

2018 August 11, 12, 13 (Sat, Sun, Mon)

GMT	SUN		MOON				Lat	Twilight		Sunrise	Moonrise				
	GHA	Dec	GHA	v	Dec	d		HP	Nautical		Civil	11	12	13	
Saturday	00	178° 40'.7	15° 20'.6 N	184° 21'.1	4'.3	17° 39'.0 N	7'.3	61'.2	N 72°	-	-	02:01	00:47	03:41	05:59
	01	193° 40'.8	19'.8	198° 44'.4	4'.5	31'.7	7'.5		N 70°	-	-	02:40	01:53	04:08	06:12
	02	208° 40'.9	19'.1	213° 07'.9	4'.5	24'.2	7'.7		68°	-	01:15	03:06	02:29	04:28	06:23
	03	223° 41'.0	18'.3	227° 31'.4	4'.5	16'.5	7'.7		66°	-	02:04	03:26	02:55	04:44	06:32
	04	238° 41'.1	17'.6	241° 54'.9	4'.7	08'.8	7'.9		64°	-	02:34	03:42	03:15	04:57	06:39
	05	253° 41'.2	16'.9	256° 18'.6	4'.6	00'.9	8'.0		62°	01:07	02:56	03:55	03:31	05:08	06:46
	06	268° 41'.3	16'.1	270° 42'.2	4'.8	16° 52'.9 N	8'.1		60°	01:51	03:14	04:07	03:44	05:17	06:51
	07	283° 41'.4	15'.4	285° 06'.0	4'.8	44'.8	8'.3		N 58°	02:18	03:28	04:16	03:55	05:26	06:56
	08	298° 41'.5	14'.6	299° 29'.8	4'.9	36'.5	8'.3		56°	02:39	03:40	04:25	04:05	05:33	07:00
	09	313° 41'.6	13'.9	313° 53'.7	4'.9	28'.2	8'.5		54°	02:56	03:51	04:32	04:14	05:39	07:04
	10	328° 41'.7	13'.1	328° 17'.6	5'.0	19'.7	8'.6		52°	03:10	04:00	04:39	04:22	05:45	07:08
	11	343° 41'.8	12'.4	342° 41'.6	5'.1	11'.1	8'.6		50°	03:22	04:08	04:45	04:29	05:50	07:11
	12	358° 41'.9	15° 11'.7 N	357° 05'.7	5'.1	16° 02'.5 N	8'.9	61'.1	N 40°	04:04	04:39	05:09	04:56	06:10	07:23
	13	13° 42'.0	10'.9	11° 29'.8	5'.2	15° 53'.6 N	8'.9		35°	04:18	04:51	05:18	05:06	06:18	07:28
	14	28° 42'.1	10'.2	25° 54'.0	5'.3	44'.7	9'.0		30°	04:30	05:00	05:26	05:16	06:25	07:32
	15	43° 42'.2	09'.4	40° 18'.3	5'.4	35'.7	9'.1		20°	04:49	05:16	05:39	05:31	06:37	07:40
	16	58° 42'.3	08'.7	54° 42'.7	5'.4	26'.6	9'.2		N 10°	05:03	05:29	05:51	05:45	06:47	07:46
	17	73° 42'.4	07'.9	69° 07'.1	5'.5	17'.4	9'.4		0°	05:15	05:40	06:02	05:58	06:57	07:52
	18	88° 42'.5	07'.2	83° 31'.6	5'.6	08'.0	9'.4		S 10°	05:26	05:51	06:12	06:11	07:06	07:59
	19	103° 42'.6	06'.4	97° 56'.2	5'.6	14° 58'.6 N	9'.6		20°	05:35	06:01	06:24	06:24	07:17	08:05
	20	118° 42'.7	05'.7	112° 20'.8	5'.7	49'.0	9'.6	61'.0	30°	05:43	06:12	06:37	06:40	07:28	08:12
	21	133° 42'.8	05'.0	126° 45'.5	5'.8	39'.4	9'.7		35°	05:48	06:18	06:44	06:49	07:35	08:17
	22	148° 42'.9	04'.2	141° 10'.3	5'.9	29'.7	9'.8		40°	05:52	06:24	06:52	06:59	07:43	08:21
23	163° 43'.0	03'.5	155° 35'.2	5'.9	19'.9	10'.0		45°	05:57	06:31	07:02	07:11	07:52	08:27	
Sunday	00	178° 43'.1	15° 02'.7 N	170° 00'.1	6'.1	14° 09'.9 N	10'.0	61'.0	S 50°	06:01	06:40	07:14	07:26	08:02	08:33
	01	193° 43'.2	02'.0	184° 25'.2	6'.1	13° 59'.9 N	10'.1		52°	06:03	06:43	07:19	07:32	08:07	08:36
	02	208° 43'.3	01'.2	198° 50'.3	6'.1	49'.8	10'.2		54°	06:06	06:47	07:25	07:40	08:13	08:40
	03	223° 43'.4	00'.5	213° 15'.4	6'.3	39'.6	10'.2	60'.9	56°	06:08	06:52	07:32	07:48	08:19	08:43
	04	238° 43'.5	14° 59'.7 N	227° 40'.7	6'.3	29'.4	10'.4		58°	06:10	06:57	07:39	07:58	08:26	08:47
	05	253° 43'.7	59'.0	242° 06'.0	6'.4	19'.0	10'.4		S 60°	06:13	07:02	07:48	08:08	08:33	08:52
	06	268° 43'.8	58'.2	256° 31'.4	6'.5	08'.6	10'.6		S 62°	06:15	07:08	07:57	08:21	08:42	08:57
	07	283° 43'.9	57'.5	270° 56'.9	6'.5	12° 58'.0 N	10'.6								
	08	298° 44'.0	56'.7	285° 22'.4	6'.7	47'.4	10'.7	60'.8							
	09	313° 44'.1	56'.0	299° 48'.1	6'.7	36'.7	10'.7		Lat	Sunset	Twilight		Moonset		
	10	328° 44'.2	55'.2	314° 13'.8	6'.8	26'.0	10'.8				Civil	Nautical	11	12	13
	11	343° 44'.3	54'.4	328° 39'.6	6'.9	15'.2	11'.0		N 72°	22:02	-	-	22:02	21:42	21:27
	12	358° 44'.4	14° 53'.7 N	343° 05'.5	6'.9	12° 04'.2 N	10'.9	60'.8	N 70°	21:26	-	-	21:34	21:26	21:20
	13	13° 44'.5	52'.9	357° 31'.4	7'.0	11° 53'.3 N	11'.1	60'.7	68°	21:01	22:46	-	21:12	21:14	21:14
	14	28° 44'.6	52'.2	11° 57'.4	7'.1	42'.2	11'.1		66°	20:41	22:01	-	20:55	21:03	21:09
	15	43° 44'.7	51'.4	26° 23'.5	7'.2	31'.1	11'.2		64°	20:26	21:33	-	20:41	20:54	21:05
	16	58° 44'.8	50'.7	40° 49'.7	7'.3	19'.9	11'.2		62°	20:13	21:11	22:55	20:29	20:47	21:01
	17	73° 44'.9	49'.9	55° 16'.0	7'.3	08'.7	11'.3	60'.6	60°	20:02	20:54	22:15	20:18	20:40	20:58
	18	88° 45'.0	49'.2	69° 42'.3	7'.4	10° 57'.4 N	11'.4		N 58°	19:52	20:40	21:48	20:09	20:34	20:55
	19	103° 45'.1	48'.4	84° 08'.7	7'.5	46'.0	11'.4		56°	19:44	20:28	21:28	20:02	20:29	20:52
	20	118° 45'.2	47'.6	98° 35'.2	7'.6	34'.6	11'.5		54°	19:37	20:18	21:12	19:55	20:24	20:50
	21	133° 45'.4	46'.9	113° 01'.8	7'.6	23'.1	11'.5	60'.5	52°	19:30	20:09	20:59	19:48	20:20	20:47
	22	148° 45'.5	46'.1	127° 28'.4	7'.7	11'.6	11'.6		50°	19:24	20:00	20:47	19:43	20:16	20:45
23	163° 45'.6	45'.4	141° 55'.1	7'.8	10° 00'.0 N	11'.7		45°	19:11	19:44	20:23	19:30	20:08	20:41	
Monday	00	178° 45'.7	14° 44'.6 N	156° 21'.9	7'.9	9° 48'.3 N	11'.7	60'.5	N 40°	19:01	19:30	20:06	19:20	20:01	20:37
	01	193° 45'.8	43'.9	170° 48'.8	8'.0	36'.6	11'.7	60'.4	35°	18:52	19:19	19:51	19:11	19:55	20:34
	02	208° 45'.9	43'.1	185° 15'.8	8'.0	24'.9	11'.8		30°	18:44	19:09	19:40	19:03	19:49	20:31
	03	223° 46'.0	42'.3	199° 42'.8	8'.1	13'.1	11'.9		20°	18:31	18:54	19:21	18:49	19:40	20:26
	04	238° 46'.1	41'.6	214° 09'.9	8'.2	01'.2	11'.9	60'.3	N 10°	18:19	18:41	19:06	18:37	19:32	20:22
	05	253° 46'.2	40'.8	228° 37'.1	8'.2	8° 49'.3 N	11'.9		0°	18:08	18:30	18:55	18:26	19:24	20:18
	06	268° 46'.3	40'.1	243° 04'.3	8'.3	37'.4	12'.0		S 10°	17:58	18:19	18:45	18:15	19:16	20:14
	07	283° 46'.4	39'.3	257° 31'.6	8'.4	25'.4	12'.0		20°	17:47	18:09	18:35	18:03	19:07	20:09
	08	298° 46'.6	38'.5	271° 59'.0	8'.5	13'.4	12'.0	60'.2	30°	17:34	17:59	18:27	17:49	18:57	20:04
	09	313° 46'.7	37'.8	286° 26'.5	8'.6	01'.4	12'.1		35°	17:27	17:53	18:23	17:40	18:52	20:01
	10	328° 46'.8	37'.0	300° 54'.1	8'.6	7° 49'.3 N	12'.1		40°	17:18	17:46	18:18	17:31	18:45	19:57
	11	343° 46'.9	36'.2	315° 21'.7	8'.6	37'.2	12'.2	60'.1	45°	17:09	17:39	18:14	17:20	18:37	19:53
	12	358° 47'.0	14° 35'.5 N	329° 49'.3	8'.8	7° 25'.0 N	12'.1	60'.1	S 50°	16:57	17:31	18:09	17:07	18:28	19:48
	13	13° 47'.1	34'.7	344° 17'.1	8'.8	12'.9	12'.3		52°	16:52	17:27	18:07	17:00	18:24	19:46
	14	28° 47'.2	34'.0	358° 44'.9	8'.9	00'.6	12'.2	60'.0	54°	16:46	17:23	18:05	16:53	18:19	19:44
	15	43° 47'.3	33'.2	13° 12'.8	9'.0	6° 48'.4 N	12'.3		56°	16:39	17:19	18:03	16:46	18:14	19:41
	16	58° 47'.5	32'.4	27° 40'.8	9'.0	36'.1	12'.2		58°	16:32	17:14	18:01	16:37	18:08	19:38
	17	73° 47'.6	31'.7	42° 08'.8	9'.1	23'.9	12'.4	59'.9	S 60°	16:23	17:09	17:59	16:27	18:01	19:35
	18	88° 47'.7	30'.9	56° 36'.9	9'.2	11'.5	12'.3		S 62°	16:14	17:03	17:56	16:15	17:54	19:31
	19	103° 47'.8	30'.1	71° 05'.1	9'.2	5° 59'.2 N	12'.4								
	20	118° 47'.9	29'.4	85° 33'.3	9'.3	46'.8	12'.3	59'.8							
	21	133° 48'.0	28'.6	100° 01'.6	9'.4	34'.5	12'.4		SUN			MOON			
	22	148° 48'.1	27'.8	114° 30'.0	9'.4	22'.1	12'.4		Eqn. of Time		Mer.	Mer. Pass.			
23	163° 48'.3	27'.1	128° 58'.4	9'.5	09'.7	12'.5	59'.7	Day	00h	12h	Pass.	Upper	Lower		Age/ Vis
								11	5 17	5 13	12:05	12:12	24:42	0d 0%	
								12	5 08	5 03	12:05	13:10	00:42	1d 2%	
								13	4 57	4 52	12:05	14:05	01:38	2d 6%	