

November 01, 2019 12:00:00 PM MDT

Object	Right ascens	Declination	Earth distance	Sun distance
Sun	14h 26m 20.1s	-14° 29' 16"	0	0
Mercury	15h 38m 36.2s	-22° 09' 18"	115,474,228	53,952,704
Venus	15h 50m 14.5s	-20° 26' 02"	233,771,588	108,740,888
Mars	13h 09m 25.2s	-06° 28' 39"	379,388,781	245,886,814
Ceres	17h 35m 06.3s	-26° 06' 38"	520,600,590	430,841,868
Jupiter	17h 31m 40.8s	-23° 05' 03"	884,232,269	785,294,751
Saturn	19h 07m 07.4s	-22° 24' 29"	1,554,989,332	1,501,988,027
Uranus	02h 09m 22.7s	+12° 30' 32"	2,817,902,914	2,965,934,460
Neptune	23h 10m 31.0s	-06° 26' 51"	4,386,849,400	4,478,033,861
Pluto	19h 30m 32.0s	-22° 23' 13"	5,117,311,847	5,073,078,189
Moon	18h 37m 00.8s	-23° 32' 45"	386,661	0

(Distances in km)

Object	Rise:	Tran	Set:	Phase	Constl	Magnitud
Sun	07:27	12:43	17:58	0.00%	Lib	unknown
Mercury	09:11	13:54	18:38	26.74%	Lib	0.8
Venus	09:15	14:07	18:58	93.70%	Sco	-3.9
Mars	05:45	11:26	17:07	98.87%	Vir	1.8
Ceres	11:25	15:53	20:20	99.50%	Oph	9.2
Jupiter	11:07	15:47	20:27	99.56%	Oph	-1.9
Saturn	12:40	17:22	22:05	99.79%	Sgr	0.6
Uranus	17:39	00:28	07:12	100.00%	Ari	5.7
Neptune	15:45	21:25	03:10	99.98%	Aqr	7.8
Pluto	13:02	17:45	22:27	99.98%	Sgr	14.3
Moon	12:14	17:02	21:51	24.20%	Sgr	unknown

Meteor Radiant Report

Name	Month/Day	RA	Decl	Hourly Rate
Southern Taurids	11/03	3.4	13.6	7
Pegasids	11/12	22.3	21.0	5
Northern Taurids	11/13	3.9	22.3	7
Leonids	11/17	10.2	22.2	15
Andromedids	11/27	1.7	44.0	100

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Date	Moonrise	Moonset	Sunrise	Sunset	Begin Twilight	End Twilight
11/1/19	12:17	21:52	07:28	17:59	05:57	19:30
11/2/19	13:09	22:47	07:29	17:57	05:58	19:29
11/3/19	13:53	23:45	07:31	17:56	05:59	19:28
11/4/19	13:31	23:44	06:31	16:55	05:00	18:26
11/5/19	14:04	-----	06:32	16:54	05:01	18:25
11/6/19	14:33	00:42	06:33	16:53	05:02	18:24
11/7/19	15:00	01:40	06:35	16:52	05:03	18:24
11/8/19	15:25	02:37	06:36	16:51	05:04	18:23
11/9/19	15:51	03:35	06:37	16:50	05:05	18:22
11/10/19	16:16	04:33	06:38	16:49	05:06	18:21
11/11/19	16:44	05:34	06:39	16:48	05:07	18:20
11/12/19	17:16	06:35	06:40	16:47	05:08	18:20
11/13/19	17:52	07:38	06:41	16:46	05:09	18:19
11/14/19	18:34	08:41	06:43	16:45	05:10	18:18
11/15/19	19:24	09:43	06:44	16:45	05:11	18:18
11/16/19	20:20	10:41	06:45	16:44	05:12	18:17
11/17/19	21:24	11:34	06:46	16:43	05:13	18:16
11/18/19	22:31	12:20	06:47	16:42	05:14	18:16
11/19/19	23:41	13:01	06:48	16:42	05:15	18:15
11/20/19	-----	13:37	06:49	16:41	05:16	18:15
11/21/19	00:52	14:10	06:51	16:40	05:17	18:15
11/22/19	02:03	14:41	06:52	16:40	05:18	18:14
11/23/19	03:14	15:13	06:53	16:39	05:19	18:14
11/24/19	04:26	15:46	06:54	16:39	05:20	18:13
11/25/19	05:38	16:21	06:55	16:38	05:20	18:13
11/26/19	06:49	17:01	06:56	16:38	05:21	18:13
11/27/19	07:58	17:47	06:57	16:38	05:22	18:13
11/28/19	09:01	18:37	06:58	16:37	05:23	18:12
11/29/19	09:58	19:33	06:59	16:37	05:24	18:12
11/30/19	10:47	20:31	07:00	16:37	05:25	18:12

'-----' means the event does not occur on this date.