

GHA and Declination of the Sun for the Years 2013-2032

OT 00h	January			February			March			April			May			June			OT 00h
	E	Dec.		E	Dec.		E	Dec.		E	Dec.		E	Dec.		E	Dec.		
1	4 12	S 23	02 -5	1 38	S 17	14 -17	1 53	S 07	46 -23	3 59	N 04	21 -23	5 42	N 14	56 -18	5 34	N 21	59 -8	1
2	4 05	S 22	57 -5	1 36	S 16	57 -17	1 56	S 07	23 -23	4 03	N 04	45 -23	5 44	N 15	14 -18	5 32	N 22	07 -8	2
3	3 58	S 22	52 -6	1 34	S 16	40 -18	1 59	S 07	00 -23	4 07	N 05	08 -23	5 45	N 15	32 -18	5 29	N 22	15 -7	3
4	3 51	S 22	46 -6	1 33	S 16	22 -18	2 02	S 06	37 -23	4 12	N 05	31 -23	5 47	N 15	50 -17	5 27	N 22	22 -7	4
5	3 44	S 22	40 -7	1 31	S 16	04 -18	2 05	S 06	14 -23	4 16	N 05	54 -23	5 48	N 16	07 -17	5 24	N 22	29 -7	5
6	3 37	S 22	33 -7	1 30	S 15	46 -18	2 09	S 05	51 -23	4 21	N 06	16 -23	5 50	N 16	24 -17	5 21	N 22	36 -6	6
7	3 31	S 22	26 -8	1 29	S 15	27 -19	2 12	S 05	28 -23	4 25	N 06	39 -23	5 51	N 16	41 -17	5 19	N 22	42 -6	7
8	3 24	S 22	18 -8	1 28	S 15	08 -19	2 16	S 05	04 -23	4 29	N 07	02 -22	5 52	N 16	58 -16	5 16	N 22	48 -5	8
9	3 18	S 22	10 -9	1 28	S 14	49 -19	2 19	S 04	41 -23	4 33	N 07	24 -22	5 53	N 17	14 -16	5 13	N 22	53 -5	9
10	3 12	S 22	01 -9	1 27	S 14	30 -20	2 23	S 04	18 -24	4 37	N 07	46 -22	5 53	N 17	30 -16	5 10	N 22	58 -5	10
11	3 06	S 21	52 -9	1 27	S 14	11 -20	2 27	S 03	54 -24	4 41	N 08	08 -22	5 54	N 17	45 -15	5 07	N 23	03 -4	11
12	3 00	S 21	43 -10	1 27	S 13	51 -20	2 31	S 03	30 -24	4 45	N 08	31 -22	5 54	N 18	01 -15	5 04	N 23	07 -4	12
13	2 54	S 21	33 -10	1 27	S 13	31 -20	2 35	S 03	07 -24	4 49	N 08	52 -22	5 55	N 18	16 -15	5 01	N 23	11 -3	13
14	2 48	S 21	23 -11	1 27	S 13	11 -20	2 39	S 02	43 -24	4 53	N 09	14 -22	5 55	N 18	31 -14	4 58	N 23	14 -3	14
15	2 43	S 21	12 -11	1 28	S 12	50 -21	2 43	S 02	20 -24	4 57	N 09	36 -21	5 55	N 18	45 -14	4 55	N 23	17 -3	15
16	2 38	S 21	01 -11	1 29	S 12	30 -21	2 47	S 01	56 -24	5 00	N 09	57 -21	5 54	N 18	59 -14	4 52	N 23	20 -2	16
17	2 32	S 20	50 -12	1 30	S 12	09 -21	2 52	S 01	32 -24	5 04	N 10	18 -21	5 54	N 19	13 -14	4 48	N 23	22 -2	17
18	2 28	S 20	38 -12	1 31	S 11	48 -21	2 56	S 01	08 -24	5 07	N 10	40 -21	5 54	N 19	27 -13	4 45	N 23	23 -1	18
19	2 23	S 20	26 -13	1 32	S 11	27 -21	3 00	S 00	45 -24	5 11	N 11	01 -21	5 53	N 19	40 -13	4 42	N 23	25 -1	19
20	2 18	S 20	13 -13	1 33	S 11	05 -22	3 05	S 00	21 -24	5 14	N 11	21 -21	5 52	N 19	53 -13	4 39	N 23	26 -0	20
21	2 14	S 20	00 -13	1 35	S 10	44 -22	3 09	N 00	03 -24	5 17	N 11	42 -20	5 52	N 20	05 -12	4 35	N 23	26 -0	21
22	2 10	S 19	47 -14	1 37	S 10	22 -22	3 13	N 00	26 -24	5 20	N 12	02 -20	5 51	N 20	17 -12	4 32	N 23	26 +0	22
23	2 06	S 19	33 -14	1 39	S 10	00 -22	3 18	N 00	50 -24	5 23	N 12	22 -20	5 49	N 20	29 -11	4 29	N 23	26 +1	23
24	2 02	S 19	19 -14	1 41	S 09	38 -22	3 22	N 01	14 -24	5 26	N 12	42 -20	5 48	N 20	41 -11	4 25	N 23	25 +1	24
25	1 58	S 19	05 -15	1 43	S 09	16 -22	3 27	N 01	37 -24	5 28	N 13	02 -20	5 47	N 20	52 -11	4 22	N 23	24 +2	25
26	1 55	S 18	50 -15	1 45	S 08	54 -22	3 32	N 02	01 -24	5 31	N 13	22 -19	5 45	N 21	02 -10	4 19	N 23	22 +2	26
27	1 51	S 18	35 -15	1 48	S 08	31 -23	3 36	N 02	25 -23	5 33	N 13	41 -19	5 44	N 21	13 -10	4 16	N 23	20 +2	27
28	1 48	S 18	19 -16	1 50	S 08	09 -23	3 41	N 02	48 -23	5 36	N 14	00 -19	5 42	N 21	23 -10	4 13	N 23	18 +3	28
29	1 45	S 18	03 -16	1 53	S 07	46 -23	3 45	N 03	12 -23	5 38	N 14	19 -19	5 40	N 21	33 -9	4 10	N 23	15 +3	29
30	1 43	S 17	47 -16				3 50	N 03	35 -23	5 40	N 14	38 -18	5 38	N 21	42 -9	4 07	N 23	12 +4	30
31	1 40	S 17	31 -17				3 54	N 03	58 -23				5 36	N 21	51 -9				31
OT 00h	July			August			September			October			November			December			OT 00h
	E	Dec.		E	Dec.		E	Dec.		E	Dec.		E	Dec.		E	Dec.		
1	4 04	N 23	08 +4	3 24	N 18	08 +15	4 56	N 08	27 +22	7 32	S 03	00 +23	9 06	S 14	16 +19	7 49	S 21	43 +9	1
2	4 01	N 23	04 +4	3 25	N 17	53 +15	5 01	N 08	05 +22	7 36	S 03	23 +23	9 06	S 14	35 +19	7 43	S 21	53 +9	2
3	3 58	N 23	00 +5	3 26	N 17	37 +16	5 06	N 07	43 +22	7 41	S 03	47 +23	9 07	S 14	54 +19	7 38	S 22	01 +8	3
4	3 55	N 22	55 +5	3 27	N 17	22 +16	5 11	N 07	21 +22	7 46	S 04	10 +23	9 07	S 15	13 +18	7 32	S 22	10 +8	4
5	3 53	N 22	49 +6	3 29	N 17	06 +16	5 16	N 06	59 +22	7 51	S 04	33 +23	9 06	S 15	32 +18	7 26	S 22	18 +8	5
6	3 50	N 22	44 +6	3 30	N 16	49 +17	5 21	N 06	37 +22	7 55	S 04	56 +23	9 06	S 15	50 +18	7 20	S 22	26 +7	6
7	3 47	N 22	38 +6	3 32	N 16	33 +17	5 26	N 06	14 +22	7 59	S 05	19 +23	9 06	S 16	08 +18	7 13	S 22	33 +7	7
8	3 45	N 22	31 +7	3 34	N 16	16 +17	5 31	N 05	52 +23	8 04	S 05	42 +23	9 05	S 16	26 +17	7 07	S 22	40 +6	8
9	3 43	N 22	24 +7	3 36	N 15	59 +17	5 36	N 05	29 +23	8 08	S 06	05 +23	9 04	S 16	43 +17	7 00	S 22	46 +6	9
10	3 40	N 22	17 +8	3 38	N 15	42 +18	5 41	N 05	07 +23	8 12	S 06	28 +23	9 02	S 17	00 +17	6 54	S 22	52 +5	10
11	3 38	N 22	10 +8	3 40	N 15	24 +18	5 47	N 04	44 +23	8 16	S 06	50 +23	9 01	S 17	17 +17	6 47	S 22	57 +5	11
12	3 36	N 22	02 +8	3 42	N 15	06 +18	5 52	N 04	21 +23	8 20	S 07	13 +23	8 59	S 17	33 +16	6 40	S 23	02 +4	12
13	3 34	N 21	53 +9	3 45	N 14	48 +18	5 57	N 03	58 +23	8 24	S 07	35 +22	8 58	S 17	50 +16	6 33	S 23	07 +4	13
14	3 33	N 21	45 +9	3 48	N 14	30 +19	6 03	N 03	35 +23	8 27	S 07	58 +22	8 55	S 18	06 +16	6 26	S 23	11 +4	14
15	3 31	N 21	36 +9	3 50	N 14	12 +19	6 08	N 03	12 +23	8 31	S 08	20 +22	8 53	S 18	21 +15	6 19	S 23	14 +3	15
16	3 30	N 21	26 +10	3 53	N 13	53 +19	6 13	N 02	49 +23	8 34	S 08	42 +22	8 51	S 18	37 +15	6 12	S 23	17 +3	16
17	3 28	N 21	16 +10	3 56	N 13	34 +19	6 19	N 02	26 +23	8 37	S 09	04 +22	8 48	S 18	52 +15	6 04	S 23	20 +2	17
18	3 27	N 21	06 +11	4 00	N 13	15 +19	6 24	N 02	03 +23	8 41	S 09	26 +22	8 45	S 19	06 +14	5 57	S 23	22 +2	18
19	3 26	N 20	55 +11	4 03	N 12	55 +20	6 29	N 01	40 +23	8 43	S 09	48 +22	8 42	S 19	20 +14	5 50	S 23	24 +1	19
20	3 25	N 20	45 +11	4 06	N 12	36 +20	6 35	N 01	17 +23	8 46	S 10	10 +22	8 39	S 19	34 +14	5 42	S 23	25 +1	20
21	3 24	N 20	33 +12	4 10	N 12	16 +20	6 40	N 00	53 +23	8 49	S 10	31 +21	8 35	S 19	48 +13	5 35	S 23	26 +0	21
22	3 23	N 20	22 +12	4 14	N 11	56 +20	6 45	N 00	30 +23	8 51	S 10	53 +21	8 31	S 20	01 +13	5 27	S 23	26 -0	22
23	3 23	N 20	10 +12	4 18	N 11	36 +20	6 51	N 00	07 +23	8 54	S 11	14 +21	8 27	S 20	14 +12	5 20	S 23	26 -1	23
24	3 22	N 19	58 +13	4 21	N 11	16 +21	6 56	S 00	17 +23	8 56	S 11	35 +21	8 23	S 20	27 +12	5 12	S 23	25 -1	24
25	3 22	N 19	45 +13	4 25	N 10	55 +21	7 01	S 00	40 +23	8 58	S 11	56 +21	8 19	S 20	39 +12	5 05	S 23	24 -2	25
26	3 22	N 19	32 +13	4 30	N 10	34 +21	7 06	S 01	03 +23	8 59	S 12	16 +20	8 14	S 20	50 +11	4 57	S 23	23 -2	26
27	3 22	N 19	19 +14	4 34	N 10	13 +21	7 11	S 01	27 +23	9 01	S 12	37 +20	8 10	S 21	02 +11	4 50	S 23	21 -3	27
28	3 22	N 19	05 +14	4 38	N 09	52 +21	7 17	S 01	50 +23	9 02	S 12	57 +20	8 05	S 21	13 +11	4 43	S 23	18 -3	28
29	3 22	N 18	51 +14	4 43	N 09	31 +21	7 22	S 02	13 +23	9 04	S 13	17 +20	8 00	S 21	23 +10	4 35	S 23	15 -3	29
30	3 23	N 18	37 +15	4 47	N 09	10 +21	7 27	S 02	37 +23	9 05	S 13	37 +20	7 54	S 21	33 +10	4 28	S 23	12 -4	30
31	3 23	N 18	23 +15	4 52	N 08	48 +22				9 05	S 13	57 +19				4 21	S 23	08 -4	31

Correction for OT

OT = GMT (nearest integral hour) + Correction

* After Feb. 29th

year	corr. (h)	year	corr. (h)	year	corr. (h)	year	corr. (h)	year	corr. (h)
2013	+12	2017	+12	2021	+12	2025	+12	2029	+12
2014	+6	2018	+6	2022	+6	2026	+6	2030	+6
2015	-0	2019	-0	2023	-0	2027	+0	2031	+0
2016	-6	2020	-6	2024	-6	2028	-6	2032	-6
2016*	+18	2020*	+18	2024*	+18	2028*	+18	2032*	+18

