sup> 34	23 <sup>25</sup> 25	25 <sup>16</sup> 16	19 <sup>08</sup> 08	23 <sup>27</sup> 27	S 6
S 7	9 5 23	17 <sup>25</sup> 08	2 <sup>00</sup> 12	26 <sup>00</sup> 20	26 <sup>58</sup> 58	19 <sup>37</sup> 37	24 <sup>19</sup> 19	29 <sup>23</sup> 23	29 <sup>39</sup> 39	9 <sup>06</sup> 06	12 <sup>34</sup> 34	23 <sup>26</sup> 26	25 <sup>13</sup> 13	19 <sup>15</sup> 15	23 <sup>25</sup> 25	S 7
M 8	9 9 19	18 <sup>25</sup> 55	14 <sup>16</sup> 16	25 <sup>00</sup> 20	28 <sup>10</sup> 10	20 <sup>18</sup> 18	24 <sup>29</sup> 29	29 <sup>29</sup> 29	29 <sup>42</sup> 42	9 <sup>08</sup> 08	12 <sup>34</sup> 34	23 <sup>27</sup> 27	25 <sup>09</sup> 09	19 <sup>22</sup> 22	23 <sup>23</sup> 23	M 8
T 9	9 13 16	19 <sup>26</sup> 41	26 <sup>32</sup> 32	24 <sup>00</sup> 00	29 <sup>21</sup> 21	20 <sup>58</sup> 58	24 <sup>38</sup> 38	29 <sup>34</sup> 34	29 <sup>45</sup> 45	9 <sup>10</sup> 10	12 <sup>35</sup> 35	23 <sup>29</sup> 29	25 <sup>06</sup> 06	19 <sup>28</sup> 28	23 <sup>22</sup> 22	T 9
W10	9 17 12	20 <sup>27</sup> 25	9 <sup>00</sup> 15	23 <sup>00</sup> 10	0 <sup>00</sup> 32	21 <sup>38</sup> 38	24 <sup>48</sup> 48	29 <sup>39</sup> 39	29 <sup>47</sup> 47	9 <sup>12</sup> 12	12 <sup>35</sup> 35	23 <sup>30</sup> 30	25 <sup>03</sup> 03	19 <sup>35</sup> 35	23 <sup>20</sup> 20	W10
T 11	9 21 9	21 <sup>28</sup> 09	21 <sup>58</sup> 58	21 <sup>52</sup> 52	1 <sup>44</sup> 44	22 <sup>19</sup> 19	24 <sup>58</sup> 58	29 <sup>45</sup> 45	29 <sup>50</sup> 50	9 <sup>14</sup> 14	12 <sup>35</sup> 35	23 <sup>31</sup> 31	25 <sup>00</sup> 00	19 <sup>42</sup> 42	23 <sup>19</sup> 19	T 11
F 12	9 25 6	22 <sup>28</sup> 52	5 <sup>00</sup> 16	20 <sup>41</sup> 41	2 <sup>55</sup> 55	22 <sup>59</sup> 59	25 <sup>00</sup> 00	29 <sup>50</sup> 50	29 <sup>53</sup> 53	9 <sup>15</sup> 15	12 <sup>35</sup> 35	23 <sup>30</sup> 30	24 <sup>57</sup> 57	19 <sup>48</sup> 48	23 <sup>17</sup> 17	F 12
S 13	9 29 2	23 <sup>29</sup> 34	19 <sup>00</sup> 10	19 <sup>31</sup> 31	4 <sup>00</sup> 00	23 <sup>39</sup> 39	25 <sup>18</sup> 18	29 <sup>55</sup> 55	29 <sup>55</sup> 55	9 <sup>17</sup> 17	12 <sup>35</sup> 35	23 <sup>28</sup> 28	24 <sup>53</sup> 53	19 <sup>55</sup> 55	23 <sup>16</sup> 16	S 13
S 14	9 32 59	24 <sup>30</sup> 14	3 <sup>00</sup> 13	18 <sup>23</sup> 23	5 <sup>16</sup> 16	24 <sup>20</sup> 20	25 <sup>28</sup> 28	0 <sup>00</sup> 00	29 <sup>58</sup> 58	9 <sup>19</sup> 19	12 <sup>35</sup> 35	23 <sup>25</sup> 25	24 <sup>50</sup> 50	20 <sup>02</sup> 02	23 <sup>15</sup> 15	S 14
M15	9 36 55	25 <sup>30</sup> 54	17 <sup>53</sup> 53	17 <sup>19</sup> 19	6 <sup>27</sup> 27	25 <sup>00</sup> 00	25 <sup>39</sup> 39	0 <sup>00</sup> 00	29 <sup>59</sup> 59	9 <sup>21</sup> 21	12 <sup>35</sup> 35	23 <sup>21</sup> 21	24 <sup>47</sup> 47	20 <sup>08</sup> 08	23 <sup>14</sup> 14	M15
T 16	9 40 52	26 <sup>31</sup> 32	2 <sup>00</sup> 53	16 <sup>20</sup> 20	7 <sup>38</sup> 38	25 <sup>40</sup> 40	25 <sup>49</sup> 49	0 <sup>10</sup> 10	0 <sup>00</sup> 00	9 <sup>22</sup> 22	12 <sup>35</sup> 35	23 <sup>17</sup> 17	24 <sup>44</sup> 44	20 <sup>15</sup> 15	23 <sup>13</sup> 13	T 16
W17	9 44 48	27 <sup>32</sup> 09	18 <sup>00</sup> 00	15 <sup>27</sup> 27	8 <sup>48</sup> 48	26 <sup>21</sup> 21	26 <sup>00</sup> 00	0 <sup>15</sup> 15	0 <sup>00</sup> 00	9 <sup>24</sup> 24	12 <sup>35</sup> 35	23 <sup>13</sup> 13	24 <sup>41</sup> 41	20 <sup>22</sup> 22	23 <sup>12</sup> 12	W17
T 18	9 48 45	28 <sup>32</sup> 44	3 <sup>00</sup> 21	14 <sup>40</sup> 40	9 <sup>58</sup> 58	27 <sup>00</sup> 00	26 <sup>11</sup> 11	0 <sup>20</sup> 20	0 <sup>00</sup> 00	9 <sup>26</sup> 26	12 <sup>35</sup> 35	23 <sup>11</sup> 11	24 <sup>38</sup> 38	20 <sup>28</sup> 28	23 <sup>11</sup> 11	T 18
F 19	9 52 41	29 <sup>33</sup> 18	18 <sup>28</sup> 28	14 <sup>00</sup> 00	11 <sup>00</sup> 00	27 <sup>42</sup> 42	26 <sup>21</sup> 21	0 <sup>24</sup> 24	0 <sup>00</sup> 00	9 <sup>27</sup> 27	12 <sup>35</sup> 35	23 <sup>10</sup> 10	24 <sup>34</sup> 34	20 <sup>35</sup> 35	23 <sup>10</sup> 10	F 19
S 20	9 56 38	0 <sup>00</sup> 33	3 <sup>00</sup> 19	13 <sup>31</sup> 31	12 <sup>19</sup> 19	28 <sup>22</sup> 22	26 <sup>32</sup> 32	0 <sup>29</sup> 29	0 <sup>12</sup> 12	9 <sup>29</sup> 29	12 <sup>35</sup> 35	23 <sup>10</sup> 10	24 <sup>31</sup> 31	20 <sup>42</sup> 42	23 <sup>09</sup> 09	S 20
S 21	10 0 35	1 <sup>34</sup> 20	17 <sup>48</sup> 48	13 <sup>00</sup> 00	13 <sup>29</sup> 29	29 <sup>00</sup> 00	26 <sup>43</sup> 43	0 <sup>34</sup> 34	0 <sup>14</sup> 14	9 <sup>30</sup> 30	12 <sup>34</sup> 34	23 <sup>11</sup> 11	24 <sup>28</sup> 28	20 <sup>48</sup> 48	23 <sup>09</sup> 09	S 21
M22	10 4 31	2 <sup>34</sup> 49	1 <sup>00</sup> 49	12 <sup>51</sup> 51	14 <sup>39</sup> 39	29 <sup>43</sup> 43	26 <sup>54</sup> 54	0 <sup>38</sup> 38	0 <sup>16</sup> 16	9 <sup>32</sup> 32	12 <sup>34</sup> 34	23 <sup>13</sup> 13	24 <sup>25</sup> 25	20 <sup>55</sup> 55	23 <sup>08</sup> 08	M22
T 23	10 8 28	3 <sup>35</sup> 15	15 <sup>24</sup> 24	12 <sup>43</sup> 43	15 <sup>48</sup> 48	0 <sup>00</sup> 23	27 <sup>00</sup> 00	0 <sup>43</sup> 43	0 <sup>18</sup> 18	9 <sup>33</sup> 33	12 <sup>34</sup> 34	23 <sup>14</sup> 14	24 <sup>22</sup> 22	21 <sup>00</sup> 00	23 <sup>08</sup> 08	T 23
W24	10 12 24	4 <sup>35</sup> 40	2 <sup>00</sup> 33	12 <sup>41</sup> 41	16 <sup>58</sup> 58	1 <sup>00</sup> 00	27 <sup>17</sup> 17	0 <sup>47</sup> 47	0 <sup>20</sup> 20	9 <sup>35</sup> 35	12 <sup>33</sup> 33	23 <sup>15</sup> 15	24 <sup>19</sup> 19	21 <sup>08</sup> 08	23 <sup>07</sup> 07	W24
T 25	10 16 21	5 <sup>36</sup> 03	11 <sup>00</sup> 19	12 <sup>46</sup> 46	18 <sup>00</sup> 00	1 <sup>44</sup> 44	27 <sup>28</sup> 28	0 <sup>51</sup> 51	0 <sup>22</sup> 22	9 <sup>36</sup> 36	12 <sup>33</sup> 33	23 <sup>15</sup> 15	24 <sup>15</sup> 15	21 <sup>15</sup> 15	23 <sup>07</sup> 07	T 25
F 26	10 20 17	6 <sup>36</sup> 24	23 <sup>46</sup> 46	12 <sup>58</sup> 58	19 <sup>16</sup> 16	2 <sup>24</sup> 24	27 <sup>40</sup> 40	0 <sup>56</sup> 56	0 <sup>24</sup> 24	9 <sup>38</sup> 38	12 <sup>33</sup> 33	23 <sup>14</sup> 14	24 <sup>12</sup> 12	21 <sup>22</sup> 22	23 <sup>07</sup> 07	F 26
S 27	10 24 14	7 <sup>36</sup> 43	5 <sup>00</sup> 59	13 <sup>15</sup> 15	20 <sup>25</sup> 25	3 <sup>00</sup> 00	27 <sup>51</sup> 51	1 <sup>00</sup> 00	0 <sup>26</sup> 26	9 <sup>39</sup> 39	12 <sup>32</sup> 32	23 <sup>12</sup> 12	24 <sup>09</sup> 09	21 <sup>28</sup> 28	23 <sup>07</sup> 07	S 27
S 28	10 28 10	8 <sup>37</sup> 00	18 <sup>00</sup> 00	13 <sup>38</sup> 38	21 <sup>34</sup> 34	3 <sup>45</sup> 45	28 <sup>00</sup> 00	1 <sup>00</sup> 00	0 <sup>28</sup> 28	9 <sup>41</sup> 41	12 <sup>32</sup> 32	23 <sup>10</sup> 10	24 <sup>06</sup> 06	21 <sup>35</sup> 35	23 <sup>07</sup> 07	S 28
M29	10 32 7	9 <sup>37</sup> 15	29 <sup>54</sup> 54	14 <sup>00</sup> 00	22 <sup>00</sup> 00	4 <sup>26</sup> 26	28 <sup>15</sup> 15	1 <sup>00</sup> 00	0 <sup>30</sup> 30	9 <sup>42</sup> 42	12 <sup>31</sup> 31	23 <sup>08</sup> 08	24 <sup>03</sup> 03	21 <sup>42</sup> 42	23 <sup>07</sup> 07	M29

Day	☉	☾		♀		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
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ASTRODIENST EPHEMERIS for the year 1988  
geocentric

MARCH 1988

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Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
T 1	10 36 4	10♈37'29	11♏44	14♎39	23♊51	5♌6	28♊27	1♌12	0♌32	9♌43	12♒31	23♒6	23♈59	21♏48	23♊7	T 1
W 2	10 40 0	11°37'40	23°33	15°16	25° 0	5°47	28°39	1°15	0°33	9°45	12♎30	23♈5	23°56	21°55	23° 7	W 2
T 3	10 43 57	12°37'49	5♎23	15°57	26° 8	6°27	28°51	1°19	0°35	9°46	12°30	23° 3	23°53	22° 2	23° 7	T 3
F 4	10 47 53	13°37'56	17°16	16°42	27°16	7° 8	29° 3	1°23	0°37	9°47	12°29	23°D 3	23°50	22° 8	23° 8	F 4
S 5	10 51 50	14°38'02	29°14	17°31	28°23	7°48	29°15	1°26	0°38	9°48	12°28	23° 3	23°47	22°15	23° 8	S 5
S 6	10 55 46	15°38'06	11♏19	18°23	29°31	8°29	29°27	1°30	0°40	9°50	12°28	23° 3	23°44	22°22	23° 9	S 6
M 7	10 59 43	16°38'08	23°34	19°19	0♌38	9° 9	29°39	1°33	0°41	9°51	12°27	23° 4	23°40	22°28	23° 9	M 7
T 8	11 3 39	17°38'08	6♎1	20°17	1°45	9°50	29°52	1°37	0°43	9°52	12°26	23° 5	23°37	22°35	23°10	T 8
W 9	11 7 36	18°38'07	18°42	21°18	2°52	10°30	0♌4	1°40	0°44	9°53	12°25	23° 5	23°34	22°42	23°11	W 9
T 10	11 11 33	19°38'04	1♌39	22°21	3°59	11°11	0°17	1°43	0°46	9°54	12°25	23° 5	23°31	22°48	23°11	T 10
F 11	11 15 29	20°38'00	14°55	23°27	5° 6	11°51	0°29	1°46	0°47	9°55	12°24	23° 6	23°28	22°55	23°12	F 11
S 12	11 19 26	21°37'54	28°33	24°35	6°12	12°32	0°42	1°49	0°48	9°56	12°23	23°R 6	23°24	23° 2	23°13	S 12
S 13	11 23 22	22°37'46	12♌33	25°45	7°18	13°12	0°55	1°52	0°49	9°57	12°22	23°D 6	23°21	23° 8	23°14	S 13
M14	11 27 19	23°37'37	26°53	26°57	8°24	13°53	1° 8	1°55	0°50	9°58	12°21	23° 6	23°18	23°15	23°16	M14
T 15	11 31 15	24°37'26	11♎33	28°11	9°29	14°33	1°21	1°57	0°52	9°59	12°20	23° 6	23°15	23°22	23°17	T 15
W16	11 35 12	25°37'13	26°27	29°27	10°35	15°14	1°34	2° 0	0°53	10° 0	12°19	23° 6	23°12	23°28	23°18	W16
T 17	11 39 8	26°36'58	11♈27	0♈45	11°40	15°54	1°47	2° 2	0°54	10° 1	12°18	23° 6	23° 9	23°35	23°19	T 17
F 18	11 43 5	27°36'42	26°26	2° 5	12°45	16°35	2° 0	2° 5	0°55	10° 2	12°17	23°R 6	23° 5	23°42	23°21	F 18
S 19	11 47 2	28°36'23	11♊15	3°26	13°49	17°15	2°13	2° 7	0°55	10° 2	12°16	23° 6	23° 2	23°48	23°22	S 19
S 20	11 50 58	29°36'02	25°47	4°48	14°53	17°56	2°26	2° 9	0°56	10° 3	12°15	23° 5	22°59	23°55	23°24	S 20
M21	11 54 55	0♊35'40	9♌56	6°13	15°57	18°36	2°39	2°11	0°57	10° 4	12°14	23° 5	22°56	24° 2	23°26	M21
T 22	11 58 51	1°35'15	23°40	7°38	17° 1	19°17	2°53	2°13	0°58	10° 5	12°13	23° 3	22°53	24° 8	23°28	T 22
W23	12 2 48	2°34'47	6♊17	9° 6	18° 4	19°57	3° 6	2°15	0°59	10° 5	12°12	23° 2	22°50	24°15	23°29	W23
T 24	12 6 44	3°34'18	19°50	10°34	19° 7	20°38	3°19	2°17	0°59	10° 6	12°10	23° 2	22°46	24°22	23°31	T 24
F 25	12 10 41	4°33'46	2♌21	12° 4	20°10	21°18	3°33	2°19	1° 0	10° 7	12° 9	23°D 1	22°43	24°28	23°33	F 25
S 26	12 14 37	5°33'12	14°34	13°36	21°12	21°59	3°46	2°20	1° 0	10° 7	12° 8	23° 2	22°40	24°35	23°35	S 26
S 27	12 18 34	6°32'36	26°35	15° 9	22°15	22°39	4° 0	2°22	1° 1	10° 8	12° 7	23° 2	22°37	24°42	23°38	S 27
M28	12 22 31	7°31'57	8♏27	16°43	23°16	23°20	4°13	2°23	1° 1	10° 8	12° 5	23° 3	22°34	24°48	23°40	M28
T 29	12 26 27	8°31'16	20°15	18°19	24°17	24° 0	4°27	2°25	1° 2	10° 9	12° 4	23° 5	22°30	24°55	23°42	T 29
W30	12 30 24	9°30'33	2♎4	19°56	25°18	24°41	4°41	2°26	1° 2	10° 9	12° 3	23° 6	22°27	25° 2	23°45	W30
T 31	12 34 20	10♊29'47	13♎56	21♈35	26♌19	25♌21	4♌54	2♌27	1♌2	10♌9	12♎1	23♈7	22♈24	25♏8	23♊47	T 31

Day	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉
	decl	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat	decl lat
T 1	7s35	20n37	3n29	15s43	0n46	9n59	0n47	23s38	0s17	9n57	1s 2	22s19	1n 7	23s37
W 2	7 12 16	8 2 36	15 43	0 34	10 29	0 51	23 37	0 18	10 1	1 2	22 19	1 7	23 37	0 11
T 3	6 49 11	2 1 36	15 42	0 22	10 58	0 56	23 36	0 19	10 6	1 2	22 19	1 7	23 37	0 11
F 4	6 26 5	32 0 32	15 40	0 11	11 26	1 0	23 35	0 20	10 10	1 2	22 19	1 7	23 37	0 11
S 5	6 3 0s13	0s34	15 36	0s 1	11 55	1 5	23 34	0 21	10 15	1 2	22 19	1 7	23 37	0 11
S 6	5 40 6	1 1 40	15 30	0 11	12 23	1 10	23 32	0 22	10 19	1 1	22 19	1 7	23 37	0 11
M 7	5 17 11	39 2 42	15 23	0 22	12 51	1 14	23 31	0 23	10 24	1 1	22 19	1 7	23 37	0 11
T 8	4 53 16	56 3 37	15 14	0 32	13 19	1 19	23 29	0 24	10 28	1 1	22 19	1 8	23 37	0 11
W 9	4 30 21	35 4 22	15 3	0 41	13 47	1 23	23 27	0 25	10 33	1 1	22 18	1 8	23 37	0 11
T 10	4 6 25	19 4 56	14 51	0 50	14 14	1 28	23 25	0 26	10 37	1 1	22 18	1 8	23 38	0 11
F 11	3 43 27	48 5 14	14 38	0 59	14 41	1 33	23 22	0 27	10 42	1 1	22 18	1 8	23 38	0 11
S 12	3 19 28	42 5 16	14 23	1 7	15 7	1 37	23 20	0 28	10 47	1 1	22 18	1 8	23 38	0 11
S 13	2 56 27	49 5 0	14 7	1 15	15 33	1 42	23 17	0 30	10 51	1 0	22 18	1 8	23 38	0 11
M14	2 32 25	6 4 24	13 49	1 23	15 59	1 46	23 14	0 31	10 56	1 0	22 18	1 8	23 38	0 11
T 15	2 8 20	42 3 31	13 30	1 30	16 25	1 51	23 11	0 32	11 0	1 0	22 18	1 8	23 38	0 11
W16	1 44 14	57 2 23	13 10	1 36	16 50	1 56	23 7	0 33	11 5	1 0	22 18	1 8	23 38	0 11
T 17	1 21 8	16 1 4	12 48	1 42	17 14	2 0	23 4	0 34	11 10	1 0	22 18	1 8	23 38	0 11
F 18	0 57 1	8 0n18	12 25	1 48	17 39	2 5	23 0	0 35	11 14	1 0	22 18	1 8	23 38	0 11
S 19	0 33 5n58	1 39 12	1 1	1 53	18 3	2 10	22 56	0 36	11 19	0 59	22 18	1 8	23 38	0 11
S 20	0 10 12	38 2 52	11 35	1 58	18 26	2 14	22 52	0 38	11 24	0 59	22 18	1 8	23 38	0 11
M21	0n14	18 28	3 52	1 1	8 50	2 19	22 47	0 39	11 28	0 59	22 17	1 8	23 38	0 11
T 22	0 38 23	9 4 37	10 40	2 7	19 12	2 23	22 43	0 40	11 33	0 59	22 17	1 8	23 38	0 11
W23	1 2 26	29 5 5	10 10	2 10	19 35	2 28	22 38	0 41	11 38	0 59	22 17	1 8	23 38	0 11
T 24	1 25 28	19 5 17	9 40	2 13	19 57	2 32	22 33	0 42	11 42	0 59	22 17	1 8	23 38	0 11
F 25	1 49 28	38 5 13	9 8	2 16	20 18	2 37	22 28	0 44	11 47	0 59	22 17	1 8	23 38	0 11
S 26	2 12 27	32 4 55	8 35	2 18	20 39	2 41	22 23	0 45	11 52	0 59	22 17	1 8	23 38	0 11
S 27	2 36 25	10 4 25	8 0	2 20	21 0	2 45	22 18	0 46	11 56	0 58	22 17	1 8	23 38	0 11
M28	2 59 21	44 3 43	7 25	2 21	21 20	2 50	22 12	0 47	12 1	0 58	22 17	1 8	23 38	0 11
T 29	3 23 17	27 2 52	6 48	2 22	21 39	2 54	22 7	0 49	12 6	0 58	22 17	1 8	23 38	0 11
W30	3 46 12	31 1 54	6 10	2 23	21 59	2 58	22 1	0 50	12 10	0 58	22 17	1 8	23 38	0 11
T 31	4n 9	7n 6	0n51	5s31	2s22	22n17	3n 2	21s55	0s51	12n15	0s58	22s17	1n 8	23s38

Julian Day Number = 2447221.5, Delta T = 55.90 sec  
Ecliptic obliquity = 23°26'36", Nutation = 0°00'03", out-of-bounds declination in red  
Ayanamsha: Fagan/Bradley = 24°34'30", Lahiri = 23°41'30"

## ASTRODIENST EPHEMERIS for the year 1988

geocentric

APRIL 1988

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
F 1	12 38 17	11°28'59"	25°56'	23°15'	27°19'	26°01'	5°08'	2°28'	1°28'	10°10'	12°R 0	23°R 7	22°21'	25°15'	23°15'	F 1
S 2	12 42 13	12°28'10"	8°44'	24°56'	28°19'	26°42'	5°22'	2°29'	1°03'	10°10'	11°M 59	23°R 7	22°18'	25°22'	23°52'	S 2
S 3	12 46 10	13°27'18"	20°24'	26°39'	29°18'	27°22'	5°36'	2°30'	1°03'	10°10'	11°57'	23°05'	22°15'	25°28'	23°55'	S 3
M 4	12 50 6	14°26'24"	21°56'	28°23'	0°11'17"	28°03'	5°50'	2°31'	1°03'	10°11'	11°56'	23°02'	22°11'	25°35'	23°58'	M 4
T 5	12 54 3	15°25'28"	15°40'	0°09'09"	1°15'	28°43'	6°04'	2°31'	1°R 3	10°11'	11°54'	22°59'	22°08'	25°42'	24°00'	T 5
W 6	12 58 0	16°24'30"	28°39'	1°56'	2°13'	29°23'	6°18'	2°32'	1°03'	10°11'	11°53'	22°55'	22°05'	25°48'	24°03'	W 6
T 7	13 1 56	17°23'31"	11°51'	3°44'	3°10'	0°00'44"	6°31'	2°32'	1°03'	10°11'	11°51'	22°52'	22°02'	25°55'	24°06'	T 7
F 8	13 5 53	18°22'30"	25°17'	5°34'	4°07'	0°44'	6°45'	2°33'	1°03'	10°11'	11°50'	22°49'	21°59'	26°01'	24°09'	F 8
S 9	13 9 49	19°21'27"	8°35'57"	7°26'	5°04'	1°25'	6°59'	2°33'	1°02'	10°12'	11°48'	22°48'	21°56'	26°08'	24°12'	S 9
S 10	13 13 46	20°20'22"	22°52'	9°18'	6°00'	2°05'	7°14'	2°33'	1°02'	10°12'	11°47'	22°D 47	21°52'	26°15'	24°15'	S 10
M 11	13 17 42	21°19'16"	6°55'59"	11°13'	6°55'	2°45'	7°28'	2°R 33	1°02'	10°12'	11°45'	22°48'	21°49'	26°21'	24°18'	M 11
T 12	13 21 39	22°18'08"	21°19'	13°09'	7°50'	3°25'	7°42'	2°33'	1°02'	10°R 12	11°44'	22°49'	21°46'	26°28'	24°22'	T 12
W 13	13 25 35	23°16'58"	5°49'49"	15°06'	8°44'	4°06'	7°56'	2°33'	1°01'	10°12'	11°42'	22°51'	21°43'	26°35'	24°25'	W 13
T 14	13 29 32	24°15'46"	20°24'	17°05'	9°37'	4°46'	8°10'	2°33'	1°01'	10°12'	11°40'	22°R 52	21°40'	26°41'	24°28'	T 14
F 15	13 33 29	25°14'33"	5°09'00"	19°05'	10°30'	5°26'	8°24'	2°32'	1°00'	10°11'	11°39'	22°51'	21°36'	26°48'	24°32'	F 15
S 16	13 37 25	26°13'17"	19°31'	21°07'	11°22'	6°06'	8°38'	2°32'	1°00'	10°11'	11°37'	22°49'	21°33'	26°55'	24°35'	S 16
S 17	13 41 22	27°12'00"	3°51'51"	23°09'	12°14'	6°47'	8°53'	2°31'	0°59'	10°11'	11°36'	22°45'	21°30'	27°01'	24°39'	S 17
M 18	13 45 18	28°10'41"	17°54'	25°13'	13°05'	7°27'	9°07'	2°31'	0°58'	10°11'	11°34'	22°40'	21°27'	27°08'	24°43'	M 18
T 19	13 49 15	29°09'20"	1°11'36"	27°19'	13°55'	8°07'	9°21'	2°30'	0°58'	10°11'	11°32'	22°34'	21°24'	27°15'	24°46'	T 19
W 20	13 53 11	0°08'75"	14°55'	29°25'	14°44'	8°47'	9°35'	2°29'	0°57'	10°10'	11°31'	22°28'	21°21'	27°21'	24°50'	W 20
T 21	13 57 8	1°06'31"	27°51'	1°18'32"	15°33'	9°27'	9°49'	2°28'	0°56'	10°10'	11°29'	22°23'	21°17'	27°28'	24°54'	T 21
F 22	14 1 4	2°05'04"	10°25'25"	3°39'	16°21'	10°07'	10°04'	2°27'	0°55'	10°10'	11°27'	22°19'	21°14'	27°35'	24°58'	F 22
S 23	14 5 1	3°03'34"	22°41'	5°47'	17°08'	10°47'	10°18'	2°26'	0°54'	10°10'	11°26'	22°17'	21°11'	27°41'	25°02'	S 23
S 24	14 8 58	4°02'02"	4°42'42"	7°56'	17°54'	11°27'	10°32'	2°25'	0°54'	10°09'	11°24'	22°D 16	21°08'	27°48'	25°06'	S 24
M 25	14 12 54	5°00'28"	16°35'	10°04'	18°39'	12°07'	10°47'	2°24'	0°53'	10°09'	11°22'	22°17'	21°05'	27°55'	25°10'	M 25
T 26	14 16 51	5°58'52"	28°24'	12°12'	19°23'	12°47'	11°01'	2°22'	0°52'	10°08'	11°21'	22°18'	21°02'	28°01'	25°14'	T 26
W 27	14 20 47	6°57'14"	10°11'13"	14°19'	20°06'	13°27'	11°15'	2°21'	0°50'	10°08'	11°19'	22°20'	20°58'	28°08'	25°18'	W 27
T 28	14 24 44	7°55'34"	22°09'	16°26'	20°48'	14°07'	11°30'	2°19'	0°49'	10°07'	11°17'	22°R 20	20°55'	28°15'	25°22'	T 28
F 29	14 28 40	8°53'51"	4°15'15"	18°31'	21°30'	14°46'	11°44'	2°18'	0°48'	10°07'	11°16'	22°20'	20°52'	28°21'	25°26'	F 29
S 30	14 32 37	9°52'07"	16°15'33"	20°18'34"	22°11'10"	15°26'26"	11°58'18"	2°16'	0°47'	10°06'	11°14'14"	22°R 17	20°49'49"	28°28'28"	25°30'30"	S 30

Day	☉	☾		♂		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
F 1	4n33	1n23	0s16	4s51	2s22	22n35	3n 7	21s48	0s52	12n20	0s58	22s17	1n 9	23s38	0s11	22s 5	0n59	0n22	16n33	2s44	3s 2	15n19	17n29	5s49			
S 2	4 56	4s27	1 22	4 10	2 21	22 53	3 11	21 42	0 54	12 24	0 58	22 17	1 9	23 38	0 11	22 5	0 59	0 22	16 34	2 44	3 3	15 16	17 29	5 49			
S 3	5 19	10 12	2 25	3 28	2 19	23 10	3 15	21 35	0 55	12 29	0 58	22 17	1 9	23 38	0 11	22 5	0 59	0 23	16 34	2 45	3 5	15 13	17 30	5 49			
M 4	5 42	15 39	3 22	2 44	2 17	23 27	3 19	21 29	0 56	12 34	0 57	22 17	1 9	23 38	0 12	22 5	0 59	0 24	16 34	2 46	3 6	15 10	17 30	5 48			
T 5	6 4	20 31	4 10	2 0	2 15	23 43	3 22	21 22	0 58	12 38	0 57	22 16	1 9	23 38	0 12	22 5	0 59	0 24	16 34	2 47	3 7	15 7	17 31	5 48			
W 6	6 27	24 31	4 47	1 15	2 12	23 59	3 26	21 15	0 59	12 43	0 57	22 16	1 9	23 38	0 12	22 5	0 59	0 25	16 35	2 49	3 8	15 4	17 31	5 48			
T 7	6 50	27 18	5 8	0 28	2 8	24 14	3 30	21 7	1 0	12 48	0 57	22 16	1 9	23 38	0 12	22 5	0 59	0 25	16 35	2 50	3 10	15 1	17 32	5 47			
F 8	7 12	28 35	5 14	0n19	2 4	24 28	3 34	21 0	1 2	12 53	0 57	22 16	1 9	23 38	0 12	22 5	0 59	0 26	16 35	2 51	3 11	14 58	17 32	5 47			
S 9	7 35	28 9	5 2	1 7	1 59	24 42	3 37	20 52	1 3	12 57	0 57	22 16	1 9	23 38	0 12	22 5	0 59	0 27	16 35	2 52	3 12	14 55	17 33	5 47			
S 10	7 57	25 58	4 32	1 56	1 54	24 56	3 41	20 45	1 4	13 2	0 57	22 16	1 9	23 38	0 12	22 5	0 59	0 27	16 35	2 52	3 13	14 52	17 33	5 46			
M11	8 19	22 10	3 46	2 46	1 49	25 9	3 44	20 37	1 6	13 7	0 57	22 16	1 9	23 38	0 12	22 4	0 59	0 28	16 36	2 51	3 15	14 49	17 34	5 46			
T 12	8 41	16 59	2 44	3 37	1 43	25 21	3 47	20 29	1 7	13 11	0 57	22 16	1 9	23 38	0 12	22 4	0 59	0 28	16 36	2 51	3 16	14 46	17 34	5 46			
W13	9 3	10 49	1 32	4 28	1 36	25 33	3 50	20 21	1 9	13 16	0 57	22 16	1 9	23 38	0 12	22 4	0 59	0 29	16 36	2 50	3 17	14 43	17 34	5 45			
T 14	9 25	4 1	0 13	5 20	1 29	25 45	3 54	20 13	1 10	13 20	0 56	22 16	1 9	23 38	0 12	22 4	0 59	0 30	16 36	2 50	3 18	14 40	17 35	5 45			
F 15	9 46	3n 0	1n 6	6 13	1 21	25 56	3 57	20 4	1 12	13 25	0 56	22 16	1 9	23 38	0 12	22 4	0 59	0 30	16 36	2 50	3 20	14 37	17 35	5 45			
S 16	10 7	9 48	2 21	7 6	1 13	26 6	3 59	19 56	1 13	13 30	0 56	22 16	1 9	23 38	0 12	22 4	0 59	0 31	16 36	2 51	3 21	14 34	17 36	5 44			
S 17	10 29	16 1	3 25	8 0	1 5	26 16	4 2	19 47	1 14	13 34	0 56	22 16	1 9	23 38	0 12	22 4	0 59	0 31	16 36	2 53	3 22	14 31	17 36	5 44			
M18	10 50	21 16	4 16	8 53	0 56	26 25	4 5	19 38	1 16	13 39	0 56	22 16	1 9	23 38	0 12	22 4	0 59	0 32	16 37	2 55	3 23	14 28	17 37	5 44			
T 19	11 11	25 13	4 50	9 47	0 47	26 34	4 7	19 29	1 17	13 44	0 56	22 16	1 9	23 38	0 12	22 4	0 59	0 33	16 37	2 57	3 25	14 25	17 37	5 44			
W20	11 31	27 42	5 8	10 41	0 37	26 42	4 9	19 20	1 19	13 48	0 56	22 16	1 9	23 38	0 12	22 4	0 59	0 33	16 37	2 59	3 26	14 22	17 38	5 43			
T 21	11 52	28 35	5 9	11 35	0 27	26 50	4 12	19 11	1 20	13 53	0 56	22 16	1 9	23 38	0 12	22 4	0 59	0 34	16 37	3 1	3 27	14 19	17 38	5 43			
F 22	12 12	27 57	4 56	12 28	0 17	26 57	4 14	19 2	1 22	13 57	0 56	22 16	1 9	23 38	0 12	22 4	0 59	0 34	16 37	3 3	3 28	14 15	17 38	5 43			
S 23	12 32	25 57	4 28	13 21	0 7	27 3	4 15	18 52	1 23	14 2	0 56	22 16	1 9	23 38	0 12	22 4	0 59	0 35	16 37	3 4	3 30	14 12	17 39	5 42			
S 24	12 52	22 48	3 50	14 13	0n 4	27 10	4 17	18 43	1 25	14 6	0 56	22 16	1 9	23 38	0 12	22 4	0 59	0 35	16 37	3 4	3 31	14 9	17 39	5 42			
M25	13 12	18 45	3 2	15 4	0 15	27 15	4 19	18 33	1 27	14 11	0 56	22 16	1 9	23 38	0 12	22 4	0 59	0 36	16 37	3 4	3 32	14 6	17 40	5 42			
T 26	13 31	14 0	2 6	15 54	0 26	27 20	4 20	18 23	1 28	14 15	0 55	22 16	1 9	23 38	0 12	22 4	0 59	0 36	16 37	3 3	3 33	14 3	17 40	5 42			
W27	13 50	8 45	1 5	16 43	0 36	27 25	4 21	18 13	1 30	14 20	0 55	22 16	1 9	23 38	0 12	22 4	0 59	0 37	16 37	3 3	3 35	14 0	17 40	5 41			
T 28	14 9	3 8	0 1	17 30	0 47	27 29	4 22	18 3	1 31	14 24	0 55	22 16	1 10	23 38	0 12	22 4	0 59	0 37	16 37	3 2	3 36	13 57	17 41	5 41			
F 29	14 28	2s40	1s 4	18 15	0 57	27 33	4 23	17 53	1 33	14 29	0 55	22 16	1 10	23 38	0 12	22 4	0 59	0 38	16 37	3 3	3 37	13 54	17 41	5 41			
S 30	14n47	8s28	2s 7	18n59	1n 7	27n36	4n24	17s43	1s34	14n33	0s55	22s16	1n10	23s38	0s12	22s 4	0n59	0n38	16n37	3s 4	3s38	13n51	17n42	5s41			





# ASTRODIENST EPHEMERIS for the year 1988

## geocentric

JUNE 1988

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
W 1	16 38 47	10 <sup>II</sup> 43'17	17 <sup>♈</sup> 45	26 <sup>♈</sup> 47	28 <sup>♈</sup> 40	6 <sup>♈</sup> 7	19 <sup>♈</sup> 31	0 <sup>♈</sup> 39	29 <sup>♈</sup> 49	9 <sup>♈</sup> 34	10 <sup>♈</sup> 23	19 <sup>♈</sup> 25	19 <sup>♈</sup> 7	2 <sup>♈</sup> 1	28 <sup>♈</sup> 7	W 1
T 2	16 42 43	11 <sup>♈</sup> 40'46	1 <sup>♈</sup> 47	26 <sup>♈</sup> 45	28 <sup>♈</sup> 16	6 <sup>♈</sup> 44	19 <sup>♈</sup> 45	0 <sup>♈</sup> 35	29 <sup>♈</sup> 47	9 <sup>♈</sup> 32	10 <sup>♈</sup> 22	19 <sup>♈</sup> 13	19 <sup>♈</sup> 4	2 <sup>♈</sup> 8	28 <sup>♈</sup> 13	T 2
F 3	16 46 40	12 <sup>♈</sup> 38'13	15 <sup>♈</sup> 59	26 <sup>♈</sup> 38	27 <sup>♈</sup> 51	7 <sup>♈</sup> 21	19 <sup>♈</sup> 59	0 <sup>♈</sup> 30	29 <sup>♈</sup> 45	9 <sup>♈</sup> 31	10 <sup>♈</sup> 20	19 <sup>♈</sup> 3	19 <sup>♈</sup> 1	2 <sup>♈</sup> 14	28 <sup>♈</sup> 18	F 3
S 4	16 50 36	13 <sup>♈</sup> 35'40	0 <sup>♈</sup> 16	26 <sup>♈</sup> 26	27 <sup>♈</sup> 23	7 <sup>♈</sup> 58	20 <sup>♈</sup> 12	0 <sup>♈</sup> 26	29 <sup>♈</sup> 42	9 <sup>♈</sup> 30	10 <sup>♈</sup> 19	18 <sup>♈</sup> 56	18 <sup>♈</sup> 58	2 <sup>♈</sup> 21	28 <sup>♈</sup> 24	S 4
S 5	16 54 33	14 <sup>♈</sup> 33'05	14 <sup>♈</sup> 34	26 <sup>♈</sup> 11	26 <sup>♈</sup> 53	8 <sup>♈</sup> 35	20 <sup>♈</sup> 26	0 <sup>♈</sup> 22	29 <sup>♈</sup> 40	9 <sup>♈</sup> 28	10 <sup>♈</sup> 17	18 <sup>♈</sup> 51	18 <sup>♈</sup> 54	2 <sup>♈</sup> 28	28 <sup>♈</sup> 29	S 5
M 6	16 58 29	15 <sup>♈</sup> 30'30	28 <sup>♈</sup> 49	25 <sup>♈</sup> 52	26 <sup>♈</sup> 22	9 <sup>♈</sup> 12	20 <sup>♈</sup> 40	0 <sup>♈</sup> 18	29 <sup>♈</sup> 38	9 <sup>♈</sup> 27	10 <sup>♈</sup> 16	18 <sup>♈</sup> 49	18 <sup>♈</sup> 51	2 <sup>♈</sup> 34	28 <sup>♈</sup> 35	M 6
T 7	17 2 26	16 <sup>♈</sup> 27'55	12 <sup>♈</sup> 59	25 <sup>♈</sup> 30	25 <sup>♈</sup> 49	9 <sup>♈</sup> 49	20 <sup>♈</sup> 53	0 <sup>♈</sup> 14	29 <sup>♈</sup> 35	9 <sup>♈</sup> 25	10 <sup>♈</sup> 15	18 <sup>♈</sup> 49	18 <sup>♈</sup> 48	2 <sup>♈</sup> 41	28 <sup>♈</sup> 40	T 7
W 8	17 6 23	17 <sup>♈</sup> 25'19	27 <sup>♈</sup> 3	25 <sup>♈</sup> 4	25 <sup>♈</sup> 15	10 <sup>♈</sup> 25	21 <sup>♈</sup> 7	0 <sup>♈</sup> 10	29 <sup>♈</sup> 33	9 <sup>♈</sup> 24	10 <sup>♈</sup> 14	18 <sup>♈</sup> 49	18 <sup>♈</sup> 45	2 <sup>♈</sup> 47	28 <sup>♈</sup> 46	W 8
T 9	17 10 19	18 <sup>♈</sup> 22'42	11 <sup>♈</sup> 0	24 <sup>♈</sup> 36	24 <sup>♈</sup> 40	11 <sup>♈</sup> 2	21 <sup>♈</sup> 20	0 <sup>♈</sup> 5	29 <sup>♈</sup> 30	9 <sup>♈</sup> 22	10 <sup>♈</sup> 12	18 <sup>♈</sup> 48	18 <sup>♈</sup> 42	2 <sup>♈</sup> 54	28 <sup>♈</sup> 51	T 9
F 10	17 14 16	19 <sup>♈</sup> 20'04	24 <sup>♈</sup> 50	24 <sup>♈</sup> 6	24 <sup>♈</sup> 4	11 <sup>♈</sup> 38	21 <sup>♈</sup> 34	0 <sup>♈</sup> 1	29 <sup>♈</sup> 28	9 <sup>♈</sup> 21	10 <sup>♈</sup> 11	18 <sup>♈</sup> 45	18 <sup>♈</sup> 39	3 <sup>♈</sup> 1	28 <sup>♈</sup> 57	F 10
S 11	17 18 12	20 <sup>♈</sup> 17'27	8 <sup>♈</sup> 31	23 <sup>♈</sup> 34	23 <sup>♈</sup> 27	12 <sup>♈</sup> 14	21 <sup>♈</sup> 47	29 <sup>♈</sup> 57	29 <sup>♈</sup> 26	9 <sup>♈</sup> 19	10 <sup>♈</sup> 10	18 <sup>♈</sup> 39	18 <sup>♈</sup> 35	3 <sup>♈</sup> 7	29 <sup>♈</sup> 2	S 11
S 12	17 22 9	21 <sup>♈</sup> 14'49	22 <sup>♈</sup> 3	23 <sup>♈</sup> 1	22 <sup>♈</sup> 50	12 <sup>♈</sup> 50	22 <sup>♈</sup> 0	29 <sup>♈</sup> 52	29 <sup>♈</sup> 23	9 <sup>♈</sup> 18	10 <sup>♈</sup> 9	18 <sup>♈</sup> 31	18 <sup>♈</sup> 32	3 <sup>♈</sup> 14	29 <sup>♈</sup> 8	S 12
M13	17 26 5	22 <sup>♈</sup> 12'10	5 <sup>♈</sup> 24	22 <sup>♈</sup> 27	22 <sup>♈</sup> 12	13 <sup>♈</sup> 26	22 <sup>♈</sup> 14	29 <sup>♈</sup> 48	29 <sup>♈</sup> 21	9 <sup>♈</sup> 16	10 <sup>♈</sup> 8	18 <sup>♈</sup> 20	18 <sup>♈</sup> 29	3 <sup>♈</sup> 21	29 <sup>♈</sup> 13	M13
T 14	17 30 2	23 <sup>♈</sup> 9'30	18 <sup>♈</sup> 32	21 <sup>♈</sup> 53	21 <sup>♈</sup> 35	14 <sup>♈</sup> 2	22 <sup>♈</sup> 27	29 <sup>♈</sup> 44	29 <sup>♈</sup> 18	9 <sup>♈</sup> 15	10 <sup>♈</sup> 7	18 <sup>♈</sup> 8	18 <sup>♈</sup> 26	3 <sup>♈</sup> 27	29 <sup>♈</sup> 19	T 14
W15	17 33 58	24 <sup>♈</sup> 6'50	1 <sup>♈</sup> 26	21 <sup>♈</sup> 20	20 <sup>♈</sup> 57	14 <sup>♈</sup> 37	22 <sup>♈</sup> 40	29 <sup>♈</sup> 39	29 <sup>♈</sup> 16	9 <sup>♈</sup> 13	10 <sup>♈</sup> 5	17 <sup>♈</sup> 55	18 <sup>♈</sup> 23	3 <sup>♈</sup> 34	29 <sup>♈</sup> 24	W15
T 16	17 37 55	25 <sup>♈</sup> 4'10	14 <sup>♈</sup> 4	20 <sup>♈</sup> 48	20 <sup>♈</sup> 21	15 <sup>♈</sup> 12	22 <sup>♈</sup> 53	29 <sup>♈</sup> 35	29 <sup>♈</sup> 14	9 <sup>♈</sup> 12	10 <sup>♈</sup> 4	17 <sup>♈</sup> 43	18 <sup>♈</sup> 20	3 <sup>♈</sup> 41	29 <sup>♈</sup> 30	T 16
F 17	17 41 52	26 <sup>♈</sup> 1'29	26 <sup>♈</sup> 27	20 <sup>♈</sup> 18	19 <sup>♈</sup> 44	15 <sup>♈</sup> 47	23 <sup>♈</sup> 6	29 <sup>♈</sup> 30	29 <sup>♈</sup> 11	9 <sup>♈</sup> 10	10 <sup>♈</sup> 3	17 <sup>♈</sup> 33	18 <sup>♈</sup> 16	3 <sup>♈</sup> 47	29 <sup>♈</sup> 35	F 17
S 18	17 45 48	26 <sup>♈</sup> 58'46	8 <sup>♈</sup> 37	19 <sup>♈</sup> 50	19 <sup>♈</sup> 9	16 <sup>♈</sup> 22	23 <sup>♈</sup> 19	29 <sup>♈</sup> 26	29 <sup>♈</sup> 9	9 <sup>♈</sup> 9	10 <sup>♈</sup> 2	17 <sup>♈</sup> 25	18 <sup>♈</sup> 13	3 <sup>♈</sup> 54	29 <sup>♈</sup> 41	S 18
S 19	17 49 45	27 <sup>♈</sup> 56'04	20 <sup>♈</sup> 35	19 <sup>♈</sup> 25	18 <sup>♈</sup> 35	16 <sup>♈</sup> 57	23 <sup>♈</sup> 32	29 <sup>♈</sup> 21	29 <sup>♈</sup> 6	9 <sup>♈</sup> 7	10 <sup>♈</sup> 1	17 <sup>♈</sup> 20	18 <sup>♈</sup> 10	4 <sup>♈</sup> 1	29 <sup>♈</sup> 47	S 19
M20	17 53 41	28 <sup>♈</sup> 53'20	2 <sup>♈</sup> 26	19 <sup>♈</sup> 2	18 <sup>♈</sup> 3	17 <sup>♈</sup> 31	23 <sup>♈</sup> 45	29 <sup>♈</sup> 17	29 <sup>♈</sup> 4	9 <sup>♈</sup> 6	10 <sup>♈</sup> 0	17 <sup>♈</sup> 17	18 <sup>♈</sup> 7	4 <sup>♈</sup> 7	29 <sup>♈</sup> 52	M20
T 21	17 57 38	29 <sup>♈</sup> 50'36	14 <sup>♈</sup> 14	18 <sup>♈</sup> 44	17 <sup>♈</sup> 31	18 <sup>♈</sup> 6	23 <sup>♈</sup> 58	29 <sup>♈</sup> 13	29 <sup>♈</sup> 1	9 <sup>♈</sup> 4	9 <sup>♈</sup> 59	17 <sup>♈</sup> D16	18 <sup>♈</sup> 4	4 <sup>♈</sup> 14	29 <sup>♈</sup> 58	T 21
W22	18 1 34	0 <sup>♈</sup> 47'51	26 <sup>♈</sup> 4	18 <sup>♈</sup> 29	17 <sup>♈</sup> 2	18 <sup>♈</sup> 40	24 <sup>♈</sup> 11	29 <sup>♈</sup> 8	28 <sup>♈</sup> 59	9 <sup>♈</sup> 2	9 <sup>♈</sup> 59	17 <sup>♈</sup> R17	18 <sup>♈</sup> 0	4 <sup>♈</sup> 21	0 <sup>♈</sup> 3	W22
T 23	18 5 31	1 <sup>♈</sup> 45'05	8 <sup>♈</sup> 11	18 <sup>♈</sup> 18	16 <sup>♈</sup> 34	19 <sup>♈</sup> 14	24 <sup>♈</sup> 24	29 <sup>♈</sup> 4	28 <sup>♈</sup> 56	9 <sup>♈</sup> 1	9 <sup>♈</sup> 58	17 <sup>♈</sup> 16	17 <sup>♈</sup> 57	4 <sup>♈</sup> 27	0 <sup>♈</sup> 9	T 23
F 24	18 9 27	2 <sup>♈</sup> 42'19	20 <sup>♈</sup> 11	18 <sup>♈</sup> 11	16 <sup>♈</sup> 9	19 <sup>♈</sup> 47	24 <sup>♈</sup> 36	28 <sup>♈</sup> 59	28 <sup>♈</sup> 54	8 <sup>♈</sup> 59	9 <sup>♈</sup> 57	17 <sup>♈</sup> 15	17 <sup>♈</sup> 54	4 <sup>♈</sup> 34	0 <sup>♈</sup> 15	F 24
S 25	18 13 24	3 <sup>♈</sup> 39'32	2 <sup>♈</sup> 38	18 <sup>♈</sup> D 9	15 <sup>♈</sup> 45	20 <sup>♈</sup> 21	24 <sup>♈</sup> 49	28 <sup>♈</sup> 55	28 <sup>♈</sup> 52	8 <sup>♈</sup> 58	9 <sup>♈</sup> 56	17 <sup>♈</sup> 12	17 <sup>♈</sup> 51	4 <sup>♈</sup> 41	0 <sup>♈</sup> 20	S 25
S 26	18 17 21	4 <sup>♈</sup> 36'44	15 <sup>♈</sup> 28	18 <sup>♈</sup> 12	15 <sup>♈</sup> 23	20 <sup>♈</sup> 54	25 <sup>♈</sup> 1	28 <sup>♈</sup> 50	28 <sup>♈</sup> 49	8 <sup>♈</sup> 56	9 <sup>♈</sup> 55	17 <sup>♈</sup> 6	17 <sup>♈</sup> 48	4 <sup>♈</sup> 47	0 <sup>♈</sup> 26	S 26
M27	18 21 17	5 <sup>♈</sup> 33'57	28 <sup>♈</sup> 43	18 <sup>♈</sup> 19	15 <sup>♈</sup> 4	21 <sup>♈</sup> 27	25 <sup>♈</sup> 14	28 <sup>♈</sup> 46	28 <sup>♈</sup> 47	8 <sup>♈</sup> 54	9 <sup>♈</sup> 54	16 <sup>♈</sup> 59	17 <sup>♈</sup> 45	4 <sup>♈</sup> 54	0 <sup>♈</sup> 31	M27
T 28	18 25 14	6 <sup>♈</sup> 31'08	12 <sup>♈</sup> 23	18 <sup>♈</sup> 31	14 <sup>♈</sup> 47	22 <sup>♈</sup> 0	25 <sup>♈</sup> 26	28 <sup>♈</sup> 42	28 <sup>♈</sup> 44	8 <sup>♈</sup> 53	9 <sup>♈</sup> 54	16 <sup>♈</sup> 49	17 <sup>♈</sup> 41	5 <sup>♈</sup> 0	0 <sup>♈</sup> 37	T 28
W29	18 29 10	7 <sup>♈</sup> 28'20	26 <sup>♈</sup> 26	18 <sup>♈</sup> 48	14 <sup>♈</sup> 33	22 <sup>♈</sup> 32	25 <sup>♈</sup> 39	28 <sup>♈</sup> 37	28 <sup>♈</sup> 42	8 <sup>♈</sup> 51	9 <sup>♈</sup> 53	16 <sup>♈</sup> 38	17 <sup>♈</sup> 38	5 <sup>♈</sup> 7	0 <sup>♈</sup> 42	W29
T 30	18 33 7	8 <sup>♈</sup> 25'31	10 <sup>♈</sup> 34	19 <sup>♈</sup> 10	14 <sup>♈</sup> 21	23 <sup>♈</sup> 4	25 <sup>♈</sup> 51	28 <sup>♈</sup> 33	28 <sup>♈</sup> 39	8 <sup>♈</sup> 54	9 <sup>♈</sup> 52	16 <sup>♈</sup> 28	17 <sup>♈</sup> 35	5 <sup>♈</sup> 14	0 <sup>♈</sup> 48	T 30

Day	☉	☾		♀		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
W 1	22n 3	27s52	5s 1	23n23	0s 1	25n17	1n51	11s37	2s31	16n45	0s54	22s17	1n 9	23s39	0s13	22s 6	1n 0	0n47	16n31	4s12	4s18	12n11	17n50	5s36					
T 2	22 11	28 19	4 54	23 7	0 17	25 5	1 39	11 25	2 33	16 48	0 54	22 17	1 9	23 39	0 13	22 6	1 0	0 48	16 31	4 16	4 20	12 7	17 50	5 36					
F 3	22 19	26 56	4 29	22 50	0 34	24 52	1 26	11 12	2 35	16 52	0 54	22 17	1 9	23 39	0 13	22 7	1 0	0 48	16 31	4 20	4 21	12 4	17 50	5 36					
S 4	22 26	23 47	3 47	22 33	0 51	24 39	1 14	11 0	2 37	16 56	0 54	22 17	1 9	23 39	0 13	22 7	1 0	0 48	16 30	4 23	4 22	12 1	17 50	5 36					
S 5	22 33	19 11	2 50	22 16	1 8	24 25	1 1	10 48	2 39	16 59	0 54	22 17	1 9	23 39	0 13	22 7	1 0	0 48	16 30	4 25	4 23	11 58	17 51	5 35					
M 6	22 39	13 31	1 44	21 58	1 25	24 11	0 48	10 36	2 41	17 3	0 54	22 17	1 9	23 39	0 13	22 7	1 0	0 48	16 30	4 25	4 25	11 55	17 51	5 35					
T 7	22 45	7 10	0 31	21 40	1 42	23 57	0 34	10 24	2 43	17 7	0 54	22 17	1 9	23 39	0 13	22 7	1 0	0 48	16 29	4 26	4 26	11 51	17 51	5 35					
W 8	22 51	0 31	0n43	21 22	1 59	23 42	0 20	10 12	2 45	17 10	0 54	22 17	1 9	23 39	0 13	22 7	1 0	0 48	16 29	4 26	4 27	11 48	17 51	5 35					
T 9	22 56	6n 6	1 54	21 4	2 16	23 26	0 6	10 0	2 47	17 14	0 54	22 17	1 9	23 39	0 13	22 7	1 0	0 48	16 28	4 26	4 28	11 45	17 51	5 35					
F 10	23 1	12 22	2 58	20 46	2 33	23 11	0s 8	9 48	2 49	17 17	0 54	22 18	1 9	23 39	0 13	22 7	1 0	0 48	16 28	4 27	4 30	11 42	17 51	5 35					
S 11	23 5	17 59	3 51	20 29	2 49	22 55	0 22	9 36	2 51	17 21	0 54	22 18	1 9	23 39	0 13	22 7	1 0	0 48	16 28	4 29	4 31	11 39	17 51	5 35					
S 12	23 9	22 37	4 29	20 12	3 4	22 39	0 36	9 24	2 53	17 24	0 54	22 18	1 9	23 39	0 13	22 7	1 0	0 48	16 27	4 33	4 32	11 35	17 51	5 35					
M13	23 13	26 0	4 53	19 56	3 18	22 23	0 50	9 12	2 55	17 27	0 54	22 18	1 9	23 39	0 13	22 8	1 0	0 48	16 27	4 37	4 33	11 32	17 51	5 35					
T 14	23 16	27 56	5 0	19 41	3 31	22 6	1 4	9 0	2 57	17 31	0 54	22 18	1 9	23 39	0 13	22 8	1 0	0 48	16 26	4 42	4 35	11 29	17 51	5 35					
W15	23 19	28 18	4 52	19 27	3 43	21 50	1 18	8 48	2 59	17 34	0 54	22 18	1 9	23 39	0 13	22 8	1 0	0 47	16 26	4 47	4 36	11 26	17 51	5 35					
T 16	23 21	27 10	4 30	19 14	3 54	21 34	1 32	8 37	3 1	17 37	0 54	22 18	1 9	23 39	0 13	22 8	1 0	0 47	16 26	4 51	4 37	11 23	17 51	5 35					
F 17	23 23	24 42	3 55	19 2	4 4	21 18	1 45	8 25	3 3	17 41	0 54	22 18	1 9	23 39	0 13	22 8	1 0	0 47	16 25	4 55	4 38	11 19	17 51	5 36					
S 18	23 25	21 9	3 10	18 52	4 12	21 2	1 59	8 13	3 5	17 44	0 54	22 18	1 9	23 39	0 13	22 8	1 0	0 47	16 25	4 58	4 40	11 16	17 51	5 36					
S 19	23 26	16 47	2 16	18 44	4 18	20 46	2 11	8 2	3 7	17 47	0 54	22 18	1 8	23 39	0 13	22 8	1 0	0 47	16 24	5 0	4 41	11 13	17 51	5 36					
M20	23 26	11 49	1 18	18 36	4 24	20 31	2 24	7 50	3 9	17 50	0 54	22 18	1 8	23 39	0 13	22 8	1 0	0 47	16 24	5 1	4 42	11 10	17 51	5 36					
T 21	23 27	6 27	0 16	18 31	4 28	20 16	2 36	7 38	3 11	17 54	0 54	22 18	1 8	23 39	0 13	22 8	1 0	0 47	16 23	5 2	4 43	11 6	17 51	5 36					
W22	23 26	0 51	0s47	18 27	4 30	20 2	2 47	7 27	3 13	17 57	0 54	22 18	1 8	23 39	0 13	22 9	1 0	0 46	16 23	5 2	4 45	11 3	17 51	5 36					
T 23	23 26	4s50	1 48	18 25	4 31	19 48	2 58	7 16	3 15	18 0	0 54	22 18	1 8	23 39	0 13	22 9	1 0	0 46	16 22	5 2	4 46	11 0	17 51	5 36					
F 24	23 25	10 26	2 45	18 25	4 31	19 35	3 9	7 4	3 17	18 3	0 54	22 18	1 8	23 39	0 13	22 9	1 0	0 46	16 22	5 2	4 47	10 57	17 51	5 36					
S 25	23 24	15 47	3 36	18 26	4 30	19 23	3 19	6 53	3 20	18 6	0 54	22 18	1 8	23 39	0 13	22 9	1 0	0 46	16 21	5 3	4 48	10 54	17 51	5 36					
S 26	23 22	20 35	4 18	18 29	4 27	19 11	3 28	6 42	3 22	18 9	0 54	22 18	1 8	23 39	0 13	22 9	1 0	0 46	16 21	5 6	4 49	10 50	17 50	5 36					
M27	23 20	24 33	4 47	18 34	4 23	19 0	3 37	6 31	3 24	18 12	0 54	22 18	1 8	23 39	0 13	22 9	1 0	0 45	16 20	5 9	4 51	10 47	17 50	5 36					
T 28	23 17	27 16	5 2	18 40	4 18	18 50	3 46	6 20	3 26	18 15	0 54	22 19	1 8	23 39	0 13	22 9	1 0	0 45	16 20	5 12	4 52	10 44	17 50	5 36					
W29	23 14	28 22	4 58	18 47	4 12	18 41	3 54	6 9	3 28	18 18	0 54	22 19	1 8	23 39	0 13	22 9	1 0	0 45	16 19	5 16	4 53	10 41	17 50	5 36					
T 30	23n10	27s35	4s36	18n56	4s 5	18n32	4s 1	5s58	3s30	18n20	0s54	22s19	1n 7	23s39	0s13	22s 9	1n 0	0n44	16n19	5s20	4s54	10n37	17n50	5s37					

## ASTRODIENST EPHEMERIS for the year 1988

geocentric

JULY 1988

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
F 1	18 37 3	9 <sup>52</sup> 22'42	25 <sup>3</sup> 25	19 <sup>II</sup> 37	14 <sup>R</sup> 11	23 <sup>✠</sup> 36	26 <sup>8</sup> 3	28 <sup>R</sup> 29	28 <sup>R</sup> 37	8 <sup>R</sup> 48	9 <sup>R</sup> 52	16 <sup>R</sup> 19	17 <sup>✠</sup> 32	5 <sup>♊</sup> 20	0 <sup>5</sup> 54	F 1
S 2	18 41 0	10°19'53	10 <sup>≈</sup> 7	20° 8	14 <sup>II</sup> 3	24° 8	26°15	28 <sup>♊</sup> 24	28 <sup>♊</sup> 35	8 <sup>♋</sup> 46	9 <sup>♌</sup> 51	16 <sup>♌</sup> 13	17°29	5°27	0°59	S 2
S 3	18 44 57	11°17'04	24°48	20°44	13°59	24°39	26°27	28°20	28°32	8°45	9°50	16° 9	17°26	5°34	1° 5	S 3
M 4	18 48 53	12°14'16	9 <sup>✠</sup> 21	21°25	13°56	25°11	26°39	28°16	28°30	8°43	9°50	16° 7	17°22	5°40	1°10	M 4
T 5	18 52 50	13°11'27	23°43	22°11	13°D56	25°41	26°51	28°12	28°28	8°41	9°49	16°D 7	17°19	5°47	1°16	T 5
W 6	18 56 46	14° 8'39	7 <sup>✠</sup> 51	23° 2	13°58	26°12	27° 3	28° 8	28°25	8°40	9°49	16°R 8	17°16	5°54	1°21	W 6
T 7	19 0 43	15° 5'51	21°45	23°56	14° 2	26°42	27°15	28° 3	28°23	8°38	9°48	16° 8	17°13	6° 0	1°27	T 7
F 8	19 4 39	16° 3'03	5 <sup>♋</sup> 24	24°56	14° 9	27°12	27°26	27°59	28°21	8°37	9°48	16° 6	17°10	6° 7	1°32	F 8
S 9	19 8 36	17° 0'16	18°50	26° 0	14°18	27°42	27°38	27°55	28°18	8°35	9°48	16° 2	17° 6	6°14	1°38	S 9
S 10	19 12 32	17°57'29	2 <sup>II</sup> 2	27° 8	14°29	28°11	27°49	27°51	28°16	8°33	9°47	15°56	17° 3	6°20	1°43	S 10
M 11	19 16 29	18°54'43	15° 2	28°21	14°41	28°40	28° 1	27°47	28°14	8°32	9°47	15°48	17° 0	6°27	1°49	M 11
T 12	19 20 26	19°51'57	27°49	29°38	14°56	29° 9	28°12	27°43	28°12	8°30	9°47	15°38	16°57	6°34	1°54	T 12
W 13	19 24 22	20°49'12	10 <sup>52</sup> 24	0 <sup>52</sup> 59	15°13	29°37	28°23	27°39	28° 9	8°29	9°46	15°29	16°54	6°40	2° 0	W 13
T 14	19 28 19	21°46'26	22°46	2°24	15°32	0 <sup>Y</sup> 5	28°34	27°35	28° 7	8°27	9°46	15°19	16°51	6°47	2° 5	T 14
F 15	19 32 15	22°43'41	4 <sup>♌</sup> 58	3°54	15°53	0°32	28°46	27°32	28° 5	8°25	9°46	15°11	16°47	6°53	2°10	F 15
S 16	19 36 12	23°40'57	16°59	5°27	16°15	0°59	28°56	27°28	28° 3	8°24	9°46	15° 6	16°44	7° 0	2°16	S 16
S 17	19 40 8	24°38'12	28°52	7° 4	16°39	1°26	29° 7	27°24	28° 1	8°22	9°46	15° 2	16°41	7° 7	2°21	S 17
M 18	19 44 5	25°35'28	10 <sup>♊</sup> 40	8°45	17° 4	1°52	29°18	27°21	27°59	8°21	9°46	15°D 0	16°38	7°13	2°26	M 18
T 19	19 48 1	26°32'44	22°27	10°29	17°31	2°18	29°29	27°17	27°57	8°19	9°46	15° 1	16°35	7°20	2°32	T 19
W 20	19 51 58	27°30'00	4 <sup>♌</sup> 16	12°17	18° 0	2°43	29°39	27°13	27°55	8°18	9°D46	15° 2	16°32	7°27	2°37	W 20
T 21	19 55 55	28°27'16	16°12	14° 8	18°30	3° 8	29°50	27°10	27°53	8°16	9°46	15° 3	16°28	7°33	2°42	T 21
F 22	19 59 51	29°24'33	28°21	16° 1	19° 2	3°32	0 <sup>II</sup> 0	27° 7	27°51	8°15	9°46	15°R 4	16°25	7°40	2°47	F 22
S 23	20 3 48	0 <sup>♌</sup> 21'50	10 <sup>♌</sup> 48	17°58	19°35	3°56	0°10	27° 3	27°49	8°13	9°46	15° 3	16°22	7°47	2°53	S 23
S 24	20 7 44	1°19'08	23°36	19°56	20° 9	4°20	0°20	27° 0	27°47	8°12	9°46	15° 1	16°19	7°53	2°58	S 24
M 25	20 11 41	2°16'25	6 <sup>♊</sup> 51	21°57	20°44	4°43	0°30	26°57	27°45	8°10	9°46	14°57	16°16	8° 0	3° 3	M 25
T 26	20 15 37	3°13'44	20°33	24° 0	21°21	5° 5	0°40	26°54	27°43	8° 9	9°46	14°52	16°12	8° 7	3° 8	T 26
W 27	20 19 34	4°11'02	4 <sup>♋</sup> 42	26° 4	21°59	5°28	0°50	26°51	27°41	8° 8	9°46	14°46	16° 9	8°13	3°13	W 27
T 28	20 23 30	5° 8'22	19°15	28° 8	22°38	5°49	1° 0	26°48	27°40	8° 6	9°47	14°40	16° 6	8°20	3°18	T 28
F 29	20 27 27	6° 5'42	4 <sup>≈</sup> 6	0 <sup>♌</sup> 14	23°18	6°10	1° 9	26°45	27°38	8° 5	9°47	14°34	16° 3	8°27	3°23	F 29
S 30	20 31 24	7° 3'02	19° 7	2°20	23°59	6°30	1°19	26°42	27°36	8° 3	9°47	14°31	16° 0	8°33	3°28	S 30
S 31	20 35 20	8 <sup>♌</sup> 0'24	4 <sup>✠</sup> 8	4 <sup>♌</sup> 26	24 <sup>II</sup> 41	6 <sup>Y</sup> 50	1 <sup>II</sup> 28	26 <sup>♊</sup> 39	27 <sup>♊</sup> 34	8 <sup>♋</sup> 2	9 <sup>♌</sup> 48	14 <sup>✠</sup> 29	15 <sup>✠</sup> 57	8 <sup>♊</sup> 40	3 <sup>52</sup> 33	S 31

Day	☉	☾		♊		♋		♌		♍		♎		♏		♐		♑		♒	♓	♈	♉	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	lat
F 1	23n 7	24s55	3s56	19n 5	3s57	18n24	4s 8	5s47	3s32	18n23	0s54	22s19	1n 7	23s39	0s13	22s10	1n 0	0n44	16n18	5s24	4s56	10n34	17n50	5s37
S 2	23 2	20 35	2 59	19 16	3 49	18 17	4 14	5 37	3 34	18 26	0 55	22 19	1 7	23 39	0 13	22 10	1 0	0 44	16 18	5 26	4 57	10 31	17 50	5 37
S 3	22 58	15 0	1 51	19 28	3 39	18 11	4 20	5 26	3 36	18 29	0 55	22 19	1 7	23 39	0 13	22 10	1 0	0 43	16 17	5 28	4 58	10 28	17 49	5 37
M 4	22 53	8 37	0 36	19 41	3 29	18 5	4 25	5 16	3 39	18 32	0 55	22 19	1 7	23 39	0 13	22 10	1 0	0 43	16 17	5 29	4 59	10 24	17 49	5 37
T 5	22 47	1 53	0n40	19 54	3 19	18 0	4 30	5 5	3 41	18 34	0 55	22 19	1 7	23 39	0 13	22 10	1 0	0 43	16 16	5 29	5 1	10 21	17 49	5 37
W 6	22 42	4n51	1 53	20 8	3 7	17 56	4 34	4 55	3 43	18 37	0 55	22 19	1 7	23 39	0 13	22 10	1 0	0 42	16 16	5 28	5 2	10 18	17 49	5 37
T 7	22 35	11 14	2 58	20 23	2 56	17 53	4 38	4 45	3 45	18 40	0 55	22 19	1 7	23 39	0 13	22 10	1 0	0 42	16 15	5 28	5 3	10 15	17 49	5 38
F 8	22 29	16 58	3 52	20 37	2 44	17 50	4 42	4 35	3 47	18 42	0 55	22 19	1 7	23 39	0 13	22 10	1 0	0 42	16 14	5 29	5 4	10 11	17 48	5 38
S 9	22 22	21 47	4 32	20 52	2 31	17 48	4 45	4 25	3 49	18 45	0 55	22 19	1 7	23 39	0 13	22 10	1 0	0 41	16 14	5 30	5 6	10 8	17 48	5 38
S 10	22 14	25 24	4 56	21 6	2 18	17 47	4 47	4 16	3 51	18 47	0 55	22 19	1 6	23 39	0 13	22 11	1 0	0 41	16 13	5 33	5 7	10 5	17 48	5 38
M 11	22 7	27 39	5 5	21 21	2 5	17 46	4 50	4 6	3 54	18 50	0 55	22 19	1 6	23 39	0 13	22 11	1 0	0 40	16 13	5 36	5 8	10 1	17 48	5 38
T 12	21 58	28 24	4 58	21 34	1 52	17 46	4 52	3 57	3 56	18 52	0 55	22 19	1 6	23 39	0 13	22 11	1 0	0 40	16 12	5 40	5 9	9 58	17 47	5 38
W 13	21 50	27 38	4 37	21 48	1 39	17 46	4 53	3 47	3 58	18 55	0 55	22 19	1 6	23 39	0 13	22 11	1 0	0 39	16 12	5 44	5 11	9 55	17 47	5 39
T 14	21 41	25 31	4 3	22 0	1 25	17 47	4 54	3 38	4 0	18 57	0 55	22 19	1 6	23 39	0 13	22 11	0 59	0 39	16 11	5 47	5 12	9 52	17 47	5 39
F 15	21 32	22 14	3 18	22 11	1 12	17 48	4 55	3 29	4 2	18 59	0 55	22 19	1 6	23 39	0 13	22 11	0 59	0 38	16 11	5 50	5 13	9 48	17 46	5 39
S 16	21 22	18 3	2 25	22 21	0 59	17 50	4 56	3 21	4 4	19 2	0 55	22 20	1 6	23 39	0 13	22 11	0 59	0 38	16 10	5 52	5 14	9 45	17 46	5 39
S 17	21 12	13 13	1 26	22 30	0 45	17 52	4 56	3 12	4 6	19 4	0 55	22 20	1 6	23 39	0 13	22 11	0 59	0 37	16 9	5 54	5 15	9 42	17 46	5 40
M 18	21 2	7 56	0 23	22 37	0 32	17 54	4 56	3 4	4 9	19 6	0 55	22 20	1 5	23 39	0 13	22 12	0 59	0 37	16 9	5 54	5 17	9 39	17 46	5 40
T 19	20 51	2 23	0s40	22 42	0 20	17 57	4 56	2 55	4 11	19 9	0 55	22 20	1 5	23 39	0 13	22 12	0 59	0 36	16 8	5 54	5 18	9 35	17 45	5 40
W 20	20 40	3s16	1 42	22 45	0 7	18 0	4 55	2 47	4 13	19 11	0 55	22 20	1 5	23 39	0 13	22 12	0 59	0 36	16 8	5 54	5 19	9 32	17 45	5 40
T 21	20 28	8 51	2 41	22 47	0n 5	18 3	4 54	2 39	4 15	19 13	0 55	22 20	1 5	23 38	0 13	22 12	0 59	0 35	16 7	5 53	5 20	9 29	17 44	5 41
F 22	20 17	14 12	3 33	22 45	0 17	18 7	4 53	2 32	4 17	19 15	0 56	22 20	1 5	23 38	0 13	22 12	0 59	0 35	16 7	5 53	5 22	9 25	17 44	5 41
S 23	20 5	19 7	4 17	22 42	0 28	18 11	4 52	2 24	4 19	19 17	0 56	22 20	1 5	23 38	0 13	22 12	0 59	0 34	16 6	5 53	5 23	9 22	17 44	5 41
S 24	19 52	23 20	4 49	22 35	0 38	18 15	4 51	2 17	4 21	19 19	0 56	22 20	1 5	23 38	0 13	22 12	0 59	0 34	16 5	5 54	5 24	9 19	17 43	5 41
M 25	19 39	26 30	5 7	22 26	0 48	18 19	4 49	2 9	4 23	19 21	0 56	22 20	1 4	23 38	0 13	22 12	0 59	0 33	16 5	5 56	5 25	9 16	17 43	5 42
T 26	19 26	28 14	5 8	22 15	0 57	18 23	4 47	2 2	4 25	19 23	0 56	22 20	1 4	23 38	0 13	22 12	0 59	0 32	16 4	5 58	5 27	9 12	17 43	5 42
W 27	19 13	28 13	4 52	22 1	1 5	18 28	4 45	1 56	4 28	19 25	0 56	22 20	1 4	23 38	0 13	22 13	0 59	0 32	16 4	6 0	5 28	9 9	17 42	5 42
T 28	18 59	26 17	4 16	21 44	1 13	18 32	4 43	1 49	4 30	19 27	0 56	22 20	1 4	23 38	0 13	22 13	0 59	0 31	16 3	6 3	5 29	9 6	17 42	5 42
F 29	18 45	22 30	3 22	21 24	1 10	18 36	4 40	1 42	4 32	19 29	0 56	22 20	1 4	23 38	0 13	22 13	0 59	0 30	16 2	6 5	5 30	9 2	17 41	5 43
S 30	18 31	17 13	2 14	21 2	1 26	18 41	4 38	1 36	4 34	19 31	0 56	22 20	1 4	23 38	0 13	22 13	0 59	0 30	16 2	6 6	5 31	8 59	17 41	5 43
S 31	18n16	10s52	0s56	20n38	1n31	18n45	4s35	1s30	4s36	19n33	0s56	22s21	1n 3	23s38	0s13	22s13	0n59	0n29	16n 1	6s 7	5s33	8n56	17n40	5s43



# ASTRODIENST EPHEMERIS for the year 1988

## geocentric

AUGUST 1988

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
M 1	20 39 17	8♂5746	19♂ 3	6♂32	25♂24	7♂10	1♂37	26♂R36	27♂R33	8♂R 1	9♂48	14♂D28	15♂53	8♂46	3♂38	M 1
T 2	20 43 13	9♂5509	3♂43	8♂38	26♂ 8	7♂28	1♂46	26♂A34	27♂A31	7♂59	9♂48	14♂A29	15♂50	8♂53	3♂43	T 2
W 3	20 47 10	10♂5234	18♂ 4	10♂43	26♂53	7♂47	1♂55	26♂31	27♂30	7♂58	9♂49	14♂31	15♂47	9♂ 0	3♂48	W 3
T 4	20 51 6	11♂5000	2♂ 5	12♂47	27♂39	8♂ 4	2♂ 4	26♂29	27♂28	7♂57	9♂49	14♂32	15♂44	9♂ 6	3♂53	T 4
F 5	20 55 3	12♂4727	15♂44	14♂50	28♂26	8♂21	2♂13	26♂26	27♂27	7♂55	9♂50	14♂R32	15♂41	9♂13	3♂58	F 5
S 6	20 58 59	13♂4455	29♂ 4	16♂52	29♂13	8♂37	2♂21	26♂24	27♂25	7♂54	9♂50	14♂31	15♂37	9♂20	4♂ 2	S 6
S 7	21 2 56	14♂4225	12♂ 5	18♂53	0♂5 1	8♂53	2♂30	26♂22	27♂24	7♂53	9♂51	14♂29	15♂34	9♂26	4♂ 7	S 7
M 8	21 6 53	15♂3956	24♂50	20♂53	0♂50	9♂ 8	2♂38	26♂20	27♂22	7♂52	9♂52	14♂25	15♂31	9♂33	4♂12	M 8
T 9	21 10 49	16♂3728	7♂50	22♂51	1♂40	9♂22	2♂46	26♂18	27♂21	7♂51	9♂52	14♂21	15♂28	9♂40	4♂16	T 9
W10	21 14 46	17♂3502	19♂39	24♂48	2♂30	9♂36	2♂54	26♂16	27♂20	7♂49	9♂53	14♂17	15♂25	9♂46	4♂21	W10
T11	21 18 42	18♂3237	1♂48	26♂44	3♂21	9♂48	3♂ 2	26♂14	27♂19	7♂48	9♂54	14♂12	15♂22	9♂53	4♂25	T11
F12	21 22 39	19♂3013	13♂48	28♂38	4♂13	10♂ 1	3♂10	26♂12	27♂17	7♂47	9♂54	14♂ 9	15♂18	10♂ 0	4♂30	F12
S13	21 26 35	20♂2750	25♂41	0♂30	5♂ 6	10♂12	3♂18	26♂10	27♂16	7♂46	9♂55	14♂ 7	15♂15	10♂ 6	4♂34	S13
S14	21 30 32	21♂2528	7♂30	22♂	5♂59	10♂22	3♂25	26♂ 9	27♂15	7♂45	9♂56	14♂ 5	15♂12	10♂13	4♂39	S14
M15	21 34 29	22♂2308	19♂16	4♂11	6♂52	10♂32	3♂33	26♂ 7	27♂14	7♂44	9♂57	14♂D 5	15♂ 9	10♂20	4♂43	M15
T16	21 38 25	23♂2048	1♂ 3	5♂59	7♂46	10♂41	3♂40	26♂ 6	27♂13	7♂43	9♂58	14♂ 6	15♂ 6	10♂26	4♂47	T16
W17	21 42 22	24♂1830	12♂54	7♂46	8♂41	10♂50	3♂47	26♂ 4	27♂12	7♂42	9♂59	14♂ 7	15♂ 3	10♂33	4♂52	W17
T18	21 46 18	25♂1612	24♂52	9♂31	9♂36	10♂57	3♂54	26♂ 3	27♂11	7♂41	10♂ 0	14♂ 9	14♂59	10♂39	4♂56	T18
F19	21 50 15	26♂1356	7♂ 1	11♂15	10♂32	11♂ 4	4♂ 0	26♂ 2	27♂10	7♂40	10♂ 1	14♂10	14♂56	10♂46	5♂ 0	F19
S20	21 54 11	27♂1141	19♂27	12♂58	11♂28	11♂10	4♂ 7	26♂ 1	27♂ 9	7♂39	10♂ 2	14♂11	14♂53	10♂53	5♂ 4	S20
S21	21 58 8	28♂ 928	2♂12	14♂39	12♂24	11♂15	4♂13	26♂ 0	27♂ 9	7♂38	10♂ 3	14♂R11	14♂50	10♂59	5♂ 8	S21
M22	22 2 4	29♂ 715	15♂21	16♂18	13♂22	11♂19	4♂20	25♂59	27♂ 8	7♂37	10♂ 4	14♂11	14♂47	11♂ 6	5♂12	M22
T23	22 6 1	0♂503	28♂57	17♂56	14♂19	11♂22	4♂26	25♂58	27♂ 7	7♂37	10♂ 5	14♂10	14♂43	11♂13	5♂16	T23
W24	22 9 57	1♂ 253	13♂ 0	19♂33	15♂17	11♂25	4♂32	25♂58	27♂ 7	7♂36	10♂ 6	14♂ 8	14♂40	11♂19	5♂20	W24
T25	22 13 54	2♂ 044	27♂30	21♂ 9	16♂16	11♂27	4♂38	25♂57	27♂ 6	7♂35	10♂ 7	14♂ 6	14♂37	11♂26	5♂24	T25
F26	22 17 51	2♂5836	12♂21	22♂43	17♂14	11♂28	4♂43	25♂57	27♂ 5	7♂34	10♂ 9	14♂ 5	14♂34	11♂33	5♂28	F26
S27	22 21 47	3♂5630	27♂27	24♂16	18♂14	11♂R28	4♂49	25♂56	27♂ 5	7♂34	10♂10	14♂ 4	14♂31	11♂39	5♂31	S27
S28	22 25 44	4♂5425	12♂40	25♂47	19♂13	11♂27	4♂54	25♂56	27♂ 4	7♂33	10♂11	14♂D 4	14♂28	11♂46	5♂35	S28
M29	22 29 40	5♂5221	27♂49	27♂17	20♂13	11♂25	4♂59	25♂56	27♂ 4	7♂32	10♂12	14♂ 4	14♂24	11♂53	5♂39	M29
T30	22 33 37	6♂5020	12♂46	28♂46	21♂14	11♂23	5♂ 4	25♂D56	27♂ 4	7♂32	10♂14	14♂ 5	14♂21	11♂59	5♂42	T30
W31	22 37 33	7♂4820	27♂23	0♂13	22♂15	11♂V20	5♂ 9	25♂A56	27♂A 3	7♂31	10♂15	14♂A 5	14♂A18	12♂ 6	5♂46	W31

Day	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	lat
M 1	18n 1	3s57	0n25	20n11	1n36	18n50	4s32	1s24	4s38	19n34	0s56	22s21	1n 3	23s38	0s13	22s13
T 2	17 46	3n 3	1 43	19 42	1 39	18 54	4 29	1 19	4 40	19 36	0 56	22 21	1 3	23 38	0 13	22 13
W 3	17 30	9 45	2 53	19 11	1 42	18 59	4 26	1 14	4 41	19 38	0 56	22 21	1 3	23 38	0 13	22 13
T 4	17 15	15 49	3 51	18 38	1 44	19 3	4 23	1 8	4 43	19 39	0 56	22 21	1 3	23 38	0 13	22 13
F 5	16 58	20 56	4 35	18 4	1 45	19 7	4 19	1 3	4 45	19 41	0 57	22 21	1 3	23 38	0 13	22 14
S 6	16 42	24 51	5 2	17 28	1 46	19 11	4 16	0 59	4 47	19 43	0 57	22 21	1 3	23 38	0 13	22 14
S 7	16 25	27 25	5 13	16 51	1 46	19 15	4 12	0 54	4 49	19 44	0 57	22 21	1 2	23 38	0 13	22 14
M 8	16 9	28 28	5 8	16 12	1 45	19 18	4 8	0 50	4 51	19 46	0 57	22 21	1 2	23 38	0 13	22 14
T 9	15 51	28 2	4 48	15 32	1 44	19 21	4 4	0 46	4 53	19 47	0 57	22 21	1 2	23 38	0 13	22 14
W10	15 34	26 13	4 16	14 51	1 42	19 25	4 1	0 43	4 54	19 49	0 57	22 22	1 2	23 38	0 13	22 14
T11	15 16	23 12	3 32	14 10	1 40	19 28	3 57	0 39	4 56	19 50	0 57	22 22	1 2	23 38	0 13	22 14
F12	14 58	19 14	2 39	13 28	1 37	19 30	3 52	0 36	4 58	19 52	0 57	22 22	1 2	23 38	0 13	22 14
S13	14 40	14 32	1 40	12 45	1 33	19 33	3 48	0 33	4 59	19 53	0 57	22 22	1 1	23 38	0 13	22 14
S14	14 22	9 19	0 36	12 1	1 29	19 35	3 44	0 30	5 1	19 54	0 57	22 22	1 1	23 38	0 13	22 14
M15	14 3	3 49	0s29	11 17	1 25	19 36	3 40	0 28	5 3	19 56	0 57	22 22	1 1	23 38	0 13	22 14
T16	13 44	1s50	1 32	10 33	1 20	19 38	3 35	0 26	5 4	19 57	0 57	22 22	1 1	23 38	0 13	22 15
W17	13 25	7 26	2 33	9 49	1 15	19 39	3 31	0 24	5 5	19 58	0 58	22 22	1 1	23 38	0 13	22 15
T18	13 6	12 50	3 27	9 4	1 9	19 40	3 26	0 22	5 7	19 59	0 58	22 23	1 1	23 38	0 13	22 15
F19	12 47	17 50	4 13	8 19	1 3	19 40	3 22	0 21	5 8	20 0	0 58	22 23	1 0	23 38	0 13	22 15
S20	12 27	22 12	4 48	7 34	0 57	19 40	3 17	0 20	5 9	20 2	0 58	22 23	1 0	23 38	0 13	22 15
S21	12 7	25 40	5 10	6 50	0 51	19 40	3 13	0 19	5 11	20 3	0 58	22 23	1 0	23 38	0 13	22 15
M22	11 47	27 53	5 17	6 5	0 44	19 39	3 8	0 18	5 12	20 4	0 58	22 23	1 0	23 38	0 13	22 15
T23	11 27	28 33	5 6	5 20	0 37	19 38	3 3	0 18	5 13	20 5	0 58	22 23	1 0	23 38	0 13	22 15
W24	11 6	27 25	4 38	4 36	0 30	19 37	2 58	0 18	5 14	20 6	0 58	22 23	1 0	23 38	0 13	22 15
T25	10 46	24 26	3 51	3 51	0 22	19 35	2 54	0 18	5 15	20 7	0 58	22 24	0 59	23 38	0 13	22 15
F26	10 25	19 46	2 47	3 7	0 15	19 32	2 49	0 18	5 16	20 8	0 58	22 24	0 59	23 38	0 13	22 15
S27	10 4	13 47	1 31	2 23	0 7	19 30	2 44	0 19	5 16	20 9	0 59	22 24	0 59	23 38	0 13	22 16
S28	9 43	6 56	0 8	1 40	0s 1	19 26	2 39	0 20	5 17	20 9	0 59	22 24	0 59	23 38	0 13	22 16
M29	9 22	0n17	1n16	0 57	0 9	19 23	2 34	0 21	5 17	20 10	0 59	22 24	0 59	23 38	0 13	22 16
T30	9 0	7 23	2 33	0 14	0 17	19 19	2 29	0 22	5 18	20 11	0 59	22 24	0 59	23 38	0 13	22 16
W31	8n39	13n56	3n38	0s28	0s25	19n14	2s24	0s24	5s18	20n12	0s59	22s24	0n58	23s38	0s13	22s16

Julian Day Number = 2447374.5, Delta T = 56.10 sec

Ecliptic obliquity = 23°26'36", Nutation = 0°00'05", out-of-bounds declination in red

Ayanamsha: Fagan/Bradley = 24°34'51", Lahiri = 23°41'51"

# ASTRODIENST EPHEMERIS for the year 1988

## geocentric

SEPTEMBER 1988

00:00 UT

Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	22 41 30	8♎46'22	11♎36	1♎39	23♎16	11°R16	5♎13	25♎56	27°R 3	7°R30	10♎16	14♎6	14♎15	12♎12	5♎49	T 1
F 2	22 45 26	9°44'26	25°24	3° 3	24°17	11°Y11	5°18	25°56	27♎ 3	7♎30	10°18	14° 6	14°12	12°19	5°53	F 2
S 3	22 49 23	10°42'32	8♎46	4°26	25°19	11° 5	5°22	25°56	27° 3	7°29	10°19	14°R 6	14° 9	12°26	5°56	S 3
S 4	22 53 20	11°40'40	21°44	5°48	26°21	10°58	5°26	25°57	27° 3	7°29	10°21	14° 6	14° 5	12°32	5°59	S 4
M 5	22 57 16	12°38'50	4♎23	7° 8	27°24	10°51	5°30	25°57	27°D 3	7°28	10°22	14° 6	14° 2	12°39	6° 2	M 5
T 6	23 1 13	13°37'02	16°44	8°27	28°26	10°42	5°34	25°58	27° 3	7°28	10°24	14°D 6	13°59	12°46	6° 6	T 6
W 7	23 5 9	14°35'16	28°53	9°44	29°29	10°33	5°37	25°59	27° 3	7°27	10°25	14° 6	13°56	12°52	6° 9	W 7
T 8	23 9 6	15°33'32	10♎51	10°59	0♎33	10°23	5°41	25°59	27° 3	7°27	10°27	14° 6	13°53	12°59	6°12	T 8
F 9	23 13 2	16°31'49	22°43	12°13	1°36	10°13	5°44	26° 0	27° 3	7°27	10°29	14° 6	13°49	13° 6	6°15	F 9
S 10	23 16 59	17°30'09	4♎31	13°25	2°40	10° 2	5°47	26° 1	27° 3	7°26	10°30	14° 7	13°46	13°12	6°17	S 10
S 11	23 20 55	18°28'30	16°18	14°35	3°44	9°50	5°49	26° 2	27° 3	7°26	10°32	14°R 7	13°43	13°19	6°20	S 11
M12	23 24 52	19°26'53	28° 6	15°43	4°49	9°37	5°52	26° 3	27° 4	7°26	10°34	14° 6	13°40	13°26	6°23	M12
T 13	23 28 49	20°25'18	9♎57	16°49	5°54	9°24	5°54	26° 5	27° 4	7°26	10°35	14° 6	13°37	13°32	6°26	T 13
W14	23 32 45	21°23'45	21°54	17°52	6°58	9°10	5°57	26° 6	27° 5	7°26	10°37	14° 5	13°34	13°39	6°28	W14
T 15	23 36 42	22°22'14	3♎59	18°54	8° 4	8°55	5°59	26° 8	27° 5	7°25	10°39	14° 4	13°30	13°45	6°31	T 15
F 16	23 40 38	23°20'44	16°15	19°53	9° 9	8°40	6° 0	26° 9	27° 6	7°25	10°41	14° 3	13°27	13°52	6°33	F 16
S 17	23 44 35	24°19'16	28°44	20°49	10°15	8°25	6° 2	26°11	27° 6	7°25	10°42	14° 2	13°24	13°59	6°35	S 17
S 18	23 48 31	25°17'50	11♎29	21°43	11°21	8° 9	6° 3	26°13	27° 7	7°25	10°44	14° 1	13°21	14° 5	6°38	S 18
M19	23 52 28	26°16'25	24°35	22°33	12°27	7°53	6° 5	26°14	27° 7	7°D25	10°46	14°D 1	13°18	14°12	6°40	M19
T 20	23 56 24	27°15'02	8♎2	23°20	13°33	7°36	6° 6	26°16	27° 8	7°25	10°48	14° 1	13°15	14°19	6°42	T 20
W21	0 0 21	28°13'41	21°54	24° 3	14°39	7°19	6° 7	26°18	27° 9	7°25	10°50	14° 1	13°11	14°25	6°44	W21
T 22	0 4 18	29°12'21	6♎10	24°43	15°46	7° 2	6° 7	26°21	27°10	7°25	10°52	14° 3	13° 8	14°32	6°46	T 22
F 23	0 8 14	0♎11'03	20°48	25°19	16°53	6°45	6° 8	26°23	27°11	7°25	10°54	14° 4	13° 5	14°39	6°48	F 23
S 24	0 12 11	1° 9'47	5♎44	25°50	18° 0	6°27	6° 8	26°25	27°12	7°26	10°56	14° 4	13° 2	14°45	6°50	S 24
S 25	0 16 7	2° 8'33	20°51	26°16	19° 8	6° 9	6°R 8	26°28	27°12	7°26	10°58	14°R 4	12°59	14°52	6°52	S 25
M26	0 20 4	3° 7'20	6°Y 0	26°36	20°15	5°52	6° 8	26°30	27°14	7°26	11° 0	14° 4	12°55	14°59	6°53	M26
T 27	0 24 0	4° 6'09	21° 3	26°52	21°23	5°34	6° 7	26°33	27°15	7°26	11° 2	14° 2	12°52	15° 5	6°55	T 27
W28	0 27 57	5° 5'01	5♎50	27° 1	22°31	5°16	6° 7	26°35	27°16	7°27	11° 4	13°59	12°49	15°12	6°56	W28
T 29	0 31 53	6° 3'55	20°14	27°R 3	23°39	4°59	6° 6	26°38	27°17	7°27	11° 6	13°56	12°46	15°19	6°58	T 29
F 30	0 35 50	7♎2'51	4♎11	26♎59	24♎47	4°Y41	6♎5	26♎41	27♎18	7♎27	11♎8	13♎53	12♎43	15♎25	6♎59	F 30

Day	☉	☾		♂	♀		♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂
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## ASTRODIENST EPHEMERIS for the year 1988

geocentric

OCTOBER 1988

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Day	Sid.t	☉	☽	♂	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
S 1	0 39 47	8♌ 1'49	17♏41	26°R48	25♏56	4°R24	6°R 4	26♌44	27♌19	7♌28	11♏10	13°R51	12♌40	15♏32	7♌ 1	S 1
S 2	0 43 43	9° 0'50	0♌44	26♌29	27° 4	4♏ 7	6♏ 2	26°47	27°21	7°28	11°12	13♌50	12°36	15°38	7° 2	S 2
M 3	0 47 40	9°59'53	13°22	26° 2	28°13	3°50	6° 1	26°50	27°22	7°29	11°14	13°D49	12°33	15°45	7° 3	M 3
T 4	0 51 36	10°58'58	25°42	25°28	29°22	3°33	5°59	26°53	27°23	7°29	11°16	13°50	12°30	15°52	7° 4	T 4
W 5	0 55 33	11°58'06	7♏46	24°46	0♏31	3°17	5°57	26°57	27°25	7°30	11°19	13°52	12°27	15°58	7° 5	W 5
T 6	0 59 29	12°57'16	19°40	23°56	1°40	3° 1	5°55	27° 0	27°26	7°30	11°21	13°53	12°24	16° 5	7° 6	T 6
F 7	1 3 26	13°56'28	1♏28	23° 0	2°50	2°45	5°52	27° 3	27°28	7°31	11°23	13°55	12°20	16°12	7° 7	F 7
S 8	1 7 22	14°55'42	13°14	21°58	3°59	2°30	5°50	27° 7	27°30	7°31	11°25	13°R56	12°17	16°18	7° 7	S 8
S 9	1 11 19	15°54'58	25° 2	20°51	5° 9	2°16	5°47	27°11	27°31	7°32	11°27	13°55	12°14	16°25	7° 8	S 9
M10	1 15 16	16°54'17	6♌55	19°41	6°19	2° 2	5°44	27°14	27°33	7°33	11°30	13°53	12°11	16°32	7° 9	M10
T 11	1 19 12	17°53'38	18°54	18°29	7°29	1°49	5°41	27°18	27°35	7°33	11°32	13°49	12° 8	16°38	7° 9	T 11
W12	1 23 9	18°53'00	1♏ 2	17°18	8°39	1°36	5°37	27°22	27°37	7°34	11°34	13°43	12° 5	16°45	7° 9	W12
T 13	1 27 5	19°52'25	13°20	16°10	9°49	1°24	5°34	27°26	27°38	7°35	11°36	13°37	12° 1	16°52	7°10	T 13
F 14	1 31 2	20°51'52	25°49	15° 5	11° 0	1°13	5°30	27°30	27°40	7°36	11°39	13°30	11°58	16°58	7°10	F 14
S 15	1 34 58	21°51'21	8♌30	14° 7	12°10	1° 2	5°26	27°34	27°42	7°36	11°41	13°24	11°55	17° 5	7°10	S 15
S 16	1 38 55	22°50'51	21°24	13°17	13°21	0°52	5°22	27°38	27°44	7°37	11°43	13°19	11°52	17°11	7°R10	S 16
M17	1 42 51	23°50'23	4♌33	12°37	14°32	0°43	5°18	27°43	27°46	7°38	11°46	13°15	11°49	17°18	7°10	M17
T 18	1 46 48	24°49'57	17°58	12° 7	15°43	0°34	5°13	27°47	27°48	7°39	11°48	13°13	11°46	17°25	7°10	T 18
W19	1 50 45	25°49'33	1♌41	11°47	16°54	0°26	5° 9	27°51	27°50	7°40	11°50	13°D13	11°42	17°31	7°10	W19
T 20	1 54 41	26°49'11	15°42	11°D39	18° 5	0°20	5° 4	27°56	27°53	7°41	11°53	13°14	11°39	17°38	7°10	T 20
F 21	1 58 38	27°48'50	0♌ 1	11°42	19°16	0°13	4°59	28° 1	27°55	7°42	11°55	13°16	11°36	17°45	7° 9	F 21
S 22	2 2 34	28°48'31	14°36	11°56	20°27	0° 8	4°54	28° 5	27°57	7°43	11°58	13°R16	11°33	17°51	7° 9	S 22
S 23	2 6 31	29°48'13	29°24	12°20	21°39	0° 3	4°48	28°10	27°59	7°44	12° 0	13°15	11°30	17°58	7° 8	S 23
M24	2 10 27	0♏47'57	14°Y17	12°54	22°50	29♌59	4°43	28°15	28° 2	7°45	12° 2	13°12	11°26	18° 5	7° 8	M24
T 25	2 14 24	1°47'44	29° 9	13°37	24° 2	29°57	4°37	28°20	28° 4	7°47	12° 5	13° 6	11°23	18°11	7° 7	T 25
W26	2 18 20	2°47'32	13♌52	14°28	25°14	29°55	4°31	28°24	28° 6	7°48	12° 7	12°59	11°20	18°18	7° 6	W26
T 27	2 22 17	3°47'22	28°16	15°26	26°26	29°53	4°25	28°29	28° 9	7°49	12° 9	12°51	11°17	18°25	7° 5	T 27
F 28	2 26 14	4°47'14	12♏17	16°30	27°38	29°D53	4°19	28°34	28°11	7°50	12°12	12°42	11°14	18°31	7° 4	F 28
S 29	2 30 10	5°47'09	25°52	17°40	28°50	29°53	4°13	28°40	28°14	7°52	12°14	12°35	11°11	18°38	7° 3	S 29
S 30	2 34 7	6°47'06	9♌ 0	18°54	0♌ 2	29°54	4° 6	28°45	28°16	7°53	12°17	12°29	11° 7	18°45	7° 2	S 30
M31	2 38 3	7♏47'05	21♌42	20♌13	1♌14	29♌56	4♏ 0	28♌50	28♌19	7♌54	12♏19	12♌26	11♌ 4	18♏51	7♌ 1	M31

Day	☉	☾		♂		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
S 1	3s11	28n 5	5n14	13s46	3s41	12n54	0n 2	2s17	4s23	20n18	1 s 2	22s31	0n53	23s38	0s13	22s17	0n57	0s24	15n31	6s21	6s49	5n28	17n 3	6s13	17s 3
S 2	3 34	28 28	5 1	13 36	3 38	12 35	0 6	2 20	4 19	20 18	1 2	22 31	0 53	23 38	0 13	22 17	0 57	0 25	15 31	6 22	6 50	5 25	17 3	6 13	17 3
M 3	3 58	27 19	4 34	13 22	3 33	12 15	0 10	2 23	4 15	20 18	1 2	22 31	0 53	23 38	0 13	22 17	0 57	0 25	15 30	6 22	6 51	5 21	17 2	6 14	17 2
T 4	4 21	24 51	3 55	13 3	3 26	11 55	0 14	2 26	4 11	20 17	1 2	22 32	0 53	23 38	0 13	22 17	0 57	0 26	15 30	6 22	6 52	5 18	17 1	6 15	17 1
W 5	4 44	21 19	3 6	12 40	3 18	11 34	0 18	2 28	4 7	20 17	1 2	22 32	0 53	23 38	0 13	22 17	0 57	0 27	15 30	6 21	6 53	5 14	17 1	6 15	17 1
T 6	5 7	16 58	2 9	12 12	3 8	11 13	0 21	2 31	4 3	20 16	1 2	22 32	0 52	23 38	0 13	22 17	0 57	0 28	15 30	6 20	6 55	5 11	17 0	6 16	17 0
F 7	5 30	12 1	1 8	11 41	2 57	10 52	0 25	2 33	3 58	20 16	1 2	22 32	0 52	23 38	0 13	22 17	0 57	0 29	15 29	6 20	6 56	5 8	16 59	6 16	16 59
S 8	5 53	6 39	0 4	11 5	2 43	10 30	0 29	2 35	3 54	20 15	1 2	22 33	0 52	23 38	0 13	22 17	0 57	0 30	15 29	6 19	6 57	5 4	16 59	6 17	16 59
S 9	6 16	1 3	1s 1	10 25	2 27	10 8	0 32	2 36	3 49	20 15	1 3	22 33	0 52	23 38	0 13	22 17	0 56	0 31	15 29	6 20	6 58	5 1	16 58	6 18	16 58
M10	6 39	4s37	2 2	9 43	2 10	9 45	0 36	2 38	3 45	20 14	1 3	22 33	0 52	23 38	0 13	22 17	0 56	0 32	15 28	6 21	7 0	4 58	16 57	6 18	16 57
T 11	7 1	10 10	2 59	8 58	1 52	9 22	0 39	2 39	3 40	20 14	1 3	22 33	0 52	23 38	0 13	22 17	0 56	0 33	15 28	6 22	7 1	4 54	16 57	6 19	16 57
W12	7 24	15 25	3 49	8 13	1 32	8 59	0 43	2 40	3 36	20 13	1 3	22 33	0 52	23 38	0 13	22 17	0 56	0 34	15 28	6 24	7 2	4 51	16 56	6 19	16 56
T 13	7 46	20 6	4 28	7 28	1 12	8 36	0 46	2 40	3 31	20 12	1 3	22 34	0 51	23 38	0 13	22 17	0 56	0 34	15 28	6 27	7 3	4 47	16 56	6 20	16 56
F 14	8 9	24 0	4 56	6 44	0 51	8 12	0 49	2 41	3 26	20 12	1 3	22 34	0 51	23 38	0 13	22 17	0 56	0 35	15 28	6 29	7 4	4 44	16 55	6 21	16 55
S 15	8 31	26 49	5 9	6 3	0 31	7 48	0 53	2 40	3 22	20 11	1 3	22 34	0 51	23 38	0 13	22 17	0 56	0 36	15 27	6 32	7 6	4 41	16 54	6 21	16 54
S 16	8 53	28 16	5 7	5 25	0 11	7 24	0 56	2 40	3 17	20 10	1 3	22 34	0 51	23 38	0 13	22 17	0 56	0 37	15 27	6 34	7 7	4 37	16 54	6 22	16 54
M17	9 15	28 11	4 49	4 51	0n 9	7 0	0 59	2 40	3 12	20 9	1 3	22 35	0 51	23 38	0 13	22 17	0 56	0 38	15 27	6 35	7 8	4 34	16 53	6 22	16 53
T 18	9 37	26 27	4 15	4 23	0 27	6 35	1 2	2 39	3 8	20 8	1 3	22 35	0 51	23 38	0 13	22 17	0 56	0 39	15 27	6 36	7 9	4 30	16 53	6 23	16 53
W19	9 59	23 8	3 26	3 59	0 44	6 10	1 4	2 37	3 3	20 8	1 3	22 35	0 51	23 38	0 13	22 17	0 56	0 40	15 27	6 36	7 10	4 27	16 52	6 24	16 52
T 20	10 20	18 25	2 24	3 42	0 59	5 45	1 7	2 36	2 58	20 7	1 3	22 35	0 50	23 38	0 13	22 17	0 56	0 40	15 26	6 35	7 12	4 24	16 51	6 24	16 51
F 21	10 42	12 35	1 11	3 30	1 13	5 19	1 10	2 34	2 54	20 6	1 3	22 35	0 50	23 38	0 13	22 17	0 56	0 41	15 26	6 35	7 13	4 20	16 51	6 25	16 51
S 22	11 3	5 57	0n 7	3 25	1 25	4 54	1 12	2 32	2 49	20 5	1 3	22 36	0 50	23 38	0 13	22 17	0 56	0 42	15 26	6 35	7 14	4 17	16 50	6 25	16 50
S 23	11 24	1n 4	1 26	3 24	1 36	4 28	1 15	2 29	2 44	20 4	1 3	22 36	0 50	23 39	0 13	22 17	0 56	0 43	15 26	6 35	7 15	4 13	16 50	6 26	16 50
M24	11 45	8 5	2 39	3 29	1 45	4 2	1 17	2 27	2 40	20 3	1 3	22 36	0 50	23 39	0 13	22 17	0 56	0 44	15 26	6 36	7 16	4 10	16 49	6 26	16 49
T 25	12 6	14 38	3 42	3 39	1 52	3 35	1 20	2 24	2 35	20 2	1 3	22 36	0 50	23 39	0 13	22 17	0 56	0 45	15 26	6 38	7 18	4 7	16 49	6 27	16 49
W26	12 27	20 16	4 28	3 53	1 58	3 9	1 22	2 20	2 31	20 1	1 3	22 36	0 50	23 39	0 13	22 17	0 56	0 45	15 25	6 41	7 19	4 3	16 48	6 28	16 48
T 27	12 47	24 36	4 57	4 11	2 3	2 42	1 24	2 17	2 26	20 0	1 3	22 37	0 49	23 39	0 13	22 17	0 56	0 46	15 25	6 44	7 20	4 0	16 48	6 28	16 48
F 28	13 7	27 20	5 7	4 33	2 6	2 16	1 26	2 13	2 22	19 58	1 3	22 37	0 49	23 39	0 13	22 17	0 56	0 47	15 25	6 48	7 21	3 56	16 47	6 29	16 47
S 29	13 27	28 21	4 59	4 58	2 8	1 49	1 28	2 9	2 17	19 57	1 3	22 37	0 49	23 39	0 13	22 17	0 56	0 48	15 25	6 50	7 23	3 53	16 46	6 29	16 46
S 30	13 47	27 43	4 35	5 25	2 9	1 22	1 30	2 5	2 13	19 56	1 3	22 37	0 49	23 39	0 13	22 17	0 56	0 48	15 25	6 53	7 24	3 50	16 46	6 30	16 46
M31	14s 6	25n37	3n58	5s55	2n 9	0n55	1n32	2s 0	2s 9	19n55	1 s 3	22s37	0n49	23s39	0s13	22s17	0n56	0s49	15n25	6s54	7s25	3n46	16n45	6s30	16 45

## ASTRODIENST EPHEMERIS for the year 1988

geocentric

NOVEMBER 1988

00:00 UT

Day	Sid.t	☉	☽	♀	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	♂	Day
T 1	2 42 0	8♈47'06	4♈3	21♈35	2♈27	29♈58	3♈R53	28♈55	28♈22	7♈55	12♈22	12♈D24	11♈1	18♈58	7♈R 0	T 1
W 2	2 45 56	9°47'09	16° 8	23° 0	3°39	0°Y 2	3♈II46	29° 1	28°24	7°57	12°24	12°H24	10°58	19° 4	6♈59	W 2
T 3	2 49 53	10°47'14	28° 1	24°28	4°52	0° 6	3°40	29° 6	28°27	7°58	12°26	12°25	10°55	19°11	6°57	T 3
F 4	2 53 49	11°47'21	9♈49	25°58	6° 4	0°11	3°33	29°12	28°30	8° 0	12°29	12°R26	10°52	19°18	6°56	F 4
S 5	2 57 46	12°47'30	21°35	27°29	7°17	0°16	3°25	29°17	28°32	8° 1	12°31	12°25	10°48	19°24	6°54	S 5
S 6	3 1 43	13°47'42	3♈26	29° 2	8°30	0°23	3°18	29°23	28°35	8° 3	12°34	12°23	10°45	19°31	6°52	S 6
M 7	3 5 39	14°47'55	15°25	0♈35	9°43	0°30	3°11	29°28	28°38	8° 4	12°36	12°18	10°42	19°38	6°51	M 7
T 8	3 9 36	15°48'10	27°34	2°10	10°56	0°37	3° 3	29°34	28°41	8° 6	12°39	12°10	10°39	19°44	6°49	T 8
W 9	3 13 32	16°48'27	9♈55	3°45	12° 9	0°46	2°56	29°40	28°44	8° 7	12°41	12° 0	10°36	19°51	6°47	W 9
T 10	3 17 29	17°48'46	22°30	5°21	13°22	0°55	2°48	29°46	28°47	8° 9	12°43	11°48	10°32	19°58	6°45	T 10
F 11	3 21 25	18°49'07	5♈19	6°57	14°35	1° 5	2°40	29°52	28°50	8°10	12°46	11°36	10°29	20° 4	6°43	F 11
S 12	3 25 22	19°49'29	18°20	8°33	15°48	1°16	2°33	29°58	28°53	8°12	12°48	11°24	10°26	20°11	6°41	S 12
S 13	3 29 18	20°49'53	1♈33	10°10	17° 2	1°27	2°25	0♈4	28°56	8°14	12°51	11°14	10°23	20°18	6°39	S 13
M14	3 33 15	21°50'18	14°57	11°46	18°15	1°39	2°17	0°10	28°59	8°15	12°53	11° 6	10°20	20°24	6°36	M14
T 15	3 37 12	22°50'45	28°31	13°23	19°29	1°52	2° 9	0°16	29° 2	8°17	12°56	11° 1	10°17	20°31	6°34	T 15
W16	3 41 8	23°51'13	12♈15	14°59	20°42	2° 5	2° 1	0°22	29° 5	8°19	12°58	10°59	10°13	20°38	6°32	W16
T 17	3 45 5	24°51'42	26°10	16°35	21°56	2°19	1°53	0°28	29° 8	8°21	13° 0	10°D59	10°10	20°44	6°29	T 17
F 18	3 49 1	25°52'13	10♈15	18°11	23° 9	2°33	1°45	0°34	29°11	8°22	13° 3	10°R59	10° 7	20°51	6°27	F 18
S 19	3 52 58	26°52'44	24°30	19°47	24°23	2°48	1°37	0°41	29°14	8°24	13° 5	10°58	10° 4	20°57	6°24	S 19
S 20	3 56 54	27°53'17	8♈53	21°23	25°37	3° 4	1°28	0°47	29°18	8°26	13° 7	10°56	10° 1	21° 4	6°21	S 20
M21	4 0 51	28°53'51	23°21	22°59	26°50	3°20	1°20	0°53	29°21	8°28	13°10	10°51	9°58	21°11	6°19	M21
T 22	4 4 47	29°54'27	7♈49	24°35	28° 4	3°37	1°12	1° 0	29°24	8°30	13°12	10°42	9°54	21°17	6°16	T 22
W23	4 8 44	0♈55'04	22°11	26°10	29°18	3°54	1° 4	1° 6	29°27	8°32	13°15	10°32	9°51	21°24	6°13	W23
T 24	4 12 41	1°55'42	6♈21	27°45	0♈32	4°12	0°56	1°13	29°31	8°34	13°17	10°19	9°48	21°31	6°10	T 24
F 25	4 16 37	2°56'22	20°13	29°20	1°46	4°30	0°48	1°19	29°34	8°35	13°19	10° 7	9°45	21°37	6° 7	F 25
S 26	4 20 34	3°57'03	3♈43	0♈55	3° 0	4°49	0°39	1°26	29°37	8°37	13°22	9°55	9°42	21°44	6° 4	S 26
S 27	4 24 30	4°57'45	16°50	2°30	4°14	5° 8	0°31	1°32	29°41	8°39	13°24	9°46	9°38	21°51	6° 1	S 27
M28	4 28 27	5°58'29	29°33	4° 4	5°28	5°28	0°23	1°39	29°44	8°41	13°26	9°39	9°35	21°57	5°58	M28
T 29	4 32 23	6°59'15	11♈56	5°39	6°43	5°48	0°15	1°45	29°47	8°43	13°28	9°34	9°32	22° 4	5°55	T 29
W30	4 36 20	8♈0'02	24♈2	7♈13	7♈57	6♈Y 8	0♈II 7	1♈52	29♈51	8♈45	13♈31	9♈33	9♈29	22♈11	5♈52	W30

Day	☉	☾		♀		♀		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂		♂	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat
T 1	14s26	22n20	3n11	6s27	2n 8	0n28	1n34	1s55	2s 5	19n54	1 s 3	22s38	0n49	23s39	0s13	22s17	0n56	0s50	15n25	6s54	7s26	3n43	16n45	6s31							
W 2	14 45	18 10	2 16	7 0	2 6	0 0	1 35	1 50	2 0	19 52	1 3	22 38	0 49	23 39	0 13	22 17	0 56	0 51	15 25	6 54	7 27	3 39	16 44	6 32							
T 3	15 4	13 22	1 17	7 34	2 3	0s27	1 37	1 44	1 56	19 51	1 3	22 38	0 49	23 39	0 13	22 17	0 56	0 51	15 25	6 54	7 29	3 36	16 44	6 32							
F 4	15 22	8 7	0 14	8 10	2 0	0 54	1 38	1 39	1 52	19 50	1 3	22 38	0 48	23 39	0 13	22 17	0 55	0 52	15 25	6 54	7 30	3 32	16 44	6 33							
S 5	15 41	2 35	0s49	8 46	1 57	1 22	1 40	1 33	1 48	19 49	1 3	22 38	0 48	23 39	0 13	22 17	0 55	0 53	15 25	6 54	7 31	3 29	16 43	6 33							
S 6	15 59	3s 3	1 50	9 23	1 52	1 49	1 41	1 27	1 44	19 47	1 3	22 38	0 48	23 39	0 13	22 17	0 55	0 54	15 25	6 55	7 32	3 26	16 43	6 34							
M 7	16 17	8 38	2 47	10 0	1 48	2 17	1 42	1 20	1 40	19 46	1 3	22 38	0 48	23 39	0 13	22 17	0 55	0 54	15 25	6 57	7 33	3 22	16 42	6 34							
T 8	16 34	13 58	3 36	10 37	1 43	2 45	1 43	1 14	1 36	19 44	1 3	22 39	0 48	23 39	0 13	22 16	0 55	0 55	15 25	7 0	7 35	3 19	16 42	6 35							
W 9	16 52	18 51	4 17	11 15	1 37	3 12	1 44	1 7	1 33	19 43	1 3	22 39	0 48	23 39	0 13	22 16	0 55	0 56	15 25	7 4	7 36	3 15	16 41	6 35							
T 10	17 9	23 0	4 45	11 52	1 32	3 40	1 45	1 0	1 29	19 42	1 3	22 39	0 48	23 39	0 13	22 16	0 55	0 56	15 25	7 8	7 37	3 12	16 41	6 36							
F 11	17 25	26 7	5 0	12 29	1 26	4 7	1 46	0 52	1 25	19 40	1 3	22 39	0 48	23 39	0 13	22 16	0 55	0 57	15 25	7 13	7 38	3 9	16 40	6 36							
S 12	17 42	27 55	5 0	13 6	1 20	4 35	1 47	0 45	1 22	19 39	1 3	22 39	0 47	23 39	0 13	22 16	0 55	0 58	15 25	7 17	7 39	3 5	16 40	6 37							
S 13	17 58	28 10	4 44	13 42	1 13	5 2	1 47	0 37	1 18	19 37	1 3	22 39	0 47	23 39	0 13	22 16	0 55	0 58	15 25	7 21	7 41	3 2	16 40	6 37							
M14	18 14	26 46	4 12	14 18	1 7	5 30	1 48	0 29	1 15	19 36	1 3	22 39	0 47	23 39	0 13	22 16	0 55	0 59	15 25	7 24	7 42	2 58	16 39	6 38							
T 15	18 29	23 48	3 25	14 54	1 0	5 57	1 48	0 21	1 11	19 34	1 3	22 39	0 47	23 39	0 13	22 16	0 55	1 0	15 25	7 26	7 43	2 55	16 39	6 38							
W16	18 44	19 28	2 26	15 29	0 54	6 24	1 49	0 13	1 8	19 33	1 3	22 40	0 47	23 39	0 13	22 16	0 55	1 0	15 25	7 27	7 44	2 52	16 38	6 39							
T 17	18 59	14 1	1 18	16 3	0 47	6 51	1 49	0 4	1 4	19 31	1 2	22 40	0 47	23 39	0 13	22 16	0 55	1 1	15 25	7 27	7 45	2 48	16 38	6 39							
F 18	19 14	7 47	0 4	16 36	0 40	7 18	1 49	0n 5	1 1	19 30	1 2	22 40	0 47	23 39	0 13	22 16	0 55	1 2	15 25	7 27	7 47	2 45	16 38	6 40							
S 19	19 28	1 6	1n11	17 9	0 33	7 45	1 49	0 14	0 58	19 28	1 2	22 40	0 47	23 39	0 13	22 16	0 55	1 2	15 25	7 27	7 48	2 41	16 37	6 40							
S 20	19 42	5n42	2 22	17 41	0 26	8 12	1 50	0 23	0 55	19 27	1 2	22 40	0 47	23 39	0 13	22 16	0 55	1 3	15 25	7 28	7 49	2 38	16 37	6 41							
M21	19 55	12 14	3 24	18 12	0 20	8 39	1 49	0 32	0 52	19 25	1 2	22 40	0 46	23 39	0 13	22 16	0 55	1 3	15 25	7 30	7 50	2 34	16 37	6 41							
T 22	20 8	18 6	4 13	18 43	0 13	9 5	1 49	0 41	0 49	19 24	1 2	22 40	0 46	23 39	0 13	22 15	0 55	1 4	15 25	7 33	7 51	2 31	16 36	6 42							
W23	20 21	22 55	4 45	19 12	0 6	9 32	1 49	0 51	0 46	19 22	1 2	22 40	0 46	23 39	0 13	22 15	0 55	1 4	15 25	7 37	7 53	2 28	16 36	6 42							
T 24	20 33	26 17	5 0	19 41	0s 1	9 58	1 49	1 1	0 43	19 20	1 2	22 40	0 46	23 39	0 13	22 15	0 55	1 5	15 26	7 42	7 54	2 24	16 36	6 42							
F 25	20 45	28 0	4 56	20 8	0 8	10 24	1 48	1 10	0 40	19 19	1 2	22 40	0 46	23 39	0 13	22 15	0 55	1 5	15 26	7 47	7 55	2 21	16 36	6 43							
S 26	20 57	27 59	4 35	20 35	0 14	10 49	1 48	1 20	0 37	19 17	1 1	22 40	0 46	23 39	0 13	22 15	0 55	1 6	15 26	7 51	7 56	2 17	16 35	6 43							
S 27	21 8	26 22	4 1	21 0	0 21	11 15	1 48	1 31	0 35	19 16	1 1	22 40	0 46	23 39	0 13	22 15	0 55	1 6	15 26	7 55	7 57	2 14	16 35	6 44							
M28	21 18	23 25	3 15	21 25	0 28	11 40	1 47	1 41	0 32	19 14	1 1	22 40	0 46	23 39	0 13	22 15	0 55	1 7	15 26	7 57	7 59	2 11	16 35	6 44							
T 29	21 29	19 28	2 21	21 49	0 34	12 5	1 46	1 51	0 29	19 13	1 1	22 40	0 46	23 39	0 13	22 15	0 55	1 7	15 26	7 59	8 0	2 7	16 35	6 44							
W30	21s39	14n47	1n21	22s11	0s40	12s30	1n45	2n 2	0s27	19n11	1 s 1	22s40	0n46	23s39	0s13	22s15	0n55	1 s 8	15n26	8 s 0	8 s 1	2n 4	16n34	6s44							

## ASTRODIENST EPHEMERIS for the year 1988

geocentric

DECEMBER 1988

00:00 UT

Day	Sid.t	☉	☽	♊	♋	♌	♍	♎	♏	♐	♑	♒	♓	♈	♉	Day
T 1	4 40 16	9° 0' 50"	5° 17' 56"	8° 47' 48"	9° 11' 11"	6° 30' 30"	29° 59' 59"	1° 35' 59"	29° 54' 54"	8° 47' 47"	13° 33' 33"	9° 32' 32"	9° 26' 26"	22° 17' 17"	5° 48' 48"	T 1
F 2	4 44 13	10° 1' 40"	17° 45' 45"	10° 22' 22"	10° 25' 25"	6° 51' 51"	29° 58' 58"	2° 6' 6"	29° 58' 58"	8° 49' 49"	13° 35' 35"	9° 32' 32"	9° 23' 23"	22° 24' 24"	5° 45' 45"	F 2
S 3	4 48 10	11° 2' 31"	29° 32' 32"	11° 56' 56"	11° 40' 40"	7° 13' 13"	29° 43' 43"	2° 12' 12"	0° 3' 3"	8° 51' 51"	13° 37' 37"	9° 31' 31"	9° 19' 19"	22° 31' 31"	5° 42' 42"	S 3
S 4	4 52 6	12° 3' 24"	11° 25' 25"	13° 30' 30"	12° 54' 54"	7° 35' 35"	29° 35' 35"	2° 19' 19"	0° 5' 5"	8° 53' 53"	13° 40' 40"	9° 28' 28"	9° 16' 16"	22° 37' 37"	5° 38' 38"	S 4
M 5	4 56 3	13° 4' 18"	23° 28' 28"	15° 5' 5"	14° 9' 9"	7° 58' 58"	29° 28' 28"	2° 26' 26"	0° 8' 8"	8° 56' 56"	13° 42' 42"	9° 23' 23"	9° 13' 13"	22° 44' 44"	5° 35' 35"	M 5
T 6	4 59 59	14° 5' 13"	5° 11' 44"	16° 39' 39"	15° 23' 23"	8° 21' 21"	29° 20' 20"	2° 33' 33"	0° 12' 12"	8° 58' 58"	13° 44' 44"	9° 15' 15"	9° 10' 10"	22° 50' 50"	5° 31' 31"	T 6
W 7	5 3 56	15° 6' 10"	18° 17' 17"	18° 13' 13"	16° 38' 38"	8° 45' 45"	29° 12' 12"	2° 40' 40"	0° 15' 15"	9° 0' 0"	13° 46' 46"	9° 4' 4"	9° 7' 7"	22° 57' 57"	5° 28' 28"	W 7
T 8	5 7 52	16° 7' 07"	1° 17' 47"	19° 47' 47"	17° 52' 52"	9° 8' 8"	29° 5' 5"	2° 46' 46"	0° 19' 19"	9° 2' 2"	13° 48' 48"	8° 51' 51"	9° 4' 4"	23° 4' 4"	5° 24' 24"	T 8
F 9	5 11 49	17° 8' 06"	14° 16' 16"	21° 21' 21"	19° 7' 7"	9° 33' 33"	28° 57' 57"	2° 53' 53"	0° 22' 22"	9° 4' 4"	13° 50' 50"	8° 38' 38"	9° 0' 0"	23° 10' 10"	5° 21' 21"	F 9
S 10	5 15 45	18° 9' 06"	27° 41' 41"	22° 56' 56"	20° 21' 21"	9° 57' 57"	28° 50' 50"	3° 0' 0"	0° 26' 26"	9° 6' 6"	13° 53' 53"	8° 24' 24"	8° 57' 57"	23° 17' 17"	5° 17' 17"	S 10
S 11	5 19 42	19° 10' 06"	11° 31' 31"	24° 30' 30"	21° 36' 36"	10° 22' 22"	28° 43' 43"	3° 7' 7"	0° 29' 29"	9° 8' 8"	13° 55' 55"	8° 13' 13"	8° 54' 54"	23° 24' 24"	5° 13' 13"	S 11
M 12	5 23 39	20° 11' 07"	25° 7' 7"	26° 4' 4"	22° 51' 51"	10° 48' 48"	28° 36' 36"	3° 14' 14"	0° 33' 33"	9° 10' 10"	13° 57' 57"	8° 4' 4"	8° 51' 51"	23° 30' 30"	5° 9' 9"	M 12
T 13	5 27 35	21° 12' 09"	9° 3' 3"	27° 39' 39"	24° 5' 5"	11° 13' 13"	28° 29' 29"	3° 21' 21"	0° 37' 37"	9° 13' 13"	13° 59' 59"	7° 59' 59"	8° 48' 48"	23° 37' 37"	5° 6' 6"	T 13
W 14	5 31 32	22° 13' 12"	23° 3' 3"	29° 13' 13"	25° 20' 20"	11° 39' 39"	28° 22' 22"	3° 28' 28"	0° 40' 40"	9° 15' 15"	14° 1' 1"	7° 56' 56"	8° 44' 44"	23° 44' 44"	5° 2' 2"	W 14
T 15	5 35 28	23° 14' 14"	7° 11' 44"	0° 34' 34"	26° 35' 35"	12° 5' 5"	28° 15' 15"	3° 35' 35"	0° 44' 44"	9° 17' 17"	14° 3' 3"	7° 55' 55"	8° 41' 41"	23° 50' 50"	4° 58' 58"	T 15
F 16	5 39 25	24° 15' 18"	21° 10' 10"	2° 22' 22"	27° 49' 49"	12° 32' 32"	28° 8' 8"	3° 42' 42"	0° 47' 47"	9° 19' 19"	14° 5' 5"	7° 55' 55"	8° 38' 38"	23° 57' 57"	4° 54' 54"	F 16
S 17	5 43 21	25° 16' 21"	5° 15' 15"	3° 57' 57"	29° 4' 4"	12° 59' 59"	28° 2' 2"	3° 49' 49"	0° 51' 51"	9° 21' 21"	14° 7' 7"	7° 55' 55"	8° 35' 35"	24° 4' 4"	4° 50' 50"	S 17
S 18	5 47 18	26° 17' 25"	19° 20' 20"	5° 32' 32"	0° 19' 19"	13° 26' 26"	27° 56' 56"	3° 56' 56"	0° 55' 55"	9° 24' 24"	14° 9' 9"	7° 53' 53"	8° 32' 32"	24° 10' 10"	4° 47' 47"	S 18
M 19	5 51 14	27° 18' 29"	3° 24' 24"	7° 7' 7"	1° 34' 34"	13° 54' 54"	27° 49' 49"	4° 3' 3"	0° 58' 58"	9° 26' 26"	14° 11' 11"	7° 48' 48"	8° 29' 29"	24° 17' 17"	4° 43' 43"	M 19
T 20	5 55 11	28° 19' 33"	17° 25' 25"	8° 42' 42"	2° 49' 49"	14° 21' 21"	27° 43' 43"	4° 10' 10"	1° 2' 2"	9° 28' 28"	14° 13' 13"	7° 41' 41"	8° 25' 25"	24° 24' 24"	4° 39' 39"	T 20
W 21	5 59 8	29° 20' 38"	11° 19' 19"	10° 16' 16"	4° 3' 3"	14° 49' 49"	27° 37' 37"	4° 18' 18"	1° 5' 5"	9° 30' 30"	14° 14' 14"	7° 31' 31"	8° 22' 22"	24° 30' 30"	4° 35' 35"	W 21
T 22	6 3 4	0° 32' 44"	15° 3' 3"	11° 51' 51"	5° 18' 18"	15° 17' 17"	27° 32' 32"	4° 25' 25"	1° 9' 9"	9° 33' 33"	14° 16' 16"	7° 20' 20"	8° 19' 19"	24° 37' 37"	4° 31' 31"	T 22
F 23	6 7 1	1° 22' 49"	28° 34' 34"	13° 26' 26"	6° 33' 33"	15° 46' 46"	27° 26' 26"	4° 32' 32"	1° 13' 13"	9° 35' 35"	14° 18' 18"	7° 8' 8"	8° 16' 16"	24° 44' 44"	4° 27' 27"	F 23
S 24	6 10 57	2° 23' 55"	11° 24' 48"	15° 1' 1"	7° 48' 48"	16° 15' 15"	27° 21' 21"	4° 39' 39"	1° 16' 16"	9° 37' 37"	14° 20' 20"	6° 57' 57"	8° 13' 13"	24° 50' 50"	4° 23' 23"	S 24
S 25	6 14 54	3° 25' 02"	24° 44' 44"	16° 35' 35"	9° 3' 3"	16° 44' 44"	27° 15' 15"	4° 46' 46"	1° 20' 20"	9° 39' 39"	14° 22' 22"	6° 48' 48"	8° 10' 10"	24° 57' 57"	4° 19' 19"	S 25
M 26	6 18 50	4° 26' 09"	7° 12' 21"	18° 9' 9"	10° 18' 18"	17° 13' 13"	27° 10' 10"	4° 53' 53"	1° 24' 24"	9° 42' 42"	14° 23' 23"	6° 41' 41"	8° 6' 6"	25° 4' 4"	4° 15' 15"	M 26
T 27	6 22 47	5° 27' 16"	19° 41' 41"	19° 43' 43"	11° 33' 33"	17° 42' 42"	27° 5' 5"	5° 0' 0"	1° 27' 27"	9° 44' 44"	14° 25' 25"	6° 37' 37"	8° 3' 3"	25° 10' 10"	4° 11' 11"	T 27
W 28	6 26 44	6° 28' 24"	11° 46' 46"	21° 16' 16"	12° 48' 48"	18° 12' 12"	27° 1' 1"	5° 7' 7"	1° 31' 31"	9° 46' 46"	14° 27' 27"	6° 35' 35"	8° 0' 0"	25° 17' 17"	4° 7' 7"	W 28
T 29	6 30 40	7° 29' 32"	13° 41' 41"	22° 49' 49"	14° 3' 3"	18° 42' 42"	26° 56' 56"	5° 14' 14"	1° 34' 34"	9° 48' 48"	14° 29' 29"	6° 36' 36"	7° 57' 57"	25° 23' 23"	4° 3' 3"	T 29
F 30	6 34 37	8° 30' 40"	25° 30' 30"	24° 21' 21"	15° 18' 18"	19° 12' 12"	26° 52' 52"	5° 21' 21"	1° 38' 38"	9° 51' 51"	14° 30' 30"	6° 36' 36"	7° 54' 54"	25° 30' 30"	3° 59' 59"	F 30
S 31	6 38 33	9° 31' 49"	7° 18' 18"	25° 35' 35"	16° 13' 13"	19° 14' 14"	26° 48' 48"	5° 29' 29"	1° 42' 42"	9° 53' 53"	14° 32' 32"	6° 37' 37"	7° 50' 50"	25° 37' 37"	3° 56' 56"	S 31

Day	☉	☾		♊		♋		♌		♍		♎		♏		♐		♑		♒	♓	♈	♉	
	decl	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	lat	decl	decl	decl	decl	lat
T 1	21s48	9n38	0n19	22s32	0s47	12s54	1n45	2n12	0s24	19n10	1 s 1	22s40	0n45	23s39	0s13	22s15	0n55	1 s 8	15n27	8s 0	8s 2	2n 0	16n34	6s45
F 2	21 57	4 11	0s43	22 53	0 53	13 18	1 44	2 23	0 22	19 8	1 1	22 40	0 45	23 40	0 13	22 14	0 55	1 9	15 27	8 0	8 3	1 57	16 34	6 46
S 3	22 6	1s24	1 44	23 12	0 59	13 42	1 43	2 34	0 19	19 7	1 0	22 40	0 45	23 40	0 13	22 14	0 55	1 9	15 27	8 0	8 5	1 54	16 34	6 46
S 4	22 14	6 58	2 40	23 29	1 4	14 6	1 42	2 45	0 17	19 5	1 0	22 40	0 45	23 40	0 13	22 14	0 55	1 10	15 27	8 1	8 6	1 50	16 33	6 46
M 5	22 22	12 22	3 30	23 46	1 10	14 29	1 41	2 56	0 15	19 4	1 0	22 40	0 45	23 40	0 13	22 14	0 55	1 10	15 27	8 3	8 7	1 47	16 33	6 47
T 6	22 30	17 23	4 11	24 2	1 16	14 52	1 39	3 7	0 12	19 2	1 0	22 40	0 45	23 40	0 13	22 14	0 55	1 10	15 28	8 6	8 8	1 43	16 33	6 47
W 7	22 37	21 46	4 41	24 16	1 21	15 14	1 38	3 19	0 10	19 1	1 0	22 40	0 45	23 40	0 13	22 14	0 55	1 11	15 28	8 10	8 9	1 40	16 33	6 47
T 8	22 43	25 14	4 58	24 29	1 26	15 37	1 37	3 30	0 8	18 59	0 59	22 40	0 45	23 40	0 13	22 14	0 55	1 11	15 28	8 15	8 10	1 36	16 33	6 47
F 9	22 49	27 28	4 59	24 41	1 31	15 58	1 35	3 42	0 6	18 58	0 59	22 40	0 45	23 40	0 13	22 14	0 55	1 12	15 28	8 20	8 12	1 33	16 33	6 48
S 10	22 55	28 9	4 44	24 51	1 36	16 20	1 34	3 53	0 4	18 56	0 59	22 40	0 45	23 40	0 13	22 13	0 54	1 12	15 29	8 25	8 13	1 30	16 33	6 48
S 11	23 0	27 9	4 12	25 0	1 40	16 41	1 32	4 5	0 2	18 55	0 59	22 40	0 45	23 39	0 13	22 13	0 54	1 12	15 29	8 29	8 14	1 26	16 32	6 48
M 12	23 5	24 29	3 26	25 8	1 45	17 1	1 31	4 17	0n 0	18 54	0 59	22 40	0 44	23 39	0 13	22 13	0 54	1 13	15 29	8 33	8 15	1 23	16 32	6 49
T 13	23 9	20 21	2 26	25 14	1 49	17 21	1 29	4 28	0 2	18 52	0 58	22 40	0 44	23 39	0 13	22 13	0 54	1 13	15 29	8 35	8 16	1 19	16 32	6 49
W 14	23 13	15 4	1 18	25 19	1 52	17 41	1 28	4 40	0 4	18 51	0 58	22 40	0 44	23 39	0 13	22 13	0 54	1 13	15 30	8 36	8 18	1 16	16 32	6 49
T 15	23 16	8 58	0 4	25 22	1 56	18 0	1 26	4 52	0 6	18 50	0 58	22 39	0 44	23 39	0 13	22 13	0 54	1 13	15 30	8 36	8 19	1 13	16 32	6 49
F 16	23 19	2 26	1n10	25 24	1 59	18 19	1 24	5 4	0 8	18 49	0 58	22 39	0 44	23 39	0 13	22 13	0 54	1 14	15 30	8 36	8 20	1 9	16 32	6 49
S 17	23 22	4n13	2 20	25 25	2 2	18 37	1 22	5 17	0 10	18 47	0 58	22 39	0 44	23 39	0 13	22 13	0 54	1 14	15 30	8 36	8 21	1 6	16 32	6 50
S 18	23 23	10 40	3 21	25 24	2 5	18 55	1 20	5 29	0 11	18 46	0 57	22 39	0 44	23 39	0 13	22 12	0 54	1 14	15 31	8 37	8 22	1 2	16 32	6 50
M 19	23 25	16 34	4 10	25 22	2 7	19 12	1 18	5 41	0 13	18 45	0 57	22 39	0 44	23 39	0 13	22 12	0 54	1 14	15 31	8 39	8 24	0 59	16 32	6 50
T 20	23 26	21 34	4 44	25 18	2 9	19 29	1 16	5 53	0 15	18 44	0 57	22 39	0 44	23 39	0 13	22 12	0 54	1 15	15 31	8 41	8 25	0 55	16 32	6 50
W 21	23 26	25 20	5 1	25 13	2 10	19 45	1 14	6 6	0 17	18 43	0 57	22 39	0 44	23 39	0 13	22 12	0 54	1 15	15 32	8 45	8 26	0 52	16 32	6 50
T 22	23 27	27 34	5 0	25 6	2 11	20 0	1 12	6 18	0 18	18 42	0 56	22 38	0 44	23 39	0 13	22 12	0 54	1 15	15 32	8 49	8 27	0 49	16 32	6 50
F 23	23 26	28 8	4 42	24 57	2 12	20 15	1 10	6 31	0 20	18 41	0 56	22 38	0 44	23 39	0 13	22 12	0 54	1 15	15 32	8 54	8 28	0 45	16 32	6 50
S 24	23 25	27 3	4 9	24 47	2 12	20 30	1 8	6 43	0 21	18 40	0 56	22 38	0 44	23 39	0 13	22 12	0 54	1 15	15 33	8 58	8 30	0 42	16 32	6 51
S 25	23 24	24 31	3 24	24 36	2 12	20 44	1 6	6 56	0 23	18 39	0 56	22 38	0 44	23 39	0 13	22 11	0 54	1 16	15 33	9 1	8 31	0 38	16 32	6 51
M 26	23 22	20 51	2 30	24 23	2 11	20 57	1 3	7 8	0 24	18 38	0 56	22 38	0 43	23 39	0 13	22 11	0 54	1 16	15 33	9 4	8 32	0 35	16 32	6 51
T 27	23 20	16 20	1 29	24 8	2 10	21 10	1 1	7 21	0 26	18 37	0 55	22 38	0 43	23 39	0 13	22 11	0 54	1 16	15 34	9 5	8 33	0 32	16 32	6 51
W 28	23 17	11 15	0 26	23 52	2 8	21 22	0 59	7 33	0 27	18 36	0 55	22 37	0 43	23 39	0 13	22 11	0 54	1 16	15 34	9 6	8 34	0 28	16 32	6 51
T 29	23 14	5 50	0s38	23 35	2 6	21 33	0 56	7 46	0 29	18 35	0 55	22 37	0 43	23 39	0 13	22 11	0 54	1 16	15 35	9 6	8 35	0 25	16 32	6 51
F 30	23 10	0 16	1 40	23 16	2 3	21 44	0 54	7 59	0 30	18 35	0 55	22 37	0 43	23 39	0 13	22 11	0 54	1 16	15 35	9 5	8 37	0 21	16 32	6 51
S 31	23s 6	5s18	2s37	22s56	1s59	21s54	0n52	8n11	0n31	18n34	0s54	22s37	0n43	23s39	0s13	22s10	0n54	1s16	15n35	9s 5	8s38	0n18	16n32	6s51