

SUNRISE AND SUNSET TABLES

INTRODUCTION

The tables supplied on the following pages provide an easy means to determine the sunrise and sunset for most any position on the globe.

To obtain the Universal Coordinated Time (UTC) of the sunrise or sunset at a particular place, the longitude must be converted to time (by means of the Longitude to Time Table) and applied (east longitude subtract, west add) to the Local Mean Time (LMT) at 0° longitude from the Sunrise and Sunset Tables.

Listings beginning towards the end of the Sunrise and Sunset Tables contain the Local to UTC Conversion Factors, preselected for your convenience, for many cities throughout the world.

UTC = LMT East (or + West) Longitude to Time Factor

EXAMPLE 1:

- Find the UTC for the sunrise at Denver, Colorado, USA on 1 October.

Denver is located at 40N and 105W (rounded to nearest degree).

From the Sunrise and Sunset Tables, find the LMT for the sunrise at 0° longitude, 40° N, on 2 October (nearest day).

It is 05:56.

From the Longitude To Time Table, find the Longitude to Time Factor for 105° longitude.

It is 07:00.

Since the longitude for Denver is west, add 07:00 hours to 05:56 hours to obtain the UTC for the sunrise:

05:56 + 07:00 = 12:56 UTC.

EXAMPLE 2:

- Find the UTC for the sunset at Frankfurt, Germany on 1 October.

Frankfurt is located at 50N and 009E (rounded to nearest degree).

From the Sunrise and Sunset Tables, find the LMT for the sunset at 0° longitude, 50° N, on 2 October (nearest day).

It is 17:38.

From the Longitude To Time Table, find the Longitude to Time Factor for 009° longitude.

It is 00:36.

Since the longitude for Frankfurt is east, subtract 00:36 hours from 17:38 hours to obtain the UTC for the sunset:

17:38 00:36 = 17:02 UTC.

Local time is determined by adding or subtracting the LT conversion factor for the state. These factors are listed in the Jeppesen Airport Directory.

Many states adopt "summer" or "daylight" time for several months of the year. Consult the Chart NOTAMS section of the Jeppesen Airway Manual for dates and conversion factors for any particular state.

SUNRISE AND SUNSET TABLES

LONGITUDE TO TIME

Degree (°) to Hours (h) and Minutes (m)

°	h m	°	h m	°	h m	°	h m	°	h m	°	h m
0	0 00	30	2 00	60	4 00	90	6 00	120	8 00	150	10 00
1	0 04	31	2 04	61	4 04	91	6 04	121	8 04	151	10 04
2	0 08	32	2 08	62	4 08	92	6 08	122	8 08	152	10 08
3	0 12	33	2 12	63	4 12	93	6 12	123	8 12	153	10 12
4	0 16	34	2 16	64	4 16	94	6 16	124	8 16	154	10 16
5	0 20	35	2 20	65	4 20	95	6 20	125	8 20	155	10 20
6	0 24	36	2 24	66	4 24	96	6 24	126	8 24	156	10 24
7	0 28	37	2 28	67	4 28	97	6 28	127	8 28	157	10 28
8	0 32	38	2 32	68	4 32	98	6 32	128	8 32	158	10 32
9	0 36	39	2 36	69	4 36	99	6 36	129	8 36	159	10 36
10	0 40	40	2 40	70	4 40	100	6 40	130	8 40	160	10 40
11	0 44	41	2 44	71	4 44	101	6 44	131	8 44	161	10 44
12	0 48	42	2 48	72	4 48	102	6 48	132	8 48	162	10 48
13	0 52	43	2 52	73	4 52	103	6 52	133	8 52	163	10 52
14	0 56	44	2 56	74	4 56	104	6 56	134	8 56	164	10 56
15	1 00	45	3 00	75	5 00	105	7 00	135	9 00	165	11 00
16	1 04	46	3 04	76	5 04	106	7 04	136	9 04	166	11 04
17	1 08	47	3 08	77	5 08	107	7 08	137	9 08	167	11 08
18	1 12	48	3 12	78	5 12	108	7 12	138	9 12	168	11 12
19	1 16	49	3 16	79	5 16	109	7 16	139	9 16	169	11 16
20	1 20	50	3 20	80	5 20	110	7 20	140	9 20	170	11 20
21	1 24	51	3 24	81	5 24	111	7 24	141	9 24	171	11 24
22	1 28	52	3 28	82	5 28	112	7 28	142	9 28	172	11 28
23	1 32	53	3 32	83	5 32	113	7 32	143	9 32	173	11 32
24	1 36	54	3 36	84	5 36	114	7 36	144	9 36	174	11 36
25	1 40	55	3 40	85	5 40	115	7 40	145	9 40	175	11 40
26	1 44	56	3 44	86	5 44	116	7 44	146	9 44	176	11 44
27	1 48	57	3 48	87	5 48	117	7 48	147	9 48	177	11 48
28	1 52	58	3 52	88	5 52	118	7 52	148	9 52	178	11 52
29	1 56	59	3 56	89	5 56	119	7 56	149	9 56	179	11 56
										180	12 00

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNRISE										
January										
LAT	2	5	8	11	14	17	20	23	26	29
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	★	★	★	★	★	★	★	★	12 04	11 03
70	★	★	★	★	★	12 05	11 11	10 46	10 25	10 06
68	★	11 34	11 13	10 56	10 41	10 27	10 13	09 59	09 46	09 33
66	10 27	10 21	10 14	10 06	09 58	09 49	09 39	29	09 19	09 09
64	09 49	09 45	09 41	09 35	29	22	09 15	09 07	08 59	08 50
62	22	20	09 16	09 12	09 07	09 02	08 56	08 49	43	35
N 60	09 02	09 00	08 58	08 54	08 50	08 46	08 40	08 35	08 29	08 22
58	08 45	08 44	42	39	36	32	27	22	17	11
56	31	30	28	26	23	20	16	12	08 07	08 02
54	19	18	17	15	12	09	08 06	08 02	07 58	07 53
52	08 08	08 07	08 06	08 05	08 02	08 00	07 57	07 54	50	46
N 50	07 58	07 58	07 57	07 56	07 54	07 52	07 49	07 46	07 42	07 39
45	38	38	38	37	36	34	32	30	27	24
40	22	22	22	22	21	20	18	16	14	12
35	07 08	07 08	07 08	07 08	07 08	07 07	07 06	07 05	07 03	07 01
30	06 56	06 57	06 57	06 57	06 57	06 56	06 56	06 55	06 54	06 52
N 20	06 35	06 36	06 37	06 37	06 38	06 38	06 38	06 38	06 37	06 37
N 10	17	18	19	20	21	22	22	22	23	23
0	06 00	06 02	06 03	06 04	06 05	06 06	06 07	06 08	06 09	06 10
S 10	05 43	05 44	05 46	05 48	05 49	05 51	05 52	05 54	05 55	05 56
20	24	26	28	30	32	34	36	38	40	42
S 30	05 03	05 05	05 07	05 10	05 12	05 15	05 17	05 20	05 23	05 25
35	04 50	04 52	04 55	04 57	05 00	05 03	05 06	05 09	13	16
40	35	38	41	44	04 47	04 50	04 54	04 57	05 01	05 04
45	04 18	04 21	24	27	31	35	39	43	04 47	04 51
50	03 56	03 59	04 03	04 07	11	15	20	25	30	35
S 52	03 45	03 49	03 52	03 57	04 01	04 06	04 11	04 17	04 22	04 28
54	33	37	41	46	03 51	03 56	04 01	04 07	13	19
56	19	22	28	33	38	44	03 50	03 57	04 03	04 10
58	03 03	03 08	03 13	03 18	24	31	37	44	03 52	03 59
S 60	02 44	02 49	02 54	03 00	03 07	03 15	03 22	03 30	03 38	03 46

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNSET										
January										
LAT	2	5	8	11	14	17	20	23	26	29
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	★	★	★	★	★	★	★	★	12 25	13 24
70	★	★	★	★	★	12 21	13 11	13 39	14 01	14 21
68	★	12 36	13 00	13 20	13 37	13 54	14 09	14 25	14 39	14 54
66	13 41	13 49	13 59	14 09	14 20	14 32	14 43	14 55	15 06	15 18
64	14 19	14 25	14 32	14 40	14 49	14 58	15 07	15 17	27	36
62	14 45	14 50	14 57	15 03	15 10	15 18	26	35	43	15 52
N 60	15 06	15 10	15 16	15 22	15 28	15 35	15 42	15 49	15 57	16 05
58	22	27	32	37	43	15 49	15 55	16 02	16 09	15
56	37	41	45	15 50	15 55	16 01	16 06	12	19	25
54	15 49	15 53	15 57	16 01	16 06	11	16	22	28	34
52	16 00	16 03	16 07	11	16	20	25	30	36	41
N 50	16 09	16 13	16 16	16 20	16 24	16 29	16 33	16 38	16 43	16 48
45	29	32	35	39	42	16 46	16 50	16 54	16 58	17 03
40	16 46	16 48	16 51	16 54	16 57	17 01	17 04	17 08	17 11	15
35	17 00	17 02	17 04	17 07	17 10	13	16	19	22	25
30	12	14	16	19	21	24	26	29	32	34
N 20	17 32	17 34	17 36	17 38	17 40	17 42	17 44	17 46	17 48	17 50
N 10	17 50	17 52	17 54	17 55	17 57	17 58	18 00	18 01	18 02	18 04
0	18 07	18 09	18 10	18 11	18 12	18 14	14	15	16	17
S 10	25	26	27	28	29	29	29	30	30	30
20	18 43	18 44	18 45	18 45	18 46	18 46	18 46	18 45	18 45	18 44
S 30	19 05	19 05	19 06	19 06	19 05	19 05	19 04	19 03	19 02	19 00
35	17	18	18	18	17	16	15	14	12	10
40	32	32	32	31	30	29	28	26	24	21
45	19 50	19 49	19 49	19 48	19 46	19 45	19 42	40	37	34
50	20 12	20 11	20 10	20 08	20 06	20 04	20 01	19 58	19 54	50
S 52	20 22	20 21	20 20	20 18	20 16	20 13	20 09	20 06	20 02	19 57
54	34	33	31	29	26	23	19	15	11	20 06
56	20 48	20 46	44	41	38	35	30	26	21	15
58	21 04	21 02	20 59	20 56	20 52	20 48	43	38	32	26
S 60	21 23	21 21	21 18	21 14	21 09	21 04	20 58	20 52	20 45	20 38

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNRISE										
February										
LAT	1	4	7	10	13	16	19	22	25	28
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	10 33	10 09	09 48	09 28	09 10	08 52	08 35	08 18	08 02	07 46
70	09 49	09 33	09 17	09 02	08 47	32	18	08 04	07 49	35
68	09 20	09 08	08 55	08 42	30	17	08 04	07 52	39	27
66	08 59	08 48	37	26	16	08 05	07 53	42	31	20
64	42	32	23	14	08 04	07 54	44	34	24	14
62	27	19	11	08 03	07 54	45	36	27	18	08
N 60	08 15	08 08	08 01	07 53	07 45	07 37	07 29	07 21	07 12	07 03
58	08 05	07 59	07 52	45	38	31	23	15	08	07 00
56	07 56	50	44	38	32	25	18	11	03	06 56
54	48	43	37	32	26	19	13	06	07 00	53
52	41	36	31	26	20	15	09	07 02	06 56	50
N 50	07 35	07 30	07 25	07 21	07 15	07 10	07 05	06 59	06 53	06 47
45	21	17	13	09	07 05	07 01	06 56	51	46	41
40	07 09	07 06	07 03	07 00	06 56	06 53	49	45	40	36
35	06 59	06 57	06 55	06 52	49	46	43	39	35	32
30	51	49	47	45	42	40	37	34	31	28
N 20	06 36	06 35	06 33	06 32	06 31	06 29	06 27	06 25	06 23	06 21
N 10	23	22	22	21	21	20	19	18	16	15
0	06 10	06 10	06 11	11	11	11	11	10	10	09
S 10	05 57	05 58	05 59	06 00	06 01	06 02	06 02	06 03	06 03	06 03
20	44	45	47	05 49	05 50	05 52	05 53	05 55	05 56	05 57
S 30	05 28	05 31	05 33	05 36	05 38	05 41	05 43	05 45	05 47	05 50
35	19	22	25	28	31	34	37	40	43	45
40	05 08	12	16	19	23	26	30	34	37	40
45	04 56	05 00	05 05	05 09	13	18	22	26	30	35
50	40	04 46	04 51	04 56	05 02	07	12	17	23	28
S 52	04 33	04 39	04 45	04 50	04 56	05 02	05 08	05 13	05 19	05 25
54	25	31	38	44	50	04 57	05 03	09	15	21
56	16	23	30	37	44	50	04 57	05 04	10	17
58	04 06	14	21	29	36	43	51	04 58	05	13
S 60	03 54	04 03	04 11	04 19	04 28	04 36	04 44	04 52	05 00	05 08

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNSET										
February										
LAT	1	4	7	10	13	16	19	22	25	28
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	13 55	14 20	14 42	15 02	15 20	15 38	15 55	16 11	16 26	16 41
70	14 39	14 56	15 12	28	15 43	15 58	16 12	25	39	16 52
68	15 08	15 21	35	15 48	16 00	16 13	25	37	49	17 00
66	29	41	15 52	16 03	14	25	36	47	16 57	07
64	15 46	15 56	16	16	26	35	45	16 55	17 04	13
62	16 00	16 09	18	27	36	44	16 53	17 02	10	18
N 60	16 12	16 20	16 28	16 36	16 44	16 52	17 00	17 08	17 15	17 23
58	23	30	37	44	51	16 59	06	13	20	27
56	32	38	45	51	16 58	17 04	11	18	24	30
54	40	46	52	16 58	17 04	10	16	22	28	34
52	47	52	16 58	17 03	09	15	20	26	31	37
N 50	16 53	16 58	17 03	17 09	17 14	17 19	17 24	17 29	17 34	17 39
45	17 07	17 11	16	20	24	28	32	37	41	45
40	18	22	25	29	33	36	40	43	47	50
35	28	31	34	37	40	43	46	49	51	54
30	37	39	42	44	47	49	17 51	17 54	17 56	17 58
N 20	17 52	17 53	17 55	17 57	17 58	17 59	18 01	18 02	18 03	18 05
N 10	18 05	18 06	18 07	18 07	18 08	18 09	09	10	10	10
0	17	17	18	18	18	18	17	17	17	16
S 10	30	29	29	28	27	27	25	24	23	22
20	43	42	41	39	38	36	34	32	30	28
S 30	18 59	18 57	18 55	18 52	18 50	18 47	18 44	18 42	18 38	18 35
35	19 08	19 05	19 03	19 00	18 57	18 54	50	47	43	39
40	18	15	12	09	19 05	19 01	18 57	18 53	49	44
45	31	27	23	19	14	10	19 05	19 00	18 55	50
50	46	41	36	31	26	20	15	09	19 03	18 57
S 52	19 53	19 48	19 42	19 37	19 31	19 25	19 19	19 13	19 06	19 00
54	20 01	19 55	49	43	37	30	24	17	10	03
56	09	20 03	19 57	50	43	37	29	22	15	07
58	19	13	20 06	19 58	51	43	35	27	19	11
S 60	20 31	20 23	20 15	20 07	19 59	19 51	19 42	19 34	19 25	19 16

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNRISE										
March										
LAT	3	6	9	12	15	18	21	24	27	30
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	07 30	07 14	06 59	06 44	06 28	06 13	05 57	05 42	05 26	05 11
70	21	08	54	40	26	12	58	44	30	16
68	14	07 02	49	37	24	12	05 59	46	34	21
66	08	06 57	46	34	23	11	06 00	48	37	25
64	07 03	53	42	32	21	11	00	50	39	28
62	06 59	49	40	30	20	11	01	51	41	31
N 60	06 55	06 46	06 37	06 28	06 19	06 10	06 01	05 52	05 43	05 34
58	52	43	35	27	18	10	01	53	44	36
56	48	41	33	25	17	10	02	54	46	38
54	46	39	31	24	17	09	02	55	47	40
52	43	36	30	23	16	09	02	55	48	41
N 50	06 41	06 35	06 28	06 22	06 15	06 09	06 02	05 56	05 49	05 43
45	36	30	25	20	14	09	03	57	52	46
40	32	27	22	18	13	08	03	58	53	49
35	28	24	20	16	12	08	03	05 59	55	51
30	25	21	18	14	11	07	04	06 00	57	53
N 20	06 19	06 17	06 14	06 12	06 09	06 07	06 04	06 01	05 59	05 56
N 10	14	12	11	09	08	06	04	02	06 01	05 59
0	09	08	07	07	06	05	04	03	02	06 01
S 10	06 04	06 04	04	04	04	04	04	04	04	04
20	05 58	05 59	06 00	06 01	02	03	04	05	05	06
S 30	05 52	05 54	05 56	05 58	06 00	06 02	06 04	06 05	06 07	06 09
35	48	51	53	56	05 58	01	03	06	08	11
40	44	47	50	54	57	06 00	03	06	09	12
45	39	43	47	51	55	05 59	03	06	10	14
50	33	38	43	48	53	57	02	07	12	16
S 52	05 30	05 36	05 41	05 46	05 51	05 57	06 02	06 07	06 12	06 17
54	27	33	39	45	50	56	02	07	13	19
56	24	30	36	43	49	55	01	08	14	20
58	20	27	34	41	47	54	01	08	14	21
S 60	05 16	05 23	05 31	05 38	05 46	05 53	06 01	06 08	06 15	06 23

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNSET										
March										
LAT	3	6	9	12	15	18	21	24	27	30
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	16 56	17 11	17 25	17 39	17 53	18 07	18 20	18 34	18 48	19 02
70	17 05	18	30	42	55	07	19	31	44	18 56
68	12	23	34	45	56	07	18	29	40	51
66	18	28	38	48	58	08	17	27	37	47
64	23	32	41	50	17 59	08	17	25	34	43
62	27	35	43	52	18 00	08	16	24	32	40
N 60	17 31	17 38	17 46	17 53	18 01	18 08	18 15	18 23	18 30	18 37
58	34	41	48	55	01	08	15	21	28	35
56	37	43	50	56	02	08	14	21	27	33
54	40	45	51	57	03	08	14	20	25	31
52	42	47	53	58	03	09	14	19	24	29
N 50	17 44	17 49	17 54	17 59	18 04	18 09	18 14	18 18	18 23	18 28
45	49	53	17 57	18 01	05	09	13	17	20	24
40	53	56	18 00	03	06	09	12	15	18	21
35	17 57	17 59	02	04	07	09	12	14	17	19
30	18 00	18 02	04	06	08	10	12	13	15	17
N 20	18 06	18 07	18 08	18 09	18 10	18 10	18 11	18 12	18 13	18 14
N 10	11	11	11	11	11	11	11	11	11	11
0	15	15	14	13	12	11	11	10	09	08
S 10	20	19	17	16	14	12	11	09	07	05
20	26	23	21	18	16	13	11	08	05	03
S 30	18 32	18 29	18 25	18 22	18 18	18 14	18 11	18 07	18 04	18 00
35	36	32	28	23	19	15	11	07	03	17 58
40	40	35	30	26	21	16	11	06	02	57
45	45	39	34	28	23	17	11	06	18 00	55
50	50	44	38	31	25	18	12	05	17 59	52
S 52	18 53	18 46	18 40	18 33	18 26	18 19	18 12	18 05	17 58	17 51
54	56	49	42	34	27	19	12	05	57	50
56	18 59	52	44	36	28	20	12	04	57	49
58	19 03	55	46	38	29	21	13	04	56	47
S 60	19 07	18 58	18 49	18 40	18 31	18 22	18 13	18 04	17 55	17 46

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNRISE										
April										
LAT	2	5	8	11	14	17	20	23	26	29
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	04 55	04 39	04 23	04 06	03 49	03 32	03 14	02 55	02 35	02 14
70	05 02	48	34	19	04 05	03 50	35	03 19	03 03	02 47
68	08	04 56	43	30	17	04 04	03 51	37	24	03 10
66	14	05 02	50	39	27	15	04 04	03 52	40	28
64	18	07	04 57	46	35	25	14	04 04	03 53	43
62	22	12	05 02	52	43	33	23	14	04 05	03 55
N 60	05 25	05 16	05 07	04 58	04 49	04 40	04 31	04 22	04 14	04 05
58	28	19	11	05 02	54	46	38	30	22	15
56	30	22	14	07	04 59	51	44	37	29	22
54	32	25	18	11	05 03	04 56	49	43	36	29
52	34	28	21	14	07	05 01	04 54	48	42	36
N 50	05 36	05 30	05 24	05 17	05 11	05 05	04 59	04 53	04 47	04 41
45	40	35	29	24	19	13	05 08	05 03	04 58	04 54
40	44	39	34	30	25	21	16	12	05 08	05 04
35	47	43	38	34	30	27	23	19	16	12
30	49	46	42	39	35	32	29	26	23	20
N 20	05 53	05 51	05 48	05 46	05 43	05 41	05 39	05 36	05 34	05 32
N 10	05 57	05 55	54	52	51	49	47	46	45	44
0	06 01	06 00	05 59	05 58	05 57	05 56	05 56	05 55	05 55	05 54
S 10	04	04	06 04	06 04	06 04	06 04	06 04	06 04	06 04	06 04
20	07	08	09	09	10	11	12	13	14	15
S 30	06 11	06 12	06 14	06 16	06 18	06 20	06 22	06 23	06 25	06 27
35	13	15	18	20	22	25	27	29	32	34
40	15	18	21	24	27	30	33	36	39	42
45	18	22	25	29	33	37	40	44	48	06 51
50	21	26	30	35	40	44	49	53	06 58	07 02
S 52	06 22	06 28	06 33	06 38	06 43	06 48	06 53	06 58	07 03	07 08
54	24	30	35	41	46	51	06 57	07 02	08	13
56	26	32	38	44	50	06 56	07 02	08	14	20
58	28	34	41	47	54	07 00	07	14	20	26
S 60	06 30	06 37	06 44	06 51	06 58	07 06	07 13	07 20	07 27	07 34

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNSET										
April										
LAT	2	5	8	11	14	17	20	23	26	29
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	19 16	19 30	19 45	20 00	20 16	20 32	20 48	21 06	21 26	21 47
70	08	21	33	19 46	20 00	20 13	27	20 42	20 57	21 12
68	19 02	13	24	35	19 47	19 59	20 11	23	35	20 48
66	18 56	06	16	26	37	47	19 57	20 08	18	29
64	52	19 01	10	19	28	37	46	19 55	20 05	14
62	48	18 56	19 04	12	20	29	37	45	19 53	20 02
N 60	18 44	18 52	18 59	19 06	19 14	19 21	19 29	19 36	19 44	19 51
58	41	48	55	19 01	08	15	22	28	35	42
56	39	45	51	18 57	19 03	09	16	22	28	34
54	36	42	47	53	18 59	04	10	16	21	27
52	34	39	44	50	55	19 00	05	10	15	20
N 50	18 32	18 37	18 42	18 46	18 51	18 56	19 00	19 05	19 10	19 15
45	28	32	36	39	43	47	18 51	18 55	18 58	19 02
40	24	28	31	34	37	40	43	46	49	18 52
35	22	24	26	29	31	33	36	38	41	43
30	19	21	22	24	26	28	30	32	34	36
N 20	18 14	18 15	18 16	18 17	18 18	18 19	18 20	18 21	18 22	18 23
N 10	10	10	10	10	10	11	11	11	11	11
0	07	06	05	18 04	18 04	18 03	18 02	18 02	18 01	18 01
S 10	04	18 02	18 00	17 59	17 57	17 56	17 54	17 53	17 52	17 51
20	18 00	17 58	17 55	53	50	48	46	44	42	40
S 30	17 56	17 53	17 49	17 46	17 43	17 39	17 36	17 33	17 30	17 27
35	54	50	46	42	38	34	31	27	23	20
40	52	47	42	38	33	29	24	20	16	12
45	49	43	38	33	27	22	17	12	17 07	17 03
50	46	39	33	27	20	14	09	17 03	16 57	16 52
S 52	17 44	17 37	17 31	17 24	17 17	17 11	17 05	16 58	16 52	16 47
54	43	35	28	21	14	07	17 00	54	47	41
56	41	33	25	18	10	17 03	16 56	48	41	35
58	39	30	22	14	06	16 58	50	43	35	28
S 60	17 37	17 28	17 19	17 10	17 01	16 53	16 44	16 36	16 28	16 19

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNRISE										
May										
LAT	2	5	8	11	14	17	20	23	26	29
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	01 50	01 22	00 41	☆	☆	☆	☆	☆	☆	☆
70	02 29	02 11	01 51	01 29	01 02	00 12	☆	☆	☆	☆
68	02 56	02 42	02 28	02 12	01 57	01 40	01 21	01 00	00 29	☆
66	03 17	03 05	02 53	02 41	02 29	02 17	02 05	01 53	01 41	01 28
64	33	23	03 12	03 02	02 53	02 43	34	02 25	02 16	02 07
62	46	37	28	20	03 11	03 03	02 55	02 48	02 41	34
N 60	03 57	03 49	03 41	03 34	03 26	03 19	03 13	03 06	03 01	02 55
58	04 07	04 00	03 53	46	39	33	27	22	17	03 12
56	16	09	04 02	03 56	03 50	45	40	35	30	26
54	23	17	11	04 06	04 00	03 55	03 50	46	42	39
52	30	24	19	14	09	04 04	04 00	03 56	03 52	49
N 50	04 36	04 31	04 26	04 21	04 17	04 12	04 09	04 05	04 02	03 59
45	04 49	45	41	37	33	30	27	24	21	04 19
40	05 00	04 56	04 53	04 49	46	44	41	39	37	35
35	09	05 06	05 03	05 00	04 58	04 56	04 53	04 52	04 50	04 49
30	17	14	12	10	05 08	05 06	05 04	05 03	05 01	05 00
N 20	05 31	05 29	05 27	05 26	05 25	05 23	05 22	05 22	05 21	05 20
N 10	43	42	41	40	39	39	38	38	38	38
0	05 54	05 53	05 53	05 53	05 53	05 53	05 53	05 53	05 53	05 54
S 10	06 04	06 05	06 05	06 06	06 06	06 07	06 07	06 08	06 09	06 10
20	16	17	18	19	20	21	23	24	25	26
S 30	06 29	06 31	06 33	06 35	06 37	06 38	06 40	06 42	06 44	06 46
35	37	39	41	44	46	48	06 50	06 53	06 55	06 57
40	45	48	06 51	06 54	06 57	06 59	07 02	07 05	07 07	07 09
45	06 55	06 59	07 02	07 06	07 09	07 12	16	19	22	25
50	07 07	07 11	16	20	24	28	32	36	40	43
S 52	07 12	07 17	07 22	07 27	07 31	07 36	07 40	07 44	07 48	07 52
54	19	24	29	34	39	44	49	07 53	07 58	08 02
56	25	31	37	42	48	07 53	07 58	08 03	08 08	12
58	33	39	46	07 52	07 58	08 04	08 10	15	20	25
S 60	07 41	07 49	07 56	08 03	08 09	08 16	08 22	08 29	08 34	08 40

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNSET										
May										
LAT	2	5	8	11	14	17	20	23	26	29
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	22 11	22 41	23 35	☆	☆	☆	☆	☆	☆	☆
70	21 29	21 47	22 07	22 31	23 01	☆	☆	☆	☆	☆
68	21 01	21 15	21 30	21 45	22 01	22 18	22 37	23 01	23 43	☆
66	20 40	20 52	21 03	21 15	21 27	21 39	21 51	22 04	22 17	22 30
64	24	33	20 43	20 53	21 02	21 12	21 22	21 31	21 40	21 49
62	20 10	18	27	35	20 43	20 51	20 59	21 07	21 15	22
N 60	19 59	20 06	20 13	20 21	20 28	20 35	20 42	20 48	20 55	21 01
58	48	19 55	20 02	20 08	15	21	27	33	38	20 43
56	40	46	19 52	19 58	20 03	20 09	14	20	24	29
54	32	38	43	48	19 53	19 58	20 03	20 08	13	17
52	25	30	35	40	45	49	19 54	19 58	20 02	20 06
N 50	19 19	19 24	19 28	19 33	19 37	19 41	19 45	19 49	19 53	19 56
45	19 06	19 09	13	17	20	24	27	30	33	36
40	18 55	18 58	19 01	19 04	19 07	19 09	12	15	18	20
35	46	48	18 50	18 53	18 55	18 58	19 00	19 02	19 04	19 06
30	37	39	41	43	45	47	18 49	18 51	18 53	18 54
N 20	18 24	18 25	18 26	18 27	18 28	18 29	18 31	18 32	18 33	18 34
N 10	12	12	13	13	14	14	15	16	16	17
0	18 00	18 00	18 00	18 00	18 00	18 00	18 00	18 00	18 01	18 01
S 10	17 50	17 49	17 48	17 47	17 46	17 46	17 45	17 45	17 45	17 45
20	38	36	35	33	32	31	30	29	28	28
S 30	17 25	17 22	17 20	17 18	17 16	17 14	17 12	17 11	17 10	17 09
35	17	14	11	17 09	17 06	17 04	17 02	17 00	16 59	16 57
40	17 09	17 05	17 02	16 59	16 56	16 53	16 51	16 48	46	45
45	16 58	16 54	16 50	47	43	40	37	34	32	30
50	47	42	37	32	28	24	20	17	14	11
S 52	16 41	16 35	16 30	16 25	16 21	16 16	16 12	16 09	16 05	16 02
54	35	29	23	18	13	16 08	16 04	16 00	15 56	15 53
56	28	22	15	10	16 04	15 59	15 54	15 49	45	42
58	20	13	16 07	16 00	15 54	48	43	38	33	29
S 60	16 12	16 04	15 56	15 49	15 43	15 36	15 30	15 24	15 19	15 14

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNRISE										
June										
LAT	1	4	7	10	13	16	19	22	25	28
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
70	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
68	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
66	01 15	01 02	00 48	00 33	00 08	☆	☆	☆	☆	☆
64	02 00	01 52	01 46	01 40	01 36	01 33	01 31	01 31	01 32	01 35
62	28	02 23	02 19	02 15	02 12	02 10	02 09	02 09	02 10	02 12
N 60	02 50	02 46	02 43	02 40	02 37	02 36	02 36	02 36	02 37	02 39
58	03 08	03 04	03 01	02 59	02 57	02 56	02 56	02 56	02 57	02 59
56	23	20	17	03 15	03 14	03 13	03 13	03 13	03 14	03 16
54	35	33	31	29	28	27	27	27	28	30
52	46	44	42	41	40	39	39	40	41	42
N 50	03 56	03 54	03 53	03 51	03 50	03 50	03 50	03 51	03 51	03 53
45	04 17	04 15	04 14	04 13	04 13	04 12	04 13	04 13	04 14	04 15
40	33	32	31	31	30	30	31	31	32	33
35	47	47	46	46	45	45	46	46	04 47	04 48
30	04 59	04 59	04 58	04 58	04 58	04 58	04 59	04 59	05 00	05 01
N 20	05 20	05 20	05 20	05 20	05 20	05 20	05 21	05 21	05 22	05 23
N 10	38	38	38	38	39	39	40	40	41	42
0	05 54	05 55	05 55	05 56	05 56	05 57	05 57	05 58	05 59	05 59
S 10	06 10	06 11	06 12	06 13	06 13	06 14	06 15	06 16	06 16	06 17
20	27	29	30	31	32	33	33	34	35	35
S 30	06 47	06 49	06 50	06 51	06 53	06 54	06 55	06 55	06 56	06 56
35	06 59	07 00	07 02	07 03	07 05	07 06	07 07	07 08	07 08	07 09
40	07 12	14	16	17	19	20	21	22	22	23
45	27	30	32	34	35	37	38	07 39	07 39	07 39
50	46	49	07 52	07 54	07 56	07 58	07 59	08 00	08 00	08 00
S 52	07 55	07 58	08 01	08 04	08 06	08 07	08 09	08 10	08 10	08 10
54	08 05	08 09	12	14	17	18	20	21	21	21
56	17	20	24	27	29	31	32	33	34	33
58	30	34	38	41	08 44	08 46	08 47	08 48	08 48	08 48
S 60	08 45	08 50	08 54	08 58	09 01	09 03	09 05	09 06	09 06	09 05

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNSET										
June										
LAT	1	4	7	10	13	16	19	22	25	28
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
70	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
68	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
66	22 44	22 58	23 14	23 32	☆	☆	☆	☆	☆	☆
64	21 58	22 06	22 13	22 20	22 25	22 29	22 31	22 32	22 32	22 30
62	28	21 34	21 40	21 45	21 48	21 51	21 53	21 54	21 54	21 53
N 60	21 06	21 11	21 16	21 20	21 23	21 25	21 27	21 28	21 28	21 27
58	20 48	20 53	20 57	21 00	21 03	21 05	21 06	21 07	21 07	21 07
56	33	37	41	20 44	20 46	20 48	20 50	20 50	20 51	20 50
54	21	24	27	30	32	34	35	36	36	36
52	09	13	15	18	20	22	23	24	24	24
N 50	20 00	20 02	20 05	20 07	20 09	20 11	20 12	20 13	20 13	20 13
45	19 39	19 41	19 43	19 45	19 47	19 49	19 50	19 50	19 51	19 51
40	22	24	26	28	29	30	31	32	33	33
35	19 08	19 10	19 12	13	14	16	16	17	18	18
30	18 56	18 58	18 59	19 00	19 01	19 03	19 03	19 04	19 05	19 05
N 20	18 35	18 37	18 38	18 39	18 40	18 41	18 41	18 42	18 43	18 43
N 10	18	19	19	20	21	22	22	23	24	24
0	18 01	18 02	18 02	18 03	18 03	18 04	18 05	18 05	18 06	18 07
S 10	17 45	17 45	17 46	17 46	17 46	17 47	17 47	17 48	17 49	17 49
20	28	28	28	28	28	28	29	30	30	31
S 30	17 08	17 07	17 07	17 07	17 07	17 07	17 08	17 08	17 09	17 10
35	16 56	16 56	16 55	16 55	16 55	16 55	16 55	16 56	16 57	16 58
40	43	42	41	41	41	41	41	42	42	43
45	28	27	25	25	24	24	24	25	26	27
50	09	16 07	16 05	16 04	16 04	16 03	16 03	16 04	16 05	16 06
S 52	16 00	15 58	15 56	15 55	15 54	15 53	15 53	15 54	15 55	15 56
54	15 50	47	45	44	43	42	42	43	44	45
56	38	36	33	32	30	30	30	30	31	33
58	25	22	19	17	15 16	15 15	15 15	15 15	15 17	18
S 60	15 10	15 06	15 03	15 00	14 59	14 58	14 57	14 58	14 59	15 01

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon						★ Sun remains continuously below the horizon					
SUNRISE											
July											
LAT	1	4	7	10	13	16	19	22	25	28	31
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
70	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	01 09
68	☆	☆	☆	☆	☆	☆	00 35	01 08	01 30	01 49	02 06
66	00 03	00 37	00 53	01 09	01 23	01 36	01 49	02 02	02 14	02 27	02 38
64	01 04	01 45	01 52	01 59	02 07	02 16	02 25	34	02 43	02 53	03 02
62	02 16	02 20	02 25	02 30	36	02 43	02 50	02 57	03 05	03 13	21
N 60	02 41	02 45	02 49	02 53	02 58	03 04	03 10	03 16	03 23	03 29	03 36
58	03 01	03 04	03 08	03 11	03 16	21	26	31	37	43	03 49
56	18	20	23	27	31	35	40	44	03 50	03 55	04 00
54	32	34	37	40	43	47	03 51	03 56	04 00	04 05	10
52	44	46	48	03 51	03 55	03 58	04 02	04 06	10	14	19
N 50	03 54	03 56	03 59	04 01	04 04	04 08	04 11	04 15	04 19	04 23	04 27
45	04 17	04 18	04 20	22	25	28	30	33	37	40	43
40	34	36	38	39	42	44	46	04 49	04 51	04 54	04 56
35	04 49	04 50	04 52	04 54	04 55	04 57	04 59	05 01	05 03	05 06	05 08
30	05 02	05 03	05 05	05 06	05 07	05 09	05 11	12	14	16	18
N 20	05 24	05 25	05 26	05 27	05 28	05 29	05 30	05 31	05 32	05 34	05 35
N 10	05 43	05 43	05 44	05 45	05 46	05 46	05 47	05 48	05 48	05 49	05 49
0	06 00	06 01	06 01	06 02	06 02	06 02	06 02	06 03	06 03	06 03	06 03
S 10	17	18	18	18	18	18	18	18	17	17	16
20	35	36	36	36	35	35	34	34	33	32	31
S 30	06 56	06 56	05 56	06 56	06 55	06 54	06 53	06 52	06 50	06 48	06 47
35	07 09	07 08	07 08	07 07	07 06	07 05	07 04	07 02	07 00	06 58	06 56
40	23	22	22	21	19	18	16	14	12	07 09	07 06
45	07 39	39	38	36	35	33	31	28	25	22	19
50	08 00	07 59	07 58	07 56	07 54	07 51	49	45	42	38	34
S 52	08 09	08 08	08 07	08 05	08 03	08 00	07 57	07 54	07 50	07 46	07 41
54	20	19	18	15	13	10	08 06	08 02	07 58	07 54	49
56	33	31	29	27	24	21	17	13	08 08	08 03	07 58
58	08 47	08 45	08 43	40	37	33	29	24	19	13	08 07
S 60	09 04	09 02	09 00	08 56	08 52	08 48	08 43	08 38	08 32	08 25	08 19

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon						★ Sun remains continuously below the horizon					
SUNSET											
July											
LAT	1	4	7	10	13	16	19	22	25	28	31
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
70	☆	☆	☆	☆	☆	☆	☆	☆	☆	23 34	22 55
68	☆	☆	☆	☆	☆	☆	23 25	22 58	22 37	22 19	22 03
66	23 46	23 26	23 11	22 57	22 44	22 32	22 20	22 07	21 55	21 43	21 31
64	22 26	22 21	22 16	22 09	22 02	21 54	21 45	21 36	27	21 18	21 08
62	21 51	21 47	21 43	21 39	21 33	27	20	21 13	21 06	20 58	20 50
N 60	21 25	21 23	21 20	21 16	21 12	21 07	21 01	20 55	20 49	20 42	20 35
58	21 06	21 04	21 01	20 58	20 54	20 50	20 45	40	34	28	22
56	20 49	20 48	20 46	43	40	36	32	27	22	17	11
54	35	34	32	30	27	24	20	16	11	20 06	20 01
52	23	22	21	18	16	13	10	20 06	20 02	19 58	19 53
N 50	20 13	20 12	20 10	20 08	20 06	20 04	20 01	19 57	19 54	19 50	19 45
45	19 50	19 50	19 49	19 47	19 46	19 44	19 41	39	36	32	29
40	33	32	32	31	29	28	26	24	21	19	16
35	18	18	17	16	15	14	13	11	19 09	19 07	19 04
30	19 05	19 05	19 05	19 04	19 03	19 02	19 01	19 00	18 58	18 57	18 55
N 20	18 43	18 43	18 44	18 43	18 43	18 43	18 42	18 41	18 40	18 39	18 38
N 10	25	25	25	26	26	26	25	25	25	24	23
0	18 07	18 08	18 08	18 09	18 09	18 10	18 10	18 10	18 10	18 10	18 10
S 10	17 50	17 51	17 52	17 52	17 53	17 54	17 54	17 55	17 56	17 56	17 56
20	32	33	34	35	36	37	38	39	40	41	42
S 30	17 11	17 12	17 13	17 15	17 16	17 18	17 20	17 21	17 23	17 25	17 27
35	16 59	17 00	17 02	17 03	17 05	17 07	17 09	17 11	13	15	17
40	45	16 46	16 48	16 50	16 52	16 54	16 56	16 59	17 01	17 04	17 07
45	28	30	32	34	37	39	42	45	16 48	16 51	16 54
50	16 08	10	12	15	18	21	24	28	31	35	39
S 52	15 58	16 00	16 03	16 06	16 09	16 12	16 16	16 20	16 24	16 28	16 32
54	47	15 50	15 52	15 55	15 59	16 02	16 06	11	15	20	24
56	35	37	40	44	47	15 51	15 56	16 01	16 05	11	16
58	20	23	27	30	34	39	44	15 49	15 55	16 00	16 06
S 60	15 03	15 06	15 10	15 14	15 19	15 24	15 30	15 36	15 42	15 48	15 55

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNRISE										
August										
LAT	3	6	9	12	15	18	21	24	27	30
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	☆	00 43	01 27	01 56	02 19	02 39	02 58	03 15	03 32	03 47
70	01 37	01 59	02 18	02 36	02 52	03 08	03 22	36	03 50	04 03
68	02 21	02 36	02 50	03 03	03 16	29	41	03 53	04 04	16
66	02 50	03 02	03 13	24	35	45	03 56	04 06	16	26
64	03 12	21	31	40	03 49	03 59	04 08	17	26	35
62	29	37	45	03 54	04 02	04 10	18	26	34	42
N 60	03 43	03 50	03 58	04 05	04 12	04 19	04 27	04 34	04 41	04 48
58	03 56	04 02	04 08	15	21	28	34	41	47	54
56	04 06	12	17	23	29	35	41	47	53	04 59
54	15	20	26	31	36	42	47	52	04 58	05 03
52	23	28	33	38	43	48	52	04 57	05 02	07
N 50	04 31	04 35	04 39	04 44	04 48	04 53	04 57	05 02	05 06	05 11
45	46	04 50	04 53	04 57	05 01	05 04	05 08	11	15	18
40	04 59	05 02	05 05	05 08	11	14	16	19	22	25
35	05 10	12	15	17	19	22	24	26	28	30
30	20	21	23	25	27	29	30	32	34	35
N 20	05 36	05 37	05 38	05 39	05 40	05 40	05 41	05 42	05 43	05 44
N 10	05 50	05 50	05 50	05 51	05 51	05 51	05 51	51	51	51
0	06 03	06 02	06 02	06 02	06 01	06 01	06 00	05 59	05 58	05 58
S 10	15	15	14	12	11	10	09	06 07	06 06	06 04
20	29	28	26	24	22	20	18	16	13	11
S 30	06 44	06 42	06 40	06 37	06 34	06 31	06 28	06 25	06 22	06 19
35	06 53	06 51	48	45	41	38	34	31	27	23
40	07 03	07 00	06 57	06 53	49	45	41	37	32	28
45	15	11	07 07	07 03	06 58	06 54	49	44	39	33
50	30	25	20	15	07 09	07 04	06 58	52	46	40
S 52	07 36	07 31	07 26	07 20	07 15	07 09	07 03	06 56	06 50	06 43
54	44	38	32	26	20	14	07	07 01	54	47
56	07 52	46	40	33	26	20	13	05	06 58	50
58	08 01	07 55	48	41	33	26	18	11	07 03	55
S 60	08 12	08 05	07 57	07 49	07 41	07 33	07 25	07 17	07 08	06 59

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNSET										
August										
LAT	3	6	9	12	15	18	21	24	27	30
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	☆	23 12	22 35	22 08	21 45	21 24	21 04	20 46	20 28	20 11
70	22 29	22 07	21 48	21 30	21 13	20 57	20 41	25	20 10	19 56
68	21 47	21 32	21 18	21 04	20 50	36	23	20 10	19 56	44
66	21 19	21 08	20 56	20 44	32	20	20 09	19 57	45	34
64	20 58	20 48	38	28	18	20 07	19 57	46	36	25
62	41	33	24	15	20 06	19 56	47	37	28	18
N 60	20 27	20 20	20 12	20 04	19 55	19 47	19 38	19 29	19 21	19 12
58	15	20 08	20 01	19 54	46	39	31	23	15	06
56	20 05	19 59	19 52	46	39	31	24	17	09	19 02
54	19 56	50	44	38	32	25	18	11	04	18 57
52	48	43	37	31	25	19	13	07	19 00	53
N 50	19 41	19 36	19 31	19 25	19 20	19 14	19 08	19 02	18 56	18 50
45	25	21	17	12	19 08	19 03	18 58	18 53	48	42
40	12	19 09	19 06	19 02	18 58	18 54	50	45	41	36
35	19 02	18 59	18 56	18 53	49	46	42	38	34	31
30	18 52	50	47	45	42	39	36	33	29	26
N 20	18 36	18 35	18 33	18 31	18 29	18 27	18 25	18 23	18 20	18 18
N 10	22	22	21	19	18	17	15	14	12	11
0	18 10	18 09	18 09	18 08	18 08	18 07	18 07	18 06	18 05	18 04
S 10	17 57	17 57	17 58	17 58	17 58	17 58	17 58	17 58	17 58	17 58
20	43	44	45	46	47	48	49	50	50	51
S 30	17 28	17 30	17 32	17 34	17 35	17 37	17 39	17 40	17 42	17 43
35	19	22	24	26	28	30	33	35	37	39
40	17 09	12	15	18	20	23	26	29	32	34
45	16 58	17 01	17 05	17 08	11	15	18	22	25	29
50	43	16 48	16 52	16 56	17 00	05	09	13	18	22
S 52	16 37	16 41	16 46	16 50	16 55	17 00	17 05	17 09	17 14	17 19
54	29	34	39	45	50	16 55	17 00	05	11	16
56	21	27	32	38	43	49	16 55	17 01	06	12
58	12	18	24	30	37	43	49	16 55	17 02	08
S 60	16 01	16 08	16 15	16 22	16 29	16 36	16 42	16 49	16 56	17 03

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNRISE										
September										
LAT	2	5	8	11	14	17	20	23	26	29
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	04 03	04 17	04 31	04 45	04 59	05 13	05 26	05 40	05 53	06 06
70	16	29	41	04 53	05 05	17	29	41	53	05
68	27	38	49	05 00	10	21	31	42	53	03
66	36	46	04 55	05	14	24	33	43	52	02
64	43	52	05 01	09	18	27	35	44	52	01
62	50	04 58	06	13	21	29	37	44	52	06 00
N 60	04 55	05 02	05 09	05 17	05 24	05 31	05 38	05 45	05 52	05 59
58	05 00	07	13	20	26	32	39	45	52	58
56	05	10	16	22	28	34	40	46	51	57
54	08	14	19	25	30	35	41	46	51	57
52	12	17	22	27	31	36	41	46	51	56
N 50	05 15	05 20	05 24	05 29	05 33	05 37	05 42	05 46	05 51	05 56
45	22	26	29	33	36	40	44	47	51	55
40	28	31	33	36	39	42	45	48	50	53
35	33	35	37	39	41	44	46	48	50	52
30	37	39	40	42	43	45	47	48	50	52
N 20	05 44	05 45	05 46	05 46	05 47	05 48	05 48	05 49	05 49	05 50
N 10	51	51	50	50	50	50	49	49	49	49
0	05 57	05 56	55	55	53	52	51	49	48	47
S 10	06 02	06 01	05 59	05 57	55	53	51	49	48	46
20	08	06	06 03	06 00	05 58	55	52	49	47	44
S 30	06 15	06 12	06 08	06 04	06 01	05 57	05 53	05 49	05 46	05 42
35	19	15	11	06	02	58	53	49	45	41
40	23	18	14	09	04	05 59	54	49	44	39
45	28	23	17	11	06	06 00	55	49	43	37
50	34	28	21	15	08	02	55	48	42	35
S 52	06 37	06 30	06 23	06 16	06 09	06 02	05 55	05 48	05 41	05 34
54	40	32	25	18	10	03	56	48	41	33
56	43	35	27	20	12	04	56	48	40	32
58	46	38	30	22	13	05	56	48	39	31
S 60	06 50	06 42	06 33	06 24	06 15	06 06	05 57	05 47	05 38	05 29

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNSET										
September										
LAT	2	5	8	11	14	17	20	23	26	29
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	19 54	19 38	19 22	19 06	18 50	18 34	18 19	18 03	17 48	17 33
70	41	27	12	18 58	44	30	16	02	49	35
68	31	18	19 05	52	39	27	14	02	49	36
66	22	10	18 59	47	35	24	12	01	49	38
64	15	19 04	54	43	32	22	11	00	50	39
62	09	18 59	49	39	29	19	10	18 00	50	40
N 60	19 03	18 54	18 45	18 36	18 27	18 17	18 08	17 59	17 50	17 41
58	18 58	50	41	33	24	16	07	59	50	42
56	54	46	38	30	22	14	06	58	51	43
54	50	43	35	28	21	13	06	58	51	43
52	47	40	33	26	19	12	05	58	51	44
N 50	18 44	18 37	18 31	18 24	18 18	18 11	18 04	17 58	17 51	17 45
45	37	31	26	20	14	09	03	57	52	46
40	31	26	22	17	12	07	02	57	52	47
35	26	22	18	14	10	05	01	57	52	48
30	22	19	15	11	08	04	18 00	56	53	49
N 20	18 15	18 13	18 10	18 07	18 04	18 02	17 59	17 56	17 53	17 51
N 10	09	07	05	03	18 02	18 00	58	56	54	52
0	18 03	18 02	18 01	18 00	17 59	17 58	57	56	55	54
S 10	17 58	17 57	17 57	17 57	57	56	56	56	56	56
20	52	52	53	54	54	55	55	56	57	17 57
S 30	17 45	17 47	17 48	17 50	17 51	17 53	17 55	17 56	17 58	18 00
35	41	44	46	48	50	52	54	57	17 59	01
40	37	40	43	46	48	51	54	57	18 00	03
45	32	36	39	43	46	50	54	57	01	05
50	27	31	35	40	44	49	53	58	02	07
S 52	17 24	17 29	17 34	17 38	17 43	17 48	17 53	17 58	18 03	18 08
54	21	26	32	37	42	47	53	58	04	09
56	18	24	29	35	41	47	53	58	04	10
58	14	21	27	33	40	46	52	59	05	12
S 60	17 10	17 17	17 24	17 31	17 38	17 45	17 52	17 59	18 06	18 13

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNRISE										
October										
LAT	2	5	8	11	14	17	20	23	26	29
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	06 20	06 34	06 47	07 02	07 16	07 30	07 46	08 01	08 17	08 34
70	17	29	41	06 53	07 06	18	31	07 45	07 58	08 13
68	14	25	35	46	06 57	09	20	32	43	07 55
66	12	21	31	41	50	07 00	11	21	31	42
64	09	18	27	36	45	06 54	07 03	12	21	31
62	08	16	24	31	39	48	06 56	07 04	13	21
N 60	06 06	06 13	06 20	06 28	06 35	06 42	06 50	06 57	07 05	07 13
58	05	11	18	24	31	38	45	52	06 58	07 05
56	03	09	15	21	28	34	40	46	53	06 59
54	02	08	13	19	24	30	36	42	47	53
52	01	06	11	17	22	27	32	37	43	48
N 50	06 00	06 05	06 10	06 14	06 19	06 24	06 29	06 34	06 38	06 43
45	05 58	06 02	06	09	13	17	21	25	29	33
40	56	05 59	06 02	05	09	12	15	18	21	25
35	55	57	05 59	06 02	04	07	09	12	15	18
30	53	55	57	05 59	06 01	06 03	06 05	06 07	06 09	11
N 20	05 51	05 52	05 52	05 53	05 54	05 55	05 56	05 57	05 59	06 00
N 10	49	48	48	48	48	48	49	49	49	05 50
0	46	45	44	44	43	42	42	41	41	40
S 10	44	42	40	39	37	36	34	33	32	31
20	41	39	36	34	31	29	27	24	22	21
S 30	05 38	05 35	05 31	05 27	05 24	05 21	05 17	05 14	05 11	05 09
35	36	32	28	24	20	16	12	08	05 05	05 02
40	34	29	25	20	15	11	05 06	05 02	04 58	04 54
45	32	26	20	15	10	05 04	04 59	04 54	49	45
50	29	22	16	09	03	04 57	51	45	39	33
S 52	05 27	05 20	05 13	05 07	05 00	04 53	04 47	04 40	04 34	04 28
54	26	18	11	04	04 57	49	42	36	29	22
56	24	16	08	05 00	53	45	38	30	23	16
58	22	14	05	04 57	49	40	32	24	16	09
S 60	05 20	05 11	05 02	04 53	04 44	04 35	04 26	04 17	04 09	04 00

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNSET										
October										
LAT	2	5	8	11	14	17	20	23	26	29
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	17 17	17 02	16 46	16 31	16 15	15 59	15 43	15 26	15 09	14 52
70	21	07	53	39	25	16 11	15 57	43	29	15 14
68	24	11	16 59	46	34	21	16 09	15 56	44	31
66	26	15	17 03	52	41	30	18	16 07	15 56	45
64	29	18	08	16 57	47	36	26	16	16 06	15 56
62	30	21	11	17 02	52	42	33	24	15	16 06
N 60	17 32	17 23	17 14	17 05	16 56	16 48	16 39	16 31	16 22	16 14
58	34	25	17	09	17 00	52	44	36	29	21
56	35	27	19	11	04	16 56	49	42	35	28
54	36	29	21	14	07	17 00	53	46	40	34
52	37	30	23	17	10	03	16 57	51	45	39
N 50	17 38	17 32	17 25	17 19	17 12	17 06	17 00	16 55	16 49	16 44
45	40	35	29	24	18	13	08	17 03	16 58	16 54
40	42	37	33	28	23	19	14	10	17 06	17 02
35	44	40	35	31	27	24	20	16	13	10
30	45	42	38	35	31	28	25	22	19	16
N 20	17 48	17 45	17 43	17 40	17 38	17 36	17 34	17 31	17 30	17 28
N 10	50	49	47	45	44	42	41	40	39	38
0	53	52	51	50	50	49	48	48	47	47
S 10	55	55	17 55	17 55	17 55	17 55	17 56	17 56	17 57	17 57
20	17 58	17 59	18 00	18 01	18 02	18 03	18 04	18 05	18 06	18 07
S 30	18 01	18 03	18 05	18 07	18 09	18 11	18 13	18 15	18 17	18 19
35	04	06	08	11	13	16	18	21	24	27
40	06	09	12	15	18	21	24	28	31	35
45	08	12	16	20	24	28	32	36	40	44
50	12	16	21	26	30	35	40	45	50	18 55
S 52	18 13	18 18	18 23	18 28	18 34	18 39	18 44	18 50	18 55	19 01
54	15	20	26	31	37	43	49	18 55	19 01	07
56	16	22	29	35	41	47	54	19 00	07	13
58	18	25	32	38	45	52	18 59	06	13	21
S 60	18 21	18 28	18 35	18 43	18 50	18 58	19 05	19 13	19 21	19 29

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNRISE										
November										
LAT	1	4	7	10	13	16	19	22	25	28
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	08 52	09 12	09 32	09 56	10 25	11 08	★	★	★	★
70	27	08 42	08 58	09 15	09 32	09 51	10 13	10 38	11 15	★
68	08 08	20	33	08 47	09 00	09 14	09 29	09 43	09 59	10 15
66	07 53	08 03	08 14	26	08 37	08 48	09 00	09 11	09 22	09 33
64	40	07 50	07 59	08 09	19	28	08 38	08 47	08 56	09 05
62	29	38	46	07 55	08 04	08 12	20	29	37	08 44
N 60	07 20	07 28	07 36	07 43	07 51	07 59	08 06	08 13	08 20	08 27
58	12	19	26	33	40	47	07 54	08 00	08 07	13
56	07 05	12	18	25	31	37	43	07 49	07 55	08 00
54	06 59	07 05	11	17	22	28	34	39	44	07 50
52	54	06 59	07 04	10	15	20	26	31	35	40
N 50	06 48	06 53	06 58	07 03	07 08	07 13	07 18	07 23	07 27	07 32
45	37	42	46	06 50	06 54	06 58	07 02	07 06	07 10	07 14
40	28	32	35	38	42	45	06 49	06 52	06 56	06 59
35	20	23	26	29	32	35	38	40	43	46
30	13	16	18	20	23	25	28	30	33	35
N 20	06 01	06 03	06 04	06 06	06 07	06 09	06 11	06 13	06 14	06 16
N 10	05 50	05 51	05 52	05 53	05 54	05 55	05 56	05 57	05 58	06 00
0	40	40	40	40	41	41	42	42	43	05 44
S 10	30	29	29	28	28	28	28	28	28	28
20	19	17	16	05 15	05 14	05 13	05 12	05 12	05 11	05 11
S 30	05 06	05 04	05 01	04 59	04 57	04 56	04 54	04 53	04 52	04 52
35	04 58	04 56	04 53	50	48	46	44	42	41	40
40	50	46	43	40	37	34	32	30	28	27
45	40	36	32	28	24	21	18	04 15	04 13	04 11
50	28	23	18	13	09	04 04	04 01	03 57	03 54	03 52
S 52	04 22	04 17	04 11	04 06	04 01	03 57	03 52	03 49	03 45	03 42
54	16	10	04 04	03 58	03 53	48	43	39	35	32
56	09	04 02	03 56	50	44	38	33	28	24	20
58	04 01	03 54	47	40	33	27	21	16	03 10	03 06
S 60	03 52	03 44	03 36	03 28	03 21	03 14	03 07	03 01	02 55	02 49

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon					★ Sun remains continuously below the horizon					
SUNSET										
November										
LAT	1	4	7	10	13	16	19	22	25	28
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	14 33	14 14	13 54	13 30	13 02	12 20	★	★	★	★
70	14 59	14 44	14 28	14 12	13 55	13 37	13 17	12 53	12 18	★
68	15 18	15 06	14 53	14 40	14 27	14 14	14 01	13 48	13 34	13 20
66	34	23	15 12	15 01	14 51	14 40	30	14 20	14 11	14 01
64	46	37	27	18	15 09	15 00	14 52	14 44	36	29
62	15 57	48	40	32	24	16	15 09	15 03	14 56	14 51
N 60	16 06	15 59	15 51	15 44	15 37	15 30	15 24	15 18	15 13	15 08
58	14	16 07	16 00	15 54	48	42	36	31	26	22
56	21	15	08	16 02	15 57	15 52	47	42	38	35
54	27	21	16	10	16 05	16 01	15 56	15 52	49	46
52	33	28	22	17	13	08	16 05	16 01	15 58	15 55
N 50	16 38	16 33	16 28	16 24	16 20	16 16	16 12	16 09	16 06	16 04
45	49	45	41	38	34	31	28	26	24	22
40	16 59	16 55	16 52	49	46	44	41	40	38	37
35	17 07	17 04	17 01	16 59	16 57	16 55	16 53	16 51	16 50	16 49
30	14	11	09	17 07	17 06	17 04	17 03	17 02	17 01	17 00
N 20	17 26	17 25	17 23	17 22	17 21	17 20	17 20	17 19	17 19	17 19
N 10	37	36	36	35	35	35	35	35	35	36
0	47	47	47	17 47	17 48	17 48	17 49	17 50	17 51	17 51
S 10	17 58	17 58	17 59	18 00	18 01	18 02	18 03	18 05	18 06	18 07
20	18 09	18 10	18 12	13	15	17	19	21	22	24
S 30	18 22	18 24	18 26	18 29	18 31	18 34	18 36	18 39	18 42	18 44
35	29	32	35	38	41	44	47	18 50	18 53	18 56
40	38	41	45	18 48	18 52	18 56	18 59	19 02	19 06	19 09
45	18 48	18 52	18 57	19 01	19 05	19 09	19 13	17	21	25
50	19 01	19 06	19 11	16	21	26	31	36	40	45
S 52	19 06	19 12	19 17	19 23	19 29	19 34	19 39	19 44	19 50	19 54
54	13	19	25	31	37	43	48	19 54	20 00	20 05
56	20	26	33	40	46	19 53	19 59	20 05	11	17
58	28	35	42	19 50	19 57	20 04	20 11	18	25	31
S 60	19 37	19 45	19 53	20 01	20 09	20 17	20 25	20 33	20 41	20 48

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon						★ Sun remains continuously below the horizon					
SUNRISE											
December											
LAT	1	4	7	10	13	16	19	22	25	28	31
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	★	★	★	★	★	★	★	★	★	★	★
70	★	★	★	★	★	★	★	★	★	★	★
68	10 32	10 50	11 12	★	★	★	★	★	★	★	★
66	09 44	09 55	10 04	10 13	10 21	10 28	10 32	10 35	10 35	10 34	10 30
64	09 14	09 22	09 29	09 36	09 42	09 46	09 50	09 52	09 53	09 53	09 51
62	08 51	08 58	09 04	09 10	09 15	09 19	21	24	25	25	24
N 60	08 33	08 39	08 45	08 50	08 54	08 57	09 00	09 02	09 03	09 03	09 03
58	18	24	29	33	37	40	08 43	08 45	08 46	08 46	08 46
56	08 06	08 11	15	19	22	25	28	30	31	32	32
54	07 54	07 59	08 03	08 07	08 10	13	15	17	18	19	19
52	44	49	07 52	07 56	07 59	08 02	08 04	08 06	08 07	08 08	08 08
N 50	07 36	07 40	07 43	07 46	07 49	07 52	07 54	07 56	07 57	07 58	07 58
45	17	21	24	27	29	32	34	35	36	37	38
40	07 02	07 05	07 08	07 10	07 12	15	17	18	20	21	22
35	06 49	06 51	06 54	06 56	06 59	07 01	07 03	07 04	07 06	07 07	07 08
30	38	40	42	45	47	06 48	06 50	06 52	06 53	06 54	06 55
N 20	06 18	06 20	06 22	06 24	06 26	06 27	06 29	06 31	06 32	06 33	06 35
N 10	06 01	06 03	06 04	06 06	06 07	06 09	06 10	06 12	06 13	06 15	06 16
0	05 45	05 46	05 47	05 49	05 50	05 52	05 53	05 55	05 56	05 58	05 59
S 10	29	30	31	32	33	34	35	37	38	40	42
20	05 12	05 12	05 12	05 13	05 14	05 15	05 17	05 18	05 20	05 21	23
S 30	04 51	04 51	04 51	04 52	04 52	04 53	04 54	04 56	04 57	04 59	05 01
35	40	39	39	39	40	40	42	43	44	46	04 48
40	26	25	25	25	25	25	26	28	29	31	33
45	04 09	04 08	04 07	04 07	04 07	04 07	04 08	04 10	04 11	04 13	04 16
50	03 49	03 48	03 46	03 45	03 45	03 45	03 46	03 47	03 49	03 51	03 54
S 52	03 40	03 38	03 36	03 35	03 34	03 34	03 35	03 36	03 38	03 40	03 43
54	29	26	24	23	22	22	23	24	26	28	31
56	16	03 13	03 11	03 10	03 09	03 08	03 09	03 10	03 11	03 14	17
58	03 02	02 58	02 56	02 54	02 52	02 52	02 52	02 53	02 55	02 57	03 00
S 60	02 45	02 40	02 37	02 34	02 32	02 31	02 31	02 32	02 34	02 37	02 40

SUNRISE AND SUNSET TABLES

☆ Sun remains continuously above the horizon						★ Sun remains continuously below the horizon					
SUNSET											
December											
LAT	1	4	7	10	13	16	19	22	25	28	31
°	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
N 72	★	★	★	★	★	★	★	★	★	★	★
70	★	★	★	★	★	★	★	★	★	★	★
68	13 05	12 49	12 29	★	★	★	★	★	★	★	★
66	13 53	13 45	13 37	13 31	13 26	13 23	13 21	13 21	13 24	13 29	13 35
64	14 23	14 17	14 12	14 08	14 06	14 04	14 03	14 04	14 06	14 10	14 14
62	14 46	14 41	38	35	33	32	32	33	35	38	14 42
N 60	15 04	15 00	14 57	14 55	14 54	14 53	14 53	14 54	14 56	14 59	15 03
58	19	16	15 14	15 12	15 11	15 10	15 11	15 12	15 14	15 17	20
56	32	29	27	26	25	25	26	27	29	31	34
54	43	41	39	38	38	38	38	40	41	44	47
52	15 53	15 51	50	49	49	49	49	15 51	15 52	15 55	15 57
N 50	16 02	16 00	15 59	15 58	15 58	15 58	15 59	16 01	16 02	16 04	16 07
45	21	20	16 19	16 19	16 19	16 19	16 20	21	23	25	27
40	36	35	35	35	35	36	37	38	40	42	44
35	16 49	16 48	16 48	16 48	16 49	16 50	16 51	16 52	16 54	16 56	16 58
30	17 00	17 00	17 00	17 01	17 01	17 02	17 03	17 05	17 07	17 08	17 10
N 20	17 19	17 20	17 20	17 21	17 22	17 23	17 25	17 26	17 28	17 29	17 31
N 10	37	37	38	39	40	42	17 43	17 45	17 46	17 48	17 49
0	17 53	17 54	17 55	17 56	17 58	17 59	18 01	18 02	18 04	18 05	18 07
S 10	18 09	18 10	18 12	18 13	18 15	18 17	18	20	21	23	24
20	26	28	30	32	34	36	37	18 39	18 40	18 41	18 43
S 30	18 47	18 49	18 51	18 53	18 55	18 57	18 59	19 01	19 02	19 03	19 04
35	18 59	19 01	19 04	19 06	19 08	19 10	19 12	14	15	16	17
40	19 12	15	18	21	23	25	27	29	30	31	32
45	29	32	35	19 38	19 41	19 43	19 45	19 47	19 48	19 49	19 50
50	49	19 53	19 57	20 00	20 03	20 06	20 08	20 10	20 11	20 11	20 12
S 52	19 59	20 03	20 07	20 11	20 14	20 17	20 19	20 20	20 22	20 22	20 22
54	20 10	15	19	23	26	29	31	33	34	34	34
56	22	28	32	36	40	20 43	20 45	20 47	20 48	20 48	20 48
58	37	20 43	20 48	20 52	20 56	21 00	21 02	21 04	21 05	21 05	21 05
S 60	20 55	21 01	21 07	21 12	21 16	21 20	21 23	21 24	21 25	21 25	21 24

SUNRISE AND SUNSET TABLES
Selected cities with local to UTC conversion factors.

Country	City	Latitude	Conversion to UTC	Country	City	Latitude	Conversion to UTC
					Vienna	N48	- 1:06
AFGHANISTAN				AZERBAIJAN			
	Kabul	N34	- 4:37		Baku	N40	- 3:20
	Kandahar	N32	- 4:23	AZORES			
ALASKA					Lajes	N39	+ 1:48
	Anchorage	N61	+ 10:01		Santa Maria	N37	+ 1:41
	Fairbanks	N65	+ 9:52	BAHAMAS			
ALBANIA					Nassau	N25	+ 5:10
	Tirana	N41	- 1:19	BAHRAIN			
ALGERIA					Bahrain	N26	- 3:22
	Algiers	N37	- 0:13	BANGLADESH			
	Tamanrasset	N23	- 0:22		Dhaka	N24	- 6:02
ANGOLA				BARBADOS			
	Luanda	S09	- 0:53		Barbados	N13	+ 3:58
ARGENTINA				BELARUS			
	Buenos Aires	S35	+ 3:54		Minsk	N54	- 1:52
	Mendoza	S33	+ 4:35	BELGIUM			
	Rio Gallegos	S52	+ 4:37		Brussels	N51	- 0:18
ARMENIA				BENIN			
	Yerevan	N40	- 2:58		Cotonou	N06	- 0:10
ARUBA				BHUTAN			
	Aruba	N13	+ 4:40		Paro	N27	- 5:58
ASCENSION I.				BOLIVIA			
	Ascension I.	S08	+ 0:57		La Paz	S17	+ 4:33
AUSTRALIA				BOSNIA-HERZEGOVINA			
	Adelaide	S35	- 9:14		Sarajevo	N44	- 1:13
	Alice Springs	S24	- 8:55	BOTSWANA			
	Brisbane	S27	- 10:13		Caborone	S25	- 1:44
	Darwin	S12	- 8:44	BRAZIL			
	Melbourne	S38	- 9:40		Brasilia	S16	+ 3:12
	Perth	S32	- 7:44		Recife	S08	+ 2:20
AUSTRIA					Rio de Janeiro	S23	+ 2:54
	Graz	N47	- 1:02		Sao Paulo	S23	+ 3:06
	Innsbruck	N47	- 0:45	BRUNEI			
	Linz	N48	- 0:57		Bandar Seri		

SUNRISE AND SUNSET TABLES

Country	City	Latitude	Conversion to UTC	Country	City	Latitude	Conversion to UTC
	Begawan	N05	- 7:40	COLOMBIA			
BULGARIA					Barranquilla	N11	+ 4:59
	Sotia	N43	- 1:33		Rionegro	N06	+ 5:02
BURUNDI					Santafe de Bogota	N05	+ 4:57
	Bujumbura	S03	- 1:58	COMOROS			
CAMEROON					Moroni	S12	- 2:53
	Douala	N04	- 0:39	CONGO			
	Garoua	N09	- 0:53		Brazzaville	S04	- 1:01
	Yaounde	N04	- 0:46	CROATIA			
CANADA					Dubrovnik	N43	- 1:13
	Gander	N49	+ 3:38		Zagreb	N46	- 1:04
	Halifax	N45	+ 4:14	CUBA			
	Montreal	N46	+ 4:56		Santiago Cuba	N20	+ 5:03
	St. John's	N48	+ 3:31	CYPRUS			
	Toronto	N44	+ 5:18		Larnaca	N35	- 2:14
	Vancouver	N49	+ 8:12	CZECH REPUBLIC			
	Winnipeg	N50	+ 6:29		Prague	N50	- 0:57
CANARY IS.				DAKHLA/LAAYOUNE			
	Gran Canaria	N28	+ 1:02		Laayoune	N27	+ 0:53
	Tenerife	N28	+ 1:06	DENMARK			
CAPE VERDE					Aalborg	N57	- 0:40
	Sal	N17	+ 1:32		Billund	N56	- 0:37
CENTRAL AFRICAN REPUBLIC					Copenhagen	N55	- 0:50
	Bangui	N04	- 1:14		Karup	N56	- 0:37
CHAD				DJIBOUTI			
	N'Djamena	N12	- 1:00		Djibouti	N12	- 2:53
CHAGOS ARCHIPELAGO				DOMINICAN REPUBLIC			
	Diego Garcia	S07	- 4:50		Punta Cana	N19	+ 4:33
CHILE					Santo Domingo	N18	+ 4:39
	Antofagasta	S23	+ 4:42	ECUADOR			
	Santiago	S33	+ 4:43		Latacunga	S01	+ 5:14
CHINA (P.R. of)					Quito	S00	+ 5:14
	Beijing	N40	- 7:46	EGYPT			
	Kunming	N25	- 6:48		Cairo	N30	- 2:04
	Urumqui	N44	- 5:50	EQUATORIAL GUINEA			

SUNRISE AND SUNSET TABLES

Country	City	Latitude	Conversion to UTC	Country	City	Latitude	Conversion to UTC
	Malabo	N04	- 0:35		Berlin	N52	- 0:54
ERITREA					Bremen	N53	- 0:35
	Asmara	N15	- 2:36		Cologne-Bonn	N51	- 0:28
ESTONIA					Dusseldorf	N51	- 0:27
	Tallinn	N59	- 1:39		Frankfurt/ Main	N50	- 0:34
ETHIOPIA					Hamburg	N54	- 0:40
	Addis Ababa	N09	- 2:35		Hannover	N52	- 0:39
FAROE IS.					Leipzig	N51	- 0:49
	Vagar	N62	+ 0:29		Munich	N48	- 0:47
FINLAND					Nurnberg	N49	- 0:44
	Helsinki	N60	- 1:40	GHANA			
	Oulu	N65	- 1:42		Accra	N06	+ 0:01
FRANCE				GIBRALTAR			
	Basle-Mulhouse	N48	- 0:30		Gibraltar	N36	+ 0:21
	Bordeaux	N45	+ 0:03	GREECE			
	Brest	N48	+ 0:18		Athens	N38	- 1:35
	Clermont-Ferrand	N46	- 0:13		Thessaloniki	N41	- 1:32
	Lille	N51	- 0:12	GREENLAND			
	Limoges	N46	- 0:05		Sondre Stromfjord	N67	+ 3:23
	Lyon	N46	- 0:20		Thule	N77	+ 4:35
	Marseille	N43	- 0:21	GUAM			
	Metz-Nancy	N49	- 0:25		Guam	N13	+ 9:39
	Nantes	N47	+ 0:06	GUINEA-BISSAU			
	Paris CDG	N49	- 0:10		Bissau	N12	+ 1:03
	Paris ORY	N48	- 0:09	GUYANA			
	Strasbourg	N49	- 0:30		Georgetown	N06	+ 3:53
	Toulouse	N44	- 0:05	HAWAII			
GABON					Honolulu	N21	+ 10:32
	Franceville	S02	- 0:54	HONG KONG			
	Libreville	N01	- 0:38		Hong Kong	N22	- 7:36
GAMBIA				HUNGARY			
	Banjul	N13	+ 1:07		Budapest	N47	- 1:17
GEORGIA				ICELAND			
	Tbilisi	N42	- 3:00		Keflavik	N64	+ 1:30
GERMANY							

SUNRISE AND SUNSET TABLES

Country	City	Latitude	Conversion to UTC	Country	City	Latitude	Conversion to UTC
	Reykjavik	N64	+ 1:28		Tokyo	N36	- 9:22
INDIA				JERUSALEM			
	Bombay	N19	- 4:52		Jerusalem	N32	- 2:21
	Calcutta	N23	- 5:54	JORDAN			
	Delhi	N29	- 5:09		Amman	N32	- 2:24
INDONESIA				KAZAKHSTAN			
	Jakarta	S06	- 7:07		Aktubinsk	N50	- 3:49
	Den Pasar	S09	- 7:41		Almaty	N43	- 5:08
IRAN				KENYA			
	Esfahan	N33	- 3:27		Mombasa	S04	- 2:38
	Tehran	N36	- 3:25		Nairobi	S01	- 2:28
IRAQ				KOREA, REPUBLIC of			
	Baghdad	N33	- 2:57		Seoul	N38	- 8:27
IRELAND				KOREA, D.P.R of			
	Cork	N52	+ 0:34		Pyongyang	N39	- 8:23
	Dublin	N53	+ 0:25	KUWAIT			
	Shannon	N53	+ 0:36		Kuwait	N29	- 3:12
ISRAEL				LATVIA			
	Tel Aviv	N32	- 2:20		Riga	N57	- 1:36
ITALY				LEBANON			
	Bergamo	N46	- 0:39		Beirut	N34	- 2:22
	Bologna	N45	- 0:45	LESOTHO			
	Genoa	N44	- 0:35		Maseru	S29	- 1:50
	Milano	N46	- 0:35	LIBERIA			
	Rome	N42	- 0:49		Monrovia	N06	+ 0:43
	Torino	N45	- 0:31	LIBYA, SPAJ			
	Venice	N46	- 0:49		Tripoli	N33	- 0:53
	Verona	N45	- 0:44	LITHUANIA			
IVORY COAST					Vilnius	N55	- 1:41
	Abidjan	N05	+ 0:16	LUXEMBOURG			
JAPAN					Luxembourg	N50	- 0:25
	Fukuoka	N34	- 8:42	MACEDONIA			
	Naha	N26	- 8:31		Ohrid	N41	- 1:23
	Osaka	N35	- 9:02		Skopje	N42	- 1:26
	Sapporo	N43	- 9:27	MADAGASCAR			

SUNRISE AND SUNSET TABLES

Country	City	Latitude	Conversion to UTC	Country	City	Latitude	Conversion to UTC
	Antananarivo	S19	- 3:10		Rotterdam	N52	- 0:18
MADEIRA IS.				NEW ZEALAND			
	Funchal	N33	+ 1:07		Auckland	S37	- 11:40
MALAYSIA					Christchurch	S43	- 11:30
	Kuala Lumpur	N03	- 6:47		Invercargill	S46	- 11:13
MALAWI					Wellington	S41	- 11:39
	Blantyre	S16	- 2:20	NIGER			
MALDIVES					Niamey	N13	- 0:09
	Male	N04	4:64	NIGERIA			
MALI					Lagos	N07	- 0:13
	Bamako	N13	+ 0:32	NORWAY			
MALTA					Bardufoss	N69	- 1:14
	Malta	N36	- 0:58		Bergen	N60	- 0:21
MAURITANIA					Hammerfest	N71	- 1:35
	Nouakchott	N18	+ 1:04		Oslo	N60	- 0:42
MAURITIUS					Stavanger	N59	- 0:22
	Mauritius	S20	3:51		Trondheim	N63	- 0:44
MEXICO				OMAN			
	Acapulco	N17	+ 6:39		Muscat	N24	- 3:53
	Mexico City	N19	+ 6:36	PAKISTAN			
MONGOLIA					Karachi	N25	- 4:29
	Ulaan Baatar	N48	- 7:07		Lahore	N32	- 4:58
MOROCCO				PANAMA			
	Casablanca	N33	+ 0:30		Panama City	N09	+ 5:18
	Marrakech	N32	+ 0:32	PARAGUAY			
MOZAMBIQUE					Asuncion	S25	+ 3:50
	Maputo	S26	- 2:10	PERU			
MYANMAR					Lima-Callao	S12	+ 5:08
	Yangon	N17	- 6:24	PHILIPPINES			
NAMIBIA					Manila	N15	- 8:04
	Windhoek	S22	- 1:10	POLAND			
NEPAL					Warsaw	N52	- 1:24
	Kathmandu	N28	- 7:41	PORTUGAL			
NETHERLANDS					Lisbon	N39	+ 0:37
	Amsterdam	N52	- 0:19		Porto	N41	+ 0:35

SUNRISE AND SUNSET TABLES

Country	City	Latitude	Conversion to UTC	Country	City	Latitude	Conversion to UTC
QATAR				SUDAN			
	Doha	N25	- 3:26		Khartoum	N16	- 2:10
ROMANIA				SWEDEN			
	Bucharest	N45	- 1:44		Goteborg	N58	- 0:49
RUSSIA					Malmö	N55	- 0:53
	Mineral'nyye Vody	N44	- 2:52		Stockholm	N60	- 1:12
	Moscow	N55	- 2:32	SWITZERLAND			
	St. Petersburg	N60	- 2:01		Geneva	N46	- 0:24
SAUDI ARABIA					Zurich	N47	- 0:34
	Dhahran	N26	- 3:21	SYRIA			
	Jeddah	N22	- 2:37		Damascus	N33	- 2:26
	Riyadh	N25	- 3:07	TAIWAN			
SENEGAL					Taipei	N25	- 8:05
	Dakar	N15	+ 1:10	TANZANIA			
SEYCHELLES					Dar-es-Salaam	S07	- 2:37
	Seychelles	S05	- 3:42	THAILAND			
SIERRA LEONE					Bangkok	N14	- 6:42
	Freetown	N09	+ 0:53	TOGO			
SINGAPORE					Lomé	N06	- 0:05
	Singapore	N01	- 6:56	TUNISIA			
SLOVAKIA					Tunis	N37	- 0:41
	Bratislava	N48	- 1:09	TURKEY			
SLOVENIA					Ankara	N40	- 2:12
	Ljubljana	N45	- 0:58		Istanbul	N41	- 1:55
SOMALIA					Izmir	N38	- 1:49
	Mogadishu	N02	- 3:01	UGANDA			
SOUTH AFRICAN REPUBLIC					Entebbe	N00	- 2:10
	Cape Town	S34	- 1:14	UKRAINE			
	Johannesburg	S26	- 1:53		Kiev	N50	- 2:04
SPAIN				UNITED ARAB EMIRATES			
	Barcelona	N41	- 0:08		Abu Dhabi	N24	- 3:36
	Madrid	N40	+ 0:14		Dubai	N25	- 3:41
	Palma	N39	- 0:11	UNITED STATES OF AMERICA			
SRI LANKA					Atlanta, Ga	N34	+ 5:38
	Colombo	N07	- 5:20		Baltimore, Md	N39	+ 5:07

SUNRISE AND SUNSET TABLES

Country	City	Latitude	Conversion to UTC	Country	City	Latitude	Conversion to UTC
	Bangor, Maine	N45	+ 4:35		Glasgow	N56	+ 0:18
	Boston, Mass	N42	+ 4:44		Liverpool	N53	+ 0:11
	Chicago, Ill	N42	+ 5:52		London	N51	+ 0:02
	Cincinnati, Ohio	N39	+ 5:39		Luton	N52	+ 0:01
	Cleveland, Ohio	N41	+ 5:27		Manchester	N53	+ 0:09
	Dallas-Ft Worth,	N33	+ 6:28		Newcastle	N55	+ 0:07
	Texas						
	Denver, Colo	N40	+ 6:59	URUGUAY			
	Detroit, Mich	N42	+ 5:33		Montevideo	S35	+ 3:44
	Dover, Del	N39	+ 5:02	VENEZUELA			
	Greensboro, N Car	N36	+ 5:20		Maracaibo	N11	+ 4:47
	Houston, Texas	N30	+ 6:21	VIETNAM			
	Indianapolis, Ind	N40	+ 5:45		Hochiminh	N11	- 7:07
	Kansas City, Mo	N39	+ 6:19	YEMEN			
	Los Angeles, Calif	N34	+ 7:54		Aden	N13	- 3:00
	Memphis, Tenn	N35	+ 6:00		Sanaa	N15	- 2:57
	Minneapolis, Minn	N45	+ 6:13	YUGOSLAVIA			
	New Orleans, La	N30	+ 6:01		Belgrade	N45	- 1:21
	New York, NY	N41	+ 4:55	ZAIRE			
	Orlando, Fla	N28	+ 5:25		Kinshasa	S04	- 1:02
	Philadelphia, Pa	N40	+ 5:01	ZAMBIA			
	Portland, Oreg	N46	+ 8:10		Lusaka	S15	- 1:54
	Salt Lake City, Utah	N41	+ 7:28	ZIMBABWE			
	San Francisco, Calif	N38	+ 8:09		Harare	S18	- 2:04
	Seattle, Wash	N47	+ 8:09				
	St. Louis, Mo	N39	+ 6:01				
	Tampa, Fla	N28	+ 5:30				
	Washington, Va	N39	+ 5:10				
UNITED KINGDOM							
	Belfast	N55	+ 0:25				
	Birmingham	N52	+ 0:07				
	East Midlands	N53	+ 0:05				
	Edinburgh	N56	+ 0:13				

INTENTIONALLY

LEFT

BLANK