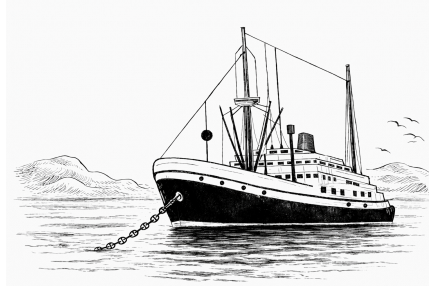


# EASYSEXTANT



## SOLAR ALMANAC 2038

### Astronomical Data Source

The solar positions (GHA and Declination) used in this almanac are computed from the JPL DE440s planetary ephemeris, developed by the Jet Propulsion Laboratory (NASA).

UT ↓	01 Jan ↓	02 Jan ↓	
00	179° 10,1' 23° 01,0' S	179° 03,0' 22° 56,0' S	→ Declination → GHA
01	194° 09,8' 23° 00,8' S	194° 02,8' 22° 55,7' S	
02	209° 09,5' 23° 00,6' S	209° 02,5' 22° 55,5' S	
03	224° 09,2' 23° 00,4' S	224° 02,2' 22° 55,3' S	

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## Solar Almanac 2038 — Sun GHA & Decl (UT) — 01 Jan to 20 Jan

UT	01 Jan	02 Jan	03 Jan	04 Jan	05 Jan	06 Jan	07 Jan	08 Jan	09 Jan	10 Jan
00	179° 10,1' 23° 00,4' S	179° 03,0' 22° 55,3' S	178° 56,0' 22° 49,7' S	178° 49,1' 22° 43,7' S	178° 42,3' 22° 37,2' S	178° 35,7' 22° 30,3' S	178° 29,1' 22° 22,9' S	178° 22,7' 22° 15,1' S	178° 16,3' 22° 06,9' S	178° 10,2' 21° 58,2' S
01	194° 09,8' 23° 00,2' S	194° 02,7' 22° 55,0' S	193° 55,7' 22° 49,5' S	193° 48,8' 22° 43,4' S	193° 42,1' 22° 36,9' S	193° 35,4' 22° 30,0' S	193° 28,8' 22° 22,6' S	193° 22,4' 22° 14,8' S	193° 16,1' 22° 06,5' S	193° 09,9' 21° 57,8' S
02	209° 09,5' 23° 00,0' S	209° 02,4' 22° 54,8' S	208° 55,4' 22° 49,2' S	208° 48,6' 22° 43,2' S	208° 41,8' 22° 36,6' S	208° 35,1' 22° 29,7' S	208° 28,6' 22° 22,3' S	208° 22,1' 22° 14,4' S	208° 15,8' 22° 06,2' S	208° 09,7' 21° 57,5' S
03	224° 09,2' 22° 59,8' S	224° 02,1' 22° 54,6' S	223° 55,2' 22° 49,0' S	223° 48,3' 22° 42,9' S	223° 41,5' 22° 36,4' S	223° 34,8' 22° 29,4' S	223° 28,3' 22° 22,0' S	223° 21,9' 22° 14,1' S	223° 15,6' 22° 05,8' S	223° 09,4' 21° 57,1' S
04	239° 08,9' 22° 59,6' S	239° 01,8' 22° 54,4' S	238° 54,9' 22° 48,7' S	238° 48,0' 22° 42,6' S	238° 41,2' 22° 36,1' S	238° 34,6' 22° 29,1' S	238° 28,0' 22° 21,6' S	238° 21,6' 22° 13,8' S	238° 15,3' 22° 05,5' S	238° 09,1' 21° 56,7' S
05	254° 08,6' 22° 59,4' S	254° 01,5' 22° 54,1' S	253° 54,6' 22° 48,5' S	253° 47,7' 22° 42,4' S	253° 40,9' 22° 35,8' S	253° 34,3' 22° 28,8' S	253° 27,7' 22° 21,3' S	253° 21,3' 22° 13,4' S	253° 15,0' 22° 05,1' S	253° 08,9' 21° 56,3' S
06	269° 08,3' 22° 59,1' S	269° 01,2' 22° 53,9' S	268° 54,3' 22° 48,2' S	268° 47,4' 22° 42,1' S	268° 40,7' 22° 35,5' S	268° 34,0' 22° 28,5' S	268° 27,5' 22° 21,0' S	268° 21,1' 22° 13,1' S	268° 14,8' 22° 04,7' S	268° 08,6' 21° 56,0' S
07	284° 08,0' 22° 58,9' S	284° 01,0' 22° 53,7' S	283° 54,0' 22° 48,0' S	283° 47,1' 22° 41,8' S	283° 40,4' 22° 35,2' S	283° 33,7' 22° 28,2' S	283° 27,2' 22° 20,7' S	283° 20,8' 22° 12,8' S	283° 14,5' 22° 04,4' S	283° 08,4' 21° 55,6' S
08	299° 07,7' 22° 58,7' S	299° 00,7' 22° 53,5' S	298° 53,7' 22° 47,7' S	298° 46,9' 22° 41,6' S	298° 40,1' 22° 34,9' S	298° 33,5' 22° 27,9' S	298° 26,9' 22° 20,4' S	298° 20,5' 22° 12,4' S	298° 14,3' 22° 04,0' S	298° 08,1' 21° 55,2' S
09	314° 07,4' 22° 58,5' S	314° 00,4' 22° 53,2' S	313° 53,4' 22° 47,5' S	313° 46,6' 22° 41,3' S	313° 39,8' 22° 34,7' S	313° 33,2' 22° 27,6' S	313° 26,7' 22° 20,0' S	313° 20,3' 22° 12,1' S	313° 14,0' 22° 03,7' S	313° 07,9' 21° 54,8' S
10	329° 07,1' 22° 58,3' S	329° 00,1' 22° 53,0' S	328° 53,1' 22° 47,2' S	328° 46,3' 22° 41,0' S	328° 39,5' 22° 34,4' S	328° 32,9' 22° 27,3' S	328° 26,4' 22° 19,7' S	328° 20,0' 22° 11,7' S	328° 13,7' 22° 03,3' S	328° 07,6' 21° 54,5' S
11	344° 06,8' 22° 58,1' S	343° 59,8' 22° 52,8' S	343° 52,9' 22° 47,0' S	343° 46,0' 22° 40,8' S	343° 39,3' 22° 34,1' S	343° 32,6' 22° 27,0' S	343° 26,1' 22° 19,4' S	343° 19,7' 22° 11,4' S	343° 13,5' 22° 02,9' S	343° 07,4' 21° 54,1' S
12	359° 06,5' 22° 57,9' S	358° 59,5' 22° 52,5' S	358° 52,6' 22° 46,7' S	358° 45,7' 22° 40,5' S	358° 39,0' 22° 33,8' S	358° 32,4' 22° 26,7' S	358° 25,9' 22° 19,1' S	358° 19,5' 22° 11,0' S	358° 13,2' 22° 02,6' S	358° 07,1' 21° 53,7' S
13	014° 06,2' 22° 57,7' S	013° 59,2' 22° 52,3' S	013° 52,3' 22° 46,5' S	013° 45,4' 22° 40,2' S	013° 38,7' 22° 33,5' S	013° 32,1' 22° 26,3' S	013° 25,6' 22° 18,7' S	013° 19,2' 22° 10,7' S	013° 13,0' 22° 02,2' S	013° 06,9' 21° 53,3' S
14	029° 05,9' 22° 57,5' S	028° 58,9' 22° 52,1' S	028° 52,0' 22° 46,2' S	028° 45,2' 22° 40,0' S	028° 38,4' 22° 33,2' S	028° 31,8' 22° 26,0' S	028° 25,3' 22° 18,4' S	028° 18,9' 22° 10,4' S	028° 12,7' 22° 01,9' S	028° 06,6' 21° 52,9' S
15	044° 05,6' 22° 57,2' S	043° 58,6' 22° 51,8' S	043° 51,7' 22° 46,0' S	043° 44,9' 22° 39,7' S	043° 38,2' 22° 32,9' S	043° 31,5' 22° 25,7' S	043° 25,1' 22° 18,1' S	043° 18,7' 22° 10,0' S	043° 12,5' 22° 01,5' S	043° 06,4' 21° 52,6' S
16	059° 05,3' 22° 57,0' S	058° 58,3' 22° 51,6' S	058° 51,4' 22° 45,7' S	058° 44,6' 22° 39,4' S	058° 37,9' 22° 32,6' S	058° 31,3' 22° 25,4' S	058° 24,8' 22° 17,8' S	058° 18,4' 22° 09,7' S	058° 12,2' 22° 01,1' S	058° 06,1' 21° 52,2' S
17	074° 05,1' 22° 56,8' S	073° 58,0' 22° 51,4' S	073° 51,1' 22° 45,5' S	073° 44,3' 22° 39,1' S	073° 37,6' 22° 32,3' S	073° 31,0' 22° 25,1' S	073° 24,5' 22° 17,4' S	073° 18,2' 22° 09,3' S	073° 11,9' 22° 00,8' S	073° 05,9' 21° 51,8' S
18	089° 04,8' 22° 56,6' S	088° 57,8' 22° 51,1' S	088° 50,8' 22° 45,2' S	088° 44,0' 22° 38,9' S	088° 37,3' 22° 32,1' S	088° 30,7' 22° 24,8' S	088° 24,3' 22° 17,1' S	088° 17,9' 22° 09,0' S	088° 11,7' 22° 00,4' S	088° 05,6' 21° 51,4' S
19	104° 04,5' 22° 56,4' S	103° 57,5' 22° 50,9' S	103° 50,6' 22° 45,0' S	103° 43,8' 22° 38,6' S	103° 37,0' 22° 31,8' S	103° 30,5' 22° 24,5' S	103° 24,0' 22° 16,8' S	103° 17,6' 22° 08,6' S	103° 11,4' 22° 00,0' S	103° 05,4' 21° 51,0' S
20	119° 04,2' 22° 56,2' S	118° 57,2' 22° 50,7' S	118° 50,3' 22° 44,7' S	118° 43,5' 22° 38,3' S	118° 36,8' 22° 31,5' S	118° 30,2' 22° 24,2' S	118° 23,7' 22° 16,4' S	118° 17,4' 22° 08,3' S	118° 11,2' 22° 00,1' S	118° 05,1' 21° 50,6' S
21	134° 03,9' 22° 55,9' S	133° 56,9' 22° 50,4' S	133° 50,0' 22° 44,5' S	133° 43,2' 22° 38,0' S	133° 36,5' 22° 31,2' S	133° 29,9' 22° 23,9' S	133° 23,5' 22° 16,1' S	133° 17,1' 22° 07,9' S	133° 10,9' 22° 00,0' S	133° 04,9' 21° 50,2' S
22	149° 03,6' 22° 55,7' S	148° 56,6' 22° 50,2' S	148° 49,7' 22° 44,2' S	148° 42,9' 22° 37,8' S	148° 36,2' 22° 30,9' S	148° 29,6' 22° 23,5' S	148° 23,2' 22° 15,8' S	148° 16,9' 22° 07,6' S	148° 10,7' 22° 00,0' S	148° 04,6' 21° 49,9' S
23	164° 03,3' 22° 55,5' S	163° 56,3' 22° 49,9' S	163° 49,4' 22° 43,9' S	163° 42,6' 22° 37,5' S	163° 35,9' 22° 30,6' S	163° 29,4' 22° 23,2' S	163° 22,9' 22° 15,4' S	163° 16,6' 22° 07,2' S	163° 10,4' 22° 00,0' S	163° 04,4' 21° 49,5' S
UT	11 Jan	12 Jan	13 Jan	14 Jan	15 Jan	16 Jan	17 Jan	18 Jan	19 Jan	20 Jan
00	178° 04,1' 21° 49,1' S	177° 58,3' 21° 39,6' S	177° 52,5' 21° 29,6' S	177° 47,0' 21° 19,2' S	177° 41,6' 21° 08,5' S	177° 36,3' 20° 57,3' S	177° 31,3' 20° 45,7' S	177° 26,4' 20° 33,7' S	177° 21,7' 20° 21,4' S	177° 17,2' 20° 08,6' S
01	193° 03,9' 21° 48,7' S	192° 58,0' 21° 39,2' S	192° 52,3' 21° 29,2' S	192° 46,7' 21° 18,8' S	192° 41,3' 21° 08,0' S	192° 36,1' 20° 56,8' S	192° 31,1' 20° 45,2' S	192° 26,2' 20° 33,2' S	192° 21,5' 20° 20,8' S	192° 17,0' 20° 08,1' S
02	208° 03,6' 21° 48,3' S	207° 57,8' 21° 38,7' S	207° 52,1' 21° 28,8' S	207° 46,5' 21° 18,4' S	207° 41,1' 21° 07,6' S	207° 35,9' 20° 56,3' S	207° 30,9' 20° 44,7' S	207° 26,0' 20° 32,7' S	207° 21,3' 20° 20,3' S	207° 16,9' 20° 07,5' S
03	223° 03,4' 21° 47,9' S	222° 57,5' 21° 38,3' S	222° 51,8' 21° 28,3' S	222° 46,3' 21° 17,9' S	222° 40,9' 21° 07,1' S	222° 35,7' 20° 55,9' S	222° 30,7' 20° 44,2' S	222° 25,8' 20° 32,2' S	222° 21,2' 20° 19,8' S	222° 16,7' 20° 07,0' S
04	238° 03,1' 21° 47,5' S	237° 57,3' 21° 37,9' S	237° 51,6' 21° 27,9' S	237° 46,1' 21° 17,5' S	237° 40,7' 21° 06,6' S	237° 35,5' 20° 55,4' S	237° 30,5' 20° 43,7' S	237° 25,6' 20° 31,7' S	237° 21,0' 20° 19,3' S	237° 16,5' 20° 06,5' S
05	253° 02,9' 21° 47,1' S	252° 57,0' 21° 37,5' S	252° 51,4' 21° 27,5' S	252° 45,8' 21° 17,0' S	252° 40,5' 21° 06,2' S	252° 35,3' 20° 54,9' S	252° 30,3' 20° 43,2' S	252° 25,4' 20° 31,2' S	252° 20,8' 20° 18,7' S	252° 16,3' 20° 05,9' S
06	268° 02,6' 21° 46,7' S	267° 56,8' 21° 37,1' S	267° 51,1' 21° 27,1' S	267° 45,6' 21° 16,6' S	267° 40,2' 21° 05,7' S	267° 35,1' 20° 54,4' S	267° 30,1' 20° 42,8' S	267° 25,2' 20° 30,7' S	267° 20,6' 20° 18,2' S	267° 16,1' 20° 05,4' S
07	283° 02,4' 21° 46,4' S	282° 56,6' 21° 36,7' S	282° 50,9' 21° 26,6' S	282° 45,4' 21° 16,1' S	282° 40,0' 21° 05,2' S	282° 34,8' 20° 54,0' S	282° 29,8' 20° 42,3' S	282° 25,0' 20° 30,2' S	282° 20,4' 20° 17,7' S	282° 15,9' 20° 04,8' S
08	298° 02,2' 21° 46,0' S	297° 56,3' 21° 36,3' S	297° 50,7' 21° 26,2' S	297° 45,1' 21° 15,7' S	297° 39,8' 21° 04,8' S	297° 34,6' 20° 53,5' S	297° 29,6' 20° 41,8' S	297° 24,8' 20° 29,7' S	297° 20,2' 20° 17,2' S	297° 15,8' 20° 04,3' S
09	313° 01,9' 21° 45,6' S	312° 56,1' 21° 35,9' S	312° 50,4' 21° 25,8' S	312° 44,9' 21° 15,3' S	312° 39,6' 21° 04,3' S	312° 34,4' 20° 53,0' S	312° 29,4' 20° 41,3' S	312° 24,6' 20° 29,1' S	312° 20,0' 20° 16,6' S	312° 15,6' 20° 03,7' S
10	328° 01,7' 21° 45,2' S	327° 55,8' 21° 35,5' S	327° 50,2' 21° 25,3' S	327° 44,7' 21° 14,8' S	327° 39,4' 21° 03,9' S	327° 34,2' 20° 52,5' S	327° 29,2' 20° 40,8' S	327° 24,4' 20° 28,6' S	327° 19,8' 20° 16,1' S	327° 15,4' 20° 03,2' S
11	343° 01,4' 21° 44,8' S	342° 55,6' 21° 35,0' S	342° 50,0' 21° 24,9' S	342° 44,5' 21° 14,4' S	342° 39,1' 21° 03,4' S	342° 34,0' 20° 52,0' S	342° 29,0' 20° 40,3' S	342° 24,2' 20° 28,1' S	342° 19,6' 20° 15,6' S	342° 15,2' 20° 02,7' S
12	358° 01,2' 21° 44,4' S	357° 55,4' 21° 34,6' S	357° 49,7' 21° 24,5' S	357° 44,2' 21° 13,9' S	357° 38,9' 21° 02,9' S	357° 33,8' 20° 51,5' S	357° 28,8' 20° 39,8' S	357° 24,0' 20° 27,6' S	357° 19,5' 20° 15,0' S	357° 15,0' 20° 02,1' S
13	013° 00,9' 21° 44,0' S	012° 55,1' 21° 34,2' S	012° 49,5' 21° 24,0' S	012° 44,0' 21° 13,5' S	012° 38,7' 21° 02,5' S	012° 33,6' 20° 51,1' S	012° 28,6' 20° 39,3' S	012° 23,7' 20° 27,1' S	012° 19,3' 20° 14,5' S	012° 14,9' 20° 01,6' S
14	028° 00,7' 21° 43,6' S	027° 54,9' 21° 33,8' S	027° 49,3' 21° 23,6' S	027° 43,8' 21° 13,0' S	027° 38,5' 21° 02,0' S	027° 33,4' 20° 50,6' S	027° 28,4' 20° 38,8' S	027° 23,7' 20° 26,6' S	027° 19,1' 20° 14,0' S	027° 14,7' 20° 01,0' S
15	043° 00,4' 21° 43,2' S	042° 54,7' 21° 33,4' S	042° 49,0' 21° 23,2' S	042° 43,6' 21° 12,6' S	042° 38,3' 21° 01,5' S	042° 33,2' 20° 50,1' S	042° 28,2' 20° 38,3' S	042° 23,5' 20° 26,1' S	042° 18,9' 20° 13,4' S	042° 14,5' 20° 00,5' S
16	058° 00,2' 21° 42,8' S	057° 54,4' 21° 33,0' S	057° 48,8' 21° 22,7' S	057° 43,3' 21° 12,1' S	057° 38,1' 21° 01,1' S	057° 33,0' 20° 49,6' S	057° 28,0' 20° 37,8' S	057° 23,3' 20° 25,5' S	057° 18,7' 20° 12,9' S	

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 21 Jan to 09 Feb

UT	21 Jan	22 Jan	23 Jan	24 Jan	25 Jan	26 Jan	27 Jan	28 Jan	29 Jan	30 Jan
00	177° 12,9' 19° 55,5' S	177° 08,8' 19° 42,0' S	177° 04,8' 19° 28,1' S	177° 01,1' 19° 13,9' S	176° 57,5' 18° 59,4' S	176° 54,2' 18° 44,4' S	176° 51,0' 18° 29,2' S	176° 48,0' 18° 13,6' S	176° 45,3' 17° 57,6' S	176° 42,7' 17° 41,4' S
01	192° 12,7' 19° 54,9' S	192° 08,6' 19° 41,4' S	192° 04,7' 19° 27,6' S	192° 00,9' 19° 13,3' S	191° 57,4' 18° 58,7' S	191° 54,0' 18° 43,8' S	191° 50,9' 18° 28,5' S	191° 47,9' 18° 12,9' S	191° 45,2' 17° 57,0' S	191° 42,6' 17° 40,7' S
02	207° 12,6' 19° 54,4' S	207° 08,4' 19° 40,9' S	207° 04,5' 19° 27,0' S	207° 00,8' 19° 12,7' S	206° 57,3' 18° 58,1' S	206° 53,9' 18° 43,2' S	206° 50,8' 18° 27,9' S	206° 47,8' 18° 12,3' S	206° 45,1' 17° 56,3' S	206° 42,5' 17° 40,0' S
03	222° 12,4' 19° 53,8' S	222° 08,3' 19° 40,3' S	222° 04,4' 19° 26,4' S	222° 00,6' 19° 12,1' S	221° 57,1' 18° 57,5' S	221° 53,8' 18° 42,5' S	221° 50,6' 18° 27,2' S	221° 47,7' 18° 11,6' S	221° 44,9' 17° 55,6' S	221° 42,4' 17° 39,3' S
04	237° 12,2' 19° 53,3' S	237° 08,1' 19° 39,7' S	237° 04,2' 19° 25,8' S	237° 00,5' 19° 11,5' S	236° 57,0' 18° 56,9' S	236° 53,6' 18° 41,9' S	236° 50,5' 18° 26,6' S	236° 47,6' 18° 10,9' S	236° 44,8' 17° 55,0' S	236° 42,3' 17° 38,6' S
05	252° 12,0' 19° 52,7' S	252° 07,9' 19° 39,2' S	252° 04,0' 19° 25,2' S	252° 00,3' 19° 10,9' S	251° 56,8' 18° 56,3' S	251° 53,5' 18° 41,3' S	251° 50,4' 18° 25,9' S	251° 47,5' 18° 10,3' S	251° 44,7' 17° 54,3' S	251° 42,2' 17° 38,0' S
06	267° 11,9' 19° 52,2' S	267° 07,8' 19° 38,6' S	267° 03,9' 19° 24,6' S	267° 00,2' 19° 10,3' S	266° 56,7' 18° 55,7' S	266° 53,4' 18° 40,6' S	266° 50,3' 18° 25,3' S	266° 47,3' 18° 09,6' S	266° 44,6' 17° 53,6' S	266° 42,1' 17° 37,3' S
07	282° 11,7' 19° 51,6' S	282° 07,6' 19° 38,0' S	282° 03,7' 19° 24,0' S	282° 00,0' 19° 09,7' S	281° 56,5' 18° 55,0' S	281° 53,2' 18° 40,0' S	281° 50,1' 18° 24,7' S	281° 47,2' 18° 09,0' S	281° 44,5' 17° 52,9' S	281° 42,0' 17° 36,6' S
08	297° 11,5' 19° 51,0' S	297° 07,4' 19° 37,4' S	297° 03,6' 19° 23,4' S	296° 59,9' 19° 09,1' S	296° 56,4' 18° 54,4' S	296° 53,1' 18° 39,4' S	296° 50,0' 18° 24,0' S	296° 47,1' 18° 08,3' S	296° 44,4' 17° 52,3' S	296° 41,9' 17° 35,9' S
09	312° 11,3' 19° 50,5' S	312° 07,3' 19° 36,9' S	312° 03,4' 19° 22,9' S	311° 59,7' 19° 08,5' S	311° 56,3' 18° 53,8' S	311° 53,0' 18° 38,7' S	311° 49,9' 18° 23,4' S	311° 47,0' 18° 07,6' S	311° 44,3' 17° 51,6' S	311° 41,8' 17° 35,2' S
10	327° 11,2' 19° 49,9' S	327° 07,1' 19° 36,3' S	327° 03,3' 19° 22,3' S	326° 59,6' 19° 07,9' S	326° 56,1' 18° 53,2' S	326° 52,8' 18° 38,1' S	326° 49,8' 18° 22,7' S	326° 46,9' 18° 07,0' S	326° 44,2' 17° 50,9' S	326° 41,7' 17° 34,5' S
11	342° 11,0' 19° 49,4' S	342° 06,9' 19° 35,7' S	342° 03,1' 19° 21,7' S	341° 59,4' 19° 07,3' S	341° 56,0' 18° 52,6' S	341° 52,7' 18° 37,5' S	341° 49,6' 18° 22,1' S	341° 46,8' 18° 06,3' S	341° 44,1' 17° 50,2' S	341° 41,6' 17° 33,8' S
12	357° 10,8' 19° 48,8' S	357° 06,8' 19° 35,1' S	357° 02,9' 19° 21,1' S	356° 59,3' 19° 06,7' S	356° 55,8' 18° 51,9' S	356° 52,6' 18° 36,8' S	356° 49,5' 18° 21,4' S	356° 46,6' 18° 05,6' S	356° 44,0' 17° 49,6' S	356° 41,5' 17° 33,1' S
13	012° 10,6' 19° 48,2' S	012° 06,6' 19° 34,5' S	012° 02,8' 19° 20,5' S	011° 59,1' 19° 06,1' S	011° 55,7' 18° 51,3' S	011° 52,4' 18° 36,2' S	011° 49,4' 18° 20,8' S	011° 46,5' 18° 05,0' S	011° 43,9' 17° 48,9' S	011° 41,4' 17° 32,4' S
14	027° 10,5' 19° 47,7' S	027° 06,5' 19° 34,0' S	027° 02,6' 19° 19,9' S	026° 59,0' 19° 05,5' S	026° 55,6' 18° 50,7' S	026° 52,3' 18° 35,6' S	026° 49,3' 18° 20,1' S	026° 46,4' 18° 04,3' S	026° 43,8' 17° 48,2' S	026° 41,3' 17° 31,8' S
15	042° 10,3' 19° 47,1' S	042° 06,3' 19° 33,4' S	042° 02,5' 19° 19,3' S	041° 58,9' 19° 04,9' S	041° 55,4' 18° 50,1' S	041° 52,2' 18° 34,9' S	041° 49,1' 18° 19,5' S	041° 46,3' 18° 03,7' S	041° 43,6' 17° 47,5' S	041° 41,2' 17° 31,1' S
16	057° 10,1' 19° 46,5' S	057° 06,1' 19° 32,8' S	057° 02,3' 19° 18,7' S	056° 58,7' 19° 04,3' S	056° 55,3' 18° 49,4' S	056° 52,1' 18° 34,3' S	056° 49,0' 18° 18,8' S	056° 46,2' 18° 03,0' S	056° 43,5' 17° 46,8' S	056° 41,1' 17° 30,4' S
17	072° 10,0' 19° 46,0' S	072° 06,0' 19° 32,2' S	072° 02,2' 19° 18,1' S	071° 58,6' 19° 03,6' S	071° 55,1' 18° 48,8' S	071° 51,9' 18° 33,7' S	071° 48,9' 18° 18,2' S	071° 46,1' 18° 02,3' S	071° 43,4' 17° 46,2' S	071° 41,0' 17° 29,7' S
18	087° 09,8' 19° 45,4' S	087° 05,8' 19° 31,6' S	087° 02,0' 19° 17,5' S	086° 58,4' 19° 03,0' S	086° 55,0' 18° 48,2' S	086° 51,8' 18° 33,0' S	086° 48,8' 18° 17,5' S	086° 46,0' 18° 01,7' S	086° 43,3' 17° 45,5' S	086° 40,9' 17° 29,0' S
19	102° 09,6' 19° 44,8' S	102° 05,6' 19° 31,1' S	102° 01,9' 19° 16,9' S	101° 58,3' 19° 02,4' S	101° 54,9' 18° 47,6' S	101° 51,7' 18° 32,4' S	101° 48,7' 18° 16,8' S	101° 45,8' 18° 01,0' S	101° 43,2' 17° 44,8' S	101° 40,8' 17° 28,3' S
20	117° 09,5' 19° 44,3' S	117° 05,5' 19° 30,5' S	117° 01,7' 19° 16,3' S	116° 58,1' 19° 01,8' S	116° 54,7' 18° 46,9' S	116° 51,5' 18° 31,7' S	116° 48,5' 18° 16,2' S	116° 45,7' 18° 00,3' S	116° 43,1' 17° 44,1' S	116° 40,7' 17° 27,6' S
21	132° 09,3' 19° 43,7' S	132° 05,3' 19° 29,9' S	132° 01,6' 19° 15,7' S	131° 58,0' 19° 01,2' S	131° 54,6' 18° 46,3' S	131° 51,4' 18° 31,1' S	131° 48,4' 18° 15,5' S	131° 45,6' 17° 59,6' S	131° 43,0' 17° 43,4' S	131° 40,6' 17° 26,9' S
22	147° 09,1' 19° 43,1' S	147° 05,2' 19° 29,3' S	147° 01,4' 19° 15,1' S	146° 57,8' 19° 00,6' S	146° 54,5' 18° 45,7' S	146° 51,3' 18° 30,5' S	146° 48,3' 18° 14,9' S	146° 45,5' 17° 59,0' S	146° 42,9' 17° 42,8' S	146° 40,5' 17° 26,2' S
23	162° 08,9' 19° 42,6' S	162° 05,0' 19° 28,7' S	162° 01,2' 19° 14,5' S	161° 57,7' 19° 00,0' S	161° 54,3' 18° 45,1' S	161° 51,1' 18° 29,8' S	161° 48,2' 18° 14,2' S	161° 45,4' 17° 58,3' S	161° 42,8' 17° 42,1' S	161° 40,4' 17° 25,5' S
UT	31 Jan	01 Feb	02 Feb	03 Feb	04 Feb	05 Feb	06 Feb	07 Feb	08 Feb	09 Feb
00	176° 40,3' 17° 24,8' S	176° 38,2' 17° 07,9' S	176° 36,2' 16° 50,8' S	176° 34,4' 16° 33,3' S	176° 32,8' 16° 15,5' S	176° 31,5' 15° 57,5' S	176° 30,3' 15° 20,6' S	176° 29,3' 15° 01,7' S	176° 28,6' 14° 42,6' S	176° 28,0' 14° 26,2' S
01	191° 40,2' 17° 24,1' S	191° 38,1' 17° 07,2' S	191° 36,1' 16° 50,0' S	191° 34,3' 16° 32,5' S	191° 32,8' 16° 14,8' S	191° 31,4' 15° 56,7' S	191° 30,3' 15° 38,4' S	191° 29,3' 15° 19,9' S	191° 28,5' 15° 00,9' S	191° 28,0' 14° 41,8' S
02	206° 40,1' 17° 23,4' S	206° 38,0' 17° 06,5' S	206° 36,0' 16° 49,3' S	206° 34,3' 16° 31,8' S	206° 32,7' 16° 14,0' S	206° 31,4' 15° 55,9' S	206° 30,2' 15° 37,6' S	206° 29,3' 15° 19,0' S	206° 28,5' 15° 00,1' S	206° 28,0' 14° 41,0' S
03	221° 40,0' 17° 22,7' S	221° 37,9' 17° 05,8' S	221° 35,9' 16° 48,6' S	221° 34,2' 16° 31,1' S	221° 32,7' 16° 13,3' S	221° 31,3' 15° 55,2' S	221° 30,2' 15° 36,8' S	221° 29,2' 15° 18,2' S	221° 28,5' 14° 59,3' S	221° 28,0' 14° 40,2' S
04	236° 40,0' 17° 22,0' S	236° 37,8' 17° 05,1' S	236° 35,9' 16° 47,9' S	236° 34,1' 16° 30,3' S	236° 32,6' 16° 12,5' S	236° 31,3' 15° 54,4' S	236° 30,1' 15° 36,1' S	236° 29,2' 15° 17,4' S	236° 28,5' 14° 58,5' S	236° 27,9' 14° 39,4' S
05	251° 39,9' 17° 21,3' S	251° 37,7' 17° 04,4' S	251° 35,8' 16° 47,1' S	251° 34,1' 16° 29,6' S	251° 32,5' 16° 11,8' S	251° 31,2' 15° 53,7' S	251° 29,2' 15° 35,3' S	251° 28,4' 15° 16,6' S	251° 27,9' 14° 57,7' S	251° 27,9' 14° 38,6' S
06	266° 39,8' 17° 20,6' S	266° 37,6' 17° 03,7' S	266° 35,7' 16° 46,4' S	266° 34,0' 16° 28,9' S	266° 32,5' 16° 11,0' S	266° 31,2' 15° 52,9' S	266° 30,0' 15° 34,5' S	266° 29,1' 15° 15,9' S	266° 28,4' 14° 57,0' S	266° 27,9' 14° 37,8' S
07	281° 39,7' 17° 19,9' S	281° 37,6' 17° 03,0' S	281° 35,6' 16° 45,7' S	281° 33,9' 16° 28,1' S	281° 32,4' 16° 10,3' S	281° 31,1' 15° 52,2' S	281° 30,0' 15° 33,7' S	281° 29,1' 15° 15,1' S	281° 28,4' 14° 56,2' S	281° 27,9' 14° 37,0' S
08	296° 39,6' 17° 19,2' S	296° 37,5' 17° 02,2' S	296° 35,6' 16° 45,0' S	296° 33,9' 16° 27,4' S	296° 32,4' 16° 09,5' S	296° 31,1' 15° 51,4' S	296° 30,0' 15° 33,0' S	296° 29,1' 15° 14,3' S	296° 28,4' 14° 55,4' S	296° 27,9' 14° 36,2' S
09	311° 39,5' 17° 18,5' S	311° 37,4' 17° 01,5' S	311° 35,5' 16° 44,2' S	311° 33,8' 16° 26,7' S	311° 32,3' 16° 08,8' S	311° 31,0' 15° 50,6' S	311° 29,9' 15° 32,2' S	311° 29,0' 15° 13,5' S	311° 28,3' 14° 54,5' S	311° 27,9' 14° 35,4' S
10	326° 39,4' 17° 17,8' S	326° 37,3' 17° 00,8' S	326° 35,4' 16° 43,5' S	326° 33,7' 16° 25,9' S	326° 32,2' 16° 08,0' S	326° 31,0' 15° 49,9' S	326° 29,9' 15° 31,4' S	326° 29,0' 15° 12,7' S	326° 28,3' 14° 53,8' S	326° 27,8' 14° 34,6' S
11	341° 39,3' 17° 17,1' S	341° 37,2' 17° 00,1' S	341° 35,3' 16° 42,8' S	341° 33,7' 16° 25,2' S	341° 32,2' 16° 07,3' S	341° 30,9' 15° 49,1' S	341° 29,8' 15° 30,7' S	341° 29,0' 15° 11,9' S	341° 28,3' 14° 53,0' S	341° 27,8' 14° 33,8' S
12	356° 39,2' 17° 16,4' S	356° 37,1' 16° 59,4' S	356° 35,3' 16° 42,1' S	356° 33,6' 16° 24,4' S	356° 32,1' 16° 06,5' S	356° 30,9' 15° 48,3' S	356° 29,8' 15° 29,9' S	356° 28,9' 15° 11,2' S	356° 28,3' 14° 52,2' S	356° 27,8' 14° 33,0' S
13	011° 39,1' 17° 15,7' S	011° 37,1' 16° 58,7' S	011° 35,2' 16° 41,3' S	011° 33,5' 16° 23,7' S	011° 32,1' 16° 05,8' S	011° 30,8' 15° 47,6' S	011° 29,8' 15° 29,1' S	011° 28,9' 15° 10,4' S	011° 28,2' 14° 51,4' S	011° 27,8' 14° 32,1' S
14	026° 39,0' 17° 15,0' S	026° 37,0' 16° 58,0' S	026° 35,1' 16° 40,6' S	026° 33,5' 16° 23,0' S	026° 32,0' 16° 05,0' S	026° 30,8' 15° 46,8' S	026° 29,7' 15° 28,3' S	026° 28,9' 15° 09,6' S	026° 28,2' 14° 50,6' S	026° 27,8' 14° 31,3' S
15	041° 38,9' 17° 14,3' S	041° 36,9' 16° 57,2' S	041° 35,0' 16° 39,9' S	041° 33,4' 16° 22,2' S	041° 32,0' 16° 04,3' S	041° 30,7' 15° 46,0' S	041° 29,7' 15° 27,6' S	041° 28,8' 15° 08,8' S	041° 28,2' 14° 49,8' S	041° 27,8' 14° 30,5' S
16	056° 38,9' 17° 13,6' S	056° 36,8' 16° 56,5' S	056° 35,0' 16° 39,1' S	056° 33,3' 16° 21,5' S	056° 31,9' 16° 03,5' S	056° 30,7' 15° 45,3' S	056° 29,6' 15° 26,8' S	056° 28,8' 15° 08,0' S	056° 28,2' 14° 49,0' S	

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 10 Feb to 01 Mar

UT	10 Feb	11 Feb	12 Feb	13 Feb	14 Feb	15 Feb	16 Feb	17 Feb	18 Feb	19 Feb
00	176° 27.6' 14° 23.2' S	176° 27.5' 14° 03.7' S	176° 27.5' 13° 43.8' S	176° 27.7' 13° 23.8' S	176° 28.2' 13° 03.5' S	176° 28.8' 12° 43.0' S	176° 29.6' 12° 22.4' S	176° 30.5' 12° 01.5' S	176° 31.7' 11° 40.4' S	176° 33.0' 11° 19.2' S
01	191° 27.6' 14° 22.4' S	191° 27.5' 14° 02.8' S	191° 27.5' 13° 43.0' S	191° 27.8' 13° 22.9' S	191° 28.2' 13° 02.7' S	191° 28.8' 12° 42.2' S	191° 29.6' 12° 21.5' S	191° 30.6' 12° 00.6' S	191° 31.7' 11° 39.5' S	191° 33.1' 11° 18.3' S
02	206° 27.6' 14° 21.6' S	206° 27.5' 14° 02.0' S	206° 27.5' 13° 42.2' S	206° 27.8' 13° 22.1' S	206° 28.2' 13° 01.8' S	206° 28.8' 12° 41.3' S	206° 29.6' 12° 20.6' S	206° 30.6' 11° 59.7' S	206° 31.8' 11° 38.7' S	206° 33.1' 11° 17.4' S
03	221° 27.6' 14° 20.8' S	221° 27.5' 14° 01.2' S	221° 27.5' 13° 41.3' S	221° 27.8' 13° 21.3' S	221° 28.2' 13° 01.0' S	221° 28.9' 12° 40.5' S	221° 29.7' 12° 19.8' S	221° 30.7' 11° 58.9' S	221° 31.8' 11° 37.8' S	221° 33.2' 11° 16.5' S
04	236° 27.6' 14° 20.0' S	236° 27.5' 14° 00.4' S	236° 27.5' 13° 40.5' S	236° 27.8' 13° 20.4' S	236° 28.2' 13° 00.1' S	236° 28.9' 12° 39.6' S	236° 29.7' 12° 18.9' S	236° 30.7' 11° 58.0' S	236° 31.9' 11° 36.9' S	236° 33.2' 11° 15.6' S
05	251° 27.6' 14° 19.2' S	251° 27.5' 13° 59.5' S	251° 27.5' 13° 39.7' S	251° 27.8' 13° 19.6' S	251° 28.3' 12° 59.3' S	251° 28.9' 12° 38.8' S	251° 29.7' 12° 18.0' S	251° 30.7' 11° 57.1' S	251° 31.9' 11° 36.0' S	251° 33.3' 11° 14.7' S
06	266° 27.6' 14° 18.4' S	266° 27.5' 13° 58.7' S	266° 27.6' 13° 38.8' S	266° 27.8' 13° 18.7' S	266° 28.3' 12° 58.4' S	266° 28.9' 12° 37.9' S	266° 29.8' 12° 17.2' S	266° 30.8' 11° 56.2' S	266° 32.0' 11° 35.1' S	266° 33.4' 11° 13.8' S
07	281° 27.6' 14° 17.6' S	281° 27.5' 13° 57.9' S	281° 27.6' 13° 38.0' S	281° 27.8' 13° 17.9' S	281° 28.3' 12° 57.6' S	281° 29.0' 12° 37.0' S	281° 29.8' 12° 16.3' S	281° 30.8' 11° 55.4' S	281° 32.0' 11° 34.2' S	281° 33.4' 11° 12.9' S
08	296° 27.6' 14° 16.7' S	296° 27.5' 13° 57.1' S	296° 27.6' 13° 37.2' S	296° 27.9' 13° 17.1' S	296° 28.3' 12° 56.7' S	296° 29.0' 12° 36.2' S	296° 29.9' 12° 15.4' S	296° 30.9' 11° 54.5' S	296° 32.1' 11° 33.4' S	296° 33.5' 11° 12.0' S
09	311° 27.6' 14° 15.9' S	311° 27.5' 13° 56.3' S	311° 27.6' 13° 36.3' S	311° 27.9' 13° 16.2' S	311° 28.4' 12° 55.9' S	311° 29.0' 12° 35.3' S	311° 29.9' 12° 14.6' S	311° 30.9' 11° 53.6' S	311° 32.1' 11° 32.5' S	311° 33.5' 11° 11.1' S
10	326° 27.6' 14° 15.1' S	326° 27.5' 13° 55.4' S	326° 27.6' 13° 35.5' S	326° 27.9' 13° 15.4' S	326° 28.4' 12° 55.0' S	326° 29.1' 12° 34.4' S	326° 29.9' 12° 13.7' S	326° 31.0' 11° 52.7' S	326° 32.2' 11° 31.6' S	326° 33.6' 11° 10.3' S
11	341° 27.6' 14° 14.3' S	341° 27.5' 13° 54.6' S	341° 27.6' 13° 34.7' S	341° 27.9' 13° 14.5' S	341° 28.4' 12° 54.2' S	341° 29.1' 12° 33.6' S	341° 30.0' 12° 12.8' S	341° 31.0' 11° 51.9' S	341° 32.3' 11° 30.7' S	341° 33.7' 11° 09.4' S
12	356° 27.5' 14° 13.5' S	356° 27.5' 13° 53.8' S	356° 27.6' 13° 33.8' S	356° 27.9' 13° 13.7' S	356° 28.4' 12° 53.3' S	356° 29.1' 12° 32.7' S	356° 30.0' 12° 11.9' S	356° 31.0' 11° 51.0' S	356° 32.3' 11° 29.8' S	356° 33.7' 11° 08.5' S
13	011° 27.5' 14° 12.7' S	011° 27.5' 13° 52.9' S	011° 27.6' 13° 33.0' S	011° 27.9' 13° 12.8' S	011° 28.5' 12° 52.5' S	011° 29.2' 12° 31.9' S	011° 29.2' 12° 11.1' S	011° 30.1' 11° 50.1' S	011° 32.4' 11° 28.9' S	011° 33.8' 11° 07.6' S
14	026° 27.5' 14° 11.8' S	026° 27.5' 13° 52.1' S	026° 27.6' 13° 32.2' S	026° 28.0' 13° 12.0' S	026° 28.5' 12° 51.6' S	026° 29.2' 12° 31.0' S	026° 30.1' 12° 10.2' S	026° 31.2' 11° 49.2' S	026° 32.4' 11° 28.0' S	026° 33.8' 11° 06.7' S
15	041° 27.5' 14° 11.0' S	041° 27.5' 13° 51.3' S	041° 27.6' 13° 31.3' S	041° 28.0' 13° 11.1' S	041° 28.5' 12° 50.7' S	041° 29.2' 12° 30.1' S	041° 30.1' 12° 09.3' S	041° 31.2' 11° 48.3' S	041° 32.5' 11° 27.2' S	041° 33.9' 11° 05.8' S
16	056° 27.5' 14° 10.2' S	056° 27.5' 13° 50.5' S	056° 27.6' 13° 30.5' S	056° 28.0' 13° 10.3' S	056° 28.5' 12° 49.9' S	056° 29.3' 12° 29.3' S	056° 30.2' 12° 08.5' S	056° 31.3' 11° 47.5' S	056° 32.5' 11° 26.3' S	056° 34.0' 11° 04.9' S
17	071° 27.5' 14° 09.4' S	071° 27.5' 13° 49.6' S	071° 27.7' 13° 29.7' S	071° 28.0' 13° 09.5' S	071° 28.6' 12° 49.0' S	071° 29.3' 12° 28.4' S	071° 30.2' 12° 07.6' S	071° 31.3' 11° 46.6' S	071° 32.6' 11° 25.4' S	071° 34.0' 11° 04.0' S
18	086° 27.5' 14° 08.6' S	086° 27.5' 13° 48.8' S	086° 27.7' 13° 28.8' S	086° 28.0' 13° 08.6' S	086° 28.6' 12° 48.2' S	086° 29.3' 12° 27.6' S	086° 30.3' 12° 06.7' S	086° 31.4' 11° 45.7' S	086° 32.6' 11° 24.5' S	086° 34.1' 11° 03.1' S
19	101° 27.5' 14° 07.8' S	101° 27.5' 13° 48.0' S	101° 27.7' 13° 28.0' S	101° 28.1' 13° 07.8' S	101° 28.6' 12° 47.3' S	101° 29.4' 12° 26.7' S	101° 30.3' 12° 05.8' S	101° 31.4' 11° 44.8' S	101° 32.7' 11° 23.6' S	101° 34.2' 11° 02.2' S
20	116° 27.5' 14° 06.9' S	116° 27.5' 13° 47.2' S	116° 27.7' 13° 27.1' S	116° 28.1' 13° 06.9' S	116° 28.6' 12° 46.5' S	116° 29.4' 12° 25.8' S	116° 30.4' 12° 05.0' S	116° 31.5' 11° 43.9' S	116° 32.8' 11° 22.7' S	116° 34.2' 11° 01.3' S
21	131° 27.5' 14° 06.1' S	131° 27.5' 13° 46.3' S	131° 27.7' 13° 26.3' S	131° 28.1' 13° 06.1' S	131° 28.7' 12° 45.6' S	131° 29.4' 12° 25.0' S	131° 30.4' 12° 04.1' S	131° 31.5' 11° 43.1' S	131° 32.8' 11° 22.5' S	131° 34.3' 11° 00.4' S
22	146° 27.5' 14° 05.3' S	146° 27.5' 13° 45.5' S	146° 27.7' 13° 25.5' S	146° 28.1' 13° 05.2' S	146° 28.7' 12° 44.8' S	146° 29.5' 12° 24.1' S	146° 30.4' 12° 03.2' S	146° 31.6' 11° 42.2' S	146° 32.9' 11° 21.0' S	146° 34.4' 10° 59.5' S
23	161° 27.5' 14° 04.5' S	161° 27.5' 13° 44.7' S	161° 27.7' 13° 24.6' S	161° 28.1' 13° 04.4' S	161° 28.7' 12° 43.9' S	161° 29.5' 12° 23.2' S	161° 30.5' 12° 02.4' S	161° 31.6' 11° 41.3' S	161° 32.9' 11° 20.1' S	161° 34.4' 10° 58.6' S
UT	20 Feb	21 Feb	22 Feb	23 Feb	24 Feb	25 Feb	26 Feb	27 Feb	28 Feb	01 Mar
00	176° 34.5' 10° 57.7' S	176° 36.1' 10° 36.1' S	176° 38.0' 10° 14.4' S	176° 39.9' 09° 52.5' S	176° 42.0' 09° 30.4' S	176° 44.3' 09° 08.2' S	176° 46.7' 08° 52.5' S	176° 49.2' 08° 23.3' S	176° 51.9' 08° 00.7' S	176° 54.7' 07° 38.0' S
01	191° 34.6' 10° 56.8' S	191° 36.2' 10° 35.2' S	191° 38.0' 10° 13.5' S	191° 40.0' 09° 51.5' S	191° 42.1' 09° 29.5' S	191° 44.4' 09° 07.2' S	191° 46.8' 08° 44.9' S	191° 49.3' 08° 22.4' S	191° 52.0' 07° 59.8' S	191° 54.8' 07° 37.0' S
02	206° 34.6' 10° 55.9' S	206° 36.3' 10° 34.3' S	206° 38.1' 10° 12.6' S	206° 40.1' 09° 50.6' S	206° 42.2' 09° 28.5' S	206° 44.5' 09° 06.3' S	206° 46.9' 08° 43.9' S	206° 49.5' 08° 21.4' S	206° 52.1' 07° 58.8' S	206° 54.9' 07° 36.1' S
03	221° 34.7' 10° 55.0' S	221° 36.4' 10° 33.4' S	221° 38.2' 10° 11.6' S	221° 40.2' 09° 49.7' S	221° 42.3' 09° 27.6' S	221° 44.6' 09° 05.4' S	221° 47.0' 08° 43.0' S	221° 49.6' 08° 20.5' S	221° 52.2' 07° 57.9' S	221° 55.1' 07° 35.1' S
04	236° 34.8' 10° 54.1' S	236° 36.4' 10° 32.5' S	236° 38.3' 10° 10.7' S	236° 40.3' 09° 48.8' S	236° 42.4' 09° 26.7' S	236° 44.7' 09° 04.4' S	236° 47.1' 08° 42.1' S	236° 49.7' 08° 19.6' S	236° 52.4' 07° 56.9' S	236° 55.2' 07° 34.2' S
05	251° 34.8' 10° 53.2' S	251° 36.5' 10° 31.6' S	251° 38.4' 10° 09.8' S	251° 40.4' 09° 47.9' S	251° 42.5' 09° 25.8' S	251° 44.8' 09° 03.5' S	251° 47.2' 08° 41.1' S	251° 49.8' 08° 18.6' S	251° 52.5' 07° 56.0' S	251° 55.3' 07° 33.2' S
06	266° 34.9' 10° 52.4' S	266° 36.6' 10° 30.7' S	266° 38.4' 10° 08.9' S	266° 40.4' 09° 47.0' S	266° 42.6' 09° 24.8' S	266° 44.9' 09° 02.6' S	266° 47.3' 08° 40.2' S	266° 49.9' 08° 17.7' S	266° 52.6' 07° 55.0' S	266° 55.4' 07° 32.3' S
07	281° 35.0' 10° 51.5' S	281° 36.7' 10° 29.8' S	281° 38.5' 10° 08.0' S	281° 40.5' 09° 46.0' S	281° 42.7' 09° 23.9' S	281° 45.0' 09° 01.7' S	281° 47.4' 08° 39.3' S	281° 50.0' 08° 16.7' S	281° 52.7' 07° 54.1' S	281° 55.5' 07° 31.3' S
08	296° 35.0' 10° 50.6' S	296° 36.7' 10° 28.9' S	296° 38.6' 10° 07.1' S	296° 40.6' 09° 45.1' S	296° 42.8' 09° 23.0' S	296° 45.1' 09° 00.7' S	296° 47.5' 08° 38.3' S	296° 50.1' 08° 15.8' S	296° 52.8' 07° 53.1' S	296° 55.7' 07° 30.4' S
09	311° 35.1' 10° 49.7' S	311° 36.8' 10° 28.0' S	311° 38.7' 10° 06.2' S	311° 40.7' 09° 44.2' S	311° 42.9' 09° 22.1' S	311° 45.2' 08° 59.8' S	311° 47.6' 08° 37.4' S	311° 50.2' 08° 14.9' S	311° 52.9' 07° 52.4' S	311° 55.8' 07° 29.4' S
10	326° 35.2' 10° 48.8' S	326° 36.9' 10° 27.1' S	326° 38.8' 10° 05.3' S	326° 40.8' 09° 43.3' S	326° 43.0' 09° 21.1' S	326° 45.3' 08° 58.9' S	326° 47.7' 08° 36.5' S	326° 50.3' 08° 14.0' S	326° 53.1' 07° 51.3' S	326° 55.9' 07° 28.5' S
11	341° 35.2' 10° 47.9' S	341° 37.0' 10° 26.2' S	341° 38.8' 10° 04.3' S	341° 40.9' 09° 42.4' S	341° 43.1' 09° 20.2' S	341° 45.4' 08° 57.9' S	341° 47.8' 08° 35.5' S	341° 50.4' 08° 13.0' S	341° 53.2' 07° 50.3' S	341° 56.0' 07° 27.5' S
12	356° 35.3' 10° 47.0' S	356° 37.0' 10° 25.3' S	356° 38.9' 10° 03.4' S	356° 41.0' 09° 41.4' S	356° 43.2' 09° 19.3' S	356° 45.5' 08° 57.0' S	356° 48.0' 08° 34.6' S	356° 50.6' 08° 12.0' S	356° 53.3' 07° 49.4' S	356° 56.1' 07° 26.6' S
13	011° 35.4' 10° 46.1' S	011° 37.1' 10° 24.4' S	011° 39.0' 10° 02.5' S	011° 41.1' 09° 40.5' S	011° 43.2' 09° 18.4' S	011° 45.6' 08° 56.1' S	011° 48.1' 08° 33.6' S	011° 50.7' 08° 11.1' S	011° 53.4' 07° 48.4' S	011° 56.3' 07° 25.6' S
14	026° 35.4' 10° 45.2' S	026° 37.2' 10° 23.5' S	026° 39.1' 10° 01.6' S	026° 41.1' 09° 39.6' S	026° 43.3' 09° 17.4' S	026° 45.7' 08° 55.1' S	026° 48.2' 08° 32.7' S	026° 50.8' 08° 10.1' S	026° 53.5' 07° 47.5' S	026° 56.4' 07° 24.7' S
15	041° 35.5' 10° 44.3' S	041° 37.3' 10° 22.6' S	041° 39.2' 10° 00.7' S	041° 41.2' 09° 38.7' S	041° 43.4' 09° 16.5' S	041° 45.8' 08° 54.2' S	041° 48.3' 08° 31.8' S	041° 50.9' 08° 09.2' S	041° 53.6' 07° 46.5' S	041° 56.5' 07° 23.7' S
16	056° 35.6' 10° 43.4' S	056° 37.3' 10° 21.6' S	056° 39.2' 09° 59.8' S	056° 41.3' 09° 37.8' S	056° 43.5' 09° 15.6' S	056° 45.9' 08° 53.3' S	056° 48.4' 08° 30.8' S	056° 51.0' 08° 08.3' S	056° 53.8' 07° 45.6' S	

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 02 Mar to 21 Mar

UT	02 Mar	03 Mar	04 Mar	05 Mar	06 Mar	07 Mar	08 Mar	09 Mar	10 Mar	11 Mar
00	176° 57,6' 07° 15,1' S	177° 00,7' 06° 52,2' S	177° 03,8' 06° 29,1' S	177° 07,1' 06° 06,0' S	177° 10,4' 05° 42,8' S	177° 13,9' 05° 19,5' S	177° 17,5' 04° 56,1' S	177° 21,2' 04° 32,7' S	177° 24,9' 04° 09,2' S	177° 28,8' 03° 45,6' S
01	191° 57,7' 07° 14,2' S	192° 00,8' 06° 51,2' S	192° 03,9' 06° 28,2' S	192° 07,2' 06° 05,0' S	192° 10,6' 05° 41,8' S	192° 14,1' 05° 18,5' S	192° 17,6' 04° 55,1' S	192° 21,3' 04° 31,7' S	192° 25,1' 04° 08,2' S	192° 28,9' 03° 44,7' S
02	206° 57,9' 07° 13,2' S	207° 00,9' 06° 50,3' S	207° 04,1' 06° 27,2' S	207° 07,3' 06° 04,1' S	207° 10,7' 05° 40,8' S	207° 14,2' 05° 17,5' S	207° 17,8' 04° 54,2' S	207° 21,5' 04° 30,7' S	207° 25,3' 04° 07,2' S	207° 29,1' 03° 43,7' S
03	221° 58,0' 07° 12,3' S	222° 01,0' 06° 49,3' S	222° 04,2' 06° 26,3' S	222° 07,5' 06° 03,1' S	222° 10,9' 05° 39,9' S	222° 14,4' 05° 16,6' S	222° 18,0' 04° 53,2' S	222° 21,6' 04° 29,8' S	222° 25,4' 04° 06,3' S	222° 29,3' 03° 42,7' S
04	236° 58,1' 07° 11,3' S	237° 01,2' 06° 48,4' S	237° 04,3' 06° 25,3' S	237° 07,6' 06° 02,1' S	237° 11,0' 05° 38,9' S	237° 14,5' 05° 15,6' S	237° 18,1' 04° 52,2' S	237° 21,8' 04° 28,8' S	237° 25,6' 04° 05,3' S	237° 29,4' 03° 41,7' S
05	251° 58,2' 07° 10,4' S	252° 01,3' 06° 47,4' S	252° 04,5' 06° 24,3' S	252° 07,8' 06° 01,2' S	252° 11,2' 05° 37,9' S	252° 14,7' 05° 14,6' S	252° 18,3' 04° 51,2' S	252° 21,9' 04° 27,8' S	252° 25,7' 04° 04,3' S	252° 29,6' 03° 40,7' S
06	266° 58,4' 07° 09,4' S	267° 01,4' 06° 46,4' S	267° 04,6' 06° 23,4' S	267° 07,9' 06° 00,2' S	267° 11,3' 05° 37,0' S	267° 14,8' 05° 13,7' S	267° 18,4' 04° 50,3' S	267° 22,1' 04° 26,8' S	267° 25,9' 04° 03,3' S	267° 29,8' 03° 39,8' S
07	281° 58,5' 07° 08,5' S	282° 01,6' 06° 45,5' S	282° 04,7' 06° 22,4' S	282° 08,0' 05° 59,2' S	282° 11,4' 05° 36,0' S	282° 15,0' 05° 12,7' S	282° 18,6' 04° 49,3' S	282° 22,3' 04° 25,8' S	282° 26,1' 04° 02,3' S	282° 29,9' 03° 38,8' S
08	296° 58,6' 07° 07,5' S	297° 01,7' 06° 44,5' S	297° 04,9' 06° 21,4' S	297° 08,2' 05° 58,3' S	297° 11,6' 05° 35,0' S	297° 15,1' 05° 11,7' S	297° 18,7' 04° 48,3' S	297° 22,4' 04° 24,9' S	297° 26,2' 04° 01,3' S	297° 30,1' 03° 37,8' S
09	311° 58,7' 07° 06,5' S	312° 01,8' 06° 43,6' S	312° 05,0' 06° 20,5' S	312° 08,3' 05° 57,3' S	312° 11,7' 05° 34,1' S	312° 15,3' 05° 10,7' S	312° 18,9' 04° 47,3' S	312° 22,6' 04° 23,9' S	312° 26,4' 04° 00,4' S	312° 30,3' 03° 36,8' S
10	326° 58,9' 07° 05,6' S	327° 02,0' 06° 42,6' S	327° 05,2' 06° 19,5' S	327° 08,5' 05° 56,3' S	327° 11,9' 05° 33,1' S	327° 15,4' 05° 09,8' S	327° 19,0' 04° 46,4' S	327° 22,7' 04° 22,9' S	327° 26,5' 03° 59,4' S	327° 30,4' 03° 35,8' S
11	341° 59,0' 07° 04,6' S	342° 02,1' 06° 41,6' S	342° 05,3' 06° 18,6' S	342° 08,6' 05° 55,4' S	342° 12,0' 05° 32,1' S	342° 15,5' 05° 08,8' S	342° 19,2' 04° 45,4' S	342° 22,9' 04° 21,9' S	342° 26,7' 03° 58,4' S	342° 30,6' 03° 34,8' S
12	356° 59,1' 07° 03,7' S	357° 02,2' 06° 40,7' S	357° 05,4' 06° 17,6' S	357° 08,7' 05° 54,4' S	357° 12,2' 05° 31,1' S	357° 15,7' 05° 07,8' S	357° 19,3' 04° 44,4' S	357° 23,0' 04° 20,9' S	357° 26,9' 03° 57,4' S	357° 30,7' 03° 33,9' S
13	011° 59,2' 07° 02,7' S	012° 02,3' 06° 39,7' S	012° 05,6' 06° 16,6' S	012° 08,9' 05° 53,4' S	012° 12,3' 05° 30,2' S	012° 15,8' 05° 06,8' S	012° 19,5' 04° 43,4' S	012° 23,2' 04° 20,0' S	012° 27,0' 03° 56,4' S	012° 30,9' 03° 32,9' S
14	026° 59,4' 07° 01,8' S	027° 02,5' 06° 38,8' S	027° 05,7' 06° 15,7' S	027° 09,0' 05° 52,5' S	027° 12,5' 05° 29,2' S	027° 16,0' 05° 05,9' S	027° 19,6' 04° 42,5' S	027° 23,4' 04° 19,0' S	027° 27,2' 03° 55,5' S	027° 31,1' 03° 31,9' S
15	041° 59,5' 07° 00,8' S	042° 02,6' 06° 37,8' S	042° 05,8' 06° 14,7' S	042° 09,2' 05° 51,5' S	042° 12,6' 05° 28,2' S	042° 16,1' 05° 04,9' S	042° 19,8' 04° 41,5' S	042° 23,5' 04° 18,0' S	042° 27,3' 03° 54,5' S	042° 31,2' 03° 30,9' S
16	056° 59,6' 06° 59,8' S	057° 02,7' 06° 36,8' S	057° 06,0' 06° 13,7' S	057° 09,3' 05° 50,5' S	057° 12,7' 05° 27,3' S	057° 16,3' 05° 03,9' S	057° 19,9' 04° 40,5' S	057° 23,7' 04° 17,0' S	057° 27,5' 03° 53,5' S	057° 31,4' 03° 29,9' S
17	071° 59,8' 06° 58,9' S	072° 02,9' 06° 35,9' S	072° 06,1' 06° 12,8' S	072° 09,4' 05° 49,6' S	072° 12,9' 05° 26,3' S	072° 16,4' 05° 02,9' S	072° 20,1' 04° 39,5' S	072° 23,8' 04° 16,0' S	072° 27,7' 03° 52,5' S	072° 31,6' 03° 28,9' S
18	086° 59,9' 06° 57,9' S	087° 03,0' 06° 34,9' S	087° 06,2' 06° 11,8' S	087° 09,6' 05° 48,6' S	087° 13,0' 05° 25,3' S	087° 16,6' 05° 02,0' S	087° 20,2' 04° 38,5' S	087° 24,0' 04° 15,1' S	087° 27,8' 03° 51,5' S	087° 31,7' 03° 28,0' S
19	102° 00,0' 06° 57,0' S	102° 03,1' 06° 34,0' S	102° 06,4' 06° 10,8' S	102° 09,7' 05° 47,6' S	102° 13,2' 05° 24,3' S	102° 16,7' 05° 01,0' S	102° 20,4' 04° 37,6' S	102° 24,1' 04° 14,1' S	102° 28,0' 03° 50,6' S	102° 31,9' 03° 27,0' S
20	117° 00,1' 06° 56,0' S	117° 03,3' 06° 33,0' S	117° 06,5' 06° 09,9' S	117° 09,9' 05° 46,7' S	117° 13,3' 05° 23,4' S	117° 16,9' 05° 00,0' S	117° 20,6' 04° 36,6' S	117° 24,3' 04° 13,1' S	117° 28,1' 03° 56,4' S	117° 32,1' 03° 26,0' S
21	132° 00,3' 06° 55,1' S	132° 03,4' 06° 32,0' S	132° 06,7' 06° 08,9' S	132° 10,0' 05° 45,7' S	132° 13,5' 05° 22,4' S	132° 17,0' 04° 59,0' S	132° 20,7' 04° 35,6' S	132° 24,5' 04° 12,1' S	132° 28,3' 03° 58,5' S	132° 32,2' 03° 25,0' S
22	147° 00,4' 06° 54,1' S	147° 03,5' 06° 31,1' S	147° 06,8' 06° 07,9' S	147° 10,2' 05° 44,7' S	147° 13,6' 05° 21,4' S	147° 17,2' 04° 58,1' S	147° 20,9' 04° 34,6' S	147° 24,6' 04° 11,2' S	147° 28,5' 03° 47,6' S	147° 32,4' 03° 24,0' S
23	162° 00,5' 06° 53,1' S	162° 03,7' 06° 30,1' S	162° 06,9' 06° 07,0' S	162° 10,3' 05° 43,8' S	162° 13,8' 05° 20,5' S	162° 17,3' 04° 57,1' S	162° 21,0' 04° 33,7' S	162° 24,8' 04° 10,2' S	162° 28,6' 03° 46,6' S	162° 32,6' 03° 23,0' S

UT	12 Mar	13 Mar	14 Mar	15 Mar	16 Mar	17 Mar	18 Mar	19 Mar	20 Mar	21 Mar
00	177° 32,7' 03° 22,1' S	177° 36,7' 02° 58,4' S	177° 40,8' 02° 34,8' S	177° 45,0' 02° 11,1' S	177° 49,2' 01° 47,4' S	177° 53,5' 01° 23,7' S	177° 57,8' 01° 00,0' S	178° 02,2' 00° 36,2' S	178° 06,6' 00° 12,5' S	178° 11,0' 00° 11,2' N
01	192° 32,9' 03° 21,1' S	192° 36,9' 02° 57,4' S	192° 41,0' 02° 33,8' S	192° 45,1' 02° 10,1' S	192° 49,4' 01° 46,4' S	192° 53,6' 01° 22,7' S	192° 58,0' 00° 59,0' S	193° 02,4' 00° 35,2' S	193° 06,8' 00° 11,5' S	193° 11,2' 00° 12,2' N
02	207° 33,1' 03° 20,1' S	207° 37,1' 02° 56,5' S	207° 41,2' 02° 32,8' S	207° 45,3' 02° 09,1' S	207° 49,5' 01° 45,4' S	207° 53,8' 01° 21,7' S	207° 58,2' 00° 58,0' S	208° 02,5' 00° 34,3' S	208° 07,0' 00° 10,5' S	208° 11,4' 00° 13,2' N
03	222° 33,2' 03° 19,1' S	222° 37,2' 02° 55,5' S	222° 41,3' 02° 31,8' S	222° 45,5' 02° 08,1' S	222° 49,7' 01° 44,4' S	222° 54,0' 01° 20,7' S	222° 58,3' 00° 57,0' S	223° 02,7' 00° 33,3' S	223° 07,1' 00° 09,6' S	223° 11,6' 00° 14,2' N
04	237° 33,4' 03° 18,1' S	237° 37,4' 02° 54,5' S	237° 41,5' 02° 30,8' S	237° 45,7' 02° 07,1' S	237° 49,9' 01° 43,4' S	237° 54,2' 01° 19,7' S	237° 58,5' 00° 56,0' S	238° 02,9' 00° 32,3' S	238° 07,3' 00° 08,6' S	238° 11,8' 00° 15,1' N
05	252° 33,6' 03° 17,1' S	252° 37,6' 02° 53,5' S	252° 41,7' 02° 29,8' S	252° 45,8' 02° 06,2' S	252° 50,1' 01° 42,4' S	252° 54,4' 01° 18,7' S	252° 58,7' 00° 55,0' S	253° 03,1' 00° 31,3' S	253° 07,5' 00° 07,6' S	253° 12,0' 00° 16,1' N
06	267° 33,7' 03° 16,2' S	267° 37,7' 02° 52,5' S	267° 41,9' 02° 28,9' S	267° 46,0' 02° 05,2' S	267° 50,3' 01° 41,5' S	267° 54,5' 01° 17,7' S	267° 58,9' 00° 54,0' S	268° 03,3' 00° 30,3' S	268° 07,7' 00° 06,6' S	268° 12,2' 00° 17,1' N
07	282° 33,9' 03° 15,2' S	282° 37,9' 02° 51,5' S	282° 42,0' 02° 27,9' S	282° 46,2' 02° 04,2' S	282° 50,4' 01° 40,5' S	282° 54,7' 01° 16,8' S	282° 59,1' 00° 53,0' S	283° 03,5' 00° 29,3' S	283° 07,9' 00° 05,6' S	283° 12,3' 00° 18,1' N
08	297° 34,1' 03° 14,2' S	297° 38,1' 02° 50,5' S	297° 42,2' 02° 26,9' S	297° 46,4' 02° 03,2' S	297° 50,6' 01° 39,5' S	297° 54,9' 01° 15,8' S	297° 59,2' 00° 52,0' S	298° 03,6' 00° 28,3' S	298° 08,1' 00° 04,6' S	298° 12,5' 00° 19,1' N
09	312° 34,2' 03° 13,2' S	312° 38,3' 02° 49,6' S	312° 42,4' 02° 25,9' S	312° 46,5' 02° 02,2' S	312° 50,8' 01° 38,5' S	312° 55,1' 01° 14,8' S	312° 59,4' 00° 51,1' S	313° 03,8' 00° 27,3' S	313° 08,2' 00° 03,6' S	313° 12,7' 00° 20,1' N
10	327° 34,4' 03° 12,2' S	327° 38,4' 02° 48,6' S	327° 42,5' 02° 24,9' S	327° 46,7' 02° 01,2' S	327° 51,0' 01° 37,5' S	327° 55,3' 01° 13,8' S	327° 59,6' 00° 50,1' S	328° 04,0' 00° 26,2' S	328° 08,4' 00° 02,6' S	328° 12,9' 00° 21,1' N
11	342° 34,6' 03° 11,2' S	342° 38,6' 02° 47,6' S	342° 42,7' 02° 23,9' S	342° 46,9' 02° 00,2' S	342° 51,1' 01° 36,5' S	342° 55,4' 01° 12,8' S	342° 59,8' 00° 49,1' S	343° 04,2' 00° 25,4' S	343° 08,6' 00° 01,6' S	343° 13,1' 00° 22,0' N
12	357° 34,7' 03° 10,2' S	357° 38,8' 02° 46,6' S	357° 42,9' 02° 22,9' S	357° 47,1' 01° 59,2' S	357° 51,3' 01° 35,5' S	357° 55,6' 01° 11,8' S	358° 00,0' 00° 48,1' S	358° 04,4' 00° 24,4' S	358° 08,8' 00° 00,7' S	358° 13,3' 00° 23,0' N
13	012° 34,9' 03° 09,3' S	012° 38,9' 02° 45,6' S	012° 43,1' 02° 21,9' S	012° 47,3' 01° 58,3' S	012° 51,5' 01° 34,5' S	012° 55,8' 01° 10,8' S	013° 00,2' 00° 47,1' S	013° 04,6' 00° 23,4' S	013° 09,0' 00° 00,3' S	013° 13,5' 00° 24,0' N
14	027° 35,1' 03° 08,3' S	027° 39,1' 02° 44,6' S	027° 43,2' 02° 21,0' S	027° 47,4' 01° 57,3' S	027° 51,7' 01° 33,6' S	027° 56,0' 01° 09,8' S	028° 00,3' 00° 46,1' S	028° 04,7' 00° 22,4' S	028° 09,2' 00° 01,3' N	028° 13,6' 00° 25,0' N
15	042° 35,2' 03° 07,3' S	042° 39,3' 02° 43,6' S	042° 43,4' 02° 20,0' S	042° 47,6' 01° 56,3' S	042° 51,9' 01° 32,6' S	042° 56,2' 01° 08,8' S	043° 00,5' 00° 45,1' S	043° 04,9' 00° 21,4' S	043° 09,4' 00° 02,3' S	043° 13,8' 00° 26,0' N
16	057° 35,4' 03° 06,3' S	057° 39,5' 02° 42,7' S	057° 43,6' 02° 19,0' S	057° 47,8' 01° 55,3' S	057° 52,0' 01° 31,6' S	057° 56,3' 01° 07,9' S	058° 00,7' 00° 44,1' S	058° 05,1' 00° 20,4' S		

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 22 Mar to 10 Apr

UT	22 Mar	23 Mar	24 Mar	25 Mar	26 Mar	27 Mar	28 Mar	29 Mar	30 Mar	31 Mar
00	178° 15.5' 00° 34.9' N	178° 20.0' 00° 58.5' N	178° 24.5' 01° 22.2' N	178° 29.1' 01° 45.8' N	178° 33.6' 02° 09.4' N	178° 38.1' 02° 32.9' N	178° 42.6' 02° 56.3' N	178° 47.1' 03° 19.8' N	178° 51.6' 03° 43.1' N	178° 56.1' 04° 06.4' N
01	193° 15.7' 00° 35.9' N	193° 20.2' 00° 59.5' N	193° 24.7' 01° 23.2' N	193° 29.2' 01° 46.8' N	193° 33.8' 02° 10.3' N	193° 38.3' 02° 33.9' N	193° 42.8' 02° 57.3' N	193° 47.3' 03° 20.7' N	193° 51.8' 03° 44.1' N	193° 56.3' 04° 07.4' N
02	208° 15.9' 00° 36.8' N	208° 20.4' 01° 00.5' N	208° 24.9' 01° 24.1' N	208° 29.4' 01° 47.8' N	208° 34.0' 02° 11.3' N	208° 38.5' 02° 34.8' N	208° 43.0' 02° 58.3' N	208° 47.5' 03° 21.7' N	208° 52.0' 03° 45.1' N	208° 56.5' 04° 08.3' N
03	223° 16.1' 00° 37.8' N	223° 20.6' 01° 01.5' N	223° 25.1' 01° 25.1' N	223° 29.6' 01° 48.7' N	223° 34.1' 02° 12.3' N	223° 38.7' 02° 35.8' N	223° 43.2' 02° 59.3' N	223° 47.7' 03° 22.7' N	223° 52.2' 03° 46.0' N	223° 56.7' 04° 09.3' N
04	238° 16.3' 00° 38.8' N	238° 20.8' 01° 02.5' N	238° 25.3' 01° 26.1' N	238° 29.8' 01° 49.7' N	238° 34.3' 02° 13.3' N	238° 38.9' 02° 36.8' N	238° 43.4' 03° 00.3' N	238° 47.9' 03° 23.7' N	238° 52.4' 03° 47.0' N	238° 56.8' 04° 10.3' N
05	253° 16.4' 00° 39.8' N	253° 21.0' 01° 03.5' N	253° 25.5' 01° 27.1' N	253° 30.0' 01° 50.7' N	253° 34.5' 02° 14.3' N	253° 39.0' 02° 37.8' N	253° 43.6' 03° 01.2' N	253° 48.1' 03° 24.6' N	253° 52.6' 03° 48.0' N	253° 57.0' 04° 11.2' N
06	268° 16.6' 00° 40.8' N	268° 21.1' 01° 04.5' N	268° 25.7' 01° 28.1' N	268° 30.2' 01° 51.7' N	268° 34.7' 02° 15.2' N	268° 39.2' 02° 38.7' N	268° 43.8' 03° 02.2' N	268° 48.3' 03° 25.6' N	268° 52.7' 03° 48.9' N	268° 57.2' 04° 12.2' N
07	283° 16.8' 00° 41.8' N	283° 21.3' 01° 05.4' N	283° 25.8' 01° 29.1' N	283° 30.4' 01° 52.7' N	283° 34.9' 02° 16.2' N	283° 39.4' 02° 39.7' N	283° 43.9' 03° 03.2' N	283° 48.4' 03° 26.6' N	283° 52.9' 03° 49.9' N	283° 57.4' 04° 13.2' N
08	298° 17.0' 00° 42.8' N	298° 21.5' 01° 06.4' N	298° 26.0' 01° 30.1' N	298° 30.6' 01° 53.6' N	298° 35.1' 02° 17.2' N	298° 39.6' 02° 40.7' N	298° 44.1' 03° 04.2' N	298° 48.6' 03° 27.6' N	298° 53.1' 03° 50.9' N	298° 57.6' 04° 14.2' N
09	313° 17.2' 00° 43.8' N	313° 21.7' 01° 07.4' N	313° 26.2' 01° 31.0' N	313° 30.8' 01° 54.6' N	313° 35.3' 02° 18.2' N	313° 39.8' 02° 41.7' N	313° 44.3' 03° 05.1' N	313° 48.8' 03° 28.5' N	313° 53.3' 03° 51.9' N	313° 57.8' 04° 15.1' N
10	328° 17.4' 00° 44.7' N	328° 21.9' 01° 08.4' N	328° 26.4' 01° 32.0' N	328° 30.9' 01° 55.6' N	328° 35.5' 02° 19.2' N	328° 40.0' 02° 42.7' N	328° 44.5' 03° 06.1' N	328° 49.0' 03° 29.5' N	328° 53.5' 03° 52.8' N	328° 58.0' 04° 16.1' N
11	343° 17.6' 00° 45.7' N	343° 22.1' 01° 09.4' N	343° 26.6' 01° 33.0' N	343° 31.1' 01° 56.6' N	343° 35.7' 02° 20.1' N	343° 40.2' 02° 43.6' N	343° 44.7' 03° 07.1' N	343° 49.2' 03° 30.5' N	343° 53.7' 03° 53.8' N	343° 58.1' 04° 17.1' N
12	358° 17.8' 00° 46.7' N	358° 22.3' 01° 10.4' N	358° 26.8' 01° 34.0' N	358° 31.3' 01° 57.6' N	358° 35.8' 02° 21.1' N	358° 40.4' 02° 44.6' N	358° 44.9' 03° 08.1' N	358° 49.4' 03° 31.4' N	358° 53.9' 03° 54.8' N	358° 58.3' 04° 18.0' N
13	013° 17.9' 00° 47.7' N	013° 22.5' 01° 11.3' N	013° 27.0' 01° 35.0' N	013° 31.5' 01° 58.6' N	013° 36.0' 02° 22.1' N	013° 40.6' 02° 45.6' N	013° 45.1' 03° 09.0' N	013° 49.6' 03° 32.4' N	013° 54.1' 03° 55.7' N	013° 58.5' 04° 19.0' N
14	028° 18.1' 00° 48.7' N	028° 22.6' 01° 12.3' N	028° 27.2' 01° 36.0' N	028° 31.7' 01° 59.5' N	028° 36.2' 02° 23.1' N	028° 40.7' 02° 46.6' N	028° 45.3' 03° 10.0' N	028° 49.8' 03° 33.4' N	028° 54.2' 03° 56.7' N	028° 58.7' 04° 20.0' N
15	043° 18.3' 00° 49.7' N	043° 22.8' 01° 13.3' N	043° 27.4' 01° 36.9' N	043° 31.9' 02° 00.5' N	043° 36.4' 02° 24.1' N	043° 40.9' 02° 47.6' N	043° 45.4' 03° 11.0' N	043° 49.9' 03° 34.4' N	043° 54.4' 03° 57.7' N	043° 58.9' 04° 20.9' N
16	058° 18.5' 00° 50.7' N	058° 23.0' 01° 14.3' N	058° 27.5' 01° 37.9' N	058° 32.1' 02° 01.5' N	058° 36.6' 02° 25.0' N	058° 41.1' 02° 48.5' N	058° 45.6' 03° 12.0' N	058° 50.1' 03° 35.3' N	058° 54.6' 03° 58.7' N	058° 59.1' 04° 21.9' N
17	073° 18.7' 00° 51.6' N	073° 23.2' 01° 15.3' N	073° 27.7' 01° 38.9' N	073° 32.3' 02° 02.5' N	073° 36.8' 02° 26.0' N	073° 41.3' 02° 49.5' N	073° 45.8' 03° 12.9' N	073° 50.3' 03° 36.3' N	073° 54.8' 03° 59.6' N	073° 59.3' 04° 22.9' N
18	088° 18.9' 00° 52.6' N	088° 23.4' 01° 16.3' N	088° 27.9' 01° 39.9' N	088° 32.4' 02° 03.5' N	088° 37.0' 02° 27.0' N	088° 41.5' 02° 50.5' N	088° 46.0' 03° 13.9' N	088° 50.5' 03° 37.3' N	088° 55.0' 04° 00.6' N	088° 59.4' 04° 23.8' N
19	103° 19.1' 00° 53.6' N	103° 23.6' 01° 17.3' N	103° 28.1' 01° 40.9' N	103° 32.6' 02° 04.4' N	103° 37.2' 02° 28.0' N	103° 41.7' 02° 51.5' N	103° 46.2' 03° 14.9' N	103° 50.7' 03° 38.3' N	103° 55.2' 04° 01.6' N	103° 59.6' 04° 24.8' N
20	118° 19.3' 00° 54.6' N	118° 23.8' 01° 18.2' N	118° 28.3' 01° 41.9' N	118° 32.8' 02° 05.4' N	118° 37.4' 02° 29.0' N	118° 41.9' 02° 52.4' N	118° 46.4' 03° 15.9' N	118° 50.9' 03° 39.2' N	118° 55.4' 04° 02.5' N	118° 59.8' 04° 25.8' N
21	133° 19.4' 00° 55.6' N	133° 24.0' 01° 19.2' N	133° 28.5' 01° 42.8' N	133° 33.0' 02° 06.4' N	133° 37.5' 02° 29.9' N	133° 42.1' 02° 53.4' N	133° 46.6' 03° 16.8' N	133° 51.1' 03° 40.2' N	133° 55.5' 04° 03.6' N	134° 00.0' 04° 26.7' N
22	148° 19.6' 00° 56.6' N	148° 24.2' 01° 20.2' N	148° 28.7' 01° 43.8' N	148° 33.2' 02° 07.4' N	148° 37.7' 02° 30.9' N	148° 42.3' 02° 54.4' N	148° 46.8' 03° 17.8' N	148° 51.3' 03° 41.2' N	148° 55.7' 04° 04.5' N	149° 00.2' 04° 27.7' N
23	163° 19.8' 00° 57.6' N	163° 24.3' 01° 21.2' N	163° 28.9' 01° 44.8' N	163° 33.4' 02° 08.4' N	163° 37.9' 02° 31.9' N	163° 42.4' 02° 55.4' N	163° 46.9' 03° 18.8' N	163° 51.4' 03° 42.1' N	163° 55.9' 04° 05.4' N	164° 00.4' 04° 28.7' N
UT	01 Apr	02 Apr	03 Apr	04 Apr	05 Apr	06 Apr	07 Apr	08 Apr	09 Apr	10 Apr
00	179° 00.5' 04° 29.6' N	179° 05.0' 04° 52.7' N	179° 09.3' 05° 15.8' N	179° 13.7' 05° 38.7' N	179° 18.0' 06° 01.6' N	179° 22.3' 06° 24.4' N	179° 26.5' 06° 47.0' N	179° 30.6' 07° 09.5' N	179° 34.7' 07° 31.9' N	179° 38.8' 07° 54.2' N
01	194° 00.7' 04° 30.6' N	194° 05.1' 04° 53.7' N	194° 09.5' 05° 16.8' N	194° 13.9' 05° 39.7' N	194° 18.2' 06° 02.6' N	194° 22.4' 06° 25.3' N	194° 26.7' 06° 47.9' N	194° 30.8' 07° 10.5' N	194° 34.9' 07° 32.9' N	194° 38.9' 07° 55.1' N
02	209° 00.9' 04° 31.5' N	209° 05.3' 04° 54.7' N	209° 09.7' 05° 17.7' N	209° 14.1' 05° 40.7' N	209° 18.4' 06° 03.5' N	209° 22.6' 06° 26.2' N	209° 26.8' 06° 48.9' N	209° 31.0' 07° 11.4' N	209° 35.1' 07° 33.8' N	209° 39.1' 07° 56.1' N
03	224° 01.1' 04° 32.5' N	224° 05.5' 04° 55.6' N	224° 09.9' 05° 18.7' N	224° 14.2' 05° 41.6' N	224° 18.5' 06° 04.5' N	224° 22.8' 06° 27.2' N	224° 27.0' 06° 49.8' N	224° 31.2' 07° 12.3' N	224° 35.2' 07° 34.7' N	224° 39.3' 07° 57.0' N
04	239° 01.3' 04° 33.5' N	239° 05.7' 04° 56.6' N	239° 10.1' 05° 19.6' N	239° 14.4' 05° 42.6' N	239° 18.7' 06° 05.4' N	239° 23.0' 06° 28.1' N	239° 27.2' 06° 50.8' N	239° 31.3' 07° 13.3' N	239° 35.4' 07° 35.7' N	239° 39.5' 07° 57.9' N
05	254° 01.5' 04° 34.4' N	254° 05.9' 04° 57.6' N	254° 10.3' 05° 20.6' N	254° 14.6' 05° 43.5' N	254° 18.9' 06° 06.4' N	254° 23.1' 06° 29.1' N	254° 27.3' 06° 51.7' N	254° 31.5' 07° 14.2' N	254° 35.6' 07° 36.6' N	254° 39.6' 07° 58.8' N
06	269° 01.7' 04° 35.4' N	269° 06.1' 04° 58.5' N	269° 10.4' 05° 21.5' N	269° 14.8' 05° 44.5' N	269° 19.1' 06° 07.3' N	269° 23.3' 06° 30.0' N	269° 27.5' 06° 52.6' N	269° 31.7' 07° 15.1' N	269° 35.8' 07° 37.5' N	269° 39.8' 07° 59.8' N
07	284° 01.8' 04° 36.4' N	284° 06.2' 04° 59.5' N	284° 10.6' 05° 22.5' N	284° 15.0' 05° 45.4' N	284° 19.3' 06° 08.3' N	284° 23.5' 06° 31.0' N	284° 27.7' 06° 53.6' N	284° 31.8' 07° 16.1' N	284° 35.9' 07° 38.4' N	284° 40.0' 08° 00.7' N
08	299° 02.0' 04° 37.3' N	299° 06.4' 05° 00.4' N	299° 10.8' 05° 23.5' N	299° 15.1' 05° 46.4' N	299° 19.4' 06° 09.2' N	299° 23.7' 06° 31.9' N	299° 27.9' 06° 54.5' N	299° 32.0' 07° 17.0' N	299° 36.1' 07° 39.4' N	299° 40.1' 08° 01.6' N
09	314° 02.2' 04° 38.3' N	314° 06.6' 05° 01.4' N	314° 11.0' 05° 24.4' N	314° 15.3' 05° 47.3' N	314° 19.6' 06° 10.1' N	314° 23.8' 06° 32.9' N	314° 28.0' 06° 55.5' N	314° 32.2' 07° 18.9' N	314° 36.3' 07° 40.3' N	314° 40.3' 08° 02.5' N
10	329° 02.4' 04° 39.3' N	329° 06.8' 05° 02.4' N	329° 11.2' 05° 25.4' N	329° 15.5' 05° 48.3' N	329° 19.8' 06° 11.1' N	329° 24.0' 06° 33.8' N	329° 28.2' 06° 56.4' N	329° 32.4' 07° 19.2' N	329° 36.4' 07° 41.2' N	329° 40.4' 08° 03.4' N
11	344° 02.6' 04° 40.2' N	344° 07.0' 05° 03.3' N	344° 11.3' 05° 26.3' N	344° 15.7' 05° 49.2' N	344° 20.0' 06° 12.0' N	344° 24.2' 06° 34.7' N	344° 28.4' 06° 57.3' N	344° 32.5' 07° 19.8' N	344° 36.6' 07° 42.2' N	344° 40.6' 08° 04.4' N
12	359° 02.8' 04° 41.2' N	359° 07.2' 05° 04.3' N	359° 11.5' 05° 27.3' N	359° 15.9' 05° 50.2' N	359° 20.1' 06° 13.0' N	359° 24.4' 06° 35.7' N	359° 28.6' 06° 58.3' N	359° 32.7' 07° 20.7' N	359° 36.8' 07° 43.1' N	359° 40.8' 08° 05.3' N
13	014° 02.9' 04° 42.2' N	014° 07.3' 05° 05.2' N	014° 11.7' 05° 28.2' N	014° 16.0' 05° 51.1' N	014° 20.3' 06° 13.9' N	014° 24.6' 06° 36.6' N	014° 28.7' 06° 59.2' N	014° 32.9' 07° 21.7' N	014° 36.9' 07° 44.0' N	014° 40.9' 08° 06.2' N
14	029° 03.1' 04° 43.1' N	029° 07.5' 05° 06.2' N	029° 11.9' 05° 29.2' N	029° 16.2' 05° 52.1' N	029° 20.5' 06° 14.9' N	029° 24.7' 06° 37.6' N	029° 28.9' 07° 00.2' N	029° 33.0' 07° 22.6' N	029° 37.1' 07° 44.9' N	029° 41.1' 08° 07.1' N
15	044° 03.3' 04° 44.1' N	044° 07.7' 05° 07.2' N	044° 12.1' 05° 30.2' N	044° 16.4' 05° 53.0' N	044° 20.7' 06° 15.8' N	044° 24.9' 06° 38.5' N	044° 29.1' 07° 01.1' N	044° 33.2' 07° 23.5' N	044° 37.3' 07° 45.9' N	044° 41.3' 08° 08.1' N
16	059° 03.5' 04° 45.0' N	059° 07.9' 05° 08.1' N	059° 12.3' 05° 31.1' N	059° 16.6' 05° 54.0' N	059° 20.8' 06° 16.8' N	059° 25.1' 06° 39.5' N	059° 29.3' 07° 02.0' N	059° 33.4' 07° 24.5' N	059° 37.4' 07° 46.8' N	

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 11 Apr to 30 Apr

UT	11 Apr	12 Apr	13 Apr	14 Apr	15 Apr	16 Apr	17 Apr	18 Apr	19 Apr	20 Apr
00	179° 42.8' 08° 16.3' N	179° 46.7' 08° 38.3' N	179° 50.5' 09° 00.2' N	179° 54.3' 09° 21.9' N	179° 58.0' 09° 43.5' N	180° 01.6' 10° 04.8' N	180° 05.1' 10° 26.0' N	180° 08.5' 10° 47.1' N	180° 11.8' 11° 07.9' N	180° 15.1' 11° 28.6' N
01	194° 42.9' 08° 17.3' N	194° 46.8' 08° 39.3' N	194° 50.7' 09° 01.1' N	194° 54.4' 09° 22.8' N	194° 58.1' 09° 44.3' N	195° 01.7' 10° 05.7' N	195° 05.2' 10° 26.9' N	195° 08.6' 10° 48.0' N	195° 12.0' 11° 08.8' N	195° 15.2' 11° 29.5' N
02	209° 43.1' 08° 18.2' N	209° 47.0' 08° 40.2' N	209° 50.8' 09° 02.0' N	209° 54.6' 09° 23.7' N	209° 58.3' 09° 45.2' N	210° 01.9' 10° 06.6' N	210° 05.4' 10° 27.8' N	210° 08.8' 10° 48.8' N	210° 12.1' 11° 09.7' N	210° 15.3' 11° 30.3' N
03	224° 43.3' 08° 19.1' N	224° 47.2' 08° 41.1' N	224° 51.0' 09° 02.9' N	224° 54.7' 09° 24.6' N	224° 58.4' 09° 46.1' N	225° 02.0' 10° 07.5' N	225° 05.5' 10° 28.7' N	225° 08.9' 10° 49.7' N	225° 12.2' 11° 10.5' N	225° 15.5' 11° 31.2' N
04	239° 43.4' 08° 20.0' N	239° 47.3' 08° 42.0' N	239° 51.1' 09° 03.8' N	239° 54.9' 09° 25.5' N	239° 58.6' 09° 47.0' N	240° 02.2' 10° 08.4' N	240° 05.7' 10° 29.6' N	240° 09.1' 10° 50.6' N	240° 12.4' 11° 11.4' N	240° 15.6' 11° 32.0' N
05	254° 43.6' 08° 20.9' N	254° 47.5' 08° 42.9' N	254° 51.3' 09° 04.7' N	254° 55.1' 09° 26.4' N	254° 58.7' 09° 47.9' N	255° 02.3' 10° 09.3' N	255° 05.8' 10° 30.4' N	255° 09.2' 10° 51.4' N	255° 12.5' 11° 12.3' N	255° 15.7' 11° 32.9' N
06	269° 43.7' 08° 21.9' N	269° 47.6' 08° 43.8' N	269° 51.5' 09° 05.6' N	269° 55.2' 09° 27.3' N	269° 58.9' 09° 48.8' N	270° 02.5' 10° 10.2' N	270° 05.9' 10° 31.3' N	270° 09.3' 10° 52.3' N	270° 12.6' 11° 13.1' N	270° 15.8' 11° 33.8' N
07	284° 43.9' 08° 22.8' N	284° 47.8' 08° 44.7' N	284° 51.6' 09° 06.5' N	284° 55.4' 09° 28.2' N	284° 59.0' 09° 49.7' N	285° 02.6' 10° 11.0' N	285° 06.1' 10° 32.2' N	285° 09.5' 10° 53.2' N	285° 12.8' 11° 14.0' N	285° 16.0' 11° 34.6' N
08	299° 44.1' 08° 23.7' N	299° 48.0' 08° 45.6' N	299° 51.8' 09° 07.5' N	299° 55.5' 09° 29.1' N	299° 59.2' 09° 50.6' N	300° 02.8' 10° 11.9' N	300° 06.2' 10° 33.1' N	300° 09.6' 10° 54.1' N	300° 12.9' 11° 14.9' N	300° 16.1' 11° 35.5' N
09	314° 44.2' 08° 24.6' N	314° 48.1' 08° 46.6' N	314° 51.9' 09° 08.4' N	314° 55.7' 09° 30.0' N	314° 59.3' 09° 51.5' N	315° 02.9' 10° 12.8' N	315° 06.4' 10° 34.0' N	315° 09.8' 10° 54.9' N	315° 13.1' 11° 15.7' N	315° 16.2' 11° 36.3' N
10	329° 44.4' 08° 25.5' N	329° 48.3' 08° 47.5' N	329° 52.1' 09° 09.3' N	329° 55.8' 09° 30.9' N	329° 59.5' 09° 52.4' N	330° 03.0' 10° 13.7' N	330° 06.5' 10° 34.8' N	330° 09.9' 10° 55.8' N	330° 13.2' 11° 16.6' N	330° 16.4' 11° 37.2' N
11	344° 44.6' 08° 26.4' N	344° 48.4' 08° 48.4' N	344° 52.2' 09° 10.2' N	344° 56.0' 09° 31.8' N	344° 59.6' 09° 53.3' N	345° 03.2' 10° 14.6' N	345° 06.7' 10° 35.7' N	345° 10.0' 10° 56.7' N	345° 13.3' 11° 17.4' N	345° 16.5' 11° 38.0' N
12	359° 44.7' 08° 27.4' N	359° 48.6' 08° 49.3' N	359° 52.4' 09° 11.1' N	359° 56.1' 09° 32.7' N	359° 59.8' 09° 54.2' N	000° 03.3' 10° 15.5' N	000° 06.8' 10° 36.6' N	000° 10.2' 10° 57.5' N	000° 13.5' 11° 18.3' N	000° 16.6' 11° 38.9' N
13	014° 44.9' 08° 28.3' N	014° 48.8' 08° 50.2' N	014° 52.6' 09° 12.0' N	014° 56.3' 09° 33.6' N	014° 59.9' 09° 55.1' N	015° 03.5' 10° 16.3' N	015° 06.9' 10° 37.5' N	015° 10.3' 10° 58.4' N	015° 13.6' 11° 19.2' N	015° 16.8' 11° 39.7' N
14	029° 45.1' 08° 29.2' N	029° 48.9' 08° 51.1' N	029° 52.7' 09° 12.9' N	029° 56.4' 09° 34.5' N	030° 00.1' 09° 55.9' N	030° 03.6' 10° 17.2' N	030° 07.1' 10° 38.3' N	030° 10.5' 10° 59.3' N	030° 13.7' 11° 20.0' N	030° 16.9' 11° 40.6' N
15	044° 45.2' 08° 30.1' N	044° 49.1' 08° 52.0' N	044° 52.9' 09° 13.8' N	044° 56.6' 09° 35.4' N	045° 00.2' 09° 56.8' N	045° 03.8' 10° 18.1' N	045° 07.2' 10° 39.2' N	045° 10.6' 11° 00.1' N	045° 13.9' 11° 20.9' N	045° 17.0' 11° 41.4' N
16	059° 45.4' 08° 31.0' N	059° 49.2' 08° 52.9' N	059° 53.0' 09° 14.7' N	059° 56.7' 09° 36.3' N	060° 00.4' 09° 57.7' N	060° 03.9' 10° 19.0' N	060° 07.4' 10° 40.1' N	060° 10.7' 11° 01.0' N	060° 14.0' 11° 21.8' N	060° 17.1' 11° 42.3' N
17	074° 45.5' 08° 31.9' N	074° 49.4' 08° 53.8' N	074° 53.2' 09° 15.6' N	074° 56.9' 09° 37.2' N	075° 00.5' 09° 58.6' N	075° 04.1' 10° 19.9' N	075° 07.5' 10° 41.0' N	075° 10.9' 11° 01.9' N	075° 14.1' 11° 22.6' N	075° 17.3' 11° 43.2' N
18	089° 45.7' 08° 32.9' N	089° 49.6' 08° 54.8' N	089° 53.3' 09° 16.5' N	089° 57.1' 09° 38.1' N	090° 00.7' 09° 59.5' N	090° 04.2' 10° 20.8' N	090° 07.7' 10° 41.8' N	090° 11.0' 11° 02.7' N	090° 14.3' 11° 23.5' N	090° 17.4' 11° 44.0' N
19	104° 45.9' 08° 33.8' N	104° 49.7' 08° 55.7' N	104° 53.5' 09° 17.4' N	104° 57.2' 09° 39.0' N	105° 00.8' 10° 00.4' N	105° 04.4' 10° 21.6' N	105° 07.8' 10° 42.7' N	105° 11.1' 11° 03.6' N	105° 14.4' 11° 24.3' N	105° 17.5' 11° 44.9' N
20	119° 46.0' 08° 34.7' N	119° 49.9' 08° 56.6' N	119° 53.7' 09° 18.3' N	119° 57.4' 09° 39.9' N	120° 01.0' 10° 01.3' N	120° 04.5' 10° 22.5' N	120° 07.9' 10° 43.6' N	120° 11.3' 11° 04.5' N	120° 14.5' 11° 25.2' N	120° 17.7' 11° 45.7' N
21	134° 46.2' 08° 35.6' N	134° 50.0' 08° 57.5' N	134° 53.8' 09° 19.2' N	134° 57.5' 09° 40.8' N	135° 01.1' 10° 02.2' N	135° 04.6' 10° 23.4' N	135° 08.1' 10° 44.5' N	135° 11.4' 11° 05.3' N	135° 14.7' 11° 26.0' N	135° 17.8' 11° 46.6' N
22	149° 46.4' 08° 36.5' N	149° 50.2' 08° 58.4' N	149° 54.0' 09° 20.1' N	149° 57.7' 09° 41.7' N	150° 01.3' 10° 03.1' N	150° 04.8' 10° 24.3' N	150° 08.2' 10° 45.3' N	150° 11.6' 11° 06.2' N	150° 14.8' 11° 26.9' N	150° 17.9' 11° 47.4' N
23	164° 46.5' 08° 37.4' N	164° 50.4' 08° 59.3' N	164° 54.1' 09° 21.0' N	164° 57.8' 09° 42.6' N	165° 01.4' 10° 03.9' N	165° 04.9' 10° 25.2' N	165° 08.4' 10° 46.2' N	165° 11.7' 11° 07.1' N	165° 14.9' 11° 27.8' N	165° 18.0' 11° 48.3' N
UT	21 Apr	22 Apr	23 Apr	24 Apr	25 Apr	26 Apr	27 Apr	28 Apr	29 Apr	30 Apr
00	180° 18.2' 11° 49.1' N	180° 21.2' 12° 09.4' N	180° 24.1' 12° 29.5' N	180° 26.8' 12° 49.4' N	180° 29.5' 13° 09.1' N	180° 32.0' 13° 28.5' N	180° 34.4' 13° 47.8' N	180° 36.7' 14° 06.8' N	180° 38.8' 14° 25.6' N	180° 40.8' 14° 44.1' N
01	195° 18.3' 11° 50.0' N	195° 21.3' 12° 10.2' N	195° 24.2' 12° 30.3' N	195° 27.0' 12° 50.2' N	195° 29.6' 13° 09.9' N	195° 32.1' 13° 29.3' N	195° 34.5' 13° 48.6' N	195° 36.8' 14° 07.6' N	195° 38.9' 14° 26.4' N	195° 40.9' 14° 44.9' N
02	210° 18.4' 11° 50.8' N	210° 21.4' 12° 11.1' N	210° 24.3' 12° 31.2' N	210° 27.1' 12° 51.0' N	210° 29.7' 13° 10.7' N	210° 32.2' 13° 30.1' N	210° 34.6' 13° 49.4' N	210° 36.9' 14° 08.4' N	210° 39.0' 14° 27.1' N	210° 41.0' 14° 45.7' N
03	225° 18.6' 11° 51.7' N	225° 21.5' 12° 11.9' N	225° 24.4' 12° 32.0' N	225° 27.2' 12° 51.9' N	225° 29.8' 13° 11.5' N	225° 32.3' 13° 31.0' N	225° 34.7' 13° 50.2' N	225° 37.0' 14° 09.2' N	225° 39.1' 14° 27.9' N	225° 41.1' 14° 46.4' N
04	240° 18.7' 11° 52.5' N	240° 21.7' 12° 12.8' N	240° 24.5' 12° 32.8' N	240° 27.3' 12° 52.7' N	240° 29.9' 13° 12.3' N	240° 32.4' 13° 31.8' N	240° 34.8' 13° 51.0' N	240° 37.1' 14° 09.9' N	240° 39.2' 14° 28.7' N	240° 41.2' 14° 47.2' N
05	255° 18.8' 11° 53.4' N	255° 21.8' 12° 13.6' N	255° 24.7' 12° 33.7' N	255° 27.4' 12° 53.5' N	255° 30.0' 13° 13.1' N	255° 32.5' 13° 32.6' N	255° 34.9' 13° 51.8' N	255° 37.1' 14° 10.7' N	255° 39.3' 14° 29.5' N	255° 41.2' 14° 48.0' N
06	270° 18.9' 11° 54.2' N	270° 21.9' 12° 14.4' N	270° 24.8' 12° 34.5' N	270° 27.5' 12° 54.3' N	270° 30.1' 13° 14.0' N	270° 32.6' 13° 33.4' N	270° 35.0' 13° 52.6' N	270° 37.2' 14° 11.5' N	270° 39.3' 14° 30.2' N	270° 41.3' 14° 48.7' N
07	285° 19.1' 11° 55.0' N	285° 22.0' 12° 15.3' N	285° 24.9' 12° 35.3' N	285° 27.6' 12° 55.1' N	285° 30.2' 13° 14.8' N	285° 32.7' 13° 34.2' N	285° 35.1' 13° 53.3' N	285° 37.3' 14° 12.3' N	285° 39.4' 14° 31.0' N	285° 41.4' 14° 49.5' N
08	300° 19.2' 11° 55.9' N	300° 22.2' 12° 16.1' N	300° 25.0' 12° 36.1' N	300° 27.7' 12° 56.0' N	300° 30.4' 13° 15.6' N	300° 32.8' 13° 35.0' N	300° 35.2' 13° 54.1' N	300° 37.4' 14° 13.1' N	300° 39.5' 14° 31.8' N	300° 41.5' 14° 50.3' N
09	315° 19.3' 11° 56.7' N	315° 22.3' 12° 17.0' N	315° 25.1' 12° 37.0' N	315° 27.9' 12° 56.8' N	315° 30.5' 13° 16.4' N	315° 32.9' 13° 35.8' N	315° 35.3' 13° 54.9' N	315° 37.5' 14° 13.9' N	315° 39.6' 14° 32.6' N	315° 41.5' 14° 51.0' N
10	330° 19.4' 11° 57.6' N	330° 22.4' 12° 17.8' N	330° 25.2' 12° 37.8' N	330° 28.0' 12° 57.6' N	330° 30.6' 13° 17.2' N	330° 33.0' 13° 36.6' N	330° 35.4' 13° 55.7' N	330° 37.6' 14° 14.7' N	330° 39.7' 14° 33.3' N	330° 41.6' 14° 51.8' N
11	345° 19.6' 11° 58.4' N	345° 22.5' 12° 18.6' N	345° 25.4' 12° 38.6' N	345° 28.1' 12° 58.4' N	345° 30.7' 13° 18.0' N	345° 33.1' 13° 37.4' N	345° 35.5' 13° 56.5' N	345° 37.7' 14° 15.4' N	345° 39.8' 14° 34.1' N	345° 41.7' 14° 52.6' N
12	000° 19.7' 11° 59.3' N	000° 22.6' 12° 19.5' N	000° 25.5' 12° 39.5' N	000° 28.2' 12° 59.3' N	000° 30.8' 13° 18.8' N	000° 33.2' 13° 38.2' N	000° 35.6' 13° 57.3' N	000° 37.8' 14° 16.2' N	000° 39.8' 14° 34.9' N	000° 41.8' 14° 53.3' N
13	015° 19.8' 12° 00.1' N	015° 22.8' 12° 20.3' N	015° 25.6' 12° 40.3' N	015° 28.4' 13° 00.1' N	015° 30.9' 13° 19.6' N	015° 33.3' 13° 39.0' N	015° 35.7' 13° 58.1' N	015° 37.9' 14° 17.0' N	015° 39.9' 14° 35.7' N	015° 41.9' 14° 54.1' N
14	030° 19.9' 12° 01.0' N	030° 22.9' 12° 21.1' N	030° 25.7' 12° 41.1' N	030° 28.4' 13° 00.9' N	030° 31.0' 13° 20.4' N	030° 33.4' 13° 39.8' N	030° 35.8' 13° 58.9' N	030° 38.0' 14° 17.8' N	030° 40.0' 14° 36.4' N	030° 41.9' 14° 54.8' N
15	045° 20.1' 12° 01.8' N	045° 23.0' 12° 22.0' N	045° 25.8' 12° 42.0' N	045° 28.5' 13° 01.7' N	045° 31.1' 13° 21.3' N	045° 33.5' 13° 40.6' N	045° 35.9' 13° 59.7' N	045° 38.0' 14° 18.6' N	045° 40.1' 14° 37.2' N	045° 42.0' 14° 55.6' N
16	060° 20.2' 12° 02.7' N	060° 23.1' 12° 22.8' N	060° 25.9' 12° 42.8' N	060° 28.6' 13° 02.5' N	060° 31.2' 13° 22.1' N	060° 33.6' 13° 41.4' N	060° 35.9' 14° 00.5' N	060° 38.1' 14° 19.3' N	060° 40.2' 14° 38.0' N	

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 01 May to 20 May

UT	01 May	02 May	03 May	04 May	05 May	06 May	07 May	08 May	09 May	10 May
00	180° 42.7 15° 02.4' N	180° 44.4 15° 20.5' N	180° 46.0 15° 38.3' N	180° 47.5 15° 55.9' N	180° 48.8 16° 13.2' N	180° 50.0 16° 30.2' N	180° 51.0 16° 46.9' N	180° 51.9 17° 03.4' N	180° 52.7 17° 19.5' N	180° 53.3 17° 35.4' N
01	195° 42.8 15° 03.2' N	195° 44.5 15° 21.3' N	195° 46.1 15° 39.1' N	195° 47.5 15° 56.6' N	195° 48.8 16° 13.9' N	195° 50.0 16° 30.9' N	195° 51.1 16° 47.6' N	195° 51.9 17° 04.0' N	195° 52.7 17° 20.2' N	195° 53.3 17° 36.1' N
02	210° 42.8 15° 04.0' N	210° 44.6 15° 22.0' N	210° 46.2 15° 39.8' N	210° 47.6 15° 57.3' N	210° 48.9 16° 14.6' N	210° 50.1 16° 31.6' N	210° 51.1 16° 48.3' N	210° 51.9 17° 04.7' N	210° 52.7 17° 20.9' N	210° 53.3 17° 36.7' N
03	225° 42.9 15° 04.7' N	225° 44.6 15° 22.7' N	225° 46.2 15° 40.5' N	225° 47.7 15° 58.0' N	225° 49.0 16° 15.3' N	225° 50.1 16° 32.3' N	225° 51.1 16° 49.0' N	225° 52.0 17° 05.4' N	225° 52.8 17° 21.5' N	225° 53.4 17° 37.4' N
04	240° 43.0 15° 05.5' N	240° 44.7 15° 23.5' N	240° 46.3 15° 41.3' N	240° 47.7 15° 58.8' N	240° 49.0 16° 16.0' N	240° 50.2 16° 33.0' N	240° 51.2 16° 49.7' N	240° 52.0 17° 06.1' N	240° 52.8 17° 22.2' N	240° 53.4 17° 38.0' N
05	255° 43.1 15° 06.2' N	255° 44.8 15° 24.2' N	255° 46.3 15° 42.0' N	255° 47.8 15° 59.5' N	255° 49.1 16° 16.7' N	255° 50.2 16° 33.7' N	255° 51.2 16° 50.4' N	255° 52.1 17° 06.8' N	255° 52.8 17° 22.9' N	255° 53.4 17° 38.7' N
06	270° 43.1 15° 07.0' N	270° 44.8 15° 25.0' N	270° 46.4 15° 42.7' N	270° 47.8 16° 00.2' N	270° 49.1 16° 17.4' N	270° 50.2 16° 34.4' N	270° 51.3 16° 51.0' N	270° 52.1 17° 07.4' N	270° 52.8 17° 23.5' N	270° 53.4 17° 39.4' N
07	285° 43.2 15° 07.7' N	285° 44.9 15° 25.7' N	285° 46.5 15° 43.5' N	285° 47.9 16° 00.9' N	285° 49.2 16° 18.1' N	285° 50.3 16° 35.1' N	285° 51.3 16° 51.7' N	285° 52.1 17° 08.1' N	285° 52.9 17° 24.2' N	285° 53.4 17° 40.0' N
08	300° 43.3 15° 08.5' N	300° 45.0 15° 26.5' N	300° 46.5 15° 44.2' N	300° 47.9 16° 01.7' N	300° 49.2 16° 18.9' N	300° 50.3 16° 35.8' N	300° 51.3 16° 52.4' N	300° 52.2 17° 08.8' N	300° 52.9 17° 24.9' N	300° 53.5 17° 40.7' N
09	315° 43.4 15° 09.2' N	315° 45.0 15° 27.2' N	315° 46.6 15° 44.9' N	315° 48.0 16° 02.4' N	315° 49.3 16° 19.6' N	315° 50.4 16° 36.5' N	315° 51.4 16° 53.1' N	315° 52.2 17° 09.5' N	315° 52.9 17° 25.5' N	315° 53.5 17° 41.3' N
10	330° 43.4 15° 10.0' N	330° 45.1 15° 28.0' N	330° 46.6 15° 45.7' N	330° 48.0 16° 03.1' N	330° 49.3 16° 20.3' N	330° 50.4 16° 37.2' N	330° 51.4 16° 53.8' N	330° 52.2 17° 10.1' N	330° 52.9 17° 26.2' N	330° 53.5 17° 42.0' N
11	345° 43.5 15° 10.8' N	345° 45.2 15° 28.7' N	345° 46.7 15° 46.4' N	345° 48.1 16° 03.8' N	345° 49.4 16° 21.0' N	345° 50.5 16° 37.9' N	345° 51.4 16° 54.5' N	345° 52.3 17° 10.8' N	345° 53.0 17° 26.9' N	345° 53.5 17° 42.6' N
12	000° 43.6 15° 11.5' N	000° 45.2 15° 29.4' N	000° 46.8 15° 47.1' N	000° 48.2 16° 04.5' N	000° 49.4 16° 21.7' N	000° 50.5 16° 38.6' N	000° 51.5 16° 55.2' N	000° 52.3 17° 11.5' N	000° 53.0 17° 27.5' N	000° 53.6 17° 43.3' N
13	015° 43.7 15° 12.3' N	015° 45.3 15° 30.2' N	015° 46.8 15° 47.9' N	015° 48.2 16° 05.3' N	015° 49.5 16° 22.4' N	015° 50.6 16° 39.3' N	015° 51.5 16° 55.9' N	015° 52.3 17° 12.2' N	015° 53.0 17° 28.2' N	015° 53.6 17° 43.9' N
14	030° 43.7 15° 13.0' N	030° 45.4 15° 30.9' N	030° 46.9 15° 48.6' N	030° 48.3 16° 06.0' N	030° 49.5 16° 23.1' N	030° 50.6 16° 40.0' N	030° 51.6 16° 56.5' N	030° 52.4 17° 12.8' N	030° 53.1 17° 28.8' N	030° 53.6 17° 44.6' N
15	045° 43.8 15° 13.8' N	045° 45.4 15° 31.7' N	045° 46.9 15° 49.3' N	045° 48.3 16° 06.7' N	045° 49.5 16° 23.8' N	045° 50.6 16° 40.7' N	045° 51.6 16° 57.2' N	045° 52.4 17° 13.5' N	045° 53.1 17° 29.5' N	045° 53.6 17° 45.2' N
16	060° 43.9 15° 14.5' N	060° 45.5 15° 32.4' N	060° 47.0 15° 50.0' N	060° 48.4 16° 07.4' N	060° 49.6 16° 24.5' N	060° 50.7 16° 41.4' N	060° 51.6 16° 57.9' N	060° 52.4 17° 14.2' N	060° 53.1 17° 30.2' N	060° 53.6 17° 45.9' N
17	075° 43.9 15° 15.3' N	075° 45.6 15° 33.1' N	075° 47.1 15° 50.8' N	075° 48.4 16° 08.1' N	075° 49.6 16° 25.2' N	075° 50.7 16° 42.1' N	075° 51.7 16° 58.6' N	075° 52.5 17° 14.9' N	075° 53.1 17° 30.8' N	075° 53.6 17° 46.5' N
18	090° 44.0 15° 16.0' N	090° 45.6 15° 33.9' N	090° 47.1 15° 51.5' N	090° 48.5 16° 08.9' N	090° 49.7 16° 25.9' N	090° 50.8 16° 42.7' N	090° 51.7 16° 59.3' N	090° 52.5 17° 15.5' N	090° 53.1 17° 31.5' N	090° 53.7 17° 47.1' N
19	105° 44.1 15° 16.8' N	105° 45.7 15° 34.6' N	105° 47.2 15° 52.2' N	105° 48.5 16° 09.6' N	105° 49.7 16° 26.6' N	105° 50.8 16° 43.4' N	105° 51.7 17° 00.0' N	105° 52.5 17° 16.2' N	105° 53.2 17° 32.1' N	105° 53.7 17° 47.8' N
20	120° 44.2 15° 17.5' N	120° 45.8 15° 35.4' N	120° 47.2 15° 53.0' N	120° 48.6 16° 10.3' N	120° 49.8 16° 27.3' N	120° 50.8 16° 44.1' N	120° 51.8 17° 00.6' N	120° 52.6 17° 16.9' N	120° 53.2 17° 32.8' N	120° 53.7 17° 48.4' N
21	135° 44.2 15° 18.3' N	135° 45.8 15° 36.1' N	135° 47.3 15° 53.7' N	135° 48.6 16° 11.0' N	135° 49.8 16° 28.1' N	135° 50.9 16° 44.8' N	135° 51.8 17° 01.3' N	135° 52.6 17° 17.5' N	135° 53.2 17° 33.5' N	135° 53.7 17° 49.1' N
22	150° 44.3 15° 19.0' N	150° 45.9 15° 36.8' N	150° 47.4 15° 54.4' N	150° 48.7 16° 11.7' N	150° 49.9 16° 28.8' N	150° 50.9 16° 45.5' N	150° 51.8 17° 02.0' N	150° 52.6 17° 18.2' N	150° 53.2 17° 34.1' N	150° 53.7 17° 49.7' N
23	165° 44.4 15° 19.8' N	165° 46.0 15° 37.6' N	165° 47.4 15° 55.1' N	165° 48.7 16° 12.4' N	165° 49.9 16° 29.5' N	165° 51.0 16° 46.2' N	165° 51.9 17° 02.7' N	165° 52.6 17° 18.9' N	165° 53.3 17° 34.8' N	165° 53.8 17° 50.4' N

UT	11 May	12 May	13 May	14 May	15 May	16 May	17 May	18 May	19 May	20 May
00	180° 53.8 17° 51.0' N	180° 54.1 18° 06.3' N	180° 54.3 18° 21.3' N	180° 54.4 18° 36.0' N	180° 54.3 18° 50.3' N	180° 54.1 19° 04.3' N	180° 53.8 19° 18.1' N	180° 53.3 19° 31.4' N	180° 52.7 19° 44.5' N	180° 51.9 19° 57.2' N
01	195° 53.8 17° 51.7' N	195° 54.1 18° 06.9' N	195° 54.3 18° 21.9' N	195° 54.4 18° 36.6' N	195° 54.3 18° 50.9' N	195° 54.1 19° 04.9' N	195° 53.8 19° 18.6' N	195° 53.3 19° 32.0' N	195° 52.6 19° 45.0' N	195° 51.9 19° 57.7' N
02	210° 53.8 17° 52.3' N	210° 54.1 18° 07.6' N	210° 54.3 18° 22.5' N	210° 54.4 18° 37.2' N	210° 54.3 18° 51.5' N	210° 54.1 19° 05.5' N	210° 53.7 19° 19.2' N	210° 53.2 19° 32.5' N	210° 52.6 19° 45.6' N	210° 51.8 19° 58.2' N
03	225° 53.8 17° 52.9' N	225° 54.2 18° 08.2' N	225° 54.3 18° 23.1' N	225° 54.4 18° 37.8' N	225° 54.3 18° 52.1' N	225° 54.1 19° 06.1' N	225° 53.7 19° 19.7' N	225° 53.2 19° 33.1' N	225° 52.6 19° 46.1' N	225° 51.8 19° 58.8' N
04	240° 53.8 17° 53.6' N	240° 54.2 18° 08.8' N	240° 54.3 18° 23.8' N	240° 54.4 18° 38.4' N	240° 54.3 18° 52.7' N	240° 54.1 19° 06.7' N	240° 53.7 19° 20.3' N	240° 53.2 19° 33.6' N	240° 52.6 19° 46.6' N	240° 51.8 19° 59.3' N
05	255° 53.9 17° 54.2' N	255° 54.2 18° 09.5' N	255° 54.3 18° 24.4' N	255° 54.4 18° 39.0' N	255° 54.3 18° 53.3' N	255° 54.1 19° 07.2' N	255° 53.7 19° 20.9' N	255° 53.2 19° 34.2' N	255° 52.5 19° 47.2' N	255° 51.7 19° 59.8' N
06	270° 53.9 17° 54.9' N	270° 54.2 18° 10.1' N	270° 54.4 18° 25.0' N	270° 54.4 18° 39.6' N	270° 54.3 18° 53.8' N	270° 54.0 19° 07.8' N	270° 53.7 19° 21.4' N	270° 53.1 19° 34.7' N	270° 52.5 19° 47.7' N	270° 51.7 20° 00.3' N
07	285° 53.9 17° 55.5' N	285° 54.2 18° 10.7' N	285° 54.4 18° 25.6' N	285° 54.4 18° 40.2' N	285° 54.3 18° 54.4' N	285° 54.0 19° 08.4' N	285° 53.6 19° 22.0' N	285° 53.1 19° 35.3' N	285° 52.5 19° 48.2' N	285° 51.7 20° 00.8' N
08	300° 53.9 17° 56.1' N	300° 54.2 18° 11.3' N	300° 54.4 18° 26.2' N	300° 54.4 18° 40.8' N	300° 54.3 18° 55.0' N	300° 54.0 19° 08.9' N	300° 53.6 19° 22.5' N	300° 53.1 19° 35.8' N	300° 52.4 19° 48.8' N	300° 51.6 20° 01.4' N
09	315° 53.9 17° 56.8' N	315° 54.2 18° 12.0' N	315° 54.4 18° 26.8' N	315° 54.4 18° 41.4' N	315° 54.3 18° 55.6' N	315° 54.0 19° 09.5' N	315° 53.6 19° 23.1' N	315° 53.1 19° 36.4' N	315° 52.4 19° 49.3' N	315° 51.6 20° 01.9' N
10	330° 53.9 17° 57.4' N	330° 54.2 18° 12.6' N	330° 54.4 18° 27.4' N	330° 54.4 18° 42.0' N	330° 54.3 18° 56.2' N	330° 54.0 19° 10.1' N	330° 53.6 19° 23.7' N	330° 53.0 19° 36.9' N	330° 52.4 19° 49.8' N	330° 51.6 20° 02.4' N
11	345° 53.9 17° 58.1' N	345° 54.2 18° 13.2' N	345° 54.4 18° 28.0' N	345° 54.4 18° 42.6' N	345° 54.2 18° 56.8' N	345° 54.0 19° 10.7' N	345° 53.6 19° 24.2' N	345° 53.0 19° 37.5' N	345° 52.3 19° 50.3' N	345° 51.5 20° 02.9' N
12	000° 54.0 17° 58.7' N	000° 54.2 18° 13.8' N	000° 54.4 18° 28.7' N	000° 54.4 18° 43.2' N	000° 54.2 18° 57.4' N	000° 54.0 19° 11.2' N	000° 53.5 19° 24.8' N	000° 53.0 19° 38.0' N	000° 52.3 19° 50.9' N	000° 51.5 20° 03.4' N
13	015° 54.0 17° 59.3' N	015° 54.2 18° 14.5' N	015° 54.4 18° 29.3' N	015° 54.4 18° 43.8' N	015° 54.2 18° 58.0' N	015° 53.9 19° 11.8' N	015° 53.5 19° 25.3' N	015° 53.0 19° 38.5' N	015° 52.3 19° 51.4' N	015° 51.4 20° 03.9' N
14	030° 54.0 18° 00.0' N	030° 54.3 18° 15.1' N	030° 54.4 18° 29.9' N	030° 54.4 18° 44.4' N	030° 54.2 18° 58.5' N	030° 53.9 19° 12.4' N	030° 53.5 19° 25.9' N	030° 52.9 19° 39.1' N	030° 52.2 19° 51.9' N	030° 51.4 20° 04.5' N
15	045° 54.0 18° 00.6' N	045° 54.3 18° 15.7' N	045° 54.4 18° 30.5' N	045° 54.4 18° 45.0' N	045° 54.2 18° 59.1' N	045° 53.9 19° 12.9' N	045° 53.5 19° 26.5' N	045° 52.9 19° 39.6' N	045° 52.2 19° 52.5' N	045° 51.4 20° 05.0' N
16	060° 54.0 18° 01.2' N	060° 54.3 18° 16.3' N	060° 54.4 18° 31.1' N	060° 54.4 18° 45.6' N	060° 54.2 18° 59.7' N	060° 53.9 19° 13.5' N	060° 53.5 19° 27.0' N	060° 52.9 19° 40.2' N	060° 52.2 19° 53.0' N	060° 51.3 20° 05.5' N
17	075° 54.0 18° 01.9' N	075° 54.3 18° 16.9' N	075° 54.4 18° 31.7' N	075° 54.4 18° 46.2' N	075° 54.2 18° 60.3' N	075° 53.9 19° 14.1' N	075° 53.4 19° 27.6' N	075° 52.9 19° 40.7' N	075° 52.1 19° 53.5' N	075° 51.3 20° 06.0' N
18	090° 54.0 18° 02.5' N	09								

## Solar Almanac 2038 — Sun GHA & Decl (UT) — 21 May to 09 Jun

UT	21 May	22 May	23 May	24 May	25 May	26 May	27 May	28 May	29 May	30 May
00	180° 51.0' 20° 09.6' N	180° 50.0' 20° 21.6' N	180° 48.8' 20° 33.3' N	180° 47.5' 20° 44.6' N	180° 46.1' 20° 55.6' N	180° 44.6' 21° 06.2' N	180° 42.9' 21° 16.4' N	180° 41.1' 21° 26.3' N	180° 39.1' 21° 35.8' N	180° 37.1' 21° 45.0' N
01	195° 51.0' 20° 10.1' N	195° 49.9' 20° 22.1' N	195° 48.8' 20° 33.8' N	195° 47.5' 20° 45.1' N	195° 46.0' 20° 56.0' N	195° 44.5' 21° 06.6' N	195° 42.8' 21° 16.9' N	195° 41.0' 21° 26.7' N	195° 39.1' 21° 36.2' N	195° 37.0' 21° 45.3' N
02	210° 50.9' 20° 10.6' N	210° 49.9' 20° 22.6' N	210° 48.7' 20° 34.2' N	210° 47.4' 20° 45.5' N	210° 46.0' 20° 56.5' N	210° 44.4' 21° 07.1' N	210° 42.7' 21° 17.3' N	210° 40.9' 21° 27.1' N	210° 39.0' 21° 36.6' N	210° 36.9' 21° 45.7' N
03	225° 50.9' 20° 11.1' N	225° 49.9' 20° 23.1' N	225° 48.7' 20° 34.7' N	225° 47.4' 20° 46.0' N	225° 45.9' 20° 56.9' N	225° 44.3' 21° 07.5' N	225° 42.7' 21° 17.7' N	225° 40.8' 21° 27.5' N	225° 38.9' 21° 37.4' N	225° 36.8' 21° 46.1' N
04	240° 50.9' 20° 11.6' N	240° 49.8' 20° 23.6' N	240° 48.6' 20° 35.2' N	240° 47.3' 20° 46.5' N	240° 45.9' 20° 57.4' N	240° 44.3' 21° 07.9' N	240° 42.6' 21° 18.1' N	240° 40.8' 21° 27.9' N	240° 38.8' 21° 37.4' N	240° 36.8' 21° 46.5' N
05	255° 50.8' 20° 12.1' N	255° 49.8' 20° 24.1' N	255° 48.6' 20° 35.7' N	255° 47.2' 20° 46.9' N	255° 45.8' 20° 57.8' N	255° 44.2' 21° 08.4' N	255° 42.5' 21° 18.5' N	255° 40.7' 21° 28.3' N	255° 38.7' 21° 37.8' N	255° 36.7' 21° 46.8' N
06	270° 50.8' 20° 12.6' N	270° 49.7' 20° 24.5' N	270° 48.5' 20° 36.1' N	270° 47.2' 20° 47.4' N	270° 45.7' 20° 58.3' N	270° 44.1' 21° 08.8' N	270° 42.4' 21° 18.9' N	270° 40.6' 21° 28.8' N	270° 38.6' 21° 38.2' N	270° 36.6' 21° 47.2' N
07	285° 50.7' 20° 13.1' N	285° 49.7' 20° 25.0' N	285° 48.5' 20° 36.6' N	285° 47.1' 20° 47.8' N	285° 45.7' 20° 58.7' N	285° 44.1' 21° 09.2' N	285° 42.4' 21° 19.4' N	285° 40.5' 21° 29.1' N	285° 38.6' 21° 38.5' N	285° 36.5' 21° 47.6' N
08	300° 50.7' 20° 13.6' N	300° 49.6' 20° 25.5' N	300° 48.4' 20° 37.1' N	300° 47.1' 20° 48.3' N	300° 45.6' 20° 59.2' N	300° 44.0' 21° 09.6' N	300° 42.3' 21° 19.8' N	300° 40.4' 21° 29.5' N	300° 38.5' 21° 38.9' N	300° 36.4' 21° 47.9' N
09	315° 50.7' 20° 14.1' N	315° 49.6' 20° 26.0' N	315° 48.4' 20° 37.6' N	315° 47.0' 20° 48.8' N	315° 45.5' 20° 59.6' N	315° 43.9' 21° 10.1' N	315° 42.2' 21° 20.2' N	315° 40.4' 21° 29.9' N	315° 38.4' 21° 39.3' N	315° 36.3' 21° 48.3' N
10	330° 50.6' 20° 14.6' N	330° 49.5' 20° 26.5' N	330° 48.3' 20° 38.0' N	330° 47.0' 20° 49.2' N	330° 45.5' 21° 00.0' N	330° 43.9' 21° 10.5' N	330° 42.1' 21° 20.6' N	330° 40.3' 21° 30.3' N	330° 38.3' 21° 39.7' N	330° 36.2' 21° 48.7' N
11	345° 50.6' 20° 15.1' N	345° 49.5' 20° 27.0' N	345° 48.3' 20° 38.5' N	345° 46.9' 20° 49.7' N	345° 45.4' 21° 00.5' N	345° 43.8' 21° 10.9' N	345° 42.1' 21° 21.0' N	345° 40.2' 21° 30.7' N	345° 38.2' 21° 40.1' N	345° 36.1' 21° 49.0' N
12	000° 50.5' 20° 15.6' N	000° 49.4' 20° 27.5' N	000° 48.2' 20° 39.0' N	000° 46.8' 20° 50.1' N	000° 45.3' 21° 00.9' N	000° 43.7' 21° 11.4' N	000° 42.0' 21° 21.4' N	000° 40.1' 21° 31.1' N	000° 38.1' 21° 40.4' N	000° 36.0' 21° 49.4' N
13	015° 50.5' 20° 16.1' N	015° 49.4' 20° 28.0' N	015° 48.1' 20° 39.5' N	015° 46.8' 20° 50.6' N	015° 45.3' 21° 01.4' N	015° 43.7' 21° 11.8' N	015° 41.9' 21° 21.8' N	015° 40.0' 21° 31.5' N	015° 38.1' 21° 40.8' N	015° 36.0' 21° 49.8' N
14	030° 50.4' 20° 16.6' N	030° 49.3' 20° 28.4' N	030° 48.1' 20° 39.9' N	030° 46.7' 20° 51.0' N	030° 45.2' 21° 01.8' N	030° 43.6' 21° 12.2' N	030° 41.8' 21° 22.2' N	030° 40.0' 21° 31.9' N	030° 38.0' 21° 41.2' N	030° 35.9' 21° 50.1' N
15	045° 50.4' 20° 17.1' N	045° 49.3' 20° 28.9' N	045° 48.0' 20° 40.4' N	045° 46.7' 20° 51.5' N	045° 45.1' 21° 02.2' N	045° 43.5' 21° 12.6' N	045° 41.8' 21° 22.7' N	045° 39.9' 21° 32.3' N	045° 37.9' 21° 41.6' N	045° 35.8' 21° 50.5' N
16	060° 50.4' 20° 17.6' N	060° 49.2' 20° 29.4' N	060° 48.0' 20° 40.9' N	060° 46.6' 20° 52.0' N	060° 45.1' 21° 02.7' N	060° 43.4' 21° 13.1' N	060° 41.7' 21° 23.1' N	060° 39.8' 21° 32.7' N	060° 37.8' 21° 42.0' N	060° 35.7' 21° 50.9' N
17	075° 50.3' 20° 18.1' N	075° 49.2' 20° 29.9' N	075° 47.9' 20° 41.3' N	075° 46.5' 20° 52.4' N	075° 45.0' 21° 03.1' N	075° 43.4' 21° 13.5' N	075° 41.6' 21° 23.5' N	075° 39.7' 21° 33.1' N	075° 37.7' 21° 42.3' N	075° 35.6' 21° 51.2' N
18	090° 50.3' 20° 18.6' N	090° 49.1' 20° 30.4' N	090° 47.9' 20° 41.8' N	090° 46.5' 20° 52.9' N	090° 45.0' 21° 03.6' N	090° 43.3' 21° 13.9' N	090° 41.5' 21° 23.9' N	090° 39.6' 21° 33.5' N	090° 37.6' 21° 42.7' N	090° 35.5' 21° 51.6' N
19	105° 50.2' 20° 19.1' N	105° 49.1' 20° 30.9' N	105° 47.8' 20° 42.3' N	105° 46.4' 20° 53.3' N	105° 44.9' 21° 04.0' N	105° 43.2' 21° 14.3' N	105° 41.5' 21° 24.3' N	105° 39.6' 21° 33.9' N	105° 37.5' 21° 43.1' N	105° 35.4' 21° 51.9' N
20	120° 50.2' 20° 19.6' N	120° 49.0' 20° 31.4' N	120° 47.8' 20° 42.7' N	120° 46.4' 20° 53.8' N	120° 44.8' 21° 04.4' N	120° 43.2' 21° 14.8' N	120° 41.4' 21° 24.7' N	120° 39.5' 21° 34.3' N	120° 37.5' 21° 43.5' N	120° 35.3' 21° 52.3' N
21	135° 50.1' 20° 20.1' N	135° 49.0' 20° 31.8' N	135° 47.7' 20° 43.2' N	135° 46.3' 20° 54.2' N	135° 44.8' 21° 04.9' N	135° 43.1' 21° 15.2' N	135° 41.3' 21° 25.1' N	135° 39.4' 21° 34.7' N	135° 37.4' 21° 43.9' N	135° 35.2' 21° 52.7' N
22	150° 50.1' 20° 20.6' N	150° 48.9' 20° 32.3' N	150° 47.6' 20° 43.7' N	150° 46.2' 20° 54.7' N	150° 44.7' 21° 05.3' N	150° 43.0' 21° 15.6' N	150° 41.2' 21° 25.5' N	150° 39.3' 21° 35.1' N	150° 37.3' 21° 44.2' N	150° 35.1' 21° 53.0' N
23	165° 50.0' 20° 21.1' N	165° 48.9' 20° 32.8' N	165° 47.6' 20° 44.1' N	165° 46.2' 20° 55.1' N	165° 44.6' 21° 05.8' N	165° 42.9' 21° 16.0' N	165° 41.1' 21° 25.9' N	165° 39.2' 21° 35.4' N	165° 37.2' 21° 44.6' N	165° 35.1' 21° 53.4' N
UT	31 May	01 Jun	02 Jun	03 Jun	04 Jun	05 Jun	06 Jun	07 Jun	08 Jun	09 Jun
00	180° 35.0' 21° 53.7' N	180° 32.7' 22° 02.1' N	180° 30.4' 22° 10.1' N	180° 27.9' 22° 17.7' N	180° 25.4' 22° 24.9' N	180° 22.7' 22° 31.8' N	180° 20.0' 22° 38.2' N	180° 17.2' 22° 44.2' N	180° 14.4' 22° 49.9' N	180° 11.5' 22° 55.1' N
01	195° 34.9' 21° 54.1' N	195° 32.6' 22° 02.4' N	195° 30.3' 22° 10.4' N	195° 27.8' 22° 18.0' N	195° 25.3' 22° 25.2' N	195° 22.6' 22° 32.0' N	195° 19.9' 22° 38.5' N	195° 17.1' 22° 44.5' N	195° 14.3' 22° 50.1' N	195° 11.4' 22° 55.3' N
02	210° 34.8' 21° 54.4' N	210° 32.5' 22° 02.8' N	210° 30.2' 22° 10.8' N	210° 27.7' 22° 18.3' N	210° 25.1' 22° 25.5' N	210° 22.5' 22° 32.3' N	210° 19.8' 22° 38.7' N	210° 17.0' 22° 44.7' N	210° 14.2' 22° 50.3' N	210° 11.2' 22° 55.5' N
03	225° 34.7' 21° 54.8' N	225° 32.4' 22° 03.1' N	225° 30.1' 22° 11.1' N	225° 27.6' 22° 18.6' N	225° 25.0' 22° 25.8' N	225° 22.4' 22° 32.6' N	225° 19.7' 22° 39.0' N	225° 16.9' 22° 45.0' N	225° 14.0' 22° 50.5' N	225° 11.1' 22° 55.7' N
04	240° 34.6' 21° 55.2' N	240° 32.3' 22° 03.5' N	240° 30.0' 22° 11.4' N	240° 27.5' 22° 18.9' N	240° 24.9' 22° 26.1' N	240° 22.3' 22° 32.9' N	240° 19.6' 22° 39.2' N	240° 16.8' 22° 45.2' N	240° 13.9' 22° 50.8' N	240° 11.0' 22° 55.9' N
05	255° 34.5' 21° 55.5' N	255° 32.2' 22° 03.8' N	255° 29.9' 22° 11.7' N	255° 27.4' 22° 19.3' N	255° 24.8' 22° 26.4' N	255° 22.2' 22° 33.1' N	255° 19.5' 22° 39.5' N	255° 16.7' 22° 45.4' N	255° 13.8' 22° 51.0' N	255° 10.9' 22° 56.1' N
06	270° 34.4' 21° 55.9' N	270° 32.1' 22° 04.1' N	270° 29.8' 22° 12.0' N	270° 27.3' 22° 19.6' N	270° 24.7' 22° 26.7' N	270° 22.1' 22° 33.4' N	270° 19.3' 22° 39.7' N	270° 16.5' 22° 45.7' N	270° 13.7' 22° 51.2' N	270° 10.7' 22° 56.3' N
07	285° 34.3' 21° 56.2' N	285° 32.0' 22° 04.5' N	285° 29.6' 22° 12.4' N	285° 27.2' 22° 19.9' N	285° 24.6' 22° 27.0' N	285° 22.0' 22° 33.7' N	285° 19.2' 22° 40.0' N	285° 16.4' 22° 45.9' N	285° 13.6' 22° 51.4' N	285° 10.6' 22° 56.5' N
08	300° 34.2' 21° 56.6' N	300° 31.9' 22° 04.8' N	300° 29.5' 22° 12.7' N	300° 27.1' 22° 20.2' N	300° 24.5' 22° 27.3' N	300° 21.8' 22° 33.9' N	300° 19.1' 22° 40.2' N	300° 16.3' 22° 46.2' N	300° 13.4' 22° 51.7' N	300° 10.5' 22° 56.7' N
09	315° 34.1' 21° 56.9' N	315° 31.8' 22° 05.2' N	315° 29.4' 22° 13.0' N	315° 27.0' 22° 20.5' N	315° 24.4' 22° 27.5' N	315° 21.7' 22° 34.2' N	315° 19.0' 22° 40.5' N	315° 16.2' 22° 46.4' N	315° 13.3' 22° 51.9' N	315° 10.4' 22° 57.0' N
10	330° 34.0' 21° 57.3' N	330° 31.7' 22° 05.5' N	330° 29.3' 22° 13.3' N	330° 26.9' 22° 20.8' N	330° 24.3' 22° 27.8' N	330° 21.6' 22° 34.5' N	330° 18.9' 22° 40.8' N	330° 16.1' 22° 46.6' N	330° 13.2' 22° 52.1' N	330° 10.3' 22° 57.2' N
11	345° 33.9' 21° 57.6' N	345° 31.6' 22° 05.8' N	345° 29.2' 22° 13.6' N	345° 26.7' 22° 21.1' N	345° 24.2' 22° 28.1' N	345° 21.5' 22° 34.8' N	345° 18.8' 22° 41.0' N	345° 15.9' 22° 46.9' N	345° 13.1' 22° 52.3' N	345° 10.1' 22° 57.4' N
12	000° 33.8' 21° 58.0' N	000° 31.5' 22° 06.2' N	000° 29.1' 22° 14.0' N	000° 26.6' 22° 21.4' N	000° 24.1' 22° 28.4' N	000° 21.4' 22° 35.0' N	000° 18.6' 22° 41.3' N	000° 15.8' 22° 47.1' N	000° 12.9' 22° 52.5' N	000° 10.0' 22° 57.6' N
13	015° 33.8' 21° 58.3' N	015° 31.4' 22° 06.5' N	015° 29.0' 22° 14.3' N	015° 26.5' 22° 21.7' N	015° 23.9' 22° 28.7' N	015° 21.3' 22° 35.3' N	015° 18.5' 22° 41.5' N	015° 15.7' 22° 47.3' N	015° 12.8' 22° 52.7' N	015° 9.9' 22° 57.8' N
14	030° 33.7' 21° 58.7' N	030° 31.3' 22° 06.8' N	030° 28.9' 22° 14.6' N	030° 26.4' 22° 22.0' N	030° 23.8' 22° 29.0' N	030° 21.2' 22° 35.6' N	030° 18.4' 22° 41.8' N	030° 15.6' 22° 47.8' N	030° 12.7' 22° 53.0' N	030° 9.8' 22° 58.0' N
15	045° 33.6' 21° 59.0' N	045° 31.2' 22° 07.2' N	045° 28.8' 22° 14.9' N	045° 26.3' 22° 22.3' N	045° 23.7' 22° 29.2' N	045° 21.1' 22° 35.8' N	045° 18.3' 22° 42.0' N	045° 15.5' 22° 47.8' N	045° 12.6' 22° 53.2' N	045° 9.6' 22° 58.2' N
16	060° 33.5' 21° 59.4' N	060° 31.1' 22° 07.5' N	060° 28.7' 22° 15.2' N	060° 26.2' 22° 22.6' N	060° 23.6' 22° 29.5' N	060° 20.9' 22° 36.1' N	060° 18.2' 22° 42.3' N	060° 15.4' 22° 48.0' N	060° 12.5' 22° 53.4' N	060° 9.5' 22° 58.4' N
17	075° 33.4' 21° 59.7' N	075° 31.1' 22° 07.8' N	075° 28.6' 22° 15.5' N	075° 26.1' 22° 22.9' N	075° 23.5' 22° 29.8' N	075° 20.8' 22° 36.4' N	075° 18.1' 22° 42.5' N	075° 15.2' 22° 48.3' N	075° 12.3' 22° 53.6' N	075° 9.4' 22° 58.6' N
18	090° 33.3' 22° 00.0' N	090° 31.0' 22° 08.1' N	090° 28.5' 22° 15.8' N	090° 26.0' 22° 23.2' N	090° 23.4' 22° 30.1' N	090° 20.7' 22° 36.6' N	090° 17.9' 22° 42.8' N	090° 15.1' 22° 48.5' N	090° 12.2' 22° 53.8' N</	

## Solar Almanac 2038 — Sun GHA & Decl (UT) — 10 Jun to 29 Jun

UT	10 Jun	11 Jun	12 Jun	13 Jun	14 Jun	15 Jun	16 Jun	17 Jun	18 Jun	19 Jun
00	180° 08.5' 22° 59.9' N	180° 05.5' 23° 04.3' N	180° 02.4' 23° 08.4' N	179° 59.3' 23° 12.0' N	179° 56.2' 23° 15.2' N	179° 53.0' 23° 17.9' N	179° 49.8' 23° 20.3' N	179° 46.6' 23° 22.3' N	179° 43.4' 23° 23.8' N	179° 40.1' 23° 25.0' N
01	195° 08.4' 23° 00.1' N	195° 05.4' 23° 04.5' N	195° 02.3' 23° 08.5' N	194° 59.2' 23° 12.1' N	194° 56.0' 23° 15.3' N	194° 52.9' 23° 18.1' N	194° 46.5' 23° 20.4' N	194° 43.2' 23° 22.4' N	194° 40.0' 23° 23.9' N	194° 36.8' 23° 25.0' N
02	210° 08.3' 23° 00.3' N	210° 05.2' 23° 04.7' N	210° 02.2' 23° 08.7' N	209° 59.1' 23° 12.2' N	209° 55.9' 23° 15.4' N	209° 52.7' 23° 18.2' N	209° 46.3' 23° 20.5' N	209° 43.1' 23° 22.4' N	209° 39.8' 23° 23.9' N	209° 36.6' 23° 25.0' N
03	225° 08.1' 23° 00.5' N	225° 05.1' 23° 04.9' N	225° 02.0' 23° 08.8' N	224° 58.9' 23° 12.4' N	224° 55.8' 23° 15.5' N	224° 52.6' 23° 18.3' N	224° 49.4' 23° 20.6' N	224° 46.2' 23° 22.5' N	224° 43.0' 23° 24.0' N	224° 39.7' 23° 25.1' N
04	240° 08.0' 23° 00.7' N	240° 05.0' 23° 05.0' N	240° 01.9' 23° 09.0' N	239° 58.8' 23° 12.5' N	239° 55.7' 23° 15.7' N	239° 52.5' 23° 18.4' N	239° 49.3' 23° 20.7' N	239° 46.1' 23° 22.6' N	239° 42.8' 23° 24.0' N	239° 39.6' 23° 25.1' N
05	255° 07.9' 23° 00.9' N	255° 04.9' 23° 05.2' N	255° 01.8' 23° 09.1' N	254° 58.7' 23° 12.7' N	254° 55.5' 23° 15.8' N	254° 52.3' 23° 18.5' N	254° 49.1' 23° 20.8' N	254° 45.9' 23° 22.6' N	254° 42.7' 23° 24.1' N	254° 39.4' 23° 25.2' N
06	270° 07.8' 23° 01.1' N	270° 04.7' 23° 05.4' N	270° 01.7' 23° 09.3' N	269° 58.5' 23° 12.8' N	269° 55.4' 23° 15.9' N	269° 52.2' 23° 18.6' N	269° 49.0' 23° 20.8' N	269° 45.8' 23° 22.7' N	269° 42.5' 23° 24.2' N	269° 39.3' 23° 25.2' N
07	285° 07.6' 23° 01.3' N	285° 04.6' 23° 05.6' N	285° 01.5' 23° 09.5' N	284° 58.4' 23° 12.9' N	284° 55.3' 23° 16.0' N	284° 52.1' 23° 18.7' N	284° 48.9' 23° 20.9' N	284° 45.7' 23° 22.8' N	284° 42.4' 23° 24.2' N	284° 39.2' 23° 25.2' N
08	300° 07.5' 23° 01.4' N	300° 04.5' 23° 05.7' N	300° 01.4' 23° 09.6' N	299° 58.3' 23° 13.1' N	299° 55.1' 23° 16.1' N	299° 51.9' 23° 18.8' N	299° 48.7' 23° 21.0' N	299° 45.5' 23° 22.8' N	299° 42.3' 23° 24.3' N	299° 39.0' 23° 25.3' N
09	315° 07.4' 23° 01.6' N	315° 04.3' 23° 05.9' N	315° 01.3' 23° 09.8' N	314° 58.1' 23° 13.2' N	314° 55.0' 23° 16.3' N	314° 51.8' 23° 18.9' N	314° 48.6' 23° 21.1' N	314° 45.4' 23° 22.9' N	314° 42.1' 23° 24.3' N	314° 38.9' 23° 25.3' N
10	330° 07.3' 23° 01.8' N	330° 04.2' 23° 06.1' N	330° 01.1' 23° 09.9' N	329° 58.0' 23° 13.3' N	329° 54.9' 23° 16.4' N	329° 51.7' 23° 19.0' N	329° 48.5' 23° 21.2' N	329° 45.2' 23° 23.0' N	329° 42.0' 23° 24.4' N	329° 38.8' 23° 25.3' N
11	345° 07.1' 23° 02.0' N	345° 04.1' 23° 06.2' N	345° 01.0' 23° 10.1' N	344° 57.9' 23° 13.5' N	344° 54.7' 23° 16.5' N	344° 51.5' 23° 19.1' N	344° 48.3' 23° 21.3' N	344° 45.1' 23° 23.0' N	344° 41.9' 23° 24.4' N	344° 38.6' 23° 25.3' N
12	000° 07.0' 23° 02.2' N	000° 04.0' 23° 06.4' N	000° 00.9' 23° 10.2' N	359° 57.8' 23° 13.6' N	359° 54.6' 23° 16.6' N	359° 51.4' 23° 19.2' N	359° 48.2' 23° 21.4' N	359° 45.0' 23° 23.1' N	359° 41.7' 23° 24.4' N	359° 38.5' 23° 25.4' N
13	015° 06.9' 23° 02.4' N	015° 03.8' 23° 06.6' N	015° 00.7' 23° 10.4' N	014° 57.6' 23° 13.7' N	014° 54.5' 23° 16.7' N	014° 51.3' 23° 19.3' N	014° 48.1' 23° 21.4' N	014° 44.8' 23° 23.2' N	014° 41.6' 23° 24.5' N	014° 38.3' 23° 25.4' N
14	030° 06.8' 23° 02.6' N	030° 03.7' 23° 06.7' N	030° 00.6' 23° 10.5' N	029° 57.5' 23° 13.9' N	029° 54.3' 23° 16.8' N	029° 51.1' 23° 19.4' N	029° 47.9' 23° 21.5' N	029° 44.7' 23° 23.2' N	029° 41.5' 23° 24.4' N	029° 38.2' 23° 25.4' N
15	045° 06.6' 23° 02.7' N	045° 03.6' 23° 06.9' N	045° 00.5' 23° 10.7' N	044° 57.4' 23° 14.0' N	044° 54.2' 23° 16.9' N	044° 51.0' 23° 19.5' N	044° 47.8' 23° 21.6' N	044° 44.6' 23° 23.3' N	044° 41.3' 23° 24.6' N	044° 38.1' 23° 25.5' N
16	060° 06.5' 23° 02.9' N	060° 03.5' 23° 07.1' N	060° 00.4' 23° 10.8' N	059° 57.2' 23° 14.1' N	059° 54.1' 23° 17.1' N	059° 50.9' 23° 19.6' N	059° 47.7' 23° 21.7' N	059° 44.4' 23° 23.4' N	059° 41.2' 23° 24.6' N	059° 37.9' 23° 25.5' N
17	075° 06.4' 23° 03.1' N	075° 03.3' 23° 07.2' N	075° 00.2' 23° 11.0' N	074° 57.1' 23° 14.3' N	074° 53.9' 23° 17.2' N	074° 50.7' 23° 19.7' N	074° 47.5' 23° 21.8' N	074° 44.3' 23° 23.4' N	074° 41.1' 23° 24.7' N	074° 37.8' 23° 25.5' N
18	090° 06.3' 23° 03.3' N	090° 03.2' 23° 07.4' N	090° 00.1' 23° 11.1' N	089° 57.0' 23° 14.4' N	089° 53.8' 23° 17.3' N	089° 50.6' 23° 19.8' N	089° 47.4' 23° 21.8' N	089° 44.2' 23° 23.5' N	089° 40.9' 23° 24.7' N	089° 37.7' 23° 25.5' N
19	105° 06.1' 23° 03.5' N	105° 03.1' 23° 07.6' N	105° 00.0' 23° 11.2' N	104° 56.8' 23° 14.5' N	104° 53.7' 23° 17.4' N	104° 50.5' 23° 19.9' N	104° 47.3' 23° 21.9' N	104° 44.0' 23° 23.5' N	104° 40.8' 23° 24.8' N	104° 37.5' 23° 25.6' N
20	120° 06.0' 23° 03.6' N	120° 02.9' 23° 07.7' N	119° 59.8' 23° 11.4' N	119° 56.7' 23° 14.7' N	119° 53.5' 23° 17.5' N	119° 50.3' 23° 20.0' N	119° 47.1' 23° 22.0' N	119° 43.9' 23° 23.6' N	119° 40.7' 23° 24.8' N	119° 37.4' 23° 25.6' N
21	135° 05.9' 23° 03.8' N	135° 02.8' 23° 07.9' N	134° 59.7' 23° 11.5' N	134° 56.6' 23° 14.8' N	134° 53.4' 23° 17.6' N	134° 50.2' 23° 20.0' N	134° 47.0' 23° 22.1' N	134° 43.8' 23° 23.7' N	134° 40.5' 23° 24.9' N	134° 37.3' 23° 25.6' N
22	150° 05.7' 23° 04.0' N	150° 02.7' 23° 08.0' N	149° 59.6' 23° 11.7' N	149° 56.4' 23° 14.9' N	149° 53.3' 23° 17.7' N	149° 50.1' 23° 20.1' N	149° 46.9' 23° 22.1' N	149° 43.6' 23° 23.7' N	149° 40.4' 23° 24.9' N	149° 37.1' 23° 25.6' N
23	165° 05.6' 23° 04.2' N	165° 02.6' 23° 08.2' N	164° 59.5' 23° 11.8' N	164° 56.3' 23° 15.0' N	164° 53.1' 23° 17.8' N	164° 49.9' 23° 20.2' N	164° 46.7' 23° 22.2' N	164° 43.5' 23° 23.8' N	164° 40.2' 23° 24.9' N	164° 37.0' 23° 25.7' N
UT	20 Jun	21 Jun	22 Jun	23 Jun	24 Jun	25 Jun	26 Jun	27 Jun	28 Jun	29 Jun
00	179° 36.9' 23° 25.7' N	179° 33.6' 23° 26.0' N	179° 30.3' 23° 25.9' N	179° 27.1' 23° 25.4' N	179° 23.9' 23° 24.5' N	179° 20.7' 23° 23.1' N	179° 17.5' 23° 21.6' N	179° 14.3' 23° 19.2' N	179° 11.2' 23° 16.6' N	179° 08.1' 23° 13.7' N
01	194° 36.7' 23° 25.7' N	194° 33.5' 23° 26.0' N	194° 30.2' 23° 25.9' N	194° 27.0' 23° 25.4' N	194° 23.7' 23° 24.4' N	194° 20.5' 23° 23.1' N	194° 17.3' 23° 21.3' N	194° 14.2' 23° 19.1' N	194° 11.1' 23° 16.5' N	194° 08.0' 23° 13.5' N
02	209° 36.6' 23° 25.7' N	209° 33.3' 23° 26.0' N	209° 30.1' 23° 25.9' N	209° 26.8' 23° 25.3' N	209° 23.6' 23° 24.4' N	209° 20.4' 23° 23.0' N	209° 17.2' 23° 21.2' N	209° 14.1' 23° 19.0' N	209° 10.9' 23° 16.4' N	209° 07.9' 23° 13.4' N
03	224° 36.4' 23° 25.8' N	224° 33.2' 23° 26.0' N	224° 29.9' 23° 25.9' N	224° 26.7' 23° 25.3' N	224° 23.5' 23° 24.3' N	224° 20.3' 23° 22.9' N	224° 17.1' 23° 21.1' N	224° 13.9' 23° 18.9' N	224° 10.8' 23° 16.3' N	224° 07.7' 23° 13.3' N
04	239° 36.3' 23° 25.8' N	239° 33.1' 23° 26.0' N	239° 29.8' 23° 25.8' N	239° 26.6' 23° 25.3' N	239° 23.3' 23° 24.3' N	239° 20.1' 23° 22.9' N	239° 16.9' 23° 21.0' N	239° 13.8' 23° 18.8' N	239° 10.7' 23° 16.2' N	239° 07.6' 23° 13.1' N
05	254° 36.2' 23° 25.8' N	254° 32.9' 23° 26.0' N	254° 29.7' 23° 25.8' N	254° 26.4' 23° 25.2' N	254° 23.2' 23° 24.2' N	254° 20.0' 23° 22.8' N	254° 16.8' 23° 21.0' N	254° 13.5' 23° 18.7' N	254° 10.2' 23° 16.1' N	254° 07.0' 23° 13.0' N
06	269° 36.0' 23° 25.8' N	269° 32.8' 23° 26.0' N	269° 29.5' 23° 25.8' N	269° 26.3' 23° 25.2' N	269° 23.1' 23° 24.2' N	269° 19.9' 23° 22.7' N	269° 16.7' 23° 20.9' N	269° 13.5' 23° 18.6' N	269° 10.4' 23° 15.9' N	269° 07.4' 23° 12.8' N
07	284° 35.9' 23° 25.8' N	284° 32.6' 23° 26.0' N	284° 29.4' 23° 25.8' N	284° 26.2' 23° 25.2' N	284° 22.9' 23° 24.1' N	284° 19.7' 23° 22.7' N	284° 16.5' 23° 20.8' N	284° 13.4' 23° 18.5' N	284° 10.3' 23° 15.8' N	284° 07.2' 23° 12.7' N
08	299° 35.8' 23° 25.8' N	299° 32.5' 23° 26.0' N	299° 29.3' 23° 25.8' N	299° 26.0' 23° 25.1' N	299° 22.8' 23° 24.1' N	299° 19.6' 23° 22.6' N	299° 16.4' 23° 20.7' N	299° 13.3' 23° 18.4' N	299° 10.2' 23° 15.7' N	299° 07.1' 23° 12.6' N
09	314° 35.6' 23° 25.9' N	314° 32.4' 23° 26.0' N	314° 29.1' 23° 25.8' N	314° 25.9' 23° 25.1' N	314° 22.7' 23° 24.0' N	314° 19.5' 23° 22.5' N	314° 16.3' 23° 20.6' N	314° 13.2' 23° 18.3' N	314° 10.0' 23° 15.6' N	314° 07.0' 23° 12.4' N
10	329° 35.5' 23° 25.9' N	329° 32.2' 23° 26.0' N	329° 29.0' 23° 25.7' N	329° 25.7' 23° 25.1' N	329° 22.5' 23° 24.0' N	329° 19.3' 23° 22.4' N	329° 16.1' 23° 20.5' N	329° 13.0' 23° 18.2' N	329° 09.9' 23° 15.6' N	329° 06.9' 23° 12.3' N
11	344° 35.4' 23° 25.9' N	344° 32.1' 23° 26.0' N	344° 28.9' 23° 25.7' N	344° 25.6' 23° 25.0' N	344° 22.4' 23° 23.9' N	344° 19.2' 23° 22.4' N	344° 16.0' 23° 20.4' N	344° 12.9' 23° 18.1' N	344° 09.8' 23° 15.3' N	344° 06.7' 23° 12.2' N
12	359° 35.2' 23° 25.9' N	359° 32.0' 23° 26.0' N	359° 28.7' 23° 25.7' N	359° 25.5' 23° 25.0' N	359° 22.3' 23° 23.8' N	359° 19.1' 23° 22.3' N	359° 15.9' 23° 20.3' N	359° 12.7' 23° 18.0' N	359° 09.7' 23° 15.2' N	359° 06.6' 23° 12.0' N
13	014° 35.1' 23° 25.9' N	014° 31.8' 23° 26.0' N	014° 28.6' 23° 25.7' N	014° 25.3' 23° 24.9' N	014° 22.1' 23° 23.8' N	014° 18.9' 23° 22.2' N	014° 15.8' 23° 20.3' N	014° 12.6' 23° 17.9' N	014° 09.5' 23° 15.1' N	014° 06.5' 23° 11.9' N
14	029° 35.0' 23° 25.9' N	029° 31.7' 23° 26.0' N	029° 28.4' 23° 25.7' N	029° 25.2' 23° 24.9' N	029° 22.0' 23° 23.7' N	029° 18.8' 23° 22.1' N	029° 15.6' 23° 20.2' N	029° 12.5' 23° 17.8' N	029° 09.4' 23° 14.9' N	029° 06.4' 23° 11.7' N
15	044° 34.8' 23° 25.9' N	044° 31.6' 23° 26.0' N	044° 28.3' 23° 25.6' N	044° 25.1' 23° 24.9' N	044° 21.9' 23° 23.7' N	044° 18.7' 23° 22.1' N	044° 15.5' 23° 20.1' N	044° 12.4' 23° 17.6' N	044° 09.3' 23° 14.8' N	044° 06.2' 23° 11.6' N
16	059° 34.7' 23° 25.9' N	059° 31.4' 23° 26.0' N	059° 28.2' 23° 25.6' N	059° 24.9' 23° 24.8' N	059° 21.7' 23° 23.6' N	059° 18.5' 23° 22.0' N	059° 15.4' 23° 20.0' N	059° 12.2' 23° 17.5' N	059° 09.1' 23° 14.7' N	059° 06.1' 23° 11.4' N
17	074° 34.5' 23° 26.0' N	074° 31.3' 23° 26.0' N	074° 28.0' 23° 25.6' N	074° 24.8' 23° 24.8' N	074° 21.6' 23° 23.9' N	074° 18.4' 23° 21.9' N	074° 15.2' 23° 19.9' N	074° 12.1' 23° 17.4' N	074° 09.0' 23° 14.6' N	074° 06.0' 23° 11.3' N
18	089° 34.4' 23° 26.0' N	089° 31.2' 23° 26.0' N	089° 27.9' 23° 25.6' N	089° 24.7' 23° 24.7' N	089° 21.5' 23° 23.5' N	089° 18.3' 23° 21.8' N	089° 15.1' 23° 19.8' N	089° 12.0' 23° 17.3'		

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 30 Jun to 19 Jul

UT	30 Jun	01 Jul	02 Jul	03 Jul	04 Jul	05 Jul	06 Jul	07 Jul	08 Jul	09 Jul
00	179° 05.1' 23° 10.3' N	179° 02.1' 23° 06.5' N	178° 59.2' 23° 02.3' N	178° 56.4' 22° 57.7' N	178° 53.6' 22° 52.7' N	178° 51.0' 22° 47.3' N	178° 48.4' 22° 41.5' N	178° 45.9' 22° 35.3' N	178° 43.5' 22° 28.7' N	178° 41.2' 22° 21.8' N
01	194° 05.0' 23° 10.1' N	194° 02.0' 23° 06.3' N	193° 59.1' 23° 02.1' N	193° 56.3' 22° 57.5' N	193° 53.5' 22° 52.5' N	193° 50.8' 22° 47.0' N	193° 48.3' 22° 41.2' N	193° 45.8' 22° 35.0' N	193° 43.4' 22° 28.4' N	193° 41.1' 22° 21.5' N
02	209° 04.8' 23° 10.0' N	209° 01.9' 23° 06.1' N	208° 59.0' 23° 01.9' N	208° 56.2' 22° 57.3' N	208° 53.4' 22° 52.2' N	208° 50.7' 22° 46.8' N	208° 48.1' 22° 41.0' N	208° 45.7' 22° 34.8' N	208° 43.3' 22° 28.2' N	208° 41.0' 22° 21.2' N
03	224° 04.7' 23° 09.8' N	224° 01.8' 23° 06.0' N	223° 58.9' 23° 01.7' N	223° 56.0' 22° 57.1' N	223° 53.3' 22° 52.0' N	223° 50.6' 22° 46.6' N	223° 48.0' 22° 40.7' N	223° 45.6' 22° 34.7' N	223° 43.2' 22° 28.1' N	223° 40.9' 22° 20.9' N
04	239° 04.6' 23° 09.7' N	239° 01.6' 23° 05.8' N	238° 58.7' 23° 01.5' N	238° 55.9' 22° 56.9' N	238° 53.2' 22° 51.8' N	238° 50.5' 22° 46.3' N	238° 47.9' 22° 40.5' N	238° 45.5' 22° 34.2' N	238° 43.1' 22° 27.6' N	238° 40.8' 22° 20.6' N
05	254° 04.5' 23° 09.5' N	254° 01.5' 23° 05.6' N	253° 58.6' 23° 01.4' N	253° 55.8' 22° 56.7' N	253° 53.1' 22° 51.6' N	253° 50.4' 22° 46.1' N	253° 47.8' 22° 40.2' N	253° 45.4' 22° 34.0' N	253° 43.0' 22° 27.3' N	253° 40.7' 22° 20.3' N
06	269° 04.4' 23° 09.4' N	269° 01.4' 23° 05.5' N	268° 58.5' 23° 01.2' N	268° 55.7' 22° 56.5' N	268° 53.0' 22° 51.4' N	268° 50.3' 22° 45.9' N	268° 47.7' 22° 40.0' N	268° 45.3' 22° 33.7' N	268° 42.9' 22° 27.0' N	268° 40.6' 22° 19.9' N
07	284° 04.2' 23° 09.2' N	284° 01.3' 23° 05.3' N	283° 58.4' 23° 01.0' N	283° 55.6' 22° 56.3' N	283° 52.8' 22° 51.1' N	283° 50.2' 22° 45.6' N	283° 47.6' 22° 39.7' N	283° 45.1' 22° 33.4' N	283° 42.8' 22° 26.7' N	283° 40.5' 22° 19.6' N
08	299° 04.1' 23° 09.1' N	299° 01.2' 23° 05.1' N	298° 58.3' 23° 00.8' N	298° 55.5' 22° 56.1' N	298° 52.7' 22° 50.9' N	298° 50.1' 22° 45.4' N	298° 47.5' 22° 39.5' N	298° 45.0' 22° 33.2' N	298° 42.7' 22° 26.4' N	298° 40.4' 22° 19.3' N
09	314° 04.0' 23° 08.9' N	314° 01.0' 23° 05.0' N	313° 58.2' 23° 00.6' N	313° 55.3' 22° 55.9' N	313° 52.6' 22° 50.7' N	313° 50.0' 22° 45.2' N	313° 47.4' 22° 39.2' N	313° 44.9' 22° 32.9' N	313° 42.6' 22° 26.2' N	313° 40.3' 22° 19.0' N
10	329° 03.9' 23° 08.7' N	329° 00.9' 23° 04.8' N	328° 58.0' 23° 00.4' N	328° 55.2' 22° 55.6' N	328° 52.5' 22° 50.5' N	328° 49.9' 22° 44.9' N	328° 47.3' 22° 39.0' N	328° 44.8' 22° 32.6' N	328° 42.5' 22° 25.9' N	328° 40.2' 22° 18.7' N
11	344° 03.7' 23° 08.6' N	344° 00.8' 23° 04.6' N	343° 57.9' 23° 00.2' N	343° 55.1' 22° 55.4' N	343° 52.4' 22° 50.3' N	343° 49.8' 22° 44.7' N	343° 47.2' 22° 38.7' N	343° 44.7' 22° 32.3' N	343° 42.4' 22° 25.6' N	343° 40.1' 22° 18.4' N
12	359° 03.6' 23° 08.4' N	359° 00.7' 23° 04.4' N	358° 57.8' 23° 00.0' N	358° 55.0' 22° 55.2' N	358° 52.3' 22° 50.0' N	358° 49.6' 22° 44.4' N	358° 47.1' 22° 38.4' N	358° 44.6' 22° 32.0' N	358° 42.3' 22° 25.3' N	358° 40.1' 22° 18.1' N
13	014° 03.5' 23° 08.3' N	014° 00.5' 23° 04.3' N	013° 57.7' 22° 59.8' N	013° 54.9' 22° 55.0' N	013° 52.2' 22° 49.8' N	013° 49.5' 22° 44.2' N	013° 47.0' 22° 38.2' N	013° 44.5' 22° 31.8' N	013° 42.2' 22° 25.0' N	013° 40.0' 22° 17.8' N
14	029° 03.4' 23° 08.1' N	029° 00.4' 23° 04.1' N	028° 57.6' 22° 59.6' N	028° 54.8' 22° 54.8' N	028° 52.1' 22° 49.6' N	028° 49.4' 22° 44.0' N	028° 46.9' 22° 37.9' N	028° 44.4' 22° 31.5' N	028° 42.1' 22° 24.8' N	028° 39.9' 22° 17.5' N
15	044° 03.2' 23° 07.9' N	044° 00.3' 23° 03.9' N	043° 57.4' 22° 59.5' N	043° 54.7' 22° 54.6' N	043° 51.9' 22° 49.4' N	043° 49.3' 22° 43.7' N	043° 46.8' 22° 37.7' N	043° 44.3' 22° 31.2' N	043° 42.0' 22° 24.4' N	043° 39.8' 22° 17.2' N
16	059° 03.1' 23° 07.8' N	059° 00.2' 23° 03.7' N	058° 57.3' 22° 59.3' N	058° 54.5' 22° 54.4' N	058° 51.8' 22° 49.1' N	058° 49.2' 22° 43.5' N	058° 46.7' 22° 37.4' N	058° 44.2' 22° 31.0' N	058° 41.9' 22° 24.1' N	058° 39.7' 22° 16.9' N
17	074° 03.0' 23° 07.6' N	074° 00.1' 23° 03.5' N	073° 57.2' 22° 59.1' N	073° 54.4' 22° 54.2' N	073° 51.7' 22° 48.9' N	073° 49.1' 22° 43.2' N	073° 46.6' 22° 37.1' N	073° 44.2' 22° 30.7' N	073° 41.8' 22° 23.8' N	073° 39.6' 22° 16.6' N
18	089° 02.9' 23° 07.5' N	088° 59.9' 23° 03.4' N	088° 57.1' 22° 58.9' N	088° 54.3' 22° 54.0' N	088° 51.6' 22° 48.7' N	088° 49.0' 22° 43.0' N	088° 46.5' 22° 36.9' N	088° 44.1' 22° 30.4' N	088° 41.7' 22° 23.5' N	088° 39.5' 22° 16.3' N
19	104° 02.7' 23° 07.3' N	103° 59.8' 23° 03.2' N	103° 57.0' 22° 58.7' N	103° 54.2' 22° 53.8' N	103° 51.5' 22° 48.4' N	103° 48.9' 22° 42.7' N	103° 46.4' 22° 36.6' N	103° 44.0' 22° 30.1' N	103° 41.6' 22° 23.2' N	103° 39.4' 22° 16.0' N
20	119° 02.6' 23° 07.1' N	118° 59.7' 23° 03.0' N	118° 56.9' 22° 58.5' N	118° 54.1' 22° 53.5' N	118° 51.4' 22° 48.2' N	118° 48.8' 22° 42.5' N	118° 46.3' 22° 36.4' N	118° 43.9' 22° 29.8' N	118° 41.5' 22° 22.9' N	118° 39.3' 22° 15.6' N
21	134° 02.5' 23° 07.0' N	133° 59.6' 23° 02.8' N	133° 56.7' 22° 58.3' N	133° 54.0' 22° 53.3' N	133° 51.3' 22° 48.0' N	133° 48.7' 22° 42.2' N	133° 46.2' 22° 36.1' N	133° 43.8' 22° 29.6' N	133° 41.4' 22° 22.6' N	133° 39.2' 22° 15.3' N
22	149° 02.4' 23° 06.8' N	148° 59.5' 23° 02.6' N	148° 56.6' 22° 58.1' N	148° 53.9' 22° 53.1' N	148° 51.2' 22° 47.7' N	148° 48.6' 22° 42.0' N	148° 46.1' 22° 35.8' N	148° 43.7' 22° 29.3' N	148° 41.4' 22° 22.3' N	148° 39.2' 22° 15.0' N
23	164° 02.3' 23° 06.6' N	163° 59.3' 23° 02.5' N	163° 56.5' 22° 57.9' N	163° 53.7' 22° 52.9' N	163° 51.1' 22° 47.5' N	163° 48.5' 22° 41.7' N	163° 46.0' 22° 35.6' N	163° 43.6' 22° 29.0' N	163° 41.3' 22° 22.0' N	163° 39.1' 22° 14.7' N

UT	10 Jul	11 Jul	12 Jul	13 Jul	14 Jul	15 Jul	16 Jul	17 Jul	18 Jul	19 Jul
00	178° 39.0' 22° 14.4' N	178° 36.9' 22° 06.7' N	178° 34.9' 21° 58.5' N	178° 33.1' 21° 50.0' N	178° 31.4' 21° 41.2' N	178° 29.8' 21° 31.9' N	178° 28.3' 21° 22.3' N	178° 27.0' 21° 12.4' N	178° 25.8' 21° 02.1' N	178° 24.8' 20° 51.4' N
01	193° 38.9' 22° 14.1' N	193° 36.8' 22° 06.3' N	193° 34.9' 21° 58.2' N	193° 33.0' 21° 49.7' N	193° 31.3' 21° 40.8' N	193° 29.7' 21° 31.5' N	193° 28.3' 21° 21.9' N	193° 27.0' 21° 12.0' N	193° 25.8' 21° 01.6' N	193° 24.7' 20° 50.9' N
02	208° 38.8' 22° 13.8' N	208° 36.7' 22° 06.0' N	208° 34.8' 21° 57.8' N	208° 33.0' 21° 49.3' N	208° 31.3' 21° 40.4' N	208° 29.7' 21° 31.2' N	208° 28.2' 21° 21.5' N	208° 26.9' 21° 11.5' N	208° 25.7' 21° 01.2' N	208° 24.7' 20° 50.5' N
03	223° 38.7' 22° 13.4' N	223° 36.7' 22° 05.7' N	223° 34.7' 21° 57.5' N	223° 32.9' 21° 49.0' N	223° 31.2' 21° 40.0' N	223° 29.6' 21° 30.8' N	223° 28.2' 21° 21.1' N	223° 26.9' 21° 11.1' N	223° 25.7' 21° 00.7' N	223° 24.6' 20° 50.0' N
04	238° 38.6' 22° 13.1' N	238° 36.6' 22° 05.3' N	238° 34.6' 21° 57.2' N	238° 32.8' 21° 48.6' N	238° 31.1' 21° 39.7' N	238° 29.6' 21° 30.4' N	238° 28.1' 21° 20.7' N	238° 26.8' 21° 10.7' N	238° 25.6' 21° 00.3' N	238° 24.6' 20° 49.6' N
05	253° 38.5' 22° 12.8' N	253° 36.5' 22° 05.0' N	253° 34.6' 21° 56.8' N	253° 32.7' 21° 48.2' N	253° 31.1' 21° 39.3' N	253° 29.5' 21° 30.0' N	253° 28.1' 21° 20.3' N	253° 26.8' 21° 10.3' N	253° 25.6' 20° 59.9' N	253° 24.5' 20° 49.1' N
06	268° 38.4' 22° 12.5' N	268° 36.4' 22° 04.7' N	268° 34.5' 21° 56.5' N	268° 32.7' 21° 47.9' N	268° 31.0' 21° 38.9' N	268° 29.4' 21° 29.6' N	268° 28.0' 21° 19.9' N	268° 26.7' 21° 09.8' N	268° 25.5' 20° 59.4' N	268° 24.5' 20° 48.6' N
07	283° 38.4' 22° 12.2' N	283° 36.3' 22° 04.3' N	283° 34.4' 21° 56.1' N	283° 32.6' 21° 47.5' N	283° 30.9' 21° 38.5' N	283° 29.4' 21° 29.2' N	283° 27.9' 21° 19.5' N	283° 26.7' 21° 09.4' N	283° 25.5' 21° 02.1' N	283° 24.5' 20° 48.2' N
08	298° 38.3' 22° 11.9' N	298° 36.2' 22° 04.0' N	298° 34.3' 21° 55.8' N	298° 32.5' 21° 47.1' N	298° 30.9' 21° 38.1' N	298° 29.3' 21° 28.8' N	298° 27.9' 21° 19.1' N	298° 26.6' 21° 09.0' N	298° 25.4' 20° 58.5' N	298° 24.4' 20° 47.7' N
09	313° 38.2' 22° 11.5' N	313° 36.2' 22° 03.7' N	313° 34.2' 21° 55.4' N	313° 32.5' 21° 46.8' N	313° 30.8' 21° 37.8' N	313° 29.2' 21° 28.4' N	313° 27.8' 21° 18.6' N	313° 26.5' 21° 08.5' N	313° 25.4' 20° 58.1' N	313° 24.4' 20° 47.3' N
10	328° 38.1' 22° 11.2' N	328° 36.1' 22° 03.3' N	328° 34.2' 21° 55.0' N	328° 32.4' 21° 46.4' N	328° 30.7' 21° 37.4' N	328° 29.2' 21° 28.0' N	328° 27.8' 21° 18.2' N	328° 26.5' 21° 08.0' N	328° 25.4' 20° 57.6' N	328° 24.3' 20° 46.8' N
11	343° 38.0' 22° 10.9' N	343° 36.0' 22° 03.0' N	343° 34.1' 21° 54.7' N	343° 32.3' 21° 46.0' N	343° 30.7' 21° 37.0' N	343° 29.1' 21° 27.6' N	343° 27.7' 21° 17.8' N	343° 26.5' 21° 07.7' N	343° 25.3' 20° 57.2' N	343° 24.3' 20° 46.4' N
12	358° 37.9' 22° 10.6' N	358° 35.9' 22° 02.6' N	358° 34.0' 21° 54.3' N	358° 32.2' 21° 45.7' N	358° 30.6' 21° 36.6' N	358° 29.1' 21° 27.2' N	358° 27.7' 21° 17.4' N	358° 26.4' 21° 07.3' N	358° 25.3' 20° 56.8' N	358° 24.3' 20° 45.9' N
13	013° 37.8' 22° 10.3' N	013° 35.8' 22° 02.3' N	013° 33.9' 21° 54.0' N	013° 32.2' 21° 45.3' N	013° 30.5' 21° 36.2' N	013° 29.0' 21° 26.8' N	013° 27.6' 21° 17.0' N	013° 26.4' 21° 06.8' N	013° 25.2' 20° 56.3' N	013° 24.2' 20° 45.4' N
14	028° 37.8' 22° 09.9' N	028° 35.7' 22° 02.0' N	028° 33.9' 21° 53.6' N	028° 32.1' 21° 44.9' N	028° 30.5' 21° 35.8' N	028° 28.9' 21° 26.4' N	028° 27.6' 21° 16.6' N	028° 26.3' 21° 06.4' N	028° 25.2' 20° 55.9' N	028° 24.2' 20° 45.0' N
15	043° 37.7' 22° 09.6' N	043° 35.7' 22° 01.6' N	043° 33.8' 21° 53.3' N	043° 32.0' 21° 44.5' N	043° 30.4' 21° 35.4' N	043° 28.9' 21° 26.0' N	043° 27.5' 21° 16.2' N	043° 26.3' 21° 06.0' N	043° 25.1' 20° 55.4' N	043° 24.2' 20° 44.5' N
16	058° 37.6' 22° 09.3' N	058° 35.6' 22° 01.3' N	058° 33.7' 21° 52.9' N	058° 32.0' 21° 44.2' N	058° 30.3' 21° 35.1' N	058° 28.8' 21° 25.6' N	058° 27.4' 21° 15.7' N	058° 26.2' 21° 05.5' N	0	

## Solar Almanac 2038 — Sun GHA & Decl (UT) — 20 Jul to 08 Aug

UT	20 Jul	21 Jul	22 Jul	23 Jul	24 Jul	25 Jul	26 Jul	27 Jul	28 Jul	29 Jul
00	178° 23,8' 20° 40,3' N	178° 23,0' 20° 29,0' N	178° 22,4' 20° 17,2' N	178° 21,8' 20° 05,2' N	178° 21,5' 19° 52,8' N	178° 21,2' 19° 40,1' N	178° 21,1' 19° 27,0' N	178° 21,2' 19° 13,6' N	178° 21,4' 18° 59,9' N	178° 21,7' 18° 45,9' N
01	193° 23,8' 20° 39,9' N	193° 23,0' 20° 28,5' N	193° 22,3' 20° 16,7' N	193° 21,8' 20° 04,7' N	193° 21,5' 19° 52,3' N	193° 21,2' 19° 39,5' N	193° 21,1' 19° 26,5' N	193° 21,1' 19° 13,1' N	193° 21,8' 18° 59,3' N	193° 21,8' 18° 45,3' N
02	208° 23,7' 20° 39,4' N	208° 23,0' 20° 28,0' N	208° 22,3' 20° 16,3' N	208° 21,8' 20° 04,2' N	208° 21,4' 19° 51,7' N	208° 21,2' 19° 39,0' N	208° 21,1' 19° 25,9' N	208° 21,2' 19° 12,5' N	208° 21,4' 18° 58,8' N	208° 21,8' 18° 44,7' N
03	223° 23,7' 20° 38,9' N	223° 22,9' 20° 27,5' N	223° 22,3' 20° 15,8' N	223° 21,8' 20° 03,7' N	223° 21,4' 19° 51,2' N	223° 21,2' 19° 38,4' N	223° 21,1' 19° 25,3' N	223° 21,2' 19° 11,9' N	223° 21,4' 18° 59,2' N	223° 21,8' 18° 44,1' N
04	238° 23,7' 20° 38,5' N	238° 22,9' 20° 27,0' N	238° 22,3' 20° 15,3' N	238° 21,8' 20° 03,1' N	238° 21,4' 19° 50,7' N	238° 21,2' 19° 37,9' N	238° 21,1' 19° 24,8' N	238° 21,1' 19° 11,4' N	238° 21,4' 18° 57,6' N	238° 21,8' 18° 43,6' N
05	253° 23,6' 20° 38,0' N	253° 22,9' 20° 26,6' N	253° 22,2' 20° 14,8' N	253° 21,8' 20° 02,6' N	253° 21,4' 19° 50,2' N	253° 21,2' 19° 37,4' N	253° 21,1' 19° 24,2' N	253° 21,2' 19° 10,8' N	253° 21,4' 18° 57,0' N	253° 21,8' 18° 43,0' N
06	268° 23,6' 20° 37,5' N	268° 22,8' 20° 26,1' N	268° 22,2' 20° 14,3' N	268° 21,7' 20° 02,1' N	268° 21,4' 19° 49,6' N	268° 21,2' 19° 36,8' N	268° 21,1' 19° 23,7' N	268° 21,2' 19° 10,2' N	268° 21,5' 18° 56,5' N	268° 21,8' 18° 42,4' N
07	283° 23,6' 20° 37,1' N	283° 22,8' 20° 25,6' N	283° 22,2' 20° 13,8' N	283° 21,7' 20° 01,6' N	283° 21,4' 19° 49,1' N	283° 21,2' 19° 36,3' N	283° 21,1' 19° 23,1' N	283° 21,2' 19° 09,7' N	283° 21,5' 18° 55,9' N	283° 21,9' 18° 41,8' N
08	298° 23,5' 20° 36,6' N	298° 22,8' 20° 25,1' N	298° 22,2' 20° 13,3' N	298° 21,7' 20° 01,1' N	298° 21,4' 19° 48,6' N	298° 21,2' 19° 35,7' N	298° 21,1' 19° 22,6' N	298° 21,2' 19° 09,1' N	298° 21,5' 18° 55,3' N	298° 21,9' 18° 41,2' N
09	313° 23,5' 20° 36,1' N	313° 22,8' 20° 24,6' N	313° 22,2' 20° 12,8' N	313° 21,7' 20° 00,6' N	313° 21,4' 19° 48,1' N	313° 21,2' 19° 35,2' N	313° 21,1' 19° 22,0' N	313° 21,1' 19° 08,5' N	313° 21,5' 18° 54,7' N	313° 21,9' 18° 40,6' N
10	328° 23,5' 20° 35,6' N	328° 22,7' 20° 24,1' N	328° 22,1' 20° 12,3' N	328° 21,7' 20° 00,1' N	328° 21,3' 19° 47,5' N	328° 21,2' 19° 34,7' N	328° 21,1' 19° 21,5' N	328° 21,3' 19° 08,0' N	328° 21,5' 18° 54,1' N	328° 21,9' 18° 40,0' N
11	343° 23,4' 20° 35,2' N	343° 22,7' 20° 23,6' N	343° 22,1' 20° 11,8' N	343° 21,7' 19° 59,5' N	343° 21,3' 19° 47,0' N	343° 21,2' 19° 34,1' N	343° 21,1' 19° 20,9' N	343° 21,3' 19° 07,4' N	343° 21,5' 18° 53,5' N	343° 21,9' 18° 39,4' N
12	358° 23,4' 20° 34,7' N	358° 22,7' 20° 23,1' N	358° 22,1' 20° 11,3' N	358° 21,6' 19° 59,0' N	358° 21,3' 19° 46,5' N	358° 21,2' 19° 33,6' N	358° 21,1' 19° 20,4' N	358° 21,3' 19° 06,8' N	358° 21,5' 18° 53,0' N	358° 22,0' 18° 38,8' N
13	013° 23,4' 20° 34,2' N	013° 22,6' 20° 22,7' N	013° 22,1' 20° 10,8' N	013° 21,6' 19° 58,5' N	013° 21,3' 19° 45,9' N	013° 21,2' 19° 33,0' N	013° 21,1' 19° 19,8' N	013° 21,3' 19° 06,2' N	013° 21,6' 18° 52,4' N	013° 22,0' 18° 38,2' N
14	028° 23,3' 20° 33,7' N	028° 22,6' 20° 22,2' N	028° 22,0' 20° 10,3' N	028° 21,6' 19° 58,0' N	028° 21,3' 19° 45,4' N	028° 21,2' 19° 32,5' N	028° 21,1' 19° 19,2' N	028° 21,3' 19° 05,7' N	028° 21,6' 18° 51,8' N	028° 22,0' 18° 37,6' N
15	043° 23,3' 20° 33,3' N	043° 22,6' 20° 21,7' N	043° 22,0' 20° 09,7' N	043° 21,6' 19° 57,5' N	043° 21,3' 19° 44,9' N	043° 21,2' 19° 31,9' N	043° 21,2' 19° 18,7' N	043° 21,3' 19° 05,1' N	043° 21,6' 18° 51,2' N	043° 22,0' 18° 37,0' N
16	058° 23,3' 20° 32,8' N	058° 22,6' 20° 21,2' N	058° 22,0' 20° 09,2' N	058° 21,6' 19° 57,0' N	058° 21,3' 19° 44,3' N	058° 21,2' 19° 31,4' N	058° 21,2' 19° 18,1' N	058° 21,3' 19° 04,5' N	058° 21,6' 18° 50,6' N	058° 22,1' 18° 36,4' N
17	073° 23,2' 20° 32,3' N	073° 22,5' 20° 20,7' N	073° 22,0' 20° 08,7' N	073° 21,6' 19° 56,4' N	073° 21,3' 19° 43,8' N	073° 21,1' 19° 30,8' N	073° 21,2' 19° 17,6' N	073° 21,3' 19° 04,0' N	073° 21,6' 18° 50,0' N	073° 22,1' 18° 35,8' N
18	088° 23,2' 20° 31,8' N	088° 22,5' 20° 20,2' N	088° 22,0' 20° 08,2' N	088° 21,5' 19° 55,9' N	088° 21,3' 19° 43,3' N	088° 21,1' 19° 30,3' N	088° 21,2' 19° 17,0' N	088° 21,3' 19° 03,4' N	088° 21,6' 18° 49,4' N	088° 22,1' 18° 35,2' N
19	103° 23,2' 20° 31,4' N	103° 22,5' 20° 19,7' N	103° 21,9' 20° 07,7' N	103° 21,5' 19° 55,4' N	103° 21,3' 19° 42,7' N	103° 21,1' 19° 29,7' N	103° 21,2' 19° 16,4' N	103° 21,3' 19° 02,8' N	103° 21,7' 18° 48,9' N	103° 22,1' 18° 34,6' N
20	118° 23,1' 20° 30,9' N	118° 22,5' 20° 19,2' N	118° 21,9' 20° 07,2' N	118° 21,5' 19° 54,9' N	118° 21,3' 19° 42,2' N	118° 21,1' 19° 29,2' N	118° 21,2' 19° 15,9' N	118° 21,3' 19° 02,2' N	118° 21,7' 18° 48,3' N	118° 22,1' 18° 34,0' N
21	133° 23,1' 20° 30,4' N	133° 22,4' 20° 18,7' N	133° 21,9' 20° 06,7' N	133° 21,5' 19° 54,4' N	133° 21,3' 19° 41,7' N	133° 21,1' 19° 28,7' N	133° 21,2' 19° 15,3' N	133° 21,3' 19° 01,7' N	133° 21,7' 18° 47,7' N	133° 22,2' 18° 33,4' N
22	148° 23,1' 20° 29,9' N	148° 22,4' 20° 18,2' N	148° 21,9' 20° 06,2' N	148° 21,5' 19° 53,8' N	148° 21,2' 19° 41,1' N	148° 21,1' 19° 28,1' N	148° 21,2' 19° 14,8' N	148° 21,4' 19° 01,1' N	148° 21,7' 18° 47,1' N	148° 22,2' 18° 32,8' N
23	163° 23,1' 20° 29,4' N	163° 22,4' 20° 17,7' N	163° 21,9' 20° 05,7' N	163° 21,5' 19° 53,3' N	163° 21,2' 19° 40,6' N	163° 21,1' 19° 27,6' N	163° 21,2' 19° 14,2' N	163° 21,4' 19° 00,5' N	163° 21,7' 18° 46,5' N	163° 22,2' 18° 32,2' N
UT	30 Jul	31 Jul	01 Aug	02 Aug	03 Aug	04 Aug	05 Aug	06 Aug	07 Aug	08 Aug
00	178° 22,2' 18° 31,6' N	178° 22,9' 18° 17,0' N	178° 23,7' 18° 02,0' N	178° 24,6' 17° 46,8' N	178° 25,7' 17° 31,3' N	178° 27,0' 17° 15,5' N	178° 28,4' 16° 59,5' N	178° 30,0' 16° 43,1' N	178° 31,7' 16° 26,5' N	178° 33,6' 16° 09,6' N
01	193° 22,3' 18° 31,0' N	193° 22,9' 18° 16,4' N	193° 23,7' 18° 01,4' N	193° 24,7' 17° 46,2' N	193° 25,8' 17° 30,7' N	193° 27,0' 17° 14,9' N	193° 28,5' 16° 58,8' N	193° 30,0' 16° 42,4' N	193° 31,8' 16° 25,8' N	193° 33,6' 16° 08,9' N
02	208° 22,3' 18° 30,4' N	208° 22,9' 18° 15,7' N	208° 23,7' 18° 00,8' N	208° 24,7' 17° 45,5' N	208° 25,8' 17° 30,0' N	208° 27,1' 17° 14,2' N	208° 28,5' 16° 58,1' N	208° 30,1' 16° 41,7' N	208° 31,8' 16° 25,1' N	208° 33,7' 16° 08,2' N
03	223° 22,3' 18° 29,8' N	223° 23,0' 18° 15,1' N	223° 23,8' 18° 00,2' N	223° 24,8' 17° 44,9' N	223° 25,9' 17° 29,4' N	223° 27,2' 17° 13,5' N	223° 28,6' 16° 57,4' N	223° 30,2' 16° 41,1' N	223° 31,9' 16° 24,4' N	223° 33,8' 16° 07,5' N
04	238° 22,3' 18° 29,2' N	238° 23,0' 18° 14,5' N	238° 23,8' 17° 59,5' N	238° 24,8' 17° 44,3' N	238° 25,9' 17° 28,7' N	238° 27,2' 17° 12,9' N	238° 28,6' 16° 56,8' N	238° 30,2' 16° 40,4' N	238° 32,0' 16° 23,7' N	238° 33,9' 16° 06,8' N
05	253° 22,4' 18° 28,6' N	253° 23,0' 18° 13,9' N	253° 23,9' 17° 58,9' N	253° 24,8' 17° 43,6' N	253° 26,0' 17° 28,1' N	253° 27,3' 17° 12,2' N	253° 28,7' 16° 56,1' N	253° 30,3' 16° 39,7' N	253° 32,1' 16° 23,0' N	253° 34,0' 16° 06,1' N
06	268° 22,4' 18° 28,0' N	268° 23,1' 18° 13,3' N	268° 23,9' 17° 58,3' N	268° 24,9' 17° 43,0' N	268° 26,1' 17° 27,4' N	268° 27,3' 17° 11,5' N	268° 28,8' 16° 55,4' N	268° 30,4' 16° 39,0' N	268° 32,1' 16° 22,3' N	268° 34,0' 16° 05,4' N
07	283° 22,4' 18° 27,4' N	283° 23,1' 18° 12,6' N	283° 23,9' 17° 57,6' N	283° 24,9' 17° 42,3' N	283° 26,1' 17° 26,7' N	283° 27,4' 17° 10,9' N	283° 28,8' 16° 54,7' N	283° 30,4' 16° 38,3' N	283° 32,2' 16° 21,6' N	283° 34,1' 16° 04,7' N
08	298° 22,4' 18° 26,8' N	298° 23,1' 18° 12,0' N	298° 24,0' 17° 57,0' N	298° 25,0' 17° 41,7' N	298° 26,1' 17° 26,1' N	298° 27,4' 17° 10,2' N	298° 28,9' 16° 54,0' N	298° 30,5' 16° 37,6' N	298° 32,3' 16° 20,9' N	298° 34,2' 16° 03,9' N
09	313° 22,5' 18° 26,1' N	313° 23,2' 18° 11,4' N	313° 24,0' 17° 56,4' N	313° 25,0' 17° 41,0' N	313° 26,2' 17° 25,4' N	313° 27,5' 17° 09,5' N	313° 29,0' 16° 53,4' N	313° 30,7' 16° 36,9' N	313° 32,4' 16° 20,2' N	313° 34,3' 16° 03,2' N
10	328° 22,5' 18° 25,5' N	328° 23,2' 18° 10,8' N	328° 24,1' 17° 55,7' N	328° 25,1' 17° 40,4' N	328° 26,2' 17° 24,8' N	328° 27,6' 17° 08,9' N	328° 29,0' 16° 52,7' N	328° 30,7' 16° 36,2' N	328° 32,4' 16° 19,5' N	328° 34,4' 16° 02,5' N
11	343° 22,5' 18° 24,9' N	343° 23,2' 18° 10,2' N	343° 24,1' 17° 55,1' N	343° 25,1' 17° 39,8' N	343° 26,3' 17° 24,1' N	343° 27,6' 17° 08,2' N	343° 29,1' 16° 52,0' N	343° 30,7' 16° 35,5' N	343° 32,5' 16° 18,8' N	343° 34,5' 16° 01,8' N
12	358° 22,5' 18° 24,3' N	358° 23,3' 18° 09,5' N	358° 24,1' 17° 54,5' N	358° 25,2' 17° 39,1' N	358° 26,3' 17° 23,5' N	358° 27,7' 17° 07,5' N	358° 29,2' 16° 51,3' N	358° 30,8' 16° 34,8' N	358° 32,6' 16° 18,1' N	358° 34,5' 16° 01,1' N
13	013° 22,6' 18° 23,7' N	013° 23,3' 18° 08,9' N	013° 24,2' 17° 53,8' N	013° 25,2' 17° 38,5' N	013° 26,4' 17° 22,8' N	013° 27,7' 17° 06,9' N	013° 29,2' 16° 50,6' N	013° 30,9' 16° 34,2' N	013° 32,7' 16° 17,4' N	013° 34,6' 16° 00,4' N
14	028° 22,6' 18° 23,1' N	028° 23,3' 18° 08,3' N	028° 24,2' 17° 53,2' N	028° 25,2' 17° 37,8' N	028° 26,4' 17° 22,1' N	028° 27,8' 17° 06,2' N	028° 29,3' 16° 50,0' N	028° 30,9' 16° 33,5' N	028° 32,8' 16° 16,7' N	028° 34,7' 15° 59,7' N
15	043° 22,6' 18° 22,5' N	043° 23,4' 18° 07,7' N	043° 24,2' 17° 52,6' N	043° 25,3' 17° 37,2' N	043° 26,5' 17° 21,5' N	043° 27,8' 17° 05,5' N	043° 29,4' 16° 49,3' N	043° 31,0' 16° 32,8' N	043° 32,8' 16° 16,0' N	043° 34,8' 15° 58,9' N
16	058° 22,6' 18° 21,9' N	058° 23,4' 18° 07,1' N	058° 24,3' 17° 51,9' N	058° 25,3' 17° 36,5' N	058° 26,5' 17° 20,8' N	058° 27,9' 17° 04,9' N	058° 29,4' 16° 48,6' N	058° 31,1' 16° 32,1' N	058° 32,9' 16° 15,3' N	

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 09 Aug to 28 Aug

UT	09 Aug	10 Aug	11 Aug	12 Aug	13 Aug	14 Aug	15 Aug	16 Aug	17 Aug	18 Aug
00	178° 35,6' 15° 52,5' N	178° 37,8' 15° 35,1' N	178° 40,1' 15° 17,5' N	178° 42,5' 14° 59,6' N	178° 45,2' 14° 41,5' N	178° 47,9' 14° 23,1' N	178° 50,8' 14° 04,5' N	178° 53,8' 13° 45,7' N	178° 57,0' 13° 26,7' N	179° 00,3' 13° 07,5' N
01	193° 35,7' 15° 51,8' N	193° 37,8' 15° 34,4' N	193° 40,2' 15° 16,7' N	193° 42,7' 14° 58,8' N	193° 45,3' 14° 40,7' N	193° 48,0' 14° 22,3' N	193° 50,9' 14° 03,8' N	193° 54,0' 13° 44,9' N	193° 57,1' 13° 25,9' N	194° 00,4' 13° 06,7' N
02	208° 35,8' 15° 51,1' N	208° 37,9' 15° 33,6' N	208° 40,3' 15° 16,0' N	208° 42,8' 14° 58,1' N	208° 45,4' 14° 39,9' N	208° 48,1' 14° 21,6' N	208° 51,1' 14° 03,0' N	208° 54,1' 13° 44,2' N	208° 57,2' 13° 25,1' N	209° 00,5' 13° 05,9' N
03	223° 35,8' 15° 50,3' N	223° 38,0' 15° 32,9' N	223° 40,4' 15° 15,2' N	223° 42,9' 14° 57,3' N	223° 45,5' 14° 39,2' N	223° 48,3' 14° 20,8' N	223° 51,2' 14° 02,2' N	223° 54,2' 13° 43,4' N	223° 57,4' 13° 24,3' N	224° 00,7' 13° 05,1' N
04	238° 35,9' 15° 49,6' N	238° 38,1' 15° 32,2' N	238° 40,5' 15° 14,5' N	238° 43,0' 14° 56,6' N	238° 45,6' 14° 38,4' N	238° 48,4' 14° 20,0' N	238° 51,3' 14° 01,4' N	238° 54,3' 13° 42,6' N	238° 57,5' 13° 23,5' N	239° 00,8' 13° 04,3' N
05	253° 36,0' 15° 48,9' N	253° 38,2' 15° 31,4' N	253° 40,6' 15° 13,8' N	253° 43,1' 14° 55,8' N	253° 45,7' 14° 37,7' N	253° 48,5' 14° 19,3' N	253° 51,4' 14° 00,6' N	253° 54,5' 13° 41,8' N	253° 57,7' 13° 22,7' N	254° 01,0' 13° 03,5' N
06	268° 36,1' 15° 48,2' N	268° 38,3' 15° 30,7' N	268° 40,7' 15° 13,0' N	268° 43,2' 14° 55,1' N	268° 45,8' 14° 36,9' N	268° 48,6' 14° 18,5' N	268° 51,5' 13° 59,9' N	268° 54,6' 13° 41,0' N	268° 57,8' 13° 21,9' N	269° 01,1' 13° 02,6' N
07	283° 36,2' 15° 47,4' N	283° 38,4' 15° 30,0' N	283° 40,8' 15° 12,3' N	283° 43,3' 14° 54,3' N	283° 46,0' 14° 36,1' N	283° 48,7' 14° 17,7' N	283° 51,7' 13° 59,1' N	283° 54,7' 13° 40,2' N	283° 57,9' 13° 21,1' N	284° 01,2' 13° 01,8' N
08	298° 36,3' 15° 46,7' N	298° 38,5' 15° 29,2' N	298° 40,9' 15° 11,5' N	298° 43,4' 14° 53,6' N	298° 46,1' 14° 35,4' N	298° 48,9' 14° 16,9' N	298° 51,8' 13° 58,3' N	298° 54,9' 13° 39,4' N	298° 58,1' 13° 20,3' N	299° 01,4' 13° 01,0' N
09	313° 36,4' 15° 46,0' N	313° 38,6' 15° 28,5' N	313° 41,0' 15° 10,8' N	313° 43,5' 14° 52,8' N	313° 46,2' 14° 34,6' N	313° 49,0' 14° 16,2' N	313° 51,9' 13° 57,5' N	313° 55,0' 13° 38,6' N	313° 58,2' 13° 19,5' N	314° 01,5' 13° 00,2' N
10	328° 36,5' 15° 45,3' N	328° 38,7' 15° 27,8' N	328° 41,1' 15° 10,0' N	328° 43,6' 14° 52,1' N	328° 46,3' 14° 33,8' N	328° 49,1' 14° 15,4' N	328° 52,0' 13° 56,7' N	328° 55,1' 13° 37,8' N	328° 58,3' 13° 18,7' N	329° 01,7' 12° 59,4' N
11	343° 36,6' 15° 44,6' N	343° 38,8' 15° 27,0' N	343° 41,2' 15° 09,3' N	343° 43,7' 14° 51,3' N	343° 46,4' 14° 33,1' N	343° 49,2' 14° 14,6' N	343° 52,2' 13° 55,9' N	343° 55,3' 13° 37,0' N	343° 58,5' 13° 17,9' N	344° 01,8' 12° 58,6' N
12	358° 36,6' 15° 43,8' N	358° 38,9' 15° 26,3' N	358° 41,3' 15° 08,6' N	358° 43,8' 14° 50,6' N	358° 46,5' 14° 32,3' N	358° 49,3' 14° 13,9' N	358° 52,3' 13° 55,2' N	358° 55,4' 13° 36,3' N	358° 58,6' 13° 17,1' N	359° 01,9' 12° 57,8' N
13	013° 36,7' 15° 43,1' N	013° 39,0' 15° 25,6' N	013° 41,4' 15° 07,8' N	013° 43,9' 14° 49,8' N	013° 46,6' 14° 31,6' N	013° 49,5' 14° 13,1' N	013° 52,4' 13° 54,4' N	013° 55,5' 13° 35,5' N	013° 58,7' 13° 16,3' N	014° 02,1' 12° 57,0' N
14	028° 36,8' 15° 42,4' N	028° 39,1' 15° 24,8' N	028° 41,5' 15° 07,1' N	028° 44,1' 14° 49,0' N	028° 46,8' 14° 30,8' N	028° 49,6' 14° 12,3' N	028° 52,6' 13° 53,6' N	028° 55,6' 13° 34,7' N	028° 58,9' 13° 15,5' N	029° 02,2' 12° 56,2' N
15	043° 36,9' 15° 41,7' N	043° 39,2' 15° 24,1' N	043° 41,6' 15° 06,3' N	043° 44,2' 14° 48,3' N	043° 46,9' 14° 30,0' N	043° 49,7' 14° 11,5' N	043° 52,7' 13° 52,8' N	043° 55,8' 13° 33,9' N	043° 59,0' 13° 14,7' N	044° 02,4' 12° 55,4' N
16	058° 37,0' 15° 40,9' N	058° 39,3' 15° 23,4' N	058° 41,7' 15° 05,6' N	058° 44,3' 14° 47,5' N	058° 47,0' 14° 29,3' N	058° 49,8' 14° 10,8' N	058° 52,8' 13° 52,0' N	058° 55,9' 13° 33,1' N	058° 59,1' 13° 13,9' N	059° 02,5' 12° 54,5' N
17	073° 37,1' 15° 40,2' N	073° 39,4' 15° 22,6' N	073° 41,8' 15° 04,8' N	073° 44,4' 14° 46,8' N	073° 47,1' 14° 28,5' N	073° 49,9' 14° 10,0' N	073° 52,9' 13° 51,2' N	073° 56,0' 13° 32,3' N	073° 59,3' 13° 13,1' N	074° 02,7' 12° 53,7' N
18	088° 37,2' 15° 39,5' N	088° 39,5' 15° 21,9' N	088° 41,9' 15° 04,1' N	088° 44,5' 14° 46,0' N	088° 47,2' 14° 27,7' N	088° 50,1' 14° 09,2' N	088° 53,1' 13° 50,5' N	088° 56,2' 13° 31,5' N	088° 59,4' 13° 12,3' N	089° 02,8' 12° 52,9' N
19	103° 37,3' 15° 38,7' N	103° 39,6' 15° 21,2' N	103° 42,0' 15° 03,3' N	103° 44,6' 14° 45,3' N	103° 47,3' 14° 27,0' N	103° 50,2' 14° 08,4' N	103° 53,2' 13° 49,7' N	103° 56,3' 13° 30,7' N	103° 59,6' 13° 11,5' N	104° 02,9' 12° 52,1' N
20	118° 37,4' 15° 38,0' N	118° 39,7' 15° 20,4' N	118° 42,1' 15° 02,6' N	118° 44,7' 14° 44,5' N	118° 47,4' 14° 26,2' N	118° 50,3' 14° 07,6' N	118° 53,3' 13° 48,9' N	118° 56,4' 13° 29,9' N	118° 59,7' 13° 10,7' N	119° 03,1' 12° 51,3' N
21	133° 37,5' 15° 37,3' N	133° 39,8' 15° 19,7' N	133° 42,2' 15° 01,8' N	133° 44,8' 14° 43,7' N	133° 47,6' 14° 25,4' N	133° 50,4' 14° 06,9' N	133° 53,4' 13° 48,1' N	133° 56,6' 13° 29,1' N	133° 59,8' 13° 10,0' N	134° 03,2' 12° 50,5' N
22	148° 37,6' 15° 36,6' N	148° 39,9' 15° 18,9' N	148° 42,3' 15° 01,1' N	148° 44,9' 14° 43,0' N	148° 47,7' 14° 24,7' N	148° 50,6' 14° 06,1' N	148° 53,6' 13° 47,3' N	148° 56,7' 13° 28,3' N	149° 00,0' 13° 09,1' N	149° 03,4' 12° 49,7' N
23	163° 37,7' 15° 35,8' N	163° 40,0' 15° 18,2' N	163° 42,4' 15° 00,3' N	163° 45,0' 14° 42,2' N	163° 47,8' 14° 23,9' N	163° 50,7' 14° 05,3' N	163° 53,7' 13° 46,5' N	163° 56,8' 13° 27,5' N	164° 00,1' 13° 08,3' N	164° 03,5' 12° 48,9' N
UT	19 Aug	20 Aug	21 Aug	22 Aug	23 Aug	24 Aug	25 Aug	26 Aug	27 Aug	28 Aug
00	179° 03,7' 12° 48,0' N	179° 07,2' 12° 28,4' N	179° 10,8' 12° 08,6' N	179° 14,6' 11° 48,5' N	179° 18,4' 11° 28,3' N	179° 22,4' 11° 07,9' N	179° 26,4' 10° 47,3' N	179° 30,6' 10° 26,6' N	179° 34,9' 10° 05,6' N	179° 39,2' 09° 44,6' N
01	194° 03,8' 12° 47,2' N	194° 07,3' 12° 27,6' N	194° 11,0' 12° 07,7' N	194° 14,7' 11° 47,7' N	194° 18,6' 11° 27,5' N	194° 22,6' 11° 07,1' N	194° 26,6' 10° 46,5' N	194° 30,8' 10° 25,7' N	194° 35,1' 10° 04,7' N	194° 39,4' 09° 43,7' N
02	209° 03,9' 12° 46,4' N	209° 07,5' 12° 26,8' N	209° 11,1' 12° 06,9' N	209° 14,9' 11° 46,9' N	209° 18,7' 11° 26,6' N	209° 22,7' 11° 06,2' N	209° 26,8' 10° 45,6' N	209° 31,0' 10° 24,8' N	209° 35,2' 10° 03,9' N	209° 39,6' 09° 42,8' N
03	224° 04,1' 12° 45,6' N	224° 07,6' 12° 25,9' N	224° 11,3' 12° 06,1' N	224° 15,0' 11° 46,0' N	224° 18,9' 11° 25,8' N	224° 22,9' 11° 05,3' N	224° 27,0' 10° 44,7' N	224° 31,1' 10° 24,0' N	224° 35,4' 10° 03,0' N	224° 39,8' 09° 41,9' N
04	239° 04,2' 12° 44,8' N	239° 07,8' 12° 25,1' N	239° 11,4' 12° 05,2' N	239° 15,2' 11° 45,2' N	239° 19,1' 11° 24,9' N	239° 23,1' 11° 04,5' N	239° 27,1' 10° 43,9' N	239° 31,3' 10° 23,1' N	239° 35,6' 10° 02,1' N	239° 40,0' 09° 41,0' N
05	254° 04,4' 12° 44,0' N	254° 07,9' 12° 24,3' N	254° 11,6' 12° 04,4' N	254° 15,4' 11° 44,3' N	254° 19,2' 11° 24,1' N	254° 23,2' 11° 03,6' N	254° 27,3' 10° 43,0' N	254° 31,5' 10° 22,2' N	254° 35,8' 10° 01,3' N	254° 40,1' 09° 40,2' N
06	269° 04,5' 12° 43,2' N	269° 08,1' 12° 23,5' N	269° 11,7' 12° 03,6' N	269° 15,5' 11° 43,5' N	269° 19,4' 11° 23,2' N	269° 23,4' 11° 02,8' N	269° 27,5' 10° 42,1' N	269° 31,7' 10° 21,4' N	269° 36,0' 10° 00,4' N	269° 40,3' 09° 39,3' N
07	284° 04,7' 12° 42,3' N	284° 08,2' 12° 22,6' N	284° 11,9' 12° 02,7' N	284° 15,7' 11° 42,7' N	284° 19,6' 11° 22,4' N	284° 23,6' 11° 01,9' N	284° 27,7' 10° 41,3' N	284° 31,8' 10° 20,5' N	284° 36,1' 09° 59,5' N	284° 40,5' 09° 38,4' N
08	299° 04,8' 12° 41,5' N	299° 08,4' 12° 21,8' N	299° 12,1' 12° 01,9' N	299° 15,8' 11° 41,8' N	299° 19,7' 11° 21,5' N	299° 23,7' 11° 01,1' N	299° 27,8' 10° 40,4' N	299° 32,0' 10° 19,6' N	299° 36,3' 09° 58,6' N	299° 40,7' 09° 37,5' N
09	314° 05,0' 12° 40,7' N	314° 08,5' 12° 21,0' N	314° 12,2' 12° 01,1' N	314° 16,0' 11° 41,0' N	314° 19,9' 11° 20,7' N	314° 23,9' 11° 00,2' N	314° 28,0' 10° 39,6' N	314° 32,2' 10° 18,7' N	314° 36,5' 09° 57,8' N	314° 40,9' 09° 36,6' N
10	329° 05,1' 12° 39,9' N	329° 08,7' 12° 20,2' N	329° 12,4' 12° 00,2' N	329° 16,2' 11° 40,1' N	329° 20,1' 11° 19,8' N	329° 24,1' 10° 59,3' N	329° 28,2' 10° 38,7' N	329° 32,4' 10° 17,9' N	329° 36,7' 09° 56,9' N	329° 41,1' 09° 35,7' N
11	344° 05,3' 12° 39,1' N	344° 08,8' 12° 19,3' N	344° 12,5' 11° 59,4' N	344° 16,3' 11° 39,3' N	344° 20,2' 11° 19,0' N	344° 24,2' 10° 58,5' N	344° 28,3' 10° 37,8' N	344° 32,6' 10° 17,0' N	344° 36,9' 09° 56,0' N	344° 41,2' 09° 34,9' N
12	359° 05,4' 12° 38,3' N	359° 09,0' 12° 18,5' N	359° 12,7' 11° 58,6' N	359° 16,5' 11° 38,4' N	359° 20,4' 11° 18,1' N	359° 24,4' 10° 57,6' N	359° 28,5' 10° 37,0' N	359° 32,7' 10° 16,1' N	359° 37,0' 09° 55,1' N	359° 41,4' 09° 34,0' N
13	014° 05,5' 12° 37,4' N	014° 09,1' 12° 17,7' N	014° 12,8' 11° 57,7' N	014° 16,6' 11° 37,6' N	014° 20,6' 11° 17,3' N	014° 24,6' 10° 56,8' N	014° 28,7' 10° 36,1' N	014° 32,9' 10° 15,3' N	014° 37,2' 09° 54,2' N	014° 41,6' 09° 33,1' N
14	029° 05,7' 12° 36,6' N	029° 09,3' 12° 16,9' N	029° 13,0' 11° 56,9' N	029° 16,8' 11° 36,8' N	029° 20,7' 11° 16,4' N	029° 24,7' 10° 55,9' N	029° 28,9' 10° 35,2' N	029° 33,1' 10° 14,4' N	029° 37,4' 09° 53,4' N	029° 41,8' 09° 32,2' N
15	044° 05,8' 12° 35,8' N	044° 09,4' 12° 16,0' N	044° 13,1' 11° 56,1' N	044° 17,0' 11° 35,9' N	044° 20,9' 11° 15,6' N	044° 24,9' 10° 55,1' N	044° 29,0' 10° 34,4' N	044° 33,3' 10° 13,5' N	044° 37,6' 09° 52,5' N	044° 42,0' 09° 31,3' N
16	059° 06,0' 12° 35,0' N	059° 09,6' 12° 15,2' N	059° 13,3' 11° 55,2' N	059° 17,1' 11° 35,1' N	059° 21,1' 11° 14,7' N	059° 25,1' 10° 54,2' N	059° 29,2' 10° 33,5' N	059° 33,4' 10° 12,6' N	059° 37,8' 09° 51,6' N	

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 29 Aug to 17 Sep

UT	29 Aug	30 Aug	31 Aug	01 Sep	02 Sep	03 Sep	04 Sep	05 Sep	06 Sep	07 Sep
00	179° 43.7 09° 23.3' N	179° 48.2 09° 01.9' N	179° 52.8 08° 40.4' N	179° 57.5 08° 18.7' N	180° 02.3 07° 56.9' N	180° 07.1 07° 35.0' N	180° 12.0 07° 13.0' N	180° 17.0 06° 50.8' N	180° 22.0 06° 28.5' N	180° 27.1 06° 06.1' N
01	194° 43.9 09° 22.4' N	194° 48.4 09° 01.0' N	194° 53.0 08° 39.5' N	194° 57.7 08° 17.8' N	195° 02.5 07° 56.0' N	195° 07.3 07° 34.1' N	195° 12.2 07° 12.0' N	195° 17.2 06° 49.9' N	195° 22.2 06° 27.6' N	195° 27.3 06° 05.2' N
02	209° 44.0 09° 21.6' N	209° 48.6 09° 00.2' N	209° 53.2 08° 38.6' N	209° 57.9 08° 16.9' N	210° 02.7 07° 55.1' N	210° 07.5 07° 33.2' N	210° 12.4 07° 11.1' N	210° 17.4 06° 48.9' N	210° 22.5 06° 26.6' N	210° 27.6 06° 04.2' N
03	224° 44.2 09° 20.7' N	224° 48.8 08° 59.3' N	224° 53.4 08° 37.7' N	224° 58.1 08° 16.0' N	225° 02.9 07° 54.2' N	225° 07.7 07° 32.3' N	225° 12.6 07° 10.2' N	225° 17.6 06° 48.0' N	225° 22.7 06° 25.7' N	225° 27.8 06° 03.3' N
04	239° 44.4 09° 19.8' N	239° 49.0 08° 58.4' N	239° 53.6 08° 36.8' N	239° 58.3 08° 15.1' N	240° 03.1 07° 53.3' N	240° 07.9 07° 31.3' N	240° 12.8 07° 09.3' N	240° 17.8 06° 47.1' N	240° 22.9 06° 24.8' N	240° 28.0 06° 02.4' N
05	254° 44.6 09° 18.9' N	254° 49.1 08° 57.5' N	254° 53.8 08° 35.9' N	254° 58.5 08° 14.2' N	255° 03.3 07° 52.4' N	255° 08.1 07° 30.4' N	255° 13.0 07° 08.3' N	255° 18.0 06° 46.1' N	255° 23.1 06° 23.8' N	255° 28.2 06° 01.4' N
06	269° 44.8 09° 18.0' N	269° 49.3 08° 56.6' N	269° 54.0 08° 35.0' N	269° 58.7 08° 13.3' N	270° 03.5 07° 51.5' N	270° 08.3 07° 29.5' N	270° 13.2 07° 07.4' N	270° 18.2 06° 45.2' N	270° 23.3 06° 22.9' N	270° 28.4 06° 00.5' N
07	284° 45.0 09° 17.1' N	284° 49.5 08° 55.7' N	284° 54.2 08° 34.1' N	284° 58.9 08° 12.4' N	285° 03.7 07° 50.6' N	285° 08.5 07° 28.6' N	285° 13.5 07° 06.5' N	285° 18.5 06° 44.3' N	285° 23.5 06° 22.0' N	285° 28.6 05° 59.6' N
08	299° 45.2 09° 16.2' N	299° 49.7 08° 54.8' N	299° 54.4 08° 33.2' N	299° 59.1 08° 11.5' N	300° 03.9 07° 49.6' N	300° 08.7 07° 27.7' N	300° 13.7 07° 05.6' N	300° 18.7 06° 43.4' N	300° 23.7 06° 21.1' N	300° 28.8 05° 58.6' N
09	314° 45.4 09° 15.3' N	314° 49.9 08° 53.9' N	314° 54.5 08° 32.3' N	314° 59.3 08° 10.6' N	315° 04.1 07° 48.7' N	315° 08.9 07° 26.7' N	315° 13.9 07° 04.7' N	315° 18.9 06° 42.4' N	315° 23.9 06° 20.1' N	315° 29.1 05° 57.7' N
10	329° 45.5 09° 14.4' N	329° 50.1 08° 53.0' N	329° 54.7 08° 31.4' N	329° 59.5 08° 09.7' N	330° 04.3 07° 47.8' N	330° 09.1 07° 25.8' N	330° 14.1 07° 03.7' N	330° 19.1 06° 41.5' N	330° 24.1 06° 19.2' N	330° 29.3 05° 56.8' N
11	344° 45.7 09° 13.5' N	344° 50.3 08° 52.1' N	344° 54.9 08° 30.5' N	344° 59.7 08° 08.8' N	345° 04.5 07° 46.9' N	345° 09.3 07° 24.9' N	345° 14.3 07° 02.8' N	345° 19.3 06° 40.6' N	345° 24.4 06° 18.3' N	345° 29.5 05° 55.8' N
12	359° 45.9 09° 12.7' N	359° 50.5 08° 51.2' N	359° 55.1 08° 29.6' N	359° 59.9 08° 07.9' N	000° 04.7 07° 46.0' N	000° 09.5 07° 24.0' N	000° 14.5 07° 01.9' N	000° 19.5 06° 39.7' N	000° 24.6 06° 17.3' N	000° 29.7 05° 54.9' N
13	014° 46.1 09° 11.8' N	014° 50.7 08° 50.3' N	014° 55.3 08° 28.7' N	015° 00.1 08° 06.9' N	015° 04.9 07° 45.1' N	015° 09.8 07° 23.1' N	015° 14.7 07° 01.0' N	015° 19.7 06° 38.7' N	015° 24.8 06° 16.4' N	015° 29.9 05° 54.0' N
14	029° 46.3 09° 10.9' N	029° 50.9 08° 49.4' N	029° 55.5 08° 27.8' N	030° 00.3 08° 06.0' N	030° 05.1 07° 44.2' N	030° 10.0 07° 22.2' N	030° 14.9 07° 00.2' N	030° 19.9 06° 37.8' N	030° 25.0 06° 15.5' N	030° 30.1 05° 53.0' N
15	044° 46.5 09° 10.0' N	044° 51.1 08° 48.5' N	044° 55.7 08° 26.9' N	045° 00.5 08° 05.1' N	045° 05.3 07° 43.2' N	045° 10.2 07° 21.2' N	045° 15.1 06° 59.1' N	045° 20.1 06° 36.9' N	045° 25.2 06° 14.5' N	045° 30.3 05° 52.1' N
16	059° 46.7 09° 09.1' N	059° 51.3 08° 47.6' N	059° 55.9 08° 26.0' N	060° 00.7 08° 04.2' N	060° 05.5 07° 42.3' N	060° 10.4 07° 20.3' N	060° 15.3 06° 58.2' N	060° 20.3 06° 35.9' N	060° 25.4 06° 13.6' N	060° 30.6 05° 51.1' N
17	074° 46.9 09° 08.2' N	074° 51.4 08° 46.7' N	074° 56.1 08° 25.1' N	075° 00.9 08° 03.3' N	075° 05.7 07° 41.4' N	075° 10.6 07° 19.4' N	075° 15.5 06° 57.3' N	075° 20.5 06° 35.0' N	075° 25.6 06° 12.7' N	075° 30.8 05° 50.2' N
18	089° 47.1 09° 07.3' N	089° 51.6 08° 45.8' N	089° 56.3 08° 24.2' N	090° 01.1 08° 02.4' N	090° 05.9 07° 40.5' N	090° 10.8 07° 18.5' N	090° 15.7 06° 56.3' N	090° 20.8 06° 34.1' N	090° 25.9 06° 11.7' N	090° 31.0 05° 49.3' N
19	104° 47.2 09° 06.4' N	104° 51.8 08° 44.9' N	104° 56.5 08° 23.3' N	105° 01.3 08° 01.5' N	105° 06.1 07° 39.6' N	105° 11.0 07° 17.6' N	105° 15.9 06° 55.4' N	105° 21.0 06° 33.2' N	105° 26.1 06° 10.8' N	105° 31.2 05° 48.3' N
20	119° 47.4 09° 05.5' N	119° 52.0 08° 44.0' N	119° 56.7 08° 22.4' N	120° 01.5 08° 00.6' N	120° 06.3 07° 38.7' N	120° 11.2 07° 16.6' N	120° 16.2 06° 54.5' N	120° 21.2 06° 32.2' N	120° 26.3 06° 09.9' N	120° 31.4 05° 47.4' N
21	134° 47.6 09° 04.6' N	134° 52.2 08° 43.1' N	134° 56.9 08° 21.5' N	135° 01.7 07° 59.7' N	135° 06.5 07° 37.8' N	135° 11.4 07° 15.7' N	135° 16.4 06° 53.6' N	135° 21.4 06° 31.3' N	135° 26.5 06° 08.9' N	135° 31.6 05° 46.5' N
22	149° 47.8 09° 03.7' N	149° 52.4 08° 42.2' N	149° 57.1 08° 20.6' N	150° 01.9 07° 58.8' N	150° 06.7 07° 36.8' N	150° 11.6 07° 14.8' N	150° 16.6 06° 52.6' N	150° 21.6 06° 30.4' N	150° 26.7 06° 08.0' N	150° 31.9 05° 45.5' N
23	164° 48.0 09° 02.8' N	164° 52.6 08° 41.3' N	164° 57.3 08° 19.6' N	165° 02.1 07° 57.8' N	165° 06.9 07° 35.9' N	165° 11.8 07° 13.9' N	165° 16.8 06° 51.7' N	165° 21.8 06° 29.4' N	165° 26.9 06° 07.1' N	165° 32.1 05° 44.6' N
UT	08 Sep	09 Sep	10 Sep	11 Sep	12 Sep	13 Sep	14 Sep	15 Sep	16 Sep	17 Sep
00	180° 32.3 05° 43.6' N	180° 37.5 05° 21.1' N	180° 42.7 04° 58.4' N	180° 48.0 04° 35.6' N	180° 53.3 04° 12.8' N	180° 58.7 03° 49.9' N	181° 04.0 03° 27.0' N	181° 09.4 03° 03.9' N	181° 14.8 02° 40.8' N	181° 20.2 02° 17.7' N
01	195° 32.5 05° 42.7' N	195° 37.7 05° 20.1' N	195° 42.9 04° 57.4' N	195° 48.2 04° 34.7' N	195° 53.5 04° 11.9' N	195° 58.9 03° 49.0' N	196° 04.2 03° 26.0' N	196° 09.6 03° 03.0' N	196° 15.0 02° 39.9' N	196° 20.4 02° 16.7' N
02	210° 32.7 05° 41.8' N	210° 37.9 05° 19.2' N	210° 43.2 04° 56.5' N	210° 48.4 04° 33.7' N	210° 53.8 04° 10.9' N	210° 59.1 03° 48.0' N	211° 04.5 03° 25.0' N	211° 09.8 03° 02.0' N	211° 15.2 02° 38.9' N	211° 20.6 02° 15.8' N
03	225° 32.9 05° 40.8' N	225° 38.1 05° 18.2' N	225° 43.4 04° 55.6' N	225° 48.7 04° 32.8' N	225° 54.0 04° 10.0' N	225° 59.3 03° 47.1' N	226° 04.7 03° 24.1' N	226° 10.1 03° 01.1' N	226° 15.4 02° 38.0' N	226° 20.8 02° 14.8' N
04	240° 33.1 05° 39.9' N	240° 38.4 05° 17.3' N	240° 43.6 04° 54.6' N	240° 48.9 04° 31.8' N	240° 54.2 04° 09.0' N	240° 59.6 03° 46.1' N	241° 04.9 03° 23.1' N	241° 10.3 03° 00.1' N	241° 15.7 02° 37.0' N	241° 21.1 02° 13.9' N
05	255° 33.4 05° 38.9' N	255° 38.6 05° 16.3' N	255° 43.8 04° 53.7' N	255° 49.1 04° 30.9' N	255° 54.4 04° 08.1' N	255° 59.8 03° 45.1' N	256° 05.1 03° 22.2' N	256° 10.5 02° 59.1' N	256° 15.9 02° 36.0' N	256° 21.3 02° 12.9' N
06	270° 33.6 05° 38.0' N	270° 38.8 05° 15.4' N	270° 44.0 04° 52.7' N	270° 49.3 04° 29.9' N	270° 54.7 04° 07.1' N	271° 00.0 03° 44.2' N	271° 05.4 03° 21.2' N	271° 10.8 02° 58.2' N	271° 16.1 02° 35.1' N	271° 21.5 02° 11.9' N
07	285° 33.8 05° 37.1' N	285° 39.0 05° 14.5' N	285° 44.3 04° 51.8' N	285° 49.6 04° 29.0' N	285° 54.9 04° 06.2' N	286° 00.2 03° 43.2' N	286° 05.6 03° 20.3' N	286° 11.0 02° 57.2' N	286° 16.3 02° 34.1' N	286° 21.7 02° 11.0' N
08	300° 34.0 05° 36.1' N	300° 39.2 05° 13.5' N	300° 44.5 04° 50.8' N	300° 49.8 04° 28.0' N	300° 55.1 04° 05.2' N	301° 00.4 03° 42.3' N	301° 05.8 03° 19.3' N	301° 11.2 02° 56.2' N	301° 16.6 02° 33.1' N	301° 22.0 02° 10.0' N
09	315° 34.2 05° 35.2' N	315° 39.4 05° 12.6' N	315° 44.7 04° 49.9' N	315° 50.0 04° 27.1' N	315° 55.3 04° 04.2' N	316° 00.7 03° 41.3' N	316° 06.0 03° 18.3' N	316° 11.4 02° 55.3' N	316° 16.8 02° 32.2' N	316° 22.2 02° 09.0' N
10	330° 34.4 05° 34.2' N	330° 39.7 05° 11.8' N	330° 44.9 04° 48.9' N	330° 50.2 04° 26.1' N	330° 55.5 04° 03.3' N	331° 00.9 03° 40.4' N	331° 06.3 03° 17.4' N	331° 11.6 02° 54.3' N	331° 17.0 02° 31.2' N	331° 22.4 02° 08.1' N
11	345° 34.7 05° 33.3' N	345° 39.9 05° 10.7' N	345° 45.1 04° 48.0' N	345° 50.4 04° 25.2' N	345° 55.8 04° 02.3' N	346° 01.1 03° 39.4' N	346° 06.5 03° 16.4' N	346° 11.9 02° 53.4' N	346° 17.2 02° 30.3' N	346° 22.6 02° 07.1' N
12	000° 34.9 05° 32.4' N	000° 40.1 05° 09.7' N	000° 45.4 04° 47.0' N	000° 50.7 04° 24.2' N	000° 56.0 04° 01.4' N	001° 01.3 03° 38.5' N	001° 06.7 03° 15.5' N	001° 12.1 02° 52.4' N	001° 17.5 02° 29.3' N	001° 22.8 02° 06.1' N
13	015° 35.1 05° 31.4' N	015° 40.3 05° 08.8' N	015° 45.6 04° 46.1' N	015° 50.9 04° 23.3' N	015° 56.2 04° 00.4' N	016° 01.6 03° 37.5' N	016° 06.9 03° 14.5' N	016° 12.3 02° 51.4' N	016° 17.7 02° 28.3' N	016° 23.1 02° 05.2' N
14	030° 35.3 05° 30.5' N	030° 40.5 05° 07.8' N	030° 45.8 04° 45.1' N	030° 51.1 04° 22.3' N	030° 56.4 03° 59.5' N	031° 01.8 03° 36.5' N	031° 07.2 03° 13.5' N	031° 12.5 02° 50.5' N	031° 17.9 02° 27.4' N	031° 23.3 02° 04.2' N
15	045° 35.5 05° 29.5' N	045° 40.8 05° 06.9' N	045° 46.0 04° 44.2' N	045° 51.3 04° 21.4' N	045° 56.7 03° 58.5' N	046° 02.0 03° 35.6' N	046° 07.4 03° 12.6' N	046° 12.8 02° 49.5' N	046° 18.1 02° 26.4' N	046° 23.5 02° 03.2' N
16	060° 35.7 05° 28.6' N	060° 41.0 05° 06.0' N	060° 46.2 04° 43.2' N	060° 51.5 04° 20.4' N	060° 56.9 03° 57.6' N	061° 02.2 03° 34.6' N	061° 07.6 03° 11.6' N	061° 13.0 02° 48.5' N	061° 18.4 02° 25.4' N	061° 23.7 02° 02.3' N
17	075° 36.0 05° 27.7' N	075° 41.2 05° 05.0' N	075° 46.5 04° 42.3' N	075° 51.8 04° 19.5' N	075° 57.1 03° 56.6' N	076° 02.5 03° 33.7' N	076° 07.8 03° 10.7' N	076° 13.2 02° 47.6' N	076° 18.6 02° 24.5' N	076° 24.0 02° 01.3' N
18	090° 36.2 05° 26.7' N	090° 41.4 05° 04.1' N	090° 46.7 04° 41.3' N	0						

## Solar Almanac 2038 — Sun GHA & Decl (UT) — 18 Sep to 07 Oct

UT	18 Sep	19 Sep	20 Sep	21 Sep	22 Sep	23 Sep	24 Sep	25 Sep	26 Sep	27 Sep
00	181° 25.5' 01° 54.5' N	181° 30.9' 01° 31.3' N	181° 36.3' 01° 08.0' N	181° 41.6' 00° 44.7' N	181° 46.9' 00° 21.4' N	181° 52.2' 00° 01.9' S	181° 57.5' 00° 25.3' S	182° 02.7' 00° 48.6' S	182° 07.9' 01° 12.0' S	182° 13.0' 01° 35.3' S
01	196° 25.8' 01° 53.6' N	196° 31.1' 01° 30.3' N	196° 36.5' 01° 07.1' N	196° 41.8' 00° 43.8' N	196° 47.2' 00° 20.5' N	196° 52.4' 00° 02.9' S	196° 57.7' 00° 26.2' S	197° 02.9' 00° 49.6' S	197° 08.1' 01° 13.0' S	197° 13.2' 01° 36.3' S
02	211° 26.0' 01° 52.6' N	211° 31.4' 01° 29.4' N	211° 36.7' 01° 06.1' N	211° 42.1' 00° 42.8' N	211° 47.4' 00° 19.5' N	211° 52.7' 00° 03.9' S	211° 57.9' 00° 27.2' S	212° 03.1' 00° 50.6' S	212° 08.3' 01° 13.9' S	212° 13.4' 01° 37.3' S
03	226° 26.2' 01° 51.6' N	226° 31.6' 01° 28.4' N	226° 36.9' 01° 05.1' N	226° 42.3' 00° 41.8' N	226° 47.6' 00° 18.5' N	226° 52.9' 00° 04.8' S	226° 58.1' 00° 28.2' S	227° 03.3' 00° 51.5' S	227° 08.5' 01° 14.9' S	227° 13.6' 01° 38.3' S
04	241° 26.4' 01° 50.7' N	241° 31.8' 01° 27.4' N	241° 37.2' 01° 04.2' N	241° 42.5' 00° 40.9' N	241° 47.8' 00° 17.5' N	241° 53.1' 00° 05.8' S	241° 58.3' 00° 29.2' S	242° 03.6' 00° 52.5' S	242° 08.7' 01° 15.9' S	242° 13.8' 01° 39.2' S
05	256° 26.7' 01° 49.7' N	256° 32.0' 01° 26.5' N	256° 37.4' 01° 03.2' N	256° 42.7' 00° 39.9' N	256° 48.0' 00° 16.6' N	256° 53.3' 00° 06.8' S	256° 58.6' 00° 30.1' S	257° 03.8' 00° 53.5' S	257° 08.9' 01° 16.9' S	257° 14.0' 01° 40.2' S
06	271° 26.9' 01° 48.7' N	271° 32.3' 01° 25.5' N	271° 37.6' 01° 02.2' N	271° 42.9' 00° 38.9' N	271° 48.3' 00° 15.6' N	271° 53.5' 00° 07.7' S	271° 58.8' 00° 31.1' S	272° 04.0' 00° 54.5' S	272° 09.1' 01° 17.8' S	272° 14.3' 01° 41.2' S
07	286° 27.1' 01° 47.8' N	286° 32.5' 01° 24.5' N	286° 37.8' 01° 01.3' N	286° 43.2' 00° 38.0' N	286° 48.5' 00° 14.6' N	286° 53.8' 00° 08.7' S	286° 59.0' 00° 32.1' S	287° 04.2' 00° 55.4' S	287° 09.4' 01° 18.8' S	287° 14.5' 01° 42.2' S
08	301° 27.3' 01° 46.8' N	301° 32.7' 01° 23.6' N	301° 38.1' 01° 00.3' N	301° 43.4' 00° 37.0' N	301° 48.7' 00° 13.7' N	301° 54.0' 00° 09.7' S	301° 59.2' 00° 33.0' S	302° 04.4' 00° 56.4' S	302° 09.6' 01° 19.8' S	302° 14.7' 01° 43.1' S
09	316° 27.6' 01° 45.8' N	316° 32.9' 01° 22.6' N	316° 38.3' 00° 59.3' N	316° 43.6' 00° 36.0' N	316° 48.9' 00° 12.7' N	316° 54.2' 00° 10.7' S	316° 59.4' 00° 34.0' S	317° 04.6' 00° 57.4' S	317° 09.8' 01° 20.7' S	317° 14.9' 01° 44.1' S
10	331° 27.8' 01° 44.9' N	331° 33.1' 01° 21.6' N	331° 38.5' 00° 58.3' N	331° 43.8' 00° 35.0' N	331° 49.1' 00° 11.7' N	331° 54.4' 00° 11.6' S	331° 59.7' 00° 35.0' S	332° 04.9' 00° 58.4' S	332° 10.0' 01° 21.7' S	332° 15.1' 01° 45.1' S
11	346° 28.0' 01° 43.9' N	346° 33.4' 01° 20.6' N	346° 38.7' 00° 57.4' N	346° 44.1' 00° 34.1' N	346° 49.4' 00° 10.7' N	346° 54.6' 00° 12.6' S	346° 59.9' 00° 36.0' S	347° 05.1' 00° 59.3' S	347° 10.2' 01° 22.7' S	347° 15.3' 01° 46.1' S
12	001° 28.2' 01° 42.9' N	001° 33.6' 01° 19.7' N	001° 38.9' 00° 56.4' N	001° 44.3' 00° 33.1' N	001° 49.6' 00° 09.8' N	001° 54.9' 00° 13.6' S	002° 00.1' 00° 36.9' S	002° 05.3' 01° 00.3' S	002° 10.4' 01° 23.7' S	002° 15.5' 01° 47.0' S
13	016° 28.5' 01° 42.0' N	016° 33.8' 01° 18.7' N	016° 39.2' 00° 55.4' N	016° 44.5' 00° 32.1' N	016° 49.8' 00° 08.8' N	016° 55.1' 00° 14.6' S	017° 00.3' 00° 37.9' S	017° 05.5' 01° 01.3' S	017° 10.6' 01° 24.6' S	017° 15.7' 01° 48.0' S
14	031° 28.7' 01° 41.0' N	031° 34.0' 01° 17.7' N	031° 39.4' 00° 54.5' N	031° 44.7' 00° 31.1' N	031° 50.0' 00° 07.8' N	031° 55.3' 00° 15.5' S	032° 00.5' 00° 38.9' S	032° 05.7' 01° 02.3' S	032° 10.9' 01° 25.6' S	032° 15.9' 01° 49.0' S
15	046° 28.9' 01° 40.0' N	046° 34.3' 01° 16.8' N	046° 39.6' 00° 53.5' N	046° 44.9' 00° 30.2' N	046° 50.2' 00° 06.8' N	046° 55.5' 00° 16.5' S	047° 00.7' 00° 39.9' S	047° 05.9' 01° 03.2' S	047° 11.1' 01° 26.6' S	047° 16.2' 01° 49.9' S
16	061° 29.1' 01° 39.0' N	061° 34.5' 01° 15.8' N	061° 39.8' 00° 52.5' N	061° 45.2' 00° 29.2' N	061° 50.5' 00° 05.9' N	061° 55.7' 00° 17.5' S	062° 01.0' 00° 40.8' S	062° 06.1' 01° 04.2' S	062° 11.3' 01° 27.6' S	062° 16.4' 01° 50.9' S
17	076° 29.3' 01° 38.1' N	076° 34.7' 01° 14.8' N	076° 40.1' 00° 51.5' N	076° 45.4' 00° 28.2' N	076° 50.7' 00° 04.9' N	076° 55.9' 00° 18.4' S	077° 01.2' 00° 41.8' S	077° 06.4' 01° 05.2' S	077° 11.5' 01° 28.5' S	077° 16.6' 01° 51.9' S
18	091° 29.6' 01° 37.1' N	091° 34.9' 01° 13.9' N	091° 40.3' 00° 50.6' N	091° 45.6' 00° 27.3' N	091° 50.9' 00° 03.9' N	091° 56.2' 00° 19.4' S	092° 01.4' 00° 42.8' S	092° 06.6' 01° 06.1' S	092° 11.7' 01° 29.5' S	092° 16.8' 01° 52.9' S
19	106° 29.8' 01° 36.1' N	106° 35.2' 01° 12.9' N	106° 40.5' 00° 49.6' N	106° 45.8' 00° 26.3' N	106° 51.1' 00° 03.0' N	106° 56.4' 00° 20.4' S	107° 01.6' 00° 43.8' S	107° 06.8' 01° 07.1' S	107° 11.9' 01° 30.5' S	107° 17.0' 01° 53.8' S
20	121° 30.0' 01° 35.2' N	121° 35.4' 01° 11.9' N	121° 40.7' 00° 48.6' N	121° 46.0' 00° 25.3' N	121° 51.3' 00° 02.0' N	121° 56.6' 00° 21.4' S	122° 01.8' 00° 44.7' S	122° 07.0' 01° 08.1' S	122° 12.1' 01° 31.5' S	122° 17.2' 01° 54.8' S
21	136° 30.2' 01° 34.2' N	136° 35.6' 01° 11.0' N	136° 41.0' 00° 47.7' N	136° 46.3' 00° 24.3' N	136° 51.6' 00° 01.0' N	136° 56.8' 00° 22.3' S	137° 02.0' 00° 45.7' S	137° 07.2' 01° 09.2' S	137° 12.3' 01° 32.4' S	137° 17.4' 01° 55.8' S
22	151° 30.5' 01° 33.2' N	151° 35.8' 01° 10.0' N	151° 41.2' 00° 46.7' N	151° 46.5' 00° 23.4' N	151° 51.8' 00° 00.0' N	151° 57.0' 00° 23.3' S	152° 02.3' 00° 46.7' S	152° 07.4' 01° 10.0' S	152° 12.6' 01° 33.4' S	152° 17.6' 01° 56.8' S
23	166° 30.7' 01° 32.3' N	166° 36.1' 01° 09.0' N	166° 41.4' 00° 45.7' N	166° 46.7' 00° 22.4' N	166° 52.0' 00° 00.9' S	166° 57.3' 00° 24.3' S	167° 02.5' 00° 47.6' S	167° 07.7' 01° 11.0' S	167° 12.8' 01° 34.4' S	167° 17.8' 01° 57.7' S
UT	28 Sep	29 Sep	30 Sep	01 Oct	02 Oct	03 Oct	04 Oct	05 Oct	06 Oct	07 Oct
00	182° 18.1' 01° 58.7' S	182° 23.1' 02° 22.0' S	182° 28.0' 03° 45.3' S	182° 32.9' 03° 08.6' S	182° 37.7' 03° 31.9' S	182° 42.5' 03° 55.1' S	182° 47.1' 04° 18.3' S	182° 51.7' 04° 41.4' S	182° 56.2' 05° 04.4' S	183° 00.6' 05° 27.4' S
01	197° 18.3' 01° 59.7' S	197° 23.3' 02° 23.0' S	197° 28.2' 03° 46.3' S	197° 33.1' 03° 09.6' S	197° 37.9' 03° 32.9' S	197° 42.7' 03° 56.1' S	197° 47.3' 04° 19.2' S	197° 51.9' 04° 42.3' S	197° 56.4' 05° 05.4' S	198° 00.8' 05° 28.4' S
02	212° 18.5' 02° 00.6' S	212° 23.5' 02° 24.0' S	212° 28.4' 03° 47.3' S	212° 33.3' 03° 10.6' S	212° 38.1' 03° 33.8' S	212° 42.9' 03° 57.0' S	212° 47.5' 04° 20.2' S	212° 52.1' 04° 43.3' S	212° 56.6' 05° 06.3' S	213° 01.0' 05° 29.3' S
03	227° 18.7' 02° 01.6' S	227° 23.7' 02° 24.9' S	227° 28.6' 03° 48.3' S	227° 33.5' 03° 11.5' S	227° 38.3' 03° 34.8' S	227° 43.1' 03° 58.0' S	227° 47.7' 04° 21.2' S	227° 52.3' 04° 44.3' S	227° 56.8' 05° 07.3' S	228° 01.2' 05° 30.3' S
04	242° 18.9' 02° 02.6' S	242° 23.9' 02° 25.9' S	242° 28.8' 03° 49.2' S	242° 33.7' 03° 12.5' S	242° 38.5' 03° 35.8' S	242° 43.3' 03° 59.0' S	242° 47.9' 04° 22.1' S	242° 52.5' 04° 45.2' S	242° 57.0' 05° 08.3' S	243° 01.4' 05° 31.2' S
05	257° 19.1' 02° 03.6' S	257° 24.1' 02° 26.9' S	257° 29.0' 03° 50.2' S	257° 33.9' 03° 13.5' S	257° 38.7' 03° 36.7' S	257° 43.4' 03° 59.9' S	257° 48.1' 04° 23.1' S	257° 52.7' 04° 46.2' S	257° 57.2' 05° 09.2' S	258° 01.5' 05° 32.2' S
06	272° 19.3' 02° 04.5' S	272° 24.3' 02° 27.9' S	272° 29.2' 03° 51.2' S	272° 34.1' 03° 14.5' S	272° 38.9' 03° 37.7' S	272° 43.6' 04° 00.9' S	272° 48.3' 04° 24.0' S	272° 52.9' 04° 47.1' S	272° 57.3' 05° 10.2' S	273° 01.7' 05° 33.2' S
07	287° 19.5' 02° 05.5' S	287° 24.5' 02° 28.8' S	287° 29.4' 03° 52.1' S	287° 34.3' 03° 15.4' S	287° 39.1' 03° 38.7' S	287° 43.8' 04° 01.9' S	287° 48.5' 04° 25.0' S	287° 53.0' 04° 48.1' S	287° 57.5' 05° 11.1' S	288° 01.9' 05° 34.1' S
08	302° 19.7' 02° 06.5' S	302° 24.7' 02° 29.8' S	302° 29.7' 03° 53.1' S	302° 34.5' 03° 16.4' S	302° 39.3' 03° 39.6' S	302° 44.0' 04° 02.8' S	302° 48.7' 04° 26.0' S	302° 53.2' 04° 49.1' S	302° 57.7' 05° 12.1' S	303° 02.1' 05° 35.1' S
09	317° 19.9' 02° 07.5' S	317° 24.9' 02° 30.8' S	317° 29.9' 03° 54.1' S	317° 34.7' 03° 17.4' S	317° 39.5' 03° 40.6' S	317° 44.2' 04° 03.8' S	317° 48.9' 04° 26.9' S	317° 53.4' 04° 50.0' S	317° 57.9' 05° 13.1' S	318° 02.3' 05° 36.0' S
10	332° 20.1' 02° 08.4' S	332° 25.1' 02° 31.8' S	332° 30.1' 03° 55.1' S	332° 34.9' 03° 18.3' S	332° 39.7' 03° 41.6' S	332° 44.4' 04° 04.8' S	332° 49.1' 04° 27.9' S	332° 53.6' 04° 51.0' S	332° 58.1' 05° 14.0' S	333° 02.4' 05° 37.0' S
11	347° 20.4' 02° 09.4' S	347° 25.3' 02° 32.7' S	347° 30.3' 03° 56.0' S	347° 35.1' 03° 19.3' S	347° 39.9' 03° 42.5' S	347° 44.6' 04° 05.7' S	347° 49.3' 04° 28.9' S	347° 53.9' 04° 52.0' S	347° 58.3' 05° 15.0' S	348° 02.6' 05° 37.9' S
12	002° 20.6' 02° 10.4' S	002° 25.5' 02° 33.7' S	002° 30.5' 03° 57.0' S	002° 35.3' 03° 20.3' S	002° 40.1' 03° 43.5' S	002° 44.8' 04° 06.7' S	002° 49.4' 04° 29.8' S	002° 54.0' 04° 52.9' S	002° 58.4' 05° 15.9' S	003° 02.8' 05° 38.9' S
13	017° 20.8' 02° 11.3' S	017° 25.8' 02° 34.7' S	017° 30.7' 03° 58.0' S	017° 35.5' 03° 21.2' S	017° 40.3' 03° 44.5' S	017° 45.0' 04° 07.7' S	017° 49.6' 04° 30.8' S	017° 54.2' 04° 53.9' S	017° 58.6' 05° 16.9' S	018° 03.0' 05° 39.8' S
14	032° 21.0' 02° 12.3' S	032° 26.0' 02° 35.8' S	032° 30.9' 03° 58.9' S	032° 35.7' 03° 22.2' S	032° 40.5' 03° 45.4' S	032° 45.2' 04° 08.6' S	032° 49.8' 04° 31.8' S	032° 54.4' 04° 54.8' S	032° 58.8' 05° 17.8' S	033° 03.2' 05° 40.8' S
15	047° 21.2' 02° 13.3' S	047° 26.2' 02° 36.6' S	047° 31.1' 03° 59.9' S	047° 35.9' 03° 23.2' S	047° 40.7' 03° 46.4' S	047° 45.4' 04° 09.6' S	047° 50.0' 04° 32.7' S	047° 54.5' 04° 55.8' S	047° 59.0' 05° 18.8' S	048° 03.3' 05° 41.7' S
16	062° 21.4' 02° 14.3' S	062° 26.4' 02° 37.6' S	062° 31.3' 03° 00.9' S	062° 36.1' 03° 24.1' S	062° 40.9' 03° 47.4' S	062° 45.6' 04° 10.5' S	062° 50.2' 04° 33.7' S	062° 54.7' 04° 56.8' S	062° 59.2' 05° 19.8' S	

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 08 Oct to 27 Oct

UT	08 Oct	09 Oct	10 Oct	11 Oct	12 Oct	13 Oct	14 Oct	15 Oct	16 Oct	17 Oct
00	183° 04,9' 05° 50,3' S	183° 09,2' 06° 13,2' S	183° 13,3' 06° 35,9' S	183° 17,2' 06° 58,6' S	183° 21,1' 07° 21,2' S	183° 24,9' 07° 43,6' S	183° 28,5' 08° 06,0' S	183° 32,0' 08° 28,2' S	183° 35,3' 08° 50,4' S	183° 38,5' 09° 12,4' S
01	198° 05,1' 05° 51,3' S	198° 09,3' 06° 14,1' S	198° 13,4' 06° 36,9' S	198° 17,4' 06° 59,5' S	198° 21,3' 07° 22,1' S	198° 25,0' 07° 44,6' S	198° 28,6' 08° 06,9' S	198° 32,1' 08° 29,2' S	198° 35,4' 08° 51,3' S	198° 38,6' 09° 13,3' S
02	213° 05,3' 05° 52,2' S	213° 09,5' 06° 15,1' S	213° 13,6' 06° 37,8' S	213° 17,6' 07° 00,5' S	213° 21,4' 07° 23,0' S	213° 25,2' 07° 45,5' S	213° 28,8' 08° 07,8' S	213° 32,2' 08° 30,1' S	213° 35,6' 08° 52,2' S	213° 38,7' 09° 14,2' S
03	228° 05,5' 05° 53,2' S	228° 09,7' 06° 16,0' S	228° 13,8' 06° 38,8' S	228° 17,7' 07° 01,4' S	228° 21,6' 07° 24,0' S	228° 25,3' 07° 46,4' S	228° 28,9' 08° 08,8' S	228° 32,4' 08° 31,0' S	228° 35,7' 08° 53,1' S	228° 38,9' 09° 15,1' S
04	243° 05,7' 05° 54,1' S	243° 09,8' 06° 17,0' S	243° 13,9' 06° 39,7' S	243° 17,9' 07° 02,4' S	243° 21,7' 07° 24,9' S	243° 25,5' 07° 47,4' S	243° 29,1' 08° 09,7' S	243° 32,5' 08° 31,9' S	243° 35,8' 08° 54,0' S	243° 39,0' 09° 16,0' S
05	258° 05,8' 05° 55,1' S	258° 10,0' 06° 17,9' S	258° 14,1' 06° 40,7' S	258° 18,1' 07° 03,3' S	258° 21,9' 07° 25,8' S	258° 25,6' 07° 48,3' S	258° 29,2' 08° 10,6' S	258° 32,7' 08° 32,9' S	258° 36,0' 08° 55,0' S	258° 39,1' 09° 16,9' S
06	273° 06,0' 05° 56,0' S	273° 10,2' 06° 18,9' S	273° 14,3' 06° 41,6' S	273° 18,2' 07° 04,2' S	273° 22,1' 07° 26,8' S	273° 25,8' 07° 49,2' S	273° 29,4' 08° 11,6' S	273° 32,8' 08° 33,8' S	273° 36,1' 08° 55,9' S	273° 39,3' 09° 17,9' S
07	288° 06,2' 05° 57,0' S	288° 10,4' 06° 19,8' S	288° 14,4' 06° 42,5' S	288° 18,4' 07° 05,2' S	288° 22,2' 07° 27,7' S	288° 25,9' 07° 50,2' S	288° 29,5' 08° 12,5' S	288° 32,9' 08° 34,7' S	288° 36,2' 08° 56,8' S	288° 39,4' 09° 18,8' S
08	303° 06,4' 05° 58,0' S	303° 10,5' 06° 20,8' S	303° 14,6' 06° 43,5' S	303° 18,6' 07° 06,1' S	303° 22,4' 07° 28,7' S	303° 26,1' 07° 51,1' S	303° 29,7' 08° 13,4' S	303° 33,1' 08° 35,6' S	303° 36,4' 08° 57,7' S	303° 39,5' 09° 19,7' S
09	318° 06,5' 05° 58,9' S	318° 10,7' 06° 21,7' S	318° 14,8' 06° 44,4' S	318° 18,7' 07° 07,1' S	318° 22,5' 07° 29,6' S	318° 26,2' 07° 52,0' S	318° 29,8' 08° 14,3' S	318° 33,2' 08° 36,5' S	318° 36,6' 08° 58,6' S	318° 39,6' 09° 20,6' S
10	333° 06,7' 05° 59,9' S	333° 10,9' 06° 22,7' S	333° 14,9' 06° 45,4' S	333° 18,9' 07° 08,0' S	333° 22,7' 07° 30,5' S	333° 26,4' 07° 53,0' S	333° 29,9' 08° 15,3' S	333° 33,4' 08° 37,5' S	333° 36,6' 08° 59,6' S	333° 39,8' 09° 21,5' S
11	348° 06,9' 06° 00,8' S	348° 11,1' 06° 23,6' S	348° 15,1' 06° 46,3' S	348° 19,0' 07° 08,9' S	348° 22,8' 07° 31,5' S	348° 26,5' 07° 53,9' S	348° 30,1' 08° 16,2' S	348° 33,5' 08° 38,4' S	348° 36,8' 08° 60,5' S	348° 39,9' 09° 22,4' S
12	003° 07,1' 06° 01,8' S	003° 11,2' 06° 24,6' S	003° 15,3' 06° 47,3' S	003° 19,2' 07° 09,9' S	003° 23,0' 07° 32,4' S	003° 26,7' 07° 54,8' S	003° 30,2' 08° 17,1' S	003° 33,6' 08° 39,3' S	003° 36,9' 09° 01,4' S	003° 40,0' 09° 23,3' S
13	018° 07,2' 06° 02,7' S	018° 11,4' 06° 25,5' S	018° 15,4' 06° 48,2' S	018° 19,4' 07° 10,8' S	018° 23,2' 07° 33,3' S	018° 26,8' 07° 55,8' S	018° 30,4' 08° 18,1' S	018° 33,8' 08° 40,2' S	018° 37,0' 08° 62,3' S	018° 40,2' 09° 24,2' S
14	033° 07,4' 06° 03,7' S	033° 11,6' 06° 26,5' S	033° 15,6' 06° 49,2' S	033° 19,5' 07° 11,8' S	033° 23,3' 07° 34,3' S	033° 27,0' 07° 56,7' S	033° 30,5' 08° 19,0' S	033° 33,9' 08° 41,2' S	033° 37,2' 09° 03,3' S	033° 40,3' 09° 25,1' S
15	048° 07,6' 06° 04,6' S	048° 11,7' 06° 27,4' S	048° 15,8' 06° 50,1' S	048° 19,7' 07° 12,7' S	048° 23,5' 07° 35,2' S	048° 27,1' 07° 57,6' S	048° 30,7' 08° 19,9' S	048° 34,1' 08° 42,1' S	048° 37,3' 09° 04,1' S	048° 40,4' 09° 26,1' S
16	063° 07,8' 06° 05,6' S	063° 11,9' 06° 28,3' S	063° 15,9' 06° 51,0' S	063° 19,8' 07° 13,6' S	063° 23,6' 07° 36,1' S	063° 27,3' 07° 58,5' S	063° 30,8' 08° 20,8' S	063° 34,2' 08° 43,0' S	063° 37,4' 09° 05,1' S	063° 40,5' 09° 27,0' S
17	078° 07,9' 06° 06,5' S	078° 12,1' 06° 29,3' S	078° 16,1' 06° 52,0' S	078° 20,0' 07° 14,6' S	078° 23,8' 07° 37,1' S	078° 27,4' 07° 59,5' S	078° 31,0' 08° 21,8' S	078° 34,3' 08° 43,9' S	078° 37,6' 09° 06,0' S	078° 40,7' 09° 27,9' S
18	093° 08,1' 06° 07,5' S	093° 12,2' 06° 30,2' S	093° 16,3' 06° 52,9' S	093° 20,2' 07° 15,5' S	093° 23,9' 07° 38,0' S	093° 27,6' 08° 00,4' S	093° 31,1' 08° 22,7' S	093° 34,5' 08° 44,8' S	093° 37,7' 09° 06,9' S	093° 40,8' 09° 28,8' S
19	108° 08,3' 06° 08,4' S	108° 12,4' 06° 31,2' S	108° 16,4' 06° 53,9' S	108° 20,3' 07° 16,5' S	108° 24,1' 07° 39,0' S	108° 27,7' 08° 01,3' S	108° 31,2' 08° 23,6' S	108° 34,6' 08° 45,8' S	108° 37,8' 09° 07,8' S	108° 40,9' 09° 29,7' S
20	123° 08,5' 06° 09,4' S	123° 12,6' 06° 32,1' S	123° 16,6' 06° 54,8' S	123° 20,5' 07° 17,4' S	123° 24,2' 07° 39,9' S	123° 27,9' 08° 02,3' S	123° 31,4' 08° 24,5' S	123° 34,7' 08° 46,7' S	123° 38,0' 09° 08,7' S	123° 41,0' 09° 30,6' S
21	138° 08,6' 06° 10,3' S	138° 12,8' 06° 33,1' S	138° 16,8' 06° 55,8' S	138° 20,6' 07° 18,3' S	138° 24,4' 07° 40,8' S	138° 28,0' 08° 03,2' S	138° 31,5' 08° 25,5' S	138° 34,9' 08° 47,6' S	138° 38,1' 09° 09,6' S	138° 41,2' 09° 31,5' S
22	153° 08,8' 06° 11,3' S	153° 12,9' 06° 34,0' S	153° 16,9' 06° 56,7' S	153° 20,8' 07° 19,3' S	153° 24,6' 07° 41,8' S	153° 28,2' 08° 04,1' S	153° 31,7' 08° 26,4' S	153° 35,0' 08° 48,5' S	153° 38,2' 09° 10,5' S	153° 41,3' 09° 32,4' S
23	168° 09,0' 06° 12,2' S	168° 13,1' 06° 35,0' S	168° 17,1' 06° 57,6' S	168° 21,0' 07° 20,2' S	168° 24,7' 07° 42,7' S	168° 28,3' 08° 05,1' S	168° 31,8' 08° 27,3' S	168° 35,2' 08° 49,4' S	168° 38,4' 09° 11,5' S	168° 41,4' 09° 33,3' S
UT	18 Oct	19 Oct	20 Oct	21 Oct	22 Oct	23 Oct	24 Oct	25 Oct	26 Oct	27 Oct
00	183° 41,5' 09° 34,2' S	183° 44,4' 09° 56,0' S	183° 47,1' 10° 17,6' S	183° 49,7' 10° 39,0' S	183° 52,1' 11° 00,3' S	183° 54,3' 11° 21,4' S	183° 56,4' 11° 42,4' S	183° 58,2' 12° 03,2' S	183° 59,9' 12° 23,8' S	184° 01,4' 12° 44,2' S
01	198° 41,7' 09° 35,2' S	198° 44,5' 09° 56,9' S	198° 47,3' 10° 18,5' S	198° 49,8' 10° 39,9' S	198° 52,2' 11° 01,2' S	198° 54,4' 11° 22,3' S	198° 56,5' 11° 43,3' S	198° 58,3' 12° 04,0' S	199° 00,0' 12° 24,5' S	199° 01,5' 12° 45,0' S
02	213° 41,8' 09° 36,1' S	213° 44,7' 09° 57,8' S	213° 47,4' 10° 19,4' S	213° 49,9' 10° 40,8' S	213° 52,3' 11° 02,1' S	213° 54,5' 11° 23,2' S	213° 56,5' 11° 44,1' S	213° 58,4' 12° 04,9' S	214° 00,1' 12° 25,5' S	214° 01,5' 12° 45,9' S
03	228° 41,9' 09° 37,0' S	228° 44,8' 09° 58,7' S	228° 47,5' 10° 20,3' S	228° 50,0' 10° 41,7' S	228° 52,4' 11° 03,0' S	228° 54,6' 11° 24,1' S	228° 56,6' 11° 45,0' S	228° 58,5' 12° 05,8' S	229° 00,1' 12° 26,3' S	229° 01,6' 12° 46,7' S
04	243° 42,0' 09° 37,9' S	243° 44,9' 09° 59,6' S	243° 47,6' 10° 21,2' S	243° 50,1' 10° 42,6' S	243° 52,5' 11° 03,9' S	243° 54,7' 11° 25,0' S	243° 56,7' 11° 45,9' S	243° 58,5' 12° 06,6' S	244° 00,2' 12° 27,2' S	244° 01,7' 12° 47,6' S
05	258° 42,1' 09° 38,8' S	258° 45,0' 10° 00,5' S	258° 47,7' 10° 22,1' S	258° 50,2' 10° 43,5' S	258° 52,6' 11° 04,7' S	258° 54,8' 11° 25,8' S	258° 56,8' 11° 46,7' S	258° 58,6' 12° 07,5' S	259° 00,3' 12° 28,1' S	259° 01,7' 12° 48,4' S
06	273° 42,3' 09° 39,7' S	273° 45,1' 10° 01,4' S	273° 47,8' 10° 23,0' S	273° 50,3' 10° 44,4' S	273° 52,7' 11° 05,6' S	273° 54,9' 11° 26,7' S	273° 56,9' 11° 47,6' S	274° 58,7' 12° 08,4' S	274° 00,3' 12° 28,9' S	274° 01,8' 12° 49,3' S
07	288° 42,4' 09° 40,6' S	288° 45,2' 10° 02,3' S	288° 47,9' 10° 23,9' S	288° 50,4' 10° 45,3' S	288° 52,8' 11° 06,5' S	288° 54,9' 11° 27,6' S	288° 56,9' 11° 48,5' S	288° 58,8' 12° 09,2' S	289° 00,4' 12° 30,0' S	289° 01,8' 12° 50,1' S
08	303° 42,5' 09° 41,5' S	303° 45,3' 10° 03,2' S	303° 48,0' 10° 24,7' S	303° 50,5' 10° 46,1' S	303° 52,9' 11° 07,4' S	303° 55,0' 11° 28,5' S	303° 57,0' 11° 49,4' S	303° 58,8' 12° 10,1' S	304° 00,5' 12° 30,6' S	304° 01,9' 12° 51,0' S
09	318° 42,6' 09° 42,4' S	318° 45,5' 10° 04,1' S	318° 48,1' 10° 25,6' S	318° 50,6' 10° 47,0' S	318° 53,0' 11° 08,3' S	318° 55,1' 11° 29,3' S	318° 57,1' 11° 50,2' S	318° 58,9' 12° 10,9' S	319° 00,5' 12° 31,5' S	319° 01,9' 12° 51,8' S
10	333° 42,8' 09° 43,3' S	333° 45,6' 10° 05,0' S	333° 48,2' 10° 26,5' S	333° 50,7' 10° 47,9' S	333° 53,1' 11° 09,1' S	333° 55,2' 11° 30,2' S	333° 57,2' 11° 51,1' S	333° 59,0' 12° 11,8' S	334° 00,6' 12° 32,3' S	334° 02,0' 12° 52,6' S
11	348° 42,9' 09° 44,2' S	348° 45,7' 10° 05,9' S	348° 48,3' 10° 27,4' S	348° 50,8' 10° 48,8' S	348° 53,1' 11° 10,0' S	348° 55,3' 11° 31,1' S	348° 57,3' 11° 52,0' S	348° 59,0' 12° 12,7' S	349° 00,6' 12° 33,2' S	349° 02,1' 12° 53,5' S
12	003° 43,0' 09° 45,1' S	003° 45,8' 10° 06,8' S	003° 48,4' 10° 28,3' S	003° 50,9' 10° 49,7' S	003° 53,2' 11° 10,9' S	003° 55,4' 11° 31,9' S	003° 57,3' 11° 52,8' S	003° 59,1' 12° 13,5' S	004° 00,7' 12° 34,0' S	004° 02,1' 12° 54,3' S
13	018° 43,1' 09° 46,0' S	018° 45,9' 10° 07,7' S	018° 48,6' 10° 29,2' S	018° 51,0' 10° 50,6' S	018° 53,3' 11° 11,8' S	018° 55,5' 11° 32,8' S	018° 57,4' 11° 53,7' S	018° 59,2' 12° 14,4' S	019° 00,8' 12° 34,9' S	019° 02,2' 12° 55,2' S
14	033° 43,2' 09° 46,9' S	033° 46,0' 10° 08,6' S	033° 48,7' 10° 30,1' S	033° 51,1' 10° 51,5' S	033° 53,4' 11° 12,7' S	033° 55,5' 11° 33,7' S	033° 57,5' 11° 54,5' S	033° 59,2' 12° 15,2' S	034° 00,8' 12° 35,7' S	034° 02,2' 12° 56,0' S
15	048° 43,4' 09° 47,9' S	048° 46,1' 10° 09,5' S	048° 48,8' 10° 31,0' S	048° 51,2' 10° 52,4' S	048° 53,5' 11° 13,5' S	048° 55,6' 11° 34,6' S	048° 57,6' 11° 55,4' S	048° 59,3' 12° 16,1' S	049° 00,9' 12° 36,6' S	049° 02,3' 12° 56,9' S
16	063° 43,5' 09° 48,8' S	063° 46,3' 10° 10,4' S	063° 48,9' 10° 31,9' S	063° 51,3' 10° 53,2' S	063° 53,6' 11° 14,4' S	063° 55,7' 11° 35,4' S	063° 57,6' 11° 56,3' S	063° 59,4' 12° 16,9' S	064° 01,0' 12° 37,4' S	064° 02,3' 12° 57,7' S
17	078° 43,6' 09° 49,7' S	078° 46,4' 10° 11,3' S	078° 49,0' 10° 32,8' S	078° 51,4' 10° 54,1' S	078° 53,7' 11° 15,3' S	078° 55,8' 11° 36,3' S	078° 57,7' 11° 57,1' S	078° 59,5' 12° 17,8' S	079° 01,0' 12° 38,3' S	079° 02,4' 12° 58,5' S
18	093° 43,7' 09° 50,6' S	093° 46,5' 10° 12,2' S	093° 49,1' 10° 33,7' S	093° 51,5' 10° 55,0' S	093° 53,8' 11° 16,2' S	093° 55,9' 11° 37,2' S	093° 57,8' 11° 58,0' S	093° 59,5' 12° 18,7'		

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 28 Oct to 16 Nov

UT	28 Oct	29 Oct	30 Oct	31 Oct	01 Nov	02 Nov	03 Nov	04 Nov	05 Nov	06 Nov
00	184° 02.7 13° 04.4 S	184° 03.9 13° 24.4 S	184° 04.8 13° 44.2 S	184° 05.5 14° 03.8 S	184° 06.1 14° 23.2 S	184° 06.4 14° 42.3 S	184° 06.6 15° 01.2 S	184° 06.6 15° 19.8 S	184° 06.3 15° 38.2 S	184° 05.9 15° 56.3 S
01	199° 02.8 13° 05.2 S	199° 03.9 13° 25.3 S	199° 04.8 13° 45.0 S	199° 05.6 14° 04.6 S	199° 06.1 14° 24.0 S	199° 06.5 14° 43.1 S	199° 06.6 15° 02.0 S	199° 06.6 15° 20.6 S	199° 06.3 15° 39.0 S	199° 05.9 15° 57.1 S
02	214° 02.8 13° 06.1 S	214° 04.0 13° 26.1 S	214° 04.9 13° 45.9 S	214° 05.6 14° 05.4 S	214° 06.1 14° 24.8 S	214° 06.5 14° 43.9 S	214° 06.6 15° 02.7 S	214° 06.6 15° 21.4 S	214° 06.3 15° 39.7 S	214° 05.8 15° 57.8 S
03	229° 02.9 13° 06.9 S	229° 04.0 13° 26.9 S	229° 04.9 13° 46.7 S	229° 05.6 14° 06.2 S	229° 06.2 14° 25.6 S	229° 06.5 14° 44.7 S	229° 06.6 15° 03.5 S	229° 06.5 15° 22.1 S	229° 06.3 15° 40.5 S	229° 05.8 15° 58.6 S
04	244° 02.9 13° 07.8 S	244° 04.0 13° 27.7 S	244° 04.9 13° 47.5 S	244° 05.7 14° 07.0 S	244° 06.2 14° 26.4 S	244° 06.5 14° 45.5 S	244° 06.6 15° 04.3 S	244° 06.5 15° 22.9 S	244° 06.3 15° 41.2 S	244° 05.8 15° 59.3 S
05	259° 03.0 13° 08.6 S	259° 04.1 13° 28.6 S	259° 05.0 13° 48.3 S	259° 05.7 14° 07.9 S	259° 06.2 14° 27.2 S	259° 06.5 14° 46.2 S	259° 06.6 15° 05.1 S	259° 06.5 15° 23.7 S	259° 06.3 15° 42.0 S	259° 05.8 16° 00.1 S
06	274° 03.0 13° 09.4 S	274° 04.1 13° 29.4 S	274° 05.0 13° 49.1 S	274° 05.7 14° 08.7 S	274° 06.2 14° 28.0 S	274° 06.5 14° 47.0 S	274° 06.6 15° 05.9 S	274° 06.5 15° 24.4 S	274° 06.2 15° 42.8 S	274° 05.7 16° 00.8 S
07	289° 03.1 13° 10.3 S	289° 04.2 13° 30.2 S	289° 05.0 13° 50.0 S	289° 05.7 14° 09.5 S	289° 06.2 14° 28.8 S	289° 06.5 14° 47.8 S	289° 06.6 15° 06.6 S	289° 06.5 15° 25.2 S	289° 06.2 15° 43.5 S	289° 05.7 16° 01.6 S
08	304° 03.1 13° 11.1 S	304° 04.2 13° 31.0 S	304° 05.1 13° 50.8 S	304° 05.8 14° 10.3 S	304° 06.2 14° 29.6 S	304° 06.5 14° 48.6 S	304° 06.6 15° 07.4 S	304° 06.5 15° 26.0 S	304° 06.2 15° 44.3 S	304° 05.7 16° 02.3 S
09	319° 03.2 13° 11.9 S	319° 04.2 13° 31.9 S	319° 05.1 13° 51.6 S	319° 05.8 14° 11.1 S	319° 06.3 14° 30.4 S	319° 06.5 14° 49.4 S	319° 06.6 15° 08.2 S	319° 06.5 15° 26.7 S	319° 06.2 15° 45.0 S	319° 05.7 16° 03.1 S
10	334° 03.2 13° 12.8 S	334° 04.3 13° 32.7 S	334° 05.1 13° 52.4 S	334° 05.8 14° 11.9 S	334° 06.3 14° 31.2 S	334° 06.5 14° 50.2 S	334° 06.6 15° 09.0 S	334° 06.5 15° 27.5 S	334° 06.2 15° 45.8 S	334° 05.6 16° 03.8 S
11	349° 03.3 13° 13.6 S	349° 04.3 13° 33.5 S	349° 05.2 13° 53.2 S	349° 05.8 14° 12.7 S	349° 06.3 14° 32.0 S	349° 06.5 14° 51.0 S	349° 06.6 15° 09.7 S	349° 06.5 15° 28.3 S	349° 06.1 15° 46.5 S	349° 05.6 16° 04.5 S
12	004° 03.3 13° 14.4 S	004° 04.4 13° 34.3 S	004° 05.2 13° 54.0 S	004° 05.8 14° 13.5 S	004° 06.3 14° 32.8 S	004° 06.6 14° 51.8 S	004° 06.6 15° 10.5 S	004° 06.5 15° 29.0 S	004° 06.1 15° 47.3 S	004° 05.6 16° 05.3 S
13	019° 03.4 13° 15.3 S	019° 04.4 13° 35.2 S	019° 05.2 13° 54.9 S	019° 05.9 14° 14.3 S	019° 06.3 14° 33.6 S	019° 06.6 14° 52.5 S	019° 06.6 15° 11.3 S	019° 06.5 15° 29.8 S	019° 06.1 15° 48.1 S	019° 05.6 16° 06.0 S
14	034° 03.4 13° 16.1 S	034° 04.4 13° 36.0 S	034° 05.3 13° 55.7 S	034° 05.9 14° 15.1 S	034° 06.3 14° 34.3 S	034° 06.6 14° 53.3 S	034° 06.6 15° 12.1 S	034° 06.5 15° 30.6 S	034° 06.1 15° 48.8 S	034° 05.5 16° 06.8 S
15	049° 03.5 13° 16.9 S	049° 04.5 13° 36.8 S	049° 05.3 13° 56.5 S	049° 05.9 14° 15.9 S	049° 06.3 14° 35.1 S	049° 06.6 14° 54.1 S	049° 06.6 15° 12.9 S	049° 06.4 15° 31.3 S	049° 06.1 15° 49.6 S	049° 05.5 16° 07.5 S
16	064° 03.5 13° 17.8 S	064° 04.5 13° 37.6 S	064° 05.3 13° 57.3 S	064° 05.9 14° 16.7 S	064° 06.4 14° 35.9 S	064° 06.6 14° 54.9 S	064° 06.6 15° 13.6 S	064° 06.4 15° 32.1 S	064° 06.1 15° 50.3 S	064° 05.5 16° 08.3 S
17	079° 03.6 13° 18.6 S	079° 04.5 13° 38.5 S	079° 05.3 13° 58.1 S	079° 06.0 14° 17.5 S	079° 06.4 14° 36.7 S	079° 06.6 14° 55.7 S	079° 06.6 15° 14.4 S	079° 06.4 15° 32.9 S	079° 06.0 15° 51.1 S	079° 05.4 16° 09.0 S
18	094° 03.6 13° 19.4 S	094° 04.6 13° 39.3 S	094° 05.4 13° 58.9 S	094° 06.0 14° 18.3 S	094° 06.4 14° 37.5 S	094° 06.6 14° 56.5 S	094° 06.6 15° 15.2 S	094° 06.4 15° 33.6 S	094° 06.0 15° 51.8 S	094° 05.4 16° 09.7 S
19	109° 03.6 13° 20.3 S	109° 04.6 13° 40.1 S	109° 05.4 13° 59.7 S	109° 06.0 14° 19.1 S	109° 06.4 14° 38.3 S	109° 06.6 14° 57.3 S	109° 06.6 15° 16.0 S	109° 06.4 15° 34.4 S	109° 06.0 15° 52.6 S	109° 05.4 16° 10.5 S
20	124° 03.7 13° 21.1 S	124° 04.7 13° 40.9 S	124° 05.4 14° 00.6 S	124° 06.0 14° 20.0 S	124° 06.4 14° 39.1 S	124° 06.6 14° 58.0 S	124° 06.6 15° 16.7 S	124° 06.4 15° 35.2 S	124° 06.0 15° 53.3 S	124° 05.4 16° 11.2 S
21	139° 03.7 13° 21.9 S	139° 04.7 13° 41.8 S	139° 05.5 14° 01.4 S	139° 06.0 14° 20.8 S	139° 06.4 14° 39.9 S	139° 06.6 14° 58.8 S	139° 06.6 15° 17.5 S	139° 06.4 15° 35.9 S	139° 05.9 15° 54.1 S	139° 05.3 16° 12.0 S
22	154° 03.8 13° 22.8 S	154° 04.7 13° 42.6 S	154° 05.5 14° 02.2 S	154° 06.1 14° 21.6 S	154° 06.4 14° 40.7 S	154° 06.6 14° 59.6 S	154° 06.6 15° 18.3 S	154° 06.4 15° 36.7 S	154° 05.9 15° 54.8 S	154° 05.3 16° 12.7 S
23	169° 03.8 13° 23.6 S	169° 04.8 13° 43.4 S	169° 05.5 14° 03.0 S	169° 06.1 14° 22.4 S	169° 06.4 14° 41.5 S	169° 06.6 15° 00.4 S	169° 06.6 15° 19.0 S	169° 06.3 15° 37.4 S	169° 05.9 15° 55.6 S	169° 05.3 16° 13.4 S
UT	07 Nov	08 Nov	09 Nov	10 Nov	11 Nov	12 Nov	13 Nov	14 Nov	15 Nov	16 Nov
00	184° 05.2 16° 14.2 S	184° 04.4 16° 31.8 S	184° 03.3 16° 49.1 S	184° 02.0 17° 06.1 S	184° 00.6 17° 22.8 S	183° 58.9 17° 39.3 S	183° 57.0 17° 55.4 S	183° 54.9 18° 11.2 S	183° 52.5 18° 26.7 S	183° 50.0 18° 41.9 S
01	199° 05.2 16° 14.9 S	199° 04.3 16° 32.5 S	199° 03.3 16° 49.8 S	199° 02.0 17° 06.8 S	199° 00.5 17° 23.5 S	198° 58.8 17° 39.9 S	198° 56.9 17° 56.1 S	198° 54.9 18° 11.9 S	198° 52.4 18° 27.3 S	198° 49.9 18° 42.5 S
02	214° 05.2 16° 15.7 S	214° 04.3 16° 33.2 S	214° 03.2 16° 50.5 S	214° 01.9 17° 07.5 S	214° 00.4 17° 24.2 S	213° 58.7 17° 40.6 S	213° 56.8 17° 56.7 S	213° 54.7 18° 12.5 S	213° 52.3 18° 27.9 S	213° 49.8 18° 43.1 S
03	229° 05.1 16° 16.4 S	229° 04.3 16° 34.0 S	229° 03.2 16° 51.2 S	229° 01.9 17° 08.2 S	229° 00.4 17° 24.9 S	228° 58.6 17° 41.3 S	228° 56.7 17° 57.4 S	228° 54.6 18° 13.2 S	228° 52.2 18° 28.6 S	228° 49.6 18° 43.8 S
04	244° 05.1 16° 17.1 S	244° 04.2 16° 34.7 S	244° 03.1 16° 51.9 S	244° 01.8 17° 08.9 S	244° 00.3 17° 25.6 S	243° 58.6 17° 42.0 S	243° 56.6 17° 58.0 S	243° 54.5 18° 13.8 S	243° 52.1 18° 29.3 S	243° 49.5 18° 44.4 S
05	259° 05.1 16° 17.9 S	259° 04.2 16° 35.4 S	259° 03.1 16° 52.7 S	259° 01.8 17° 09.6 S	259° 00.2 17° 26.3 S	258° 58.5 17° 42.6 S	258° 56.5 17° 58.7 S	258° 54.4 18° 14.5 S	258° 52.0 18° 29.9 S	258° 49.4 18° 45.0 S
06	274° 05.0 16° 18.6 S	274° 04.1 16° 36.1 S	274° 03.0 16° 53.4 S	274° 01.7 17° 10.3 S	274° 00.2 17° 27.0 S	273° 58.4 17° 43.3 S	273° 56.5 17° 59.4 S	273° 54.3 18° 15.1 S	273° 51.9 18° 30.5 S	273° 49.3 18° 45.6 S
07	289° 05.0 16° 19.3 S	289° 04.1 16° 36.8 S	289° 03.0 16° 54.1 S	289° 01.6 17° 11.0 S	289° 00.1 17° 27.7 S	288° 58.3 17° 44.0 S	288° 56.4 18° 00.0 S	288° 54.2 18° 15.8 S	288° 51.8 18° 31.2 S	288° 49.2 18° 46.2 S
08	304° 05.0 16° 20.1 S	304° 04.0 16° 37.6 S	304° 02.9 16° 54.8 S	304° 01.6 17° 11.7 S	304° 00.0 17° 28.3 S	303° 58.3 17° 44.7 S	303° 56.3 18° 00.7 S	303° 54.1 18° 16.4 S	303° 51.7 18° 31.8 S	303° 49.1 18° 46.9 S
09	319° 04.9 16° 20.8 S	319° 04.0 16° 38.3 S	319° 02.9 16° 55.5 S	319° 01.5 17° 12.4 S	319° 00.0 17° 29.0 S	318° 58.2 17° 45.3 S	318° 56.2 18° 01.4 S	318° 54.0 18° 17.1 S	318° 51.6 18° 32.4 S	318° 49.0 18° 47.5 S
10	334° 04.9 16° 21.5 S	334° 04.0 16° 39.0 S	334° 02.8 16° 56.2 S	334° 01.5 17° 13.1 S	333° 59.9 17° 29.7 S	333° 58.1 17° 46.0 S	333° 56.1 18° 02.0 S	333° 53.9 18° 17.7 S	333° 51.5 18° 33.1 S	333° 48.9 18° 48.1 S
11	349° 04.9 16° 22.3 S	349° 03.9 16° 39.7 S	349° 02.8 16° 56.9 S	349° 01.4 17° 13.8 S	348° 59.8 17° 30.4 S	348° 58.0 17° 46.7 S	348° 56.0 18° 02.7 S	348° 53.8 18° 18.3 S	348° 51.4 18° 33.7 S	348° 48.7 18° 48.7 S
12	004° 04.8 16° 23.0 S	004° 03.9 16° 40.5 S	004° 02.7 16° 57.6 S	004° 01.3 17° 14.5 S	003° 59.7 17° 31.1 S	003° 57.9 17° 47.4 S	003° 55.9 18° 03.3 S	003° 53.7 18° 19.0 S	003° 51.3 18° 34.3 S	003° 48.6 18° 49.3 S
13	019° 04.8 16° 23.7 S	019° 03.8 16° 41.2 S	019° 02.7 16° 58.3 S	019° 01.3 17° 15.2 S	018° 59.7 17° 31.8 S	018° 57.9 17° 48.0 S	018° 55.8 18° 04.0 S	018° 53.6 18° 19.6 S	018° 51.2 18° 35.0 S	018° 48.5 18° 50.0 S
14	034° 04.8 16° 24.5 S	034° 03.8 16° 41.9 S	034° 02.6 16° 59.0 S	034° 01.2 17° 15.9 S	033° 59.6 17° 32.5 S	033° 57.8 17° 48.7 S	033° 55.8 18° 04.7 S	033° 53.5 18° 20.3 S	033° 51.1 18° 35.6 S	033° 48.4 18° 50.6 S
15	049° 04.7 16° 25.2 S	049° 03.7 16° 42.6 S	049° 02.5 16° 59.8 S	049° 01.1 17° 16.6 S	048° 59.5 17° 33.1 S	048° 57.7 17° 49.4 S	048° 55.7 18° 05.3 S	048° 53.4 18° 20.9 S	048° 51.0 18° 36.2 S	048° 48.3 18° 51.2 S
16	064° 04.7 16° 25.9 S	064° 03.7 16° 43.3 S	064° 02.5 17° 00.5 S	064° 01.1 17° 17.3 S	063° 59.5 17° 33.8 S	063° 57.6 17° 50.0 S	063° 55.6 18° 06.0 S	063° 53.3 18° 21.6 S	063° 50.8 18° 36.9 S	063° 48.2 18° 51.8 S
17	079° 04.7 16° 26.7 S	079° 03.7 16° 44.1 S	079° 02.4 17° 01.2 S	079° 01.0 17° 18.0 S	078° 59.4 17° 34.5 S	078° 57.5 17° 50.7 S	078° 55.5 18° 06.6 S	078° 53.2 18° 22.2 S	078° 50.7 18° 37.5 S	078° 48.0 18° 52.4 S
18	094° 04.6 16° 27.4 S	094° 03.6 16° 44.8 S	094° 02.4 17° 01.9 S	094° 01.0 17° 18.7 S	093° 59.3 17° 35.2 S	093° 57.5 17° 51.4 S	093° 55.4 18° 07.3 S	093° 53.1 18° 22.9 S	093° 50.6 18° 38.1 S	093° 47.9 18° 53.0 S
19	109° 04.6 16° 28.1 S	109° 03.6 16° 45.5 S	109° 02.3 17° 02.6 S	109° 00.9 17° 19.4 S	108° 59.2 17° 35.9 S	108° 57.4 17° 52.1 S	108° 55.3 18° 07.9 S	108° 53.0 18° 23.5 S	108° 50.5 18° 38.7 S	108° 47.8 18° 53.7 S
20	124° 04.5 16° 28.9 S	124° 03.5 16° 46.2 S	124° 02.3 17° 03.3 S	124° 00.8 17° 20.1 S	123° 59.2 17° 36.5 S	123° 57.3 17° 52.7 S	123° 55.2 18° 08.6 S	123° 52.9 18° 24.1 S	123° 50.4 18° 39.4 S	123° 47.7 18° 54.3 S
21	139° 04.5 16° 29.6 S	139° 03.5 16° 46.9 S	139° 02.2 17° 04.0 S	139° 00.8 17° 20.8 S	138° 59.1 17° 37.2 S	138° 57.2 17° 53.4 S	138° 55.1 18° 09.2 S	138° 52.8 18° 24.8 S	138° 50.3 18° 40.0 S	138° 47.6 18° 54.9 S
22	15									

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 17 Nov to 06 Dec

UT	17 Nov	18 Nov	19 Nov	20 Nov	21 Nov	22 Nov	23 Nov	24 Nov	25 Nov	26 Nov
00	183° 47.2' 18° 56.7' S	183° 44.2' 19° 11.2' S	183° 41.1' 19° 25.4' S	183° 37.7' 19° 39.2' S	183° 34.1' 19° 52.7' S	183° 30.3' 20° 05.8' S	183° 26.2' 20° 18.5' S	183° 22.0' 20° 30.9' S	183° 17.6' 20° 42.9' S	183° 13.0' 20° 54.5' S
01	198° 47.1' 18° 57.3' S	198° 44.1' 19° 11.8' S	198° 40.9' 19° 26.0' S	198° 37.5' 19° 39.8' S	198° 33.9' 19° 53.2' S	198° 30.1' 20° 06.3' S	198° 26.1' 20° 19.0' S	198° 21.9' 20° 31.4' S	198° 17.4' 20° 43.4' S	198° 12.8' 20° 55.0' S
02	213° 47.0' 18° 57.9' S	213° 44.0' 19° 12.4' S	213° 40.8' 19° 26.6' S	213° 37.4' 19° 40.4' S	213° 33.8' 19° 53.8' S	213° 29.9' 20° 06.9' S	213° 25.9' 20° 19.6' S	213° 21.7' 20° 31.9' S	213° 17.3' 20° 43.9' S	213° 12.6' 20° 55.4' S
03	228° 46.9' 18° 58.6' S	228° 43.9' 19° 13.0' S	228° 40.7' 19° 27.1' S	228° 37.2' 19° 40.9' S	228° 33.6' 19° 54.3' S	228° 29.8' 20° 07.4' S	228° 25.7' 20° 20.1' S	228° 21.5' 20° 32.4' S	228° 17.1' 20° 44.3' S	228° 12.4' 20° 55.9' S
04	243° 46.7' 18° 59.2' S	243° 43.7' 19° 13.6' S	243° 40.5' 19° 27.7' S	243° 37.1' 19° 41.5' S	243° 33.4' 19° 54.9' S	243° 29.6' 20° 07.9' S	243° 25.6' 20° 20.6' S	243° 21.3' 20° 32.9' S	243° 16.9' 20° 44.8' S	243° 12.2' 20° 56.4' S
05	258° 46.6' 18° 59.8' S	258° 43.6' 19° 14.2' S	258° 40.4' 19° 28.3' S	258° 36.9' 19° 42.1' S	258° 33.3' 19° 55.4' S	258° 29.4' 20° 08.5' S	258° 25.4' 20° 21.1' S	258° 21.1' 20° 33.4' S	258° 16.7' 20° 45.3' S	258° 12.0' 20° 56.8' S
06	273° 46.5' 19° 00.4' S	273° 43.5' 19° 14.8' S	273° 40.2' 19° 28.9' S	273° 36.8' 19° 42.6' S	273° 33.1' 19° 56.0' S	273° 29.3' 20° 09.0' S	273° 25.2' 20° 21.7' S	273° 21.0' 20° 33.9' S	273° 16.5' 20° 45.8' S	273° 11.8' 20° 57.3' S
07	288° 46.4' 19° 01.0' S	288° 43.3' 19° 15.4' S	288° 40.1' 19° 29.5' S	288° 36.6' 19° 43.2' S	288° 33.0' 19° 56.5' S	288° 29.1' 20° 09.5' S	288° 25.0' 20° 22.2' S	288° 20.8' 20° 34.4' S	288° 16.3' 20° 46.3' S	288° 11.7' 20° 57.8' S
08	303° 46.2' 19° 01.6' S	303° 43.2' 19° 16.0' S	303° 40.0' 19° 30.0' S	303° 36.5' 19° 43.7' S	303° 32.8' 19° 57.1' S	303° 28.9' 20° 10.1' S	303° 24.9' 20° 22.7' S	303° 20.6' 20° 34.9' S	303° 16.1' 20° 46.8' S	303° 11.5' 20° 58.3' S
09	318° 46.1' 19° 02.2' S	318° 43.1' 19° 16.6' S	318° 39.8' 19° 30.6' S	318° 36.3' 19° 44.3' S	318° 32.7' 19° 57.6' S	318° 28.8' 20° 10.6' S	318° 24.7' 20° 23.2' S	318° 20.4' 20° 35.4' S	318° 15.9' 20° 47.3' S	318° 11.3' 20° 58.7' S
10	333° 46.0' 19° 02.8' S	333° 42.9' 19° 17.2' S	333° 39.7' 19° 31.2' S	333° 36.2' 19° 44.9' S	333° 32.5' 19° 58.2' S	333° 28.6' 20° 11.1' S	333° 24.5' 20° 23.7' S	333° 20.2' 20° 35.9' S	333° 15.7' 20° 47.8' S	333° 11.1' 20° 59.2' S
11	348° 45.9' 19° 03.4' S	348° 42.8' 19° 17.8' S	348° 39.5' 19° 31.8' S	348° 36.0' 19° 45.4' S	348° 32.3' 19° 58.7' S	348° 28.4' 20° 11.7' S	348° 24.3' 20° 24.2' S	348° 20.0' 20° 36.4' S	348° 15.5' 20° 48.2' S	348° 10.9' 20° 59.7' S
12	003° 45.8' 19° 04.0' S	003° 42.7' 19° 18.4' S	003° 39.4' 19° 32.4' S	003° 35.9' 19° 46.0' S	003° 32.2' 19° 59.3' S	003° 28.3' 20° 12.2' S	003° 24.2' 20° 24.8' S	003° 19.9' 20° 36.9' S	003° 15.4' 20° 48.7' S	003° 10.7' 21° 00.1' S
13	018° 45.6' 19° 04.6' S	018° 42.5' 19° 18.9' S	018° 39.3' 19° 32.9' S	018° 35.7' 19° 46.6' S	018° 32.0' 19° 59.8' S	018° 28.1' 20° 12.7' S	018° 24.0' 20° 25.3' S	018° 19.7' 20° 37.4' S	018° 15.2' 20° 49.2' S	018° 10.5' 21° 00.6' S
14	033° 45.5' 19° 05.2' S	033° 42.4' 19° 19.5' S	033° 39.1' 19° 33.5' S	033° 35.6' 19° 47.1' S	033° 31.9' 20° 00.4' S	033° 27.9' 20° 13.3' S	033° 23.8' 20° 25.8' S	033° 19.5' 20° 37.9' S	033° 15.0' 20° 49.7' S	033° 10.3' 21° 01.1' S
15	048° 45.4' 19° 05.8' S	048° 42.3' 19° 20.1' S	048° 39.0' 19° 34.1' S	048° 35.4' 19° 47.7' S	048° 31.7' 20° 00.9' S	048° 27.8' 20° 13.8' S	048° 23.6' 20° 26.3' S	048° 19.3' 20° 38.4' S	048° 14.8' 20° 50.2' S	048° 10.1' 21° 01.5' S
16	063° 45.3' 19° 06.4' S	063° 42.1' 19° 20.7' S	063° 38.8' 19° 34.7' S	063° 35.3' 19° 48.2' S	063° 31.6' 20° 01.5' S	063° 27.6' 20° 14.3' S	063° 23.5' 20° 26.8' S	063° 19.1' 20° 38.9' S	063° 14.6' 20° 50.7' S	063° 09.9' 21° 02.0' S
17	078° 45.1' 19° 07.0' S	078° 42.0' 19° 21.3' S	078° 38.7' 19° 35.2' S	078° 35.1' 19° 48.8' S	078° 31.4' 20° 02.0' S	078° 27.4' 20° 14.8' S	078° 23.3' 20° 27.3' S	078° 18.9' 20° 39.4' S	078° 14.4' 20° 51.1' S	078° 09.7' 21° 02.5' S
18	093° 45.0' 19° 07.6' S	093° 41.9' 19° 21.9' S	093° 38.5' 19° 35.8' S	093° 35.0' 19° 49.4' S	093° 31.2' 20° 02.5' S	093° 27.3' 20° 15.4' S	093° 23.1' 20° 27.8' S	093° 18.7' 20° 39.9' S	093° 14.2' 20° 51.6' S	093° 09.5' 21° 02.9' S
19	108° 44.9' 19° 08.2' S	108° 41.7' 19° 22.5' S	108° 38.4' 19° 36.4' S	108° 34.8' 19° 49.9' S	108° 31.1' 20° 03.1' S	108° 27.1' 20° 15.9' S	108° 22.9' 20° 28.3' S	108° 18.6' 20° 40.4' S	108° 14.0' 20° 52.1' S	108° 09.3' 21° 03.4' S
20	123° 44.8' 19° 08.8' S	123° 41.6' 19° 23.1' S	123° 38.2' 19° 36.9' S	123° 34.7' 19° 50.5' S	123° 30.9' 20° 03.6' S	123° 26.9' 20° 16.4' S	123° 22.8' 20° 28.9' S	123° 18.4' 20° 40.9' S	123° 13.8' 20° 52.6' S	123° 09.1' 21° 03.8' S
21	138° 44.6' 19° 09.4' S	138° 41.5' 19° 23.6' S	138° 38.1' 19° 37.5' S	138° 34.5' 19° 51.0' S	138° 30.7' 20° 04.2' S	138° 26.8' 20° 17.0' S	138° 22.6' 20° 29.4' S	138° 18.2' 20° 41.4' S	138° 13.6' 20° 53.1' S	138° 08.8' 21° 04.3' S
22	153° 44.5' 19° 10.0' S	153° 41.3' 19° 24.2' S	153° 38.0' 19° 38.1' S	153° 34.4' 19° 51.6' S	153° 30.6' 20° 04.7' S	153° 26.6' 20° 17.5' S	153° 22.4' 20° 29.9' S	153° 18.0' 20° 41.9' S	153° 13.4' 20° 53.5' S	153° 08.6' 21° 04.8' S
23	168° 44.4' 19° 10.6' S	168° 41.2' 19° 24.8' S	168° 37.8' 19° 38.6' S	168° 34.2' 19° 52.1' S	168° 30.4' 20° 05.2' S	168° 26.4' 20° 18.0' S	168° 22.2' 20° 30.4' S	168° 17.8' 20° 42.4' S	168° 13.2' 20° 54.0' S	168° 08.4' 21° 05.2' S
UT	27 Nov	28 Nov	29 Nov	30 Nov	01 Dec	02 Dec	03 Dec	04 Dec	05 Dec	06 Dec
00	183° 08.2' 21° 05.7' S	183° 03.3' 21° 16.5' S	182° 58.1' 21° 26.9' S	182° 52.8' 21° 36.9' S	182° 47.3' 21° 46.5' S	182° 41.7' 21° 55.7' S	182° 35.9' 22° 04.5' S	182° 30.0' 22° 12.8' S	182° 23.9' 22° 20.7' S	182° 17.7' 22° 28.2' S
01	198° 08.0' 21° 06.1' S	198° 03.1' 21° 16.9' S	197° 57.9' 21° 27.3' S	197° 52.6' 21° 37.3' S	197° 47.1' 21° 46.9' S	197° 41.5' 21° 56.1' S	197° 35.7' 22° 04.8' S	197° 29.7' 22° 13.1' S	197° 23.7' 22° 21.0' S	197° 17.5' 22° 28.5' S
02	213° 07.8' 21° 06.6' S	213° 02.9' 21° 17.4' S	212° 57.7' 21° 27.8' S	212° 52.4' 21° 37.7' S	212° 46.9' 21° 47.3' S	212° 41.2' 21° 56.4' S	212° 35.4' 22° 05.2' S	212° 29.5' 22° 13.5' S	212° 23.4' 22° 21.3' S	212° 17.2' 22° 28.8' S
03	228° 07.6' 21° 07.1' S	228° 02.6' 21° 17.8' S	227° 57.5' 21° 28.2' S	227° 52.1' 21° 38.2' S	227° 46.6' 21° 47.7' S	227° 41.0' 21° 56.8' S	227° 35.2' 22° 05.5' S	227° 29.2' 22° 13.8' S	227° 23.2' 22° 21.6' S	227° 16.9' 22° 29.1' S
04	243° 07.4' 21° 07.5' S	243° 02.4' 21° 18.3' S	242° 57.3' 21° 28.6' S	242° 51.9' 21° 38.6' S	242° 46.4' 21° 48.1' S	242° 40.8' 21° 57.2' S	242° 34.9' 22° 05.9' S	242° 29.0' 22° 14.1' S	242° 22.9' 22° 22.0' S	242° 16.7' 22° 29.4' S
05	258° 07.2' 21° 08.0' S	258° 02.2' 21° 18.7' S	257° 57.0' 21° 29.0' S	257° 51.7' 21° 39.0' S	257° 46.2' 21° 48.5' S	257° 40.5' 21° 57.6' S	257° 34.7' 22° 06.2' S	257° 28.7' 22° 14.5' S	257° 22.6' 22° 22.3' S	257° 16.4' 22° 29.7' S
06	273° 07.0' 21° 08.4' S	273° 02.0' 21° 19.1' S	272° 56.8' 21° 29.5' S	272° 51.5' 21° 39.4' S	272° 45.9' 21° 48.9' S	272° 40.3' 21° 57.9' S	272° 34.5' 22° 06.6' S	272° 28.5' 22° 14.8' S	272° 22.4' 22° 22.6' S	272° 16.1' 22° 29.9' S
07	288° 06.8' 21° 08.9' S	288° 01.8' 21° 19.6' S	287° 56.6' 21° 29.9' S	287° 51.2' 21° 39.8' S	287° 45.7' 21° 49.2' S	287° 40.0' 21° 58.3' S	287° 34.2' 22° 06.9' S	287° 28.2' 22° 15.1' S	287° 22.1' 22° 23.0' S	287° 15.9' 22° 30.2' S
08	303° 06.6' 21° 09.3' S	303° 01.6' 21° 20.0' S	302° 56.4' 21° 30.3' S	302° 51.0' 21° 40.2' S	302° 45.5' 21° 49.6' S	302° 39.8' 21° 58.7' S	302° 34.0' 22° 07.3' S	302° 28.0' 22° 15.5' S	302° 21.9' 22° 23.2' S	302° 15.6' 22° 30.5' S
09	318° 06.4' 21° 09.8' S	318° 01.4' 21° 20.5' S	317° 56.2' 21° 30.7' S	317° 50.8' 21° 40.6' S	317° 45.2' 21° 50.0' S	317° 39.6' 21° 59.0' S	317° 33.7' 22° 07.6' S	317° 27.7' 22° 15.8' S	317° 21.6' 22° 23.5' S	317° 15.4' 22° 30.8' S
10	333° 06.2' 21° 10.2' S	333° 01.2' 21° 20.9' S	332° 55.9' 21° 31.1' S	332° 50.6' 21° 41.0' S	332° 45.0' 21° 50.4' S	332° 39.3' 21° 59.4' S	332° 33.5' 22° 08.0' S	332° 27.5' 22° 16.1' S	332° 21.3' 22° 23.9' S	332° 15.1' 22° 31.1' S
11	348° 06.0' 21° 10.7' S	348° 00.9' 21° 21.3' S	347° 55.7' 21° 31.6' S	347° 50.3' 21° 41.4' S	347° 44.8' 21° 50.8' S	347° 39.1' 21° 59.8' S	347° 33.2' 22° 08.3' S	347° 27.2' 22° 16.5' S	347° 21.1' 22° 24.2' S	347° 14.8' 22° 31.4' S
12	003° 05.8' 21° 11.1' S	003° 00.7' 21° 21.8' S	002° 55.5' 21° 32.0' S	002° 50.1' 21° 41.8' S	002° 44.5' 21° 51.2' S	002° 38.8' 22° 00.1' S	002° 33.0' 22° 08.7' S	002° 27.0' 22° 16.8' S	002° 20.8' 22° 24.5' S	002° 14.6' 22° 31.7' S
13	018° 05.6' 21° 11.6' S	018° 00.5' 21° 22.2' S	017° 55.3' 21° 32.4' S	017° 49.9' 21° 42.2' S	017° 44.3' 21° 51.5' S	017° 38.6' 22° 00.5' S	017° 32.7' 22° 09.0' S	017° 26.7' 22° 17.1' S	017° 20.6' 22° 24.8' S	017° 14.3' 22° 32.0' S
14	033° 05.4' 21° 12.0' S	033° 00.3' 21° 22.8' S	032° 55.1' 21° 32.8' S	032° 49.6' 21° 42.8' S	032° 44.1' 21° 51.9' S	032° 38.4' 22° 00.9' S	032° 32.5' 22° 09.4' S	032° 26.5' 22° 17.4' S	032° 20.3' 22° 25.1' S	032° 14.0' 22° 32.3' S
15	048° 05.2' 21° 12.5' S	048° 00.1' 21° 23.1' S	047° 54.8' 21° 33.2' S	047° 49.4' 21° 43.0' S	047° 43.8' 21° 52.3' S	047° 38.1' 22° 01.2' S	047° 32.2' 22° 09.7' S	047° 26.2' 22° 17.8' S	047° 20.1' 22° 25.4' S	047° 13.8' 22° 32.6' S
16	063° 04.9' 21° 12.9' S	062° 59.9' 21° 23.5' S	062° 54.6' 21° 33.6' S	062° 49.2' 21° 43.4' S	062° 43.6' 21° 52.7' S	062° 37.9' 22° 01.6' S	062° 32.0' 22° 10.1' S	062° 26.0' 22° 18.1' S	062° 19.8' 22° 25.7' S	062° 13.5' 22° 32.9' S
17	078° 04.7' 21° 13.4' S	077° 59.6' 21° 23.9' S	077° 54.4' 21° 34.1' S	077° 49.0' 21° 43.8' S	077° 43.4' 21° 53.1' S	077° 37.6' 22° 01.9' S	077° 31.7' 22° 10.4' S	077° 25.7' 22° 18.4' S	077° 19.5' 22° 26.0' S	077° 13.2' 22° 33.2' S
18	093° 04.5' 21° 13.8' S	092° 59.4' 21° 24.4' S	092° 54.2' 21° 34.5' S	092° 48.7' 21° 44.2' S	092° 43.1' 21° 53.4' S	092° 37.4' 22° 02.3' S	092° 31.5' 22° 10.7' S	092° 25.5' 22° 18.8		

# Solar Almanac 2038 — Sun GHA & Decl (UT) — 07 Dec to 26 Dec

UT	07 Dec	08 Dec	09 Dec	10 Dec	11 Dec	12 Dec	13 Dec	14 Dec	15 Dec	16 Dec
00	182° 11,4' 22° 35,2' S	182° 04,9' 22° 41,8' S	181° 58,3' 22° 47,9' S	181° 51,7' 22° 53,6' S	181° 44,9' 22° 58,8' S	181° 38,0' 23° 03,6' S	181° 31,0' 23° 07,9' S	181° 23,9' 23° 11,8' S	181° 16,8' 23° 15,2' S	181° 09,6' 23° 18,2' S
01	197° 11,1' 22° 35,5' S	197° 04,6' 22° 42,0' S	196° 58,1' 22° 48,1' S	196° 51,4' 22° 53,8' S	196° 44,6' 22° 59,0' S	196° 37,7' 23° 03,8' S	196° 30,7' 23° 08,1' S	196° 23,6' 23° 12,0' S	196° 16,5' 23° 15,3' S	196° 09,3' 23° 18,3' S
02	212° 10,8' 22° 35,7' S	212° 04,4' 22° 42,3' S	211° 57,8' 22° 48,4' S	211° 51,1' 22° 54,0' S	211° 44,3' 22° 59,2' S	211° 37,4' 23° 04,0' S	211° 30,4' 23° 08,3' S	211° 23,4' 23° 12,1' S	211° 16,2' 23° 15,5' S	211° 09,0' 23° 18,4' S
03	227° 10,6' 22° 36,0' S	227° 04,1' 22° 42,6' S	226° 57,5' 22° 48,6' S	226° 50,8' 22° 54,3' S	226° 44,0' 22° 59,4' S	226° 37,1' 23° 04,2' S	226° 30,1' 23° 08,4' S	226° 23,1' 23° 12,3' S	226° 15,9' 23° 15,6' S	226° 08,7' 23° 18,5' S
04	242° 10,3' 22° 36,3' S	242° 03,8' 22° 42,8' S	241° 57,2' 22° 48,9' S	241° 50,5' 22° 54,5' S	241° 43,7' 22° 59,7' S	241° 36,8' 23° 04,4' S	241° 29,8' 23° 08,6' S	241° 22,8' 23° 12,4' S	241° 15,6' 23° 15,7' S	241° 08,4' 23° 18,6' S
05	257° 10,0' 22° 36,6' S	257° 03,6' 22° 43,1' S	256° 57,0' 22° 49,1' S	256° 50,3' 22° 54,7' S	256° 43,4' 22° 59,9' S	256° 36,5' 23° 04,5' S	256° 29,5' 23° 08,8' S	256° 22,5' 23° 12,6' S	256° 15,3' 23° 15,9' S	256° 08,1' 23° 18,7' S
06	272° 09,8' 22° 36,9' S	272° 03,3' 22° 43,3' S	271° 56,7' 22° 49,4' S	271° 50,0' 22° 54,9' S	271° 43,2' 23° 00,1' S	271° 36,2' 23° 04,7' S	271° 29,2' 23° 08,9' S	271° 22,2' 23° 12,7' S	271° 15,0' 23° 16,0' S	271° 07,8' 23° 18,8' S
07	287° 09,5' 22° 37,1' S	287° 03,0' 22° 43,6' S	286° 56,4' 22° 49,6' S	286° 49,7' 22° 55,2' S	286° 42,9' 23° 00,3' S	286° 36,0' 23° 04,9' S	286° 29,0' 23° 09,1' S	286° 21,9' 23° 12,8' S	286° 14,7' 23° 16,1' S	286° 07,5' 23° 18,9' S
08	302° 09,2' 22° 37,4' S	302° 02,7' 22° 43,9' S	301° 56,1' 22° 49,8' S	301° 49,4' 22° 55,4' S	301° 42,6' 23° 00,5' S	301° 35,7' 23° 05,1' S	301° 28,7' 23° 09,3' S	301° 21,6' 23° 13,0' S	301° 14,4' 23° 16,2' S	301° 07,2' 23° 19,0' S
09	317° 09,0' 22° 37,7' S	317° 02,5' 22° 44,1' S	316° 55,8' 22° 50,1' S	316° 49,1' 22° 55,6' S	316° 42,3' 23° 00,7' S	316° 35,4' 23° 05,3' S	316° 28,4' 23° 09,4' S	316° 21,3' 23° 13,1' S	316° 14,1' 23° 16,4' S	316° 06,9' 23° 19,1' S
10	332° 08,7' 22° 38,0' S	332° 02,2' 22° 44,4' S	331° 55,6' 22° 50,3' S	331° 48,8' 22° 55,8' S	331° 42,0' 23° 00,9' S	331° 35,1' 23° 05,5' S	331° 28,1' 23° 09,6' S	331° 21,0' 23° 13,3' S	331° 13,8' 23° 16,5' S	331° 06,6' 23° 19,2' S
11	347° 08,4' 22° 38,2' S	347° 01,9' 22° 44,6' S	346° 55,3' 22° 50,6' S	346° 48,6' 22° 56,0' S	346° 41,7' 23° 01,1' S	346° 34,8' 23° 05,6' S	346° 27,8' 23° 09,8' S	346° 20,7' 23° 13,4' S	346° 13,5' 23° 16,6' S	346° 06,3' 23° 19,4' S
12	002° 08,2' 22° 38,5' S	002° 01,6' 22° 44,9' S	001° 55,0' 22° 50,8' S	001° 48,3' 22° 56,3' S	001° 41,4' 23° 01,3' S	001° 34,5' 23° 05,8' S	001° 27,5' 23° 09,9' S	001° 20,4' 23° 13,6' S	001° 13,2' 23° 16,7' S	001° 06,0' 23° 19,5' S
13	017° 07,9' 22° 38,8' S	017° 01,4' 22° 45,1' S	016° 54,7' 22° 51,0' S	016° 48,0' 22° 56,5' S	016° 41,1' 23° 01,5' S	016° 34,2' 23° 06,0' S	016° 27,2' 23° 10,1' S	016° 20,1' 23° 13,7' S	016° 12,9' 23° 16,9' S	016° 05,7' 23° 19,6' S
14	032° 07,6' 22° 39,1' S	032° 01,1' 22° 45,4' S	031° 54,5' 22° 51,3' S	031° 47,7' 22° 56,7' S	031° 40,9' 23° 01,7' S	031° 33,9' 23° 06,2' S	031° 26,9' 23° 10,2' S	031° 19,8' 23° 13,8' S	031° 12,6' 23° 17,0' S	031° 05,4' 23° 19,7' S
15	047° 07,4' 22° 39,3' S	047° 00,8' 22° 45,6' S	046° 54,2' 22° 51,5' S	046° 47,4' 22° 56,9' S	046° 40,6' 23° 01,9' S	046° 33,6' 23° 06,4' S	046° 26,6' 23° 10,4' S	046° 19,5' 23° 14,0' S	046° 12,3' 23° 17,1' S	046° 05,1' 23° 19,8' S
16	062° 07,1' 22° 39,6' S	062° 00,5' 22° 45,9' S	061° 53,9' 22° 51,7' S	061° 47,1' 22° 57,1' S	061° 40,3' 23° 02,1' S	061° 33,3' 23° 06,5' S	061° 26,3' 23° 10,6' S	061° 19,2' 23° 14,1' S	061° 12,0' 23° 17,2' S	061° 04,8' 23° 19,9' S
17	077° 06,8' 22° 39,9' S	077° 00,3' 22° 46,2' S	076° 53,6' 22° 52,0' S	076° 46,9' 22° 57,3' S	076° 40,0' 23° 02,3' S	076° 33,0' 23° 06,7' S	076° 26,0' 23° 10,7' S	076° 18,9' 23° 14,3' S	076° 11,7' 23° 17,5' S	076° 04,5' 23° 20,0' S
18	092° 06,5' 22° 40,2' S	092° 00,0' 22° 46,4' S	091° 53,3' 22° 52,2' S	091° 46,6' 22° 57,6' S	091° 39,7' 23° 02,5' S	091° 32,8' 23° 06,9' S	091° 25,7' 23° 10,9' S	091° 18,6' 23° 14,4' S	091° 11,4' 23° 17,5' S	091° 04,2' 23° 20,1' S
19	107° 06,3' 22° 40,4' S	106° 59,7' 22° 46,7' S	106° 53,1' 22° 52,4' S	106° 46,3' 22° 57,8' S	106° 39,4' 23° 02,6' S	106° 32,5' 23° 07,1' S	106° 25,4' 23° 11,0' S	106° 18,3' 23° 14,5' S	106° 11,1' 23° 17,6' S	106° 03,9' 23° 20,2' S
20	122° 06,0' 22° 40,7' S	121° 59,4' 22° 46,9' S	121° 52,8' 22° 52,7' S	121° 46,0' 22° 58,0' S	121° 39,1' 23° 02,8' S	121° 32,2' 23° 07,2' S	121° 25,1' 23° 11,2' S	121° 18,0' 23° 14,7' S	121° 10,8' 23° 17,7' S	121° 03,6' 23° 20,3' S
21	137° 05,7' 22° 41,0' S	136° 59,2' 22° 47,2' S	136° 52,5' 22° 52,9' S	136° 45,7' 22° 58,2' S	136° 38,8' 23° 03,0' S	136° 31,9' 23° 07,4' S	136° 24,8' 23° 11,3' S	136° 17,7' 23° 14,8' S	136° 10,5' 23° 17,8' S	136° 03,2' 23° 20,4' S
22	152° 05,5' 22° 41,2' S	151° 58,9' 22° 47,4' S	151° 52,2' 22° 53,1' S	151° 45,4' 22° 58,4' S	151° 38,6' 23° 03,2' S	151° 31,6' 23° 07,6' S	151° 24,5' 23° 11,5' S	151° 17,4' 23° 14,9' S	151° 10,2' 23° 17,9' S	151° 02,9' 23° 20,5' S
23	167° 05,2' 22° 41,5' S	166° 58,6' 22° 47,7' S	166° 51,9' 22° 53,4' S	166° 45,2' 22° 58,6' S	166° 38,3' 23° 03,4' S	166° 31,3' 23° 07,8' S	166° 24,2' 23° 11,7' S	166° 17,1' 23° 15,1' S	166° 09,9' 23° 18,0' S	166° 02,6' 23° 20,5' S
UT	17 Dec	18 Dec	19 Dec	20 Dec	21 Dec	22 Dec	23 Dec	24 Dec	25 Dec	26 Dec
00	181° 02,3' 23° 20,6' S	180° 55,0' 23° 22,7' S	180° 47,6' 23° 24,2' S	180° 40,2' 23° 25,3' S	180° 32,8' 23° 25,9' S	180° 25,3' 23° 26,0' S	180° 17,9' 23° 25,7' S	180° 10,4' 23° 24,9' S	180° 02,9' 23° 23,6' S	179° 55,5' 23° 21,9' S
01	196° 02,0' 23° 20,7' S	195° 54,7' 23° 22,7' S	195° 47,3' 23° 24,3' S	195° 39,9' 23° 25,3' S	195° 32,5' 23° 25,9' S	195° 25,0' 23° 26,0' S	195° 17,6' 23° 25,7' S	195° 10,1' 23° 24,9' S	195° 02,6' 23° 23,6' S	194° 55,2' 23° 21,8' S
02	211° 01,7' 23° 20,8' S	210° 54,4' 23° 22,8' S	210° 47,0' 23° 24,3' S	210° 39,6' 23° 25,3' S	210° 32,2' 23° 25,9' S	210° 24,7' 23° 26,0' S	210° 17,3' 23° 25,6' S	210° 09,8' 23° 24,8' S	210° 02,3' 23° 23,5' S	209° 54,9' 23° 21,7' S
03	226° 01,4' 23° 20,9' S	225° 54,1' 23° 22,9' S	225° 46,7' 23° 24,4' S	225° 39,3' 23° 25,4' S	225° 31,9' 23° 25,9' S	225° 24,4' 23° 26,0' S	225° 16,9' 23° 25,6' S	225° 09,5' 23° 24,8' S	225° 02,0' 23° 23,4' S	224° 54,6' 23° 21,6' S
04	241° 01,1' 23° 21,0' S	240° 53,8' 23° 22,9' S	240° 46,4' 23° 24,4' S	240° 39,0' 23° 25,4' S	240° 31,6' 23° 25,9' S	240° 24,1' 23° 26,0' S	240° 16,6' 23° 25,6' S	240° 09,2' 23° 24,7' S	240° 01,7' 23° 23,4' S	239° 54,2' 23° 21,5' S
05	256° 00,8' 23° 21,1' S	255° 53,5' 23° 23,0' S	255° 46,1' 23° 24,5' S	255° 38,7' 23° 25,4' S	255° 31,3' 23° 26,0' S	255° 23,8' 23° 26,0' S	255° 16,3' 23° 25,6' S	255° 08,8' 23° 24,7' S	255° 01,4' 23° 23,3' S	254° 53,9' 23° 21,5' S
06	271° 00,5' 23° 21,2' S	270° 53,2' 23° 23,1' S	270° 45,8' 23° 24,5' S	270° 38,4' 23° 25,5' S	270° 30,9' 23° 26,0' S	270° 23,5' 23° 26,0' S	270° 16,0' 23° 25,5' S	270° 08,5' 23° 24,6' S	270° 01,1' 23° 23,2' S	269° 53,6' 23° 21,4' S
07	286° 00,2' 23° 21,3' S	285° 52,9' 23° 23,2' S	285° 45,5' 23° 24,6' S	285° 38,1' 23° 25,5' S	285° 30,6' 23° 25,9' S	285° 23,2' 23° 26,0' S	285° 15,7' 23° 25,5' S	285° 08,2' 23° 24,6' S	285° 00,8' 23° 23,2' S	284° 53,3' 23° 21,3' S
08	300° 59,9' 23° 21,4' S	300° 52,6' 23° 23,2' S	300° 45,2' 23° 24,6' S	300° 37,8' 23° 25,5' S	300° 30,3' 23° 26,0' S	300° 22,9' 23° 26,0' S	300° 15,4' 23° 25,5' S	300° 07,9' 23° 24,5' S	300° 00,4' 23° 23,1' S	299° 53,0' 23° 21,2' S
09	315° 59,6' 23° 21,5' S	315° 52,3' 23° 23,3' S	315° 44,9' 23° 24,7' S	315° 37,5' 23° 25,6' S	315° 30,0' 23° 26,0' S	315° 22,5' 23° 26,0' S	315° 15,1' 23° 25,5' S	315° 07,6' 23° 24,5' S	315° 00,1' 23° 23,1' S	314° 52,7' 23° 21,1' S
10	330° 59,3' 23° 21,5' S	330° 52,0' 23° 23,4' S	330° 44,6' 23° 24,7' S	330° 37,1' 23° 25,6' S	330° 29,7' 23° 26,0' S	330° 22,2' 23° 26,0' S	330° 14,8' 23° 25,4' S	330° 07,3' 23° 24,4' S	329° 59,8' 23° 23,0' S	329° 52,4' 23° 21,0' S
11	345° 59,0' 23° 21,6' S	345° 51,6' 23° 23,4' S	345° 44,3' 23° 24,8' S	345° 36,8' 23° 25,6' S	345° 29,4' 23° 26,0' S	345° 21,9' 23° 25,9' S	345° 14,4' 23° 25,4' S	345° 07,0' 23° 24,4' S	344° 59,5' 23° 22,9' S	344° 52,1' 23° 20,9' S
12	000° 58,7' 23° 21,7' S	000° 51,3' 23° 23,5' S	000° 43,9' 23° 24,8' S	000° 36,5' 23° 25,6' S	000° 29,1' 23° 26,0' S	000° 21,6' 23° 25,9' S	000° 14,1' 23° 25,4' S	000° 06,7' 23° 24,3' S	359° 59,2' 23° 22,8' S	359° 51,8' 23° 20,8' S
13	015° 58,4' 23° 21,8' S	015° 51,0' 23° 23,6' S	015° 43,6' 23° 24,8' S	015° 36,2' 23° 25,7' S	015° 28,8' 23° 26,0' S	015° 21,3' 23° 25,9' S	015° 13,8' 23° 25,3' S	015° 06,4' 23° 24,3' S	014° 58,9' 23° 22,7' S	014° 51,5' 23° 20,7' S
14	030° 58,1' 23° 21,9' S	030° 50,7' 23° 23,6' S	030° 43,3' 23° 24,9' S	030° 35,9' 23° 25,7' S	030° 28,5' 23° 26,0' S	030° 21,0' 23° 25,9' S	030° 13,5' 23° 25,3' S	030° 06,0' 23° 24,2' S	029° 58,6' 23° 22,7' S	029° 51,1' 23° 20,6' S
15	045° 57,8' 23° 22,0' S	045° 50,4' 23° 23,7' S	045° 43,0' 23° 24,9' S	045° 35,6' 23° 25,7' S	045° 28,1' 23° 26,0' S	045° 20,7' 23° 25,9' S	045° 13,2' 23° 25,3' S	045° 05,7' 23° 24,2' S	044° 58,3' 23° 22,6' S	044° 50,8' 23° 20,6' S
16	060° 57,5' 23° 22,0' S	060° 50,1' 23° 23,7' S	060° 42,7' 23° 25,0' S	060° 35,3' 23° 25,7' S	060° 27,8' 23° 26,0' S	060° 20,4' 23° 25,9' S	060° 12,9' 23° 24,9' S	060° 05,4' 23° 24,1' S	059° 58,0' 23° 22,5' S	

