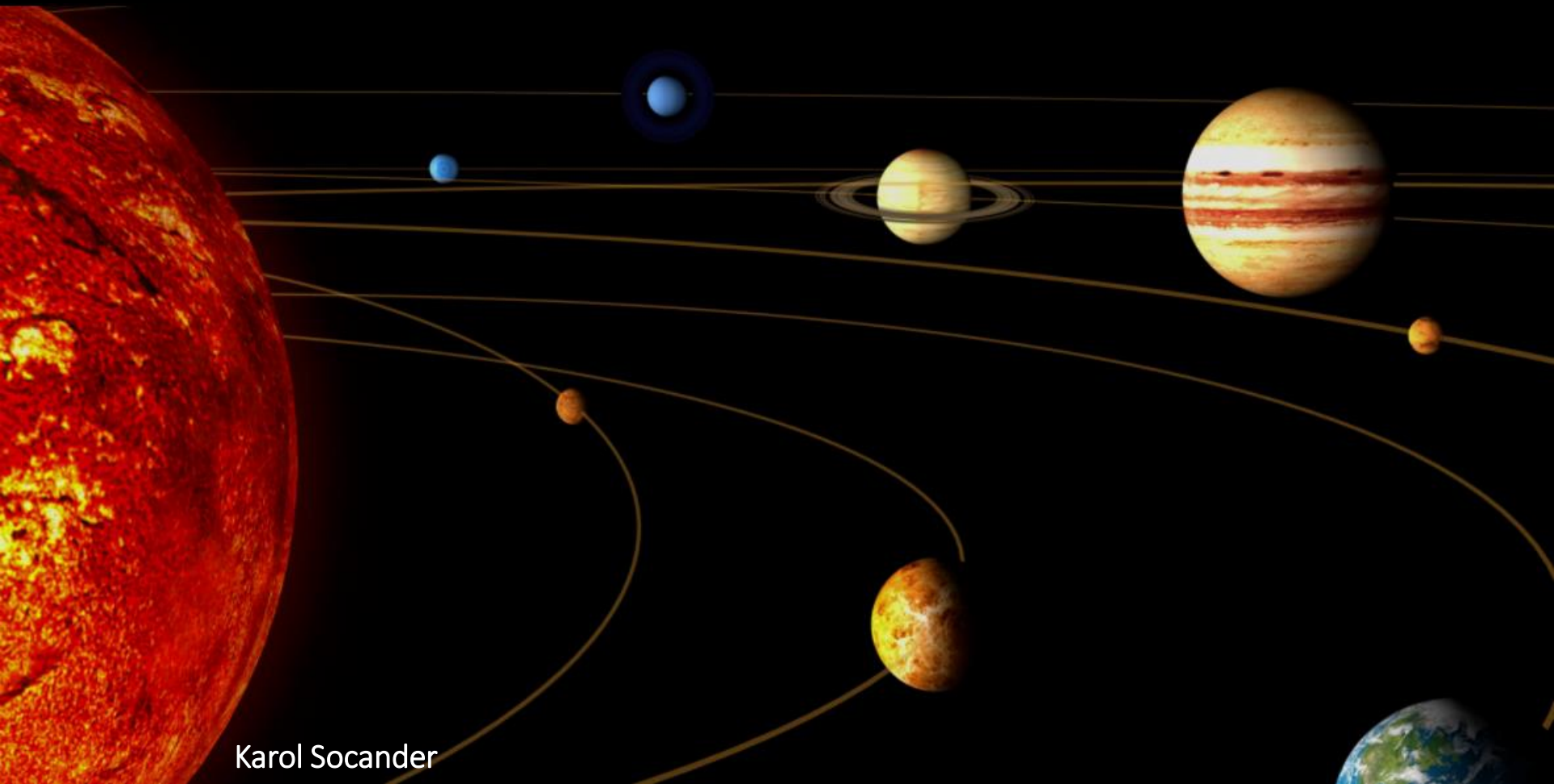


What's Up

May – Jun 2021



Inner Planets

<https://in-the-sky.org/>

Mercury

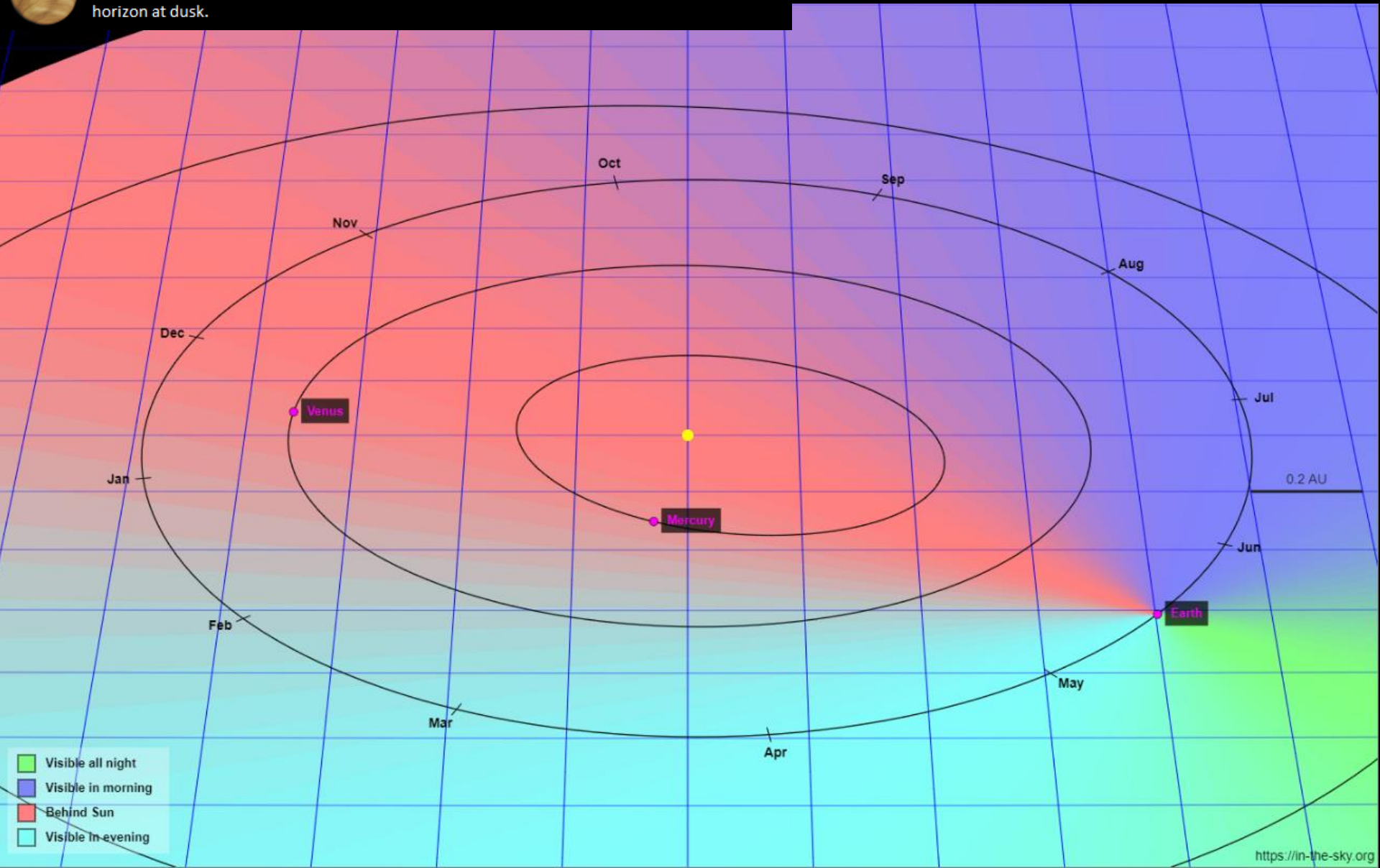


Mercury is visible as an evening object, a proce greatest elongation east (May 17). From K-W, it will become visible around 21:11 (EDT) as the dusk sky fades, 12° above your north-western horizon. It will then sink towards the horizon, setting almost 2 hour after the Sun at 22:22

Venus



Venus passed behind the Sun at superior solar conjunction. From K-W, it is hard to observ – it will reach its highest point in the sky during daytime and is no higher than 6° above the horizon at dusk.

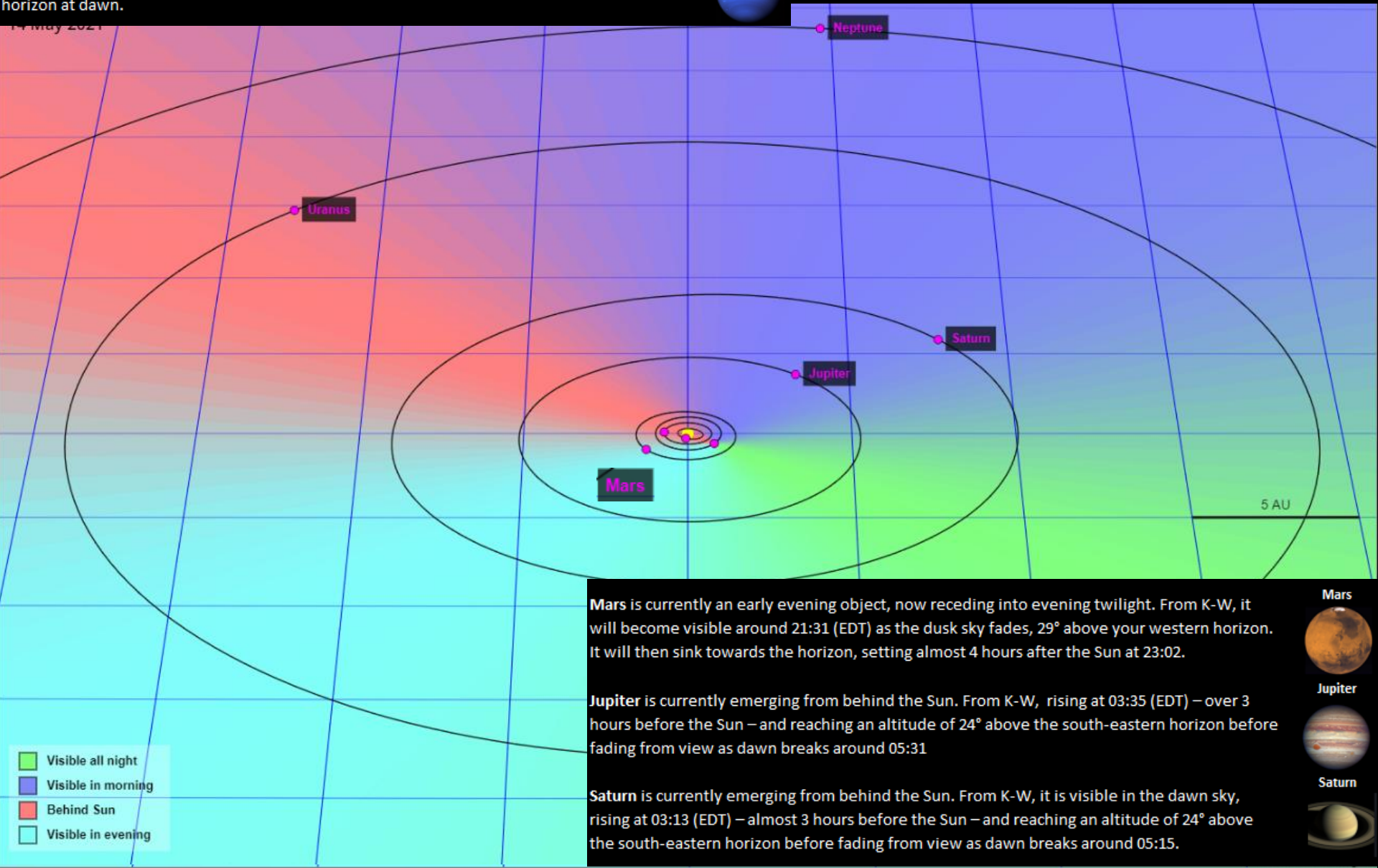
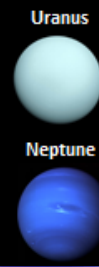


Outer Planets

<https://in-the-sky.org/>

Uranus recently passed behind the Sun at solar conjunction. From K-W it is not readily observable since it is very close to the Sun, at a separation of only 12° from it.

Neptune recently passed behind the Sun at solar conjunction. From K-W, it is not observable – it will reach its highest point in the sky during daytime and is no higher than 9° above the horizon at dawn.



Mars is currently an early evening object, now receding into evening twilight. From K-W, it will become visible around 21:31 (EDT) as the dusk sky fades, 29° above your western horizon. It will then sink towards the horizon, setting almost 4 hours after the Sun at 23:02.

Jupiter is currently emerging from behind the Sun. From K-W, rising at 03:35 (EDT) – over 3 hours before the Sun – and reaching an altitude of 24° above the south-eastern horizon before fading from view as dawn breaks around 05:31.

Saturn is currently emerging from behind the Sun. From K-W, it is visible in the dawn sky, rising at 03:13 (EDT) – almost 3 hours before the Sun – and reaching an altitude of 24° above the south-eastern horizon before fading from view as dawn breaks around 05:15.



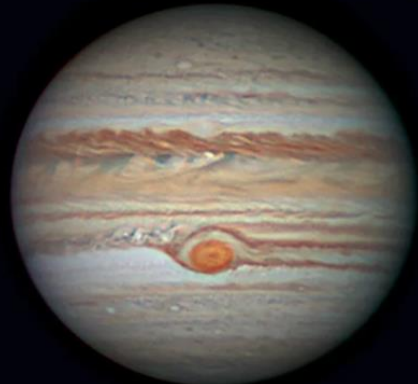
Month	Day	Year						
May	15	2021	Rise	Culm	Set	Approx Mag.	Observable	Constellation
	Right Ascension	Declination						
Sun	03h26m54s	+18°47'42"	5:51	13:15	20:35	-26.70		Taurus
Moon	05h55m19s	+25°06'45"	7:34	15:32	23:39	-9.9	20:55 until 22:43	Taurus
Mercury	04h57m13s	+25°05'59"	6:51	14:41	22:31	0.1	21:11 until 21:22	Taurus
Venus	04h20m25s	+21°41'21"	6:31	14:03	21:35	-3.9	Not observable	Taurus
Mars	06h56m12s	+24°13'39"	8:57	16:43	0:29	1.6	21:31 until 23:02	Gemini
Jupiter	22h08m49s	-12°16'59"	2:45	8:00	13:15	-2.3	03:35 until 05:31	Aquarius
Saturn	21h03m15s	-17°27'03"	2:00	6:53	11:47	0.7	03:13 until 05:15	Capricornus
Uranus	02h35m36s	+14°48'12"	5:24	12:26	19:27	5.9	Not observable	Aries
Neptune	23h33m58s	-04°00'22"	3:35	9:23	15:11	7.9	Not observable	Aquarius

Month	Day	Year						
Jun	15	2021	Rise	Culm	Set	Approx Mag.	Observable	Constellation
	Right Ascension	Declination						
Sun	05h33m08s	+23°17'35"	5:33	13:17	21:01	-26.70		Taurus
Moon	09h16m40s	+20°49'56"	9:09	16:54	0:33	-10.8	21:25 until 23:44	Cancer
Mercury	05h09m06s	+18°58'49"	5:35	12:56	20:18	4.9	Not observable	Taurus
Venus	07h05m17s	+23°55'49"	7:04	14:48	22:33	-3.9	21:25 until 21:38	Gemini
Mars	08h17m32s	+21°01'42"	8:31	16:02	23:32	1.8	22:05 until 22:07	Cancer
Jupiter	22h16m43s	-11°41'38"	0:47	6:04	11:22	-2.6	01:37 until 05:13	Aquarius
Saturn	21h01m56s	-17°37'13"	23:58	4:51	9:44	0.5	01:10 until 04:53	Capricornus
Uranus	02h42m00s	+15°17'59"	3:27	10:31	17:34	5.9	Not observable	Aries
Neptune	23h35m35s	-03°51'23"	1:34	7:22	13:10	7.9	03:45 until 04:01	Aquarius

Jupiter Moons Events



Date	UTC	Event	Jupiter K-W (UTC)	Visible	Jupiter K-W time	K-W time
Tuesday, May 18 2021	6:34	Io's shadow begins to cross Jupiter.	07:18 until 09:30	-	03:22 until 05:31	2:34
Tuesday, May 18 2021	8:56	Io's shadow leaves Jupiter's disk.	07:18 until 09:30	Yes	03:22 until 05:31	4:56
Wednesd May 19 2021	7:36	Io exits occultation behind Jupiter.	07:15 until 09:26	Yes	03:18 until 05:27	3:36
Saturday, May 22 2021	8:20	Europa's shadow begins to cross Jupiter.	07:04 until 09:26	Yes	03:08 until 05:27	4:20
Saturday, May 22 2021	11:16	Europa's shadow leaves Jupiter's disk.	07:04 until 09:26	No	03:08 until 05:27	7:16
Monday, May 24 2021	8:12	Europa exits occultation behind Jupiter.	06:58 until 09:22	Yes	03:01 until 05:23	4:12
Tuesday, May 25 2021	8:28	Io's shadow begins to cross Jupiter.	06:54 until 09:22	Yes	02:58 until 05:23	4:28
Tuesday, May 25 2021	10:50	Io's shadow leaves Jupiter's disk.	06:54 until 09:22	No	02:58 until 05:23	6:50



Jupiter Moons Events

	UTC	Event	Jupiter K-W (UTC)	Visible	Jupiter K-W time	K-W time
Thursday, Jun	3 2021	4:50 Io's shadow begins to cross Jupiter.	06:18 until 09:15	-	02:22 until 05:15	0:50
Thursday, Jun	3 2021	7:12 Io's shadow leaves Jupiter's disk.	06:18 until 09:15	Yes	02:22 until 05:15	3:12
Thursday, Jun	10 2021	6:44 Io's shadow begins to cross Jupiter.	05:52 until 09:12	Yes	01:56 until 05:12	2:44
Thursday, Jun	10 2021	9:06 Io's shadow leaves Jupiter's disk.	05:52 until 09:12	Yes	01:56 until 05:12	5:06
Friday, Jun	11 2021	7:42 Io exits occultation behind Jupiter.	05:48 until 09:12	Yes	01:52 until 05:12	3:42
Saturday, Jun	12 2021	6:22 Ganymede's shadow leaves Jupiter's disk.	05:45 until 09:12	Yes	01:49 until 05:12	2:22
Wednesd Jun	16 2021	5:22 Europa's shadow begins to cross Jupiter.	05:29 until 09:13	-	01:33 until 05:13	1:22
Wednesd Jun	16 2021	8:16 Europa's shadow leaves Jupiter's disk.	05:29 until 09:13	Yes	01:33 until 05:13	4:16
Thursday, Jun	17 2021	8:38 Io's shadow begins to cross Jupiter.	05:25 until 09:13	Yes	01:29 until 05:13	4:38
Thursday, Jun	17 2021	11:00 Io's shadow leaves Jupiter's disk.	05:25 until 09:13	No	01:29 until 05:13	7:00
Friday, Jun	18 2021	7:38 Callisto enters occultation behind Jupiter.	05:22 until 09:13	Yes	01:25 until 05:13	3:38
Saturday, Jun	19 2021	3:08 Io's shadow begins to cross Jupiter.	05:18 until 09:13	-	01:22 until 05:14	23:08
Saturday, Jun	19 2021	5:28 Io's shadow leaves Jupiter's disk.	05:18 until 09:13	Yes	01:22 until 05:14	1:28
Saturday, Jun	19 2021	6:38 Ganymede's shadow begins to cross Jupiter.	05:18 until 09:13	Yes	01:22 until 05:14	2:38
Saturday, Jun	19 2021	10:20 Ganymede's shadow leaves Jupiter's disk.	05:18 until 09:13	No	01:22 until 05:14	6:20
Wednesd Jun	23 2021	5:02 Ganymede exits occultation behind Jupiter.	05:02 until 09:14	Yes	01:06 until 05:14	1:02
Wednesd Jun	23 2021	7:56 Europa's shadow begins to cross Jupiter.	05:02 until 09:14	Yes	01:06 until 05:14	3:56
Wednesd Jun	23 2021	10:50 Europa's shadow leaves Jupiter's disk.	05:02 until 09:14	No	01:06 until 05:14	6:50
Friday, Jun	25 2021	7:32 Europa exits occultation behind Jupiter.	04:54 until 09:14	Yes	00:58 until 05:14	3:32
Saturday, Jun	26 2021	3:34 Callisto's shadow begins to cross Jupiter.	04:50 until 09:14	-	00:54 until 05:15	23:34
Saturday, Jun	26 2021	5:02 Io's shadow begins to cross Jupiter.	04:50 until 09:14	Yes	00:54 until 05:15	1:02
Saturday, Jun	26 2021	5:02 ** A multi-shadow transit event begins.	04:50 until 09:14	Yes	00:54 until 05:15	1:02
Saturday, Jun	26 2021	7:22 Io's shadow leaves Jupiter's disk.	04:50 until 09:14	Yes	00:54 until 05:15	3:22
Saturday, Jun	26 2021	7:22 ** The multi-shadow transit event ends.	04:50 until 09:14	Yes	00:54 until 05:15	3:22
Saturday, Jun	26 2021	8:30 Callisto's shadow leaves Jupiter's disk.	04:50 until 09:14	Yes	00:54 until 05:15	4:30
Sunday, Jun	27 2021	Io exits occultation behind Jupiter.	04:46 until 09:14	Yes	00:50 until 05:15	1:48
Wednesd Jun	30 2021	Ganymede enters occultation behind Jupiter.	04:33 until 09:15	Yes	00:37 until 05:15	1:06
Wednesd Jun	30 2021	Ganymede exits occultation behind Jupiter.	04:33 until 09:15	Yes	00:37 until 05:15	4:40



GRS Date / Time UTC	Jupiter Visible UTC	K-W Time	Jupiter Visible K-W
2021 May 7 9:39	07:58 until 09:43	5:39	04:01 until 05:43
2021 May 12 8:48	07:42 until 09:34	4:48	03:45 until 05:35
2021 May 17 7:57	07:21 until 09:30	3:57	03:25 until 05:31
2021 May 22 7:06	07:04 until 09:26	3:06	03:08 until 05:27
2021 May 24 8:44	06:58 until 09:22	4:44	03:01 until 05:23
2021 May 29 7:53	06:36 until 09:18	3:53	02:40 until 05:19
2021 Jun 3 7:02	06:18 until 09:15	3:02	02:22 until 05:15
2021 Jun 5 8:40	06:11 until 09:15	4:40	02:15 until 05:16
2021 Jun 8 6:10	06:00 until 09:15	2:10	02:04 until 05:12
2021 Jun 10 7:48	05:52 until 09:12	3:48	01:56 until 05:12
2021 Jun 15 6:57	05:33 until 09:12	2:57	01:37 until 05:13
2021 Jun 17 8:35	05:25 until 09:13	4:35	01:29 until 05:13
2021 Jun 20 6:05	05:14 until 09:13	2:05	01:18 until 05:14
2021 Jun 22 7:43	05:06 until 09:13	3:43	01:10 until 05:14
2021 Jun 25 5:13	04:54 until 09:14	1:13	00:58 until 05:14
2021 Jun 27 6:51	04:46 until 09:14	2:51	00:50 until 05:15
2021 Jun 29 8:30	04:37 until 09:15	4:30	00:41 until 05:15

*initial data from https://www.projectpluto.com/grs_form.htm

Moon – Libration



May 4
Waning Crescent
Illumination: 43%



May 6
Waning Crescent
Illumination: 24%

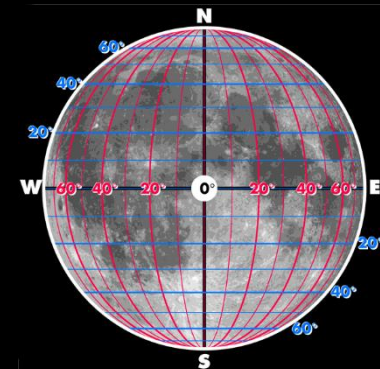


May 20
Waxing Gibbous
Illumination: 58%



May 21
Waxing Gibbous
Illumination: 68%

DATE	LIBRATION	DEGREES	VISIBLE?	REASON
2021-05-04	East	7.2	No	waning cres.
2021-05-06	North	6.8	No	waning cres.
2021-05-20	West	-7.8	No	1 st quarter
2021-05-21	South	-6.8	No	waxing gibbous



Moon – Libration



June 1
Waning Gibbous
Illumination: 58%



June 2
Last Quarter
Illumination: 48%



June 17
Waxing Crescent
Illumination: 43%

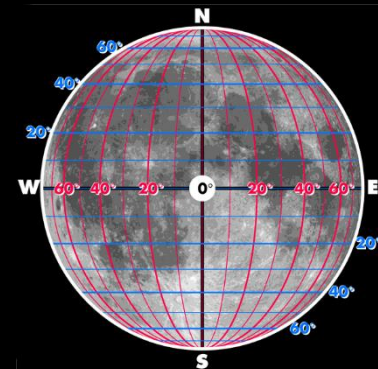


June 29
Waning Gibbous
Illumination: 73%

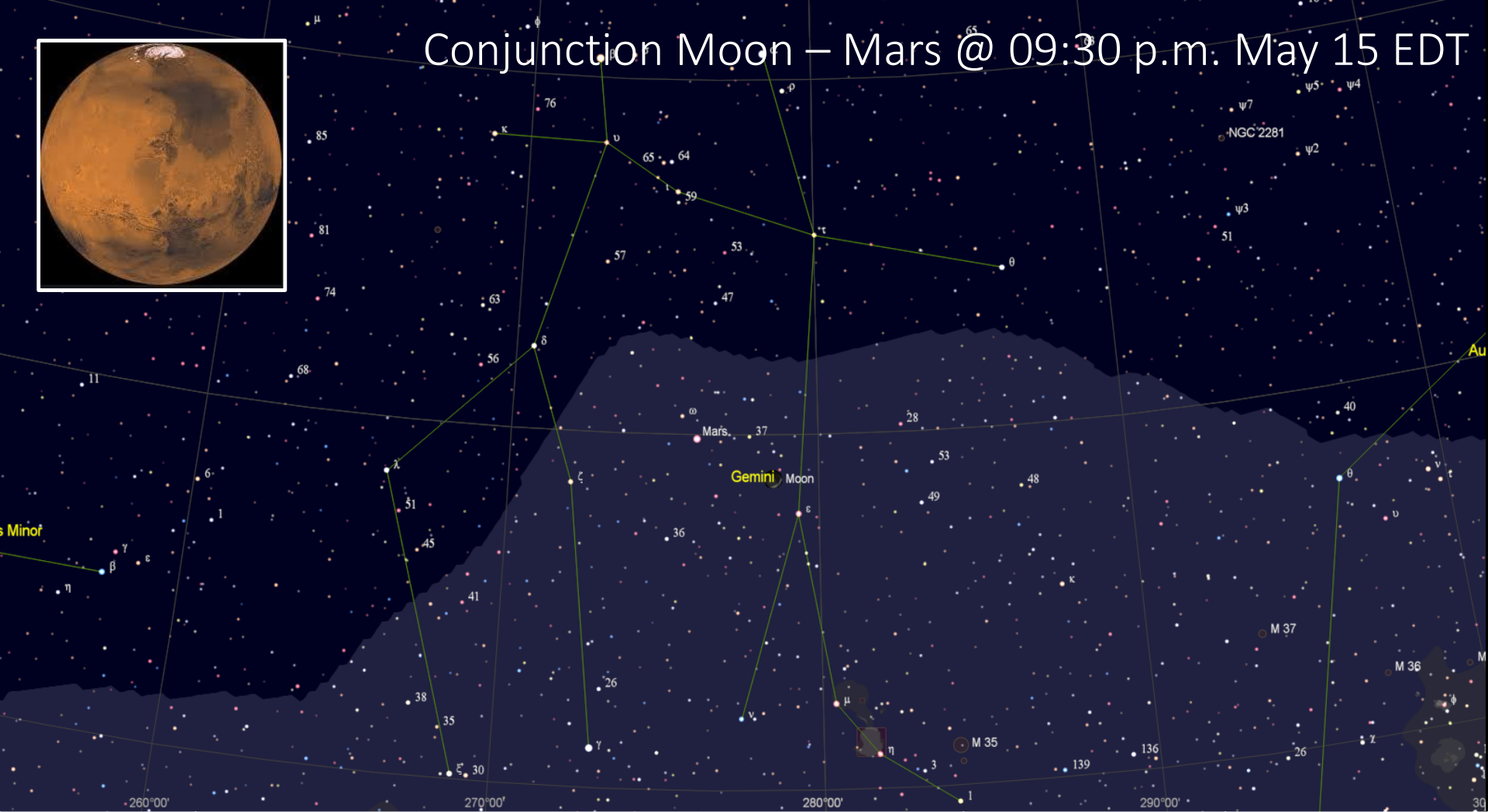
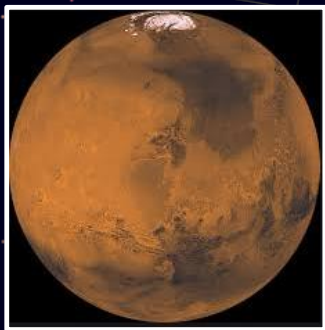




June 30
Waning Gibbous
Illumination: 64%

DATE	LIBRATION	DEGREES	VISIBLE?	REASON
2021-06-01	East	7.4	No	waning gibbous
2021-06-02	North	6.8	No	last quarter
2021-06-17	West	-6.9	No	waxing gibbous
2021-06-17	South	-6.8	No	waxing gibbous
2021-06-29	East	7	No	waning gibbous
2021-06-30	North	6.7	No	waning gibbous

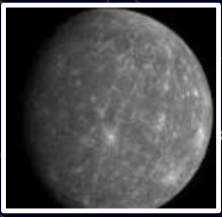


Conjunction Moon – Mars @ 09:30 p.m. May 15 EDT

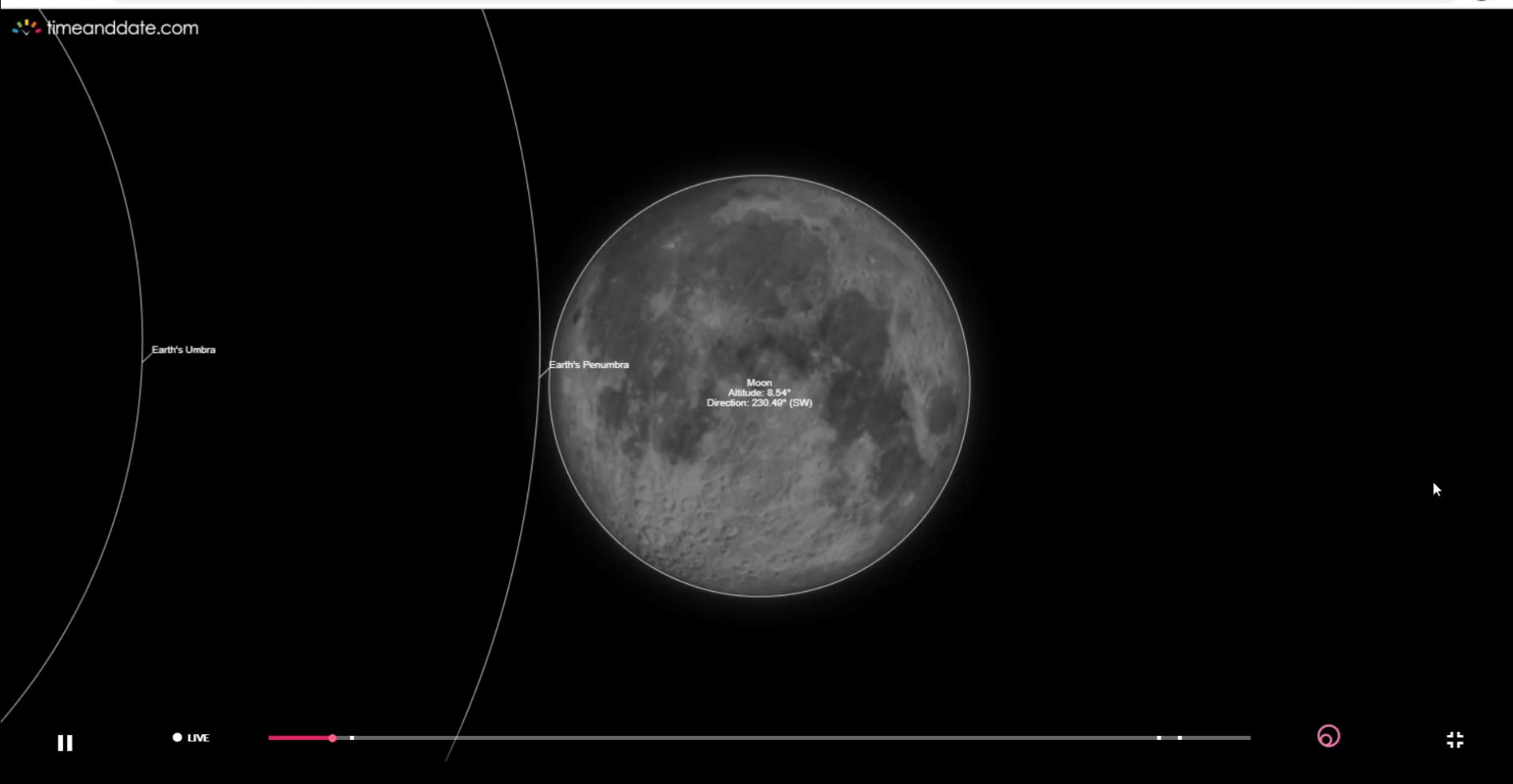




Date	Event	Sun 		Moon 20% 	
Sunday May 16 2021	Conjunction Moon (mag -10.6) and Mars (mag 1.7) @ 00:47 a.m. EDT in constellation Gemini. Moon passing 1°28' to the north of Mars.	Rise 05:51 am	Set 08:39 pm	Rise 09:09 am	Set 00:30 am
				Waxing Crescent	

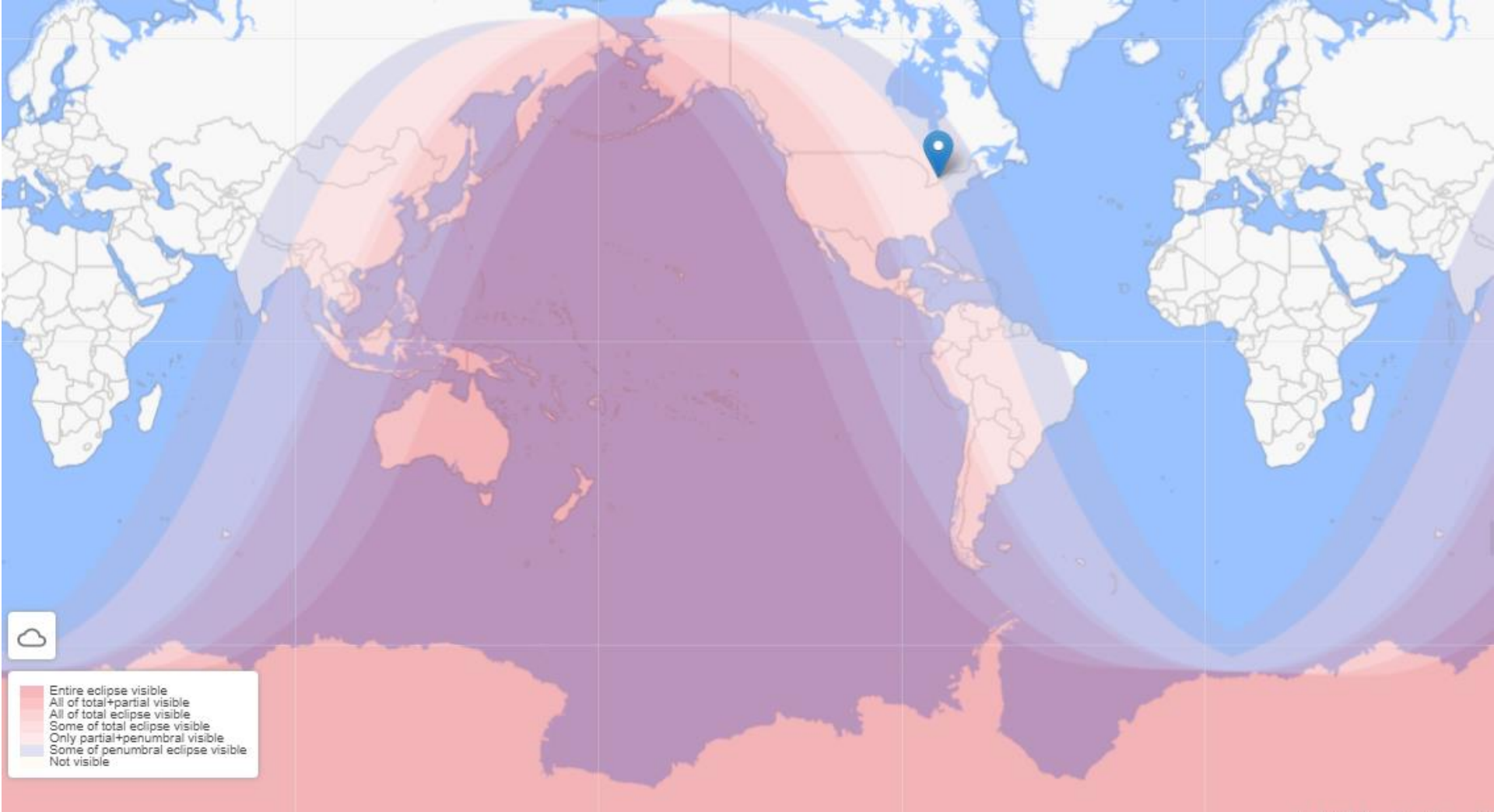
Mercury @ 09:00 p.m. EDT May 16





Date	Event	Sun		Moon 30%	
		Rise	Set	Rise	Set
Monday May 17 2021	Mercury (mag 0.3) reaches the heights point in the sky for May in constellation Taurus @ 04:14 EDT. Highest point 18° above horizon. Mercury is at greatest elongation east	05:52 am	08:36 pm	10:11 am	01:16 am
				Waxing Crescent	





Date	Event	Sun 	Moon 100% 			
Wednesday May 26 2021	Penumbral Eclipse 04:47 a.m. EDT – Begins 05:44 a.m. EDT – Partial begins 05:48 a.m. EDT – Maximum 05:52 a.m. EDT – Moonsets	Total eclipse (not visible) 07:11 a.m. EDT – Begins 07:18 a.m. EDT – Maximum 07:25 a.m. EDT – Ends 08:52 a.m. EDT – Partial ends 09:49 a.m. EDT – Penumbral ends	Rise 05:47 am	Set 08:52 pm	Rise 09:27 pm	Set 05:54 am
					Full	



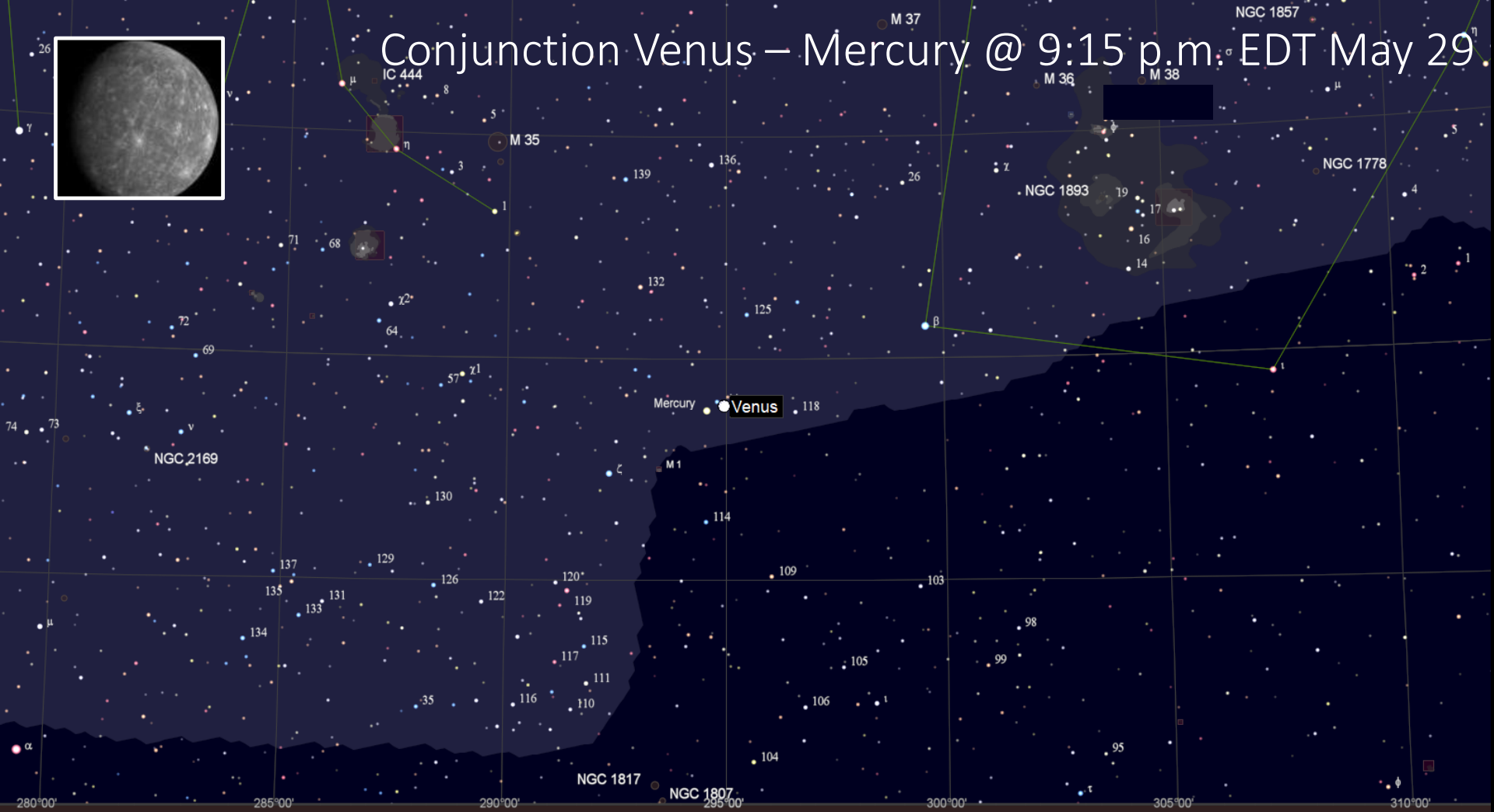
Date	Event		Sun 	Moon 100% 		
Wednesday May 26 2021	Penumbral Eclipse 04:47 a.m. EDT – Begins 05:44 a.m. EDT – Partial begins 05:48 a.m. EDT – Maximum 05:52 a.m. EDT – Moonsets	Total eclipse (not visible) 07:11 a.m. EDT – Begins 07:18 a.m. EDT – Maximum 07:25 a.m. EDT – Ends 08:52 a.m. EDT – Partial ends 09:49 a.m. EDT – Penumbral ends	Rise 05:47 am	Set 08:52 pm	Rise 09:27 pm Full	Set 05:54 am



M4 @ 11:00 p.m. EDT May 28



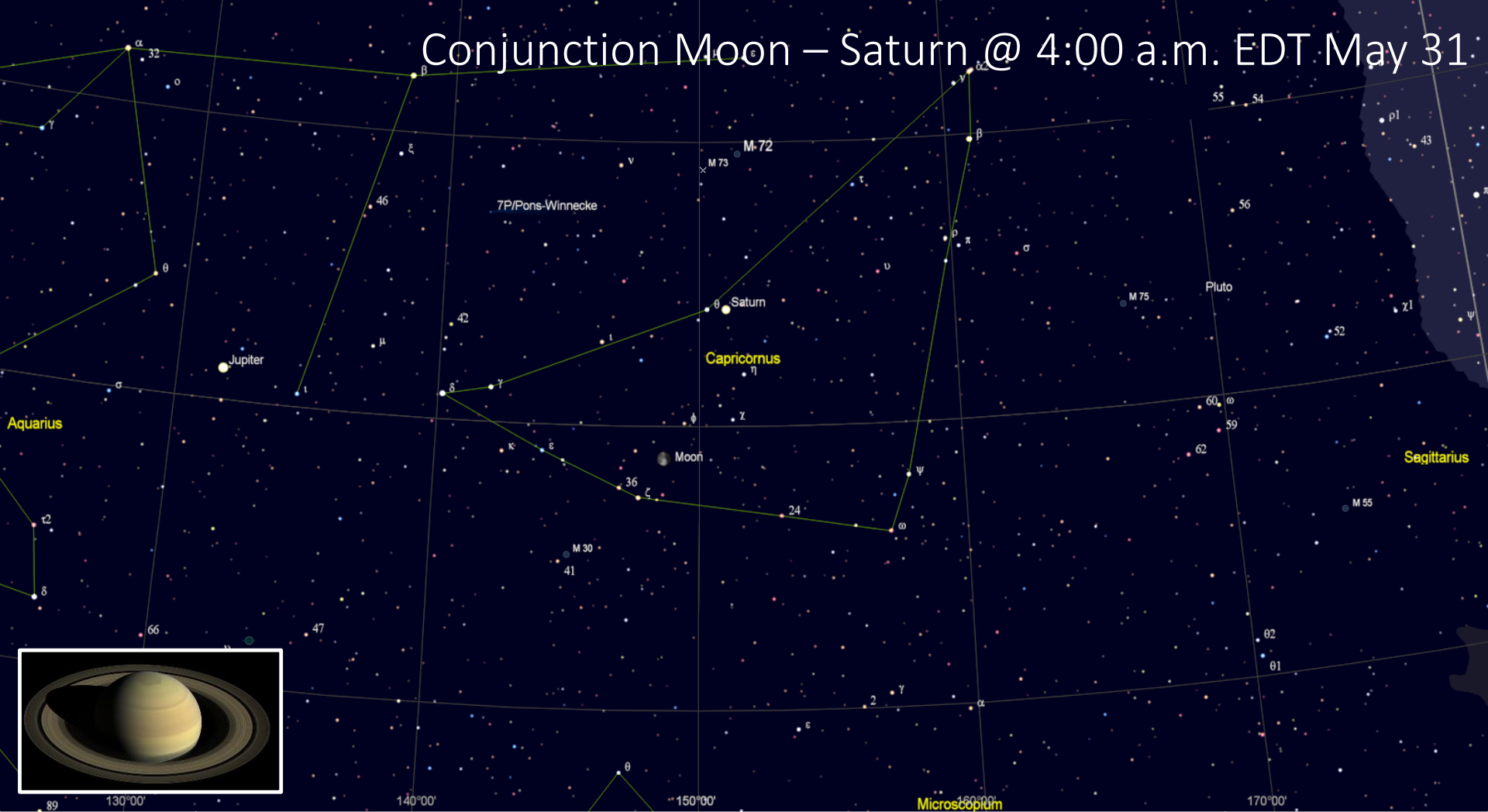
Date	Event	Sun 		Moon 92% 	
Friday May 28 2021	M4 (mag 5.6) Globular Cluster reaches the heights point in the sky in constellation Scorpius 20° above southern horizon.	Rise 05:47 am	Set 08:54 pm	Rise 11:51 pm	Set 07:32 am
				Waning Gibbous	



Conjunction Venus – Mercury @ 9:15 p.m. EDT May 29



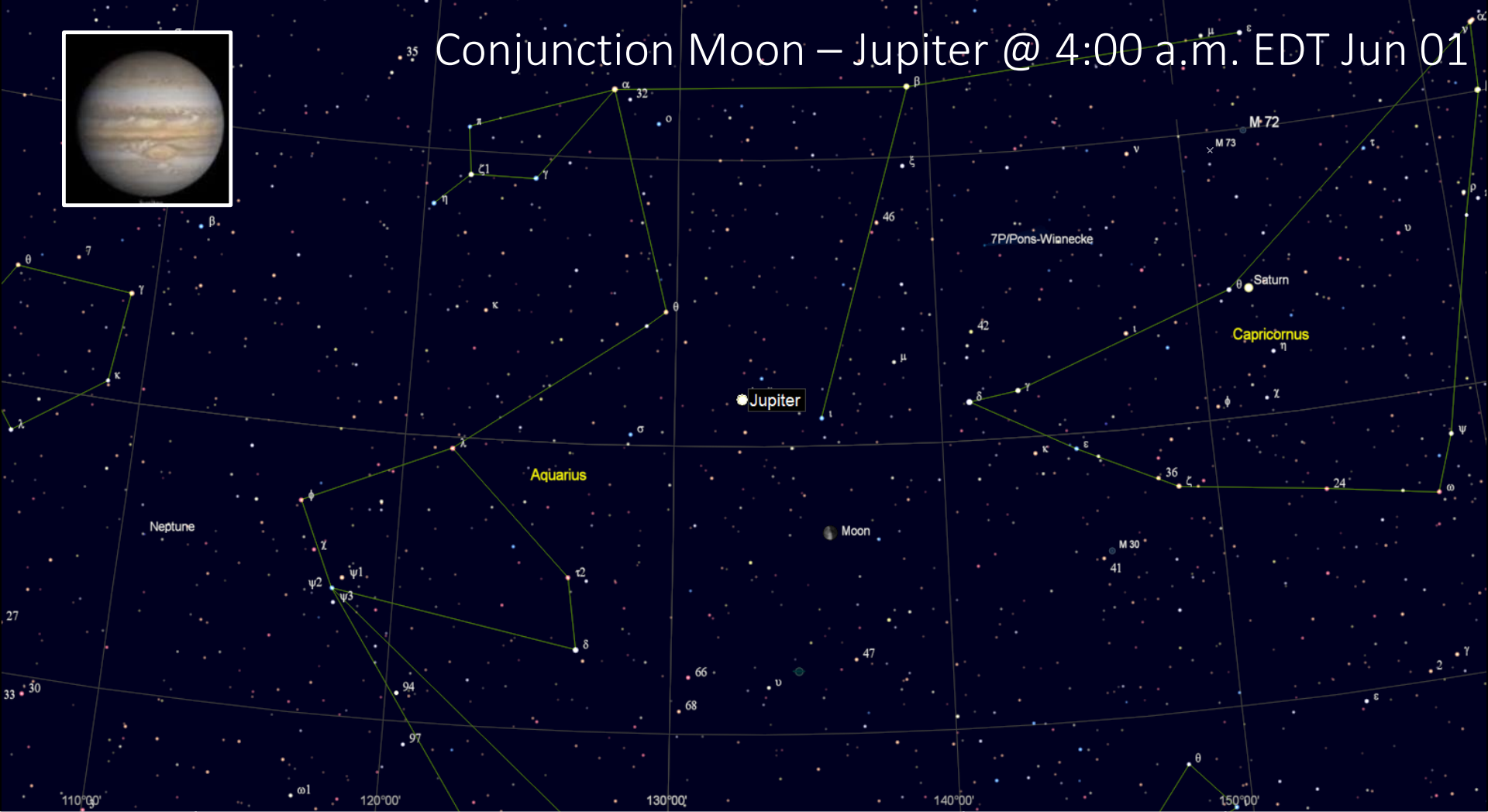
Date	Event	Sun 		Moon 85% 	
Saturday May 29 2021	Conjunction Venus (mag -3.9) and Mercury (mag 2.3) @ 09:15 p.m. EDT in constellation Taurus. Venus passing 0°25' to the North of Mercury. Difficult to see, both will not be more than 8° above horizon.	Rise 05:43 am	Set 08:54 pm	Rise -	Set 08:40 am
				Waning Gibbous	



Conjunction Moon – Saturn @ 4:00 a.m. EDT May 31



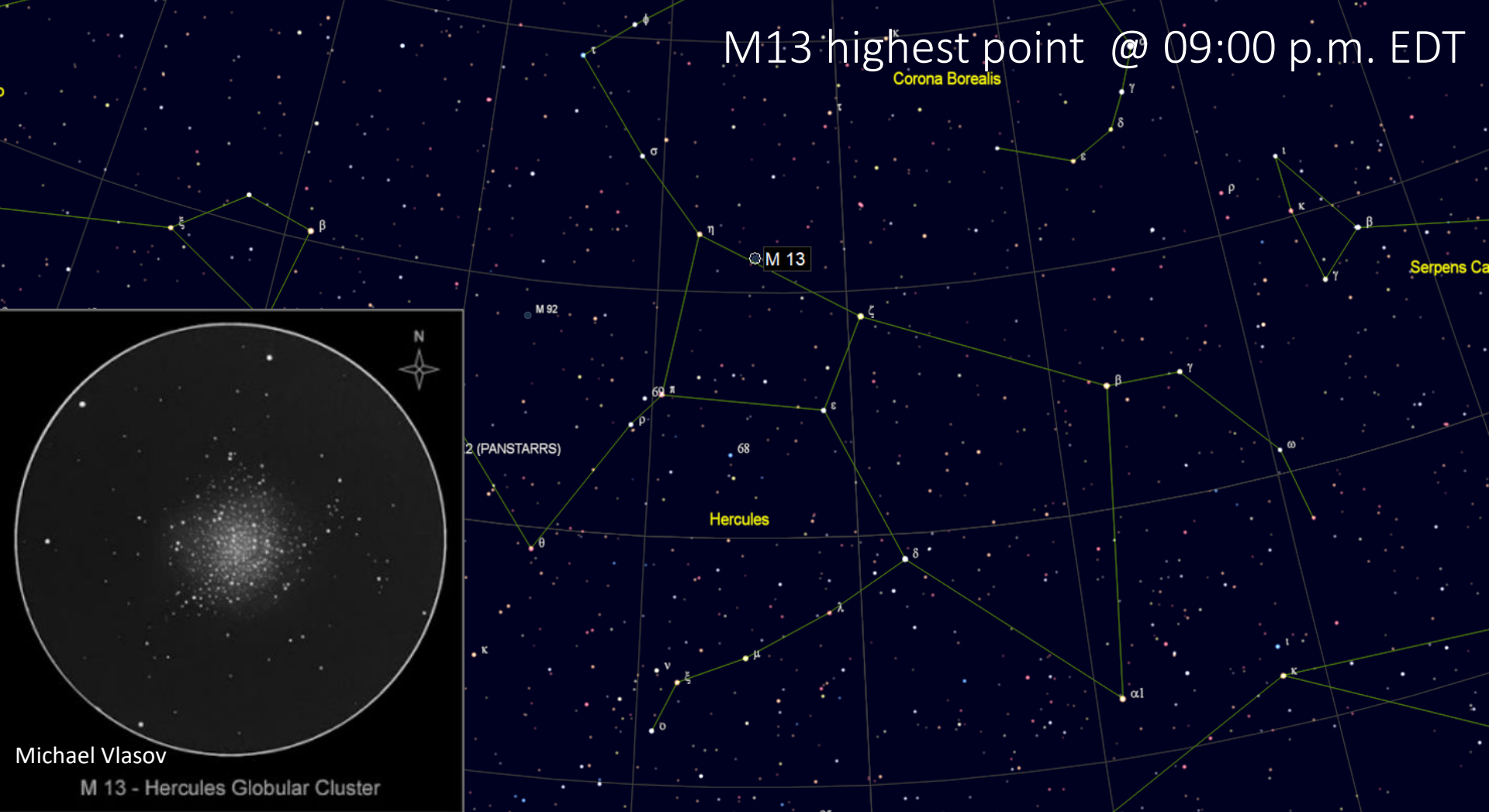
Date	Event	Sun 		Moon 68% 	
Sunday May 30 2021	Conjunction Moon (mag -12.4) and Saturn (mag 0.6) @ 09:17 p.m. EDT in constellation Capricornus. Moon passing 4°10' to the south of Saturn.	Rise 05:44 am	Set 08:54 pm	Rise 00:44 am	Set 09:42 am
				Waning Gibbous	

Conjunction Moon – Jupiter @ 4:00 a.m. EDT Jun 01



Date	Event	Sun 		Moon 54% 	
Tuesday Jun 01 2021	Conjunction Moon (mag -12.1) and Jupiter (mag -2.3) @ 05:00 a.m. EDT in constellation Aquarius. Moon passing 4°37' to the south of Jupiter.	Rise 05:44 am	Set 08:56 pm	Rise 01:54 am	Set 12:13 pm
				Waning Gibbous	

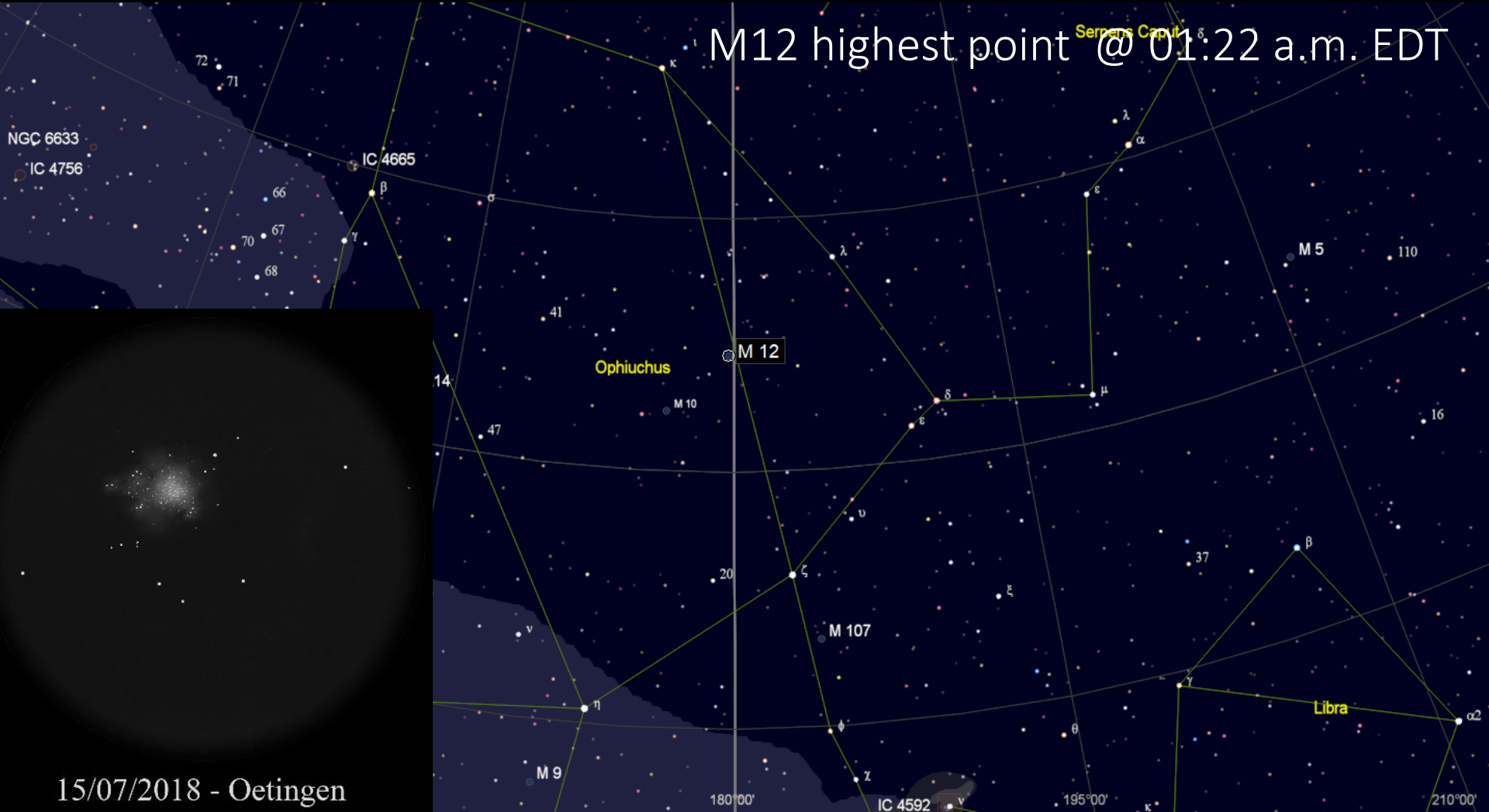
M13 highest point @ 09:00 p.m. EDT



Michael Vlasov
M 13 - Hercules Globular Cluster

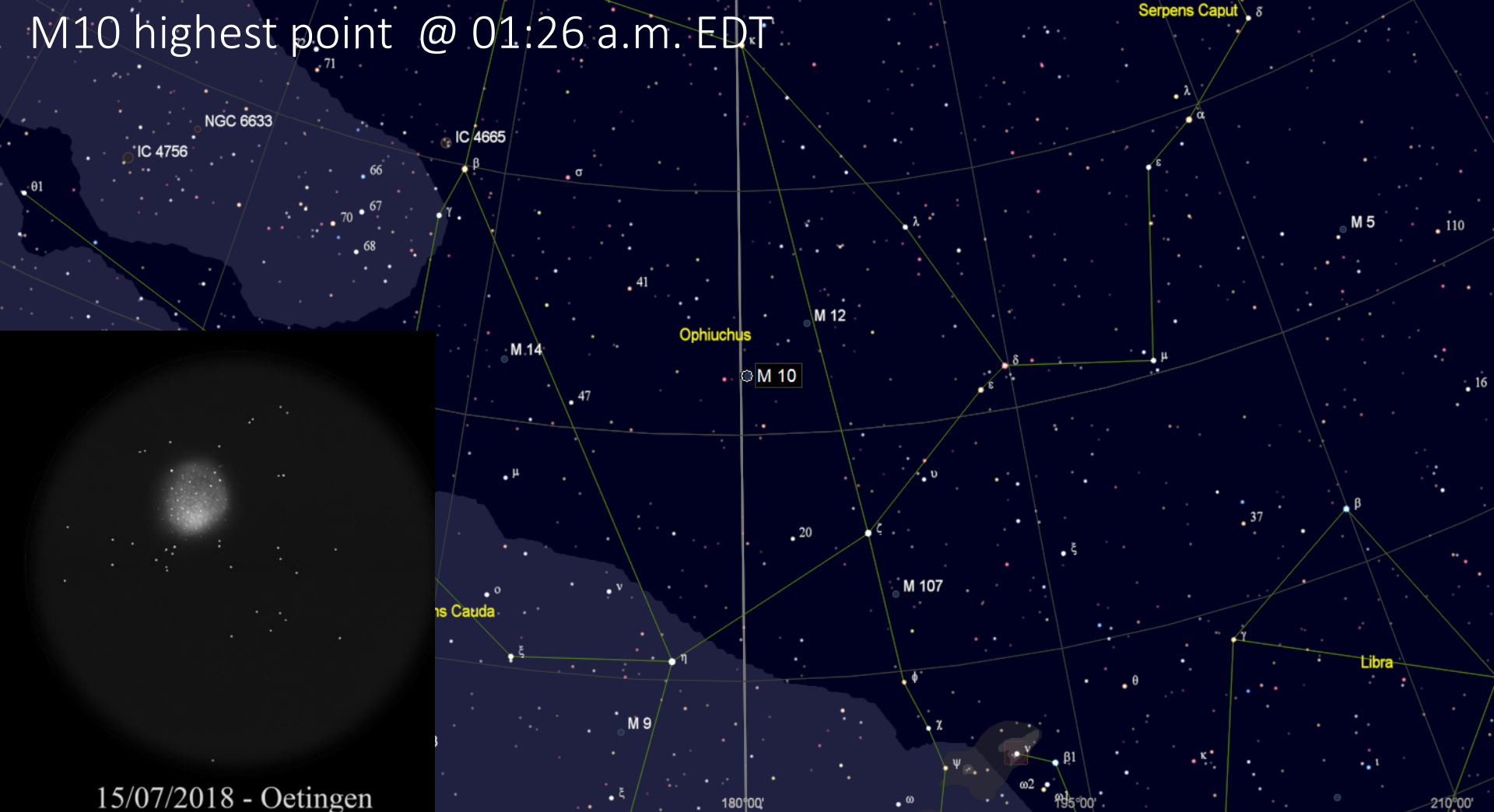
Date	Event	Sun		Moon 44%	
		Rise	Set	Rise	Set
Wednesday Jun 02 2021	M13 (mag 5.8) Hercules Globular Cluster reaches the heights point in the sky in constellation Hercules 83° above southern horizon.	05:44 am	09:00 pm	02:24 am	01:12 pm
				Waning Crescent	

M12 highest point @ 01:22 a.m. EDT

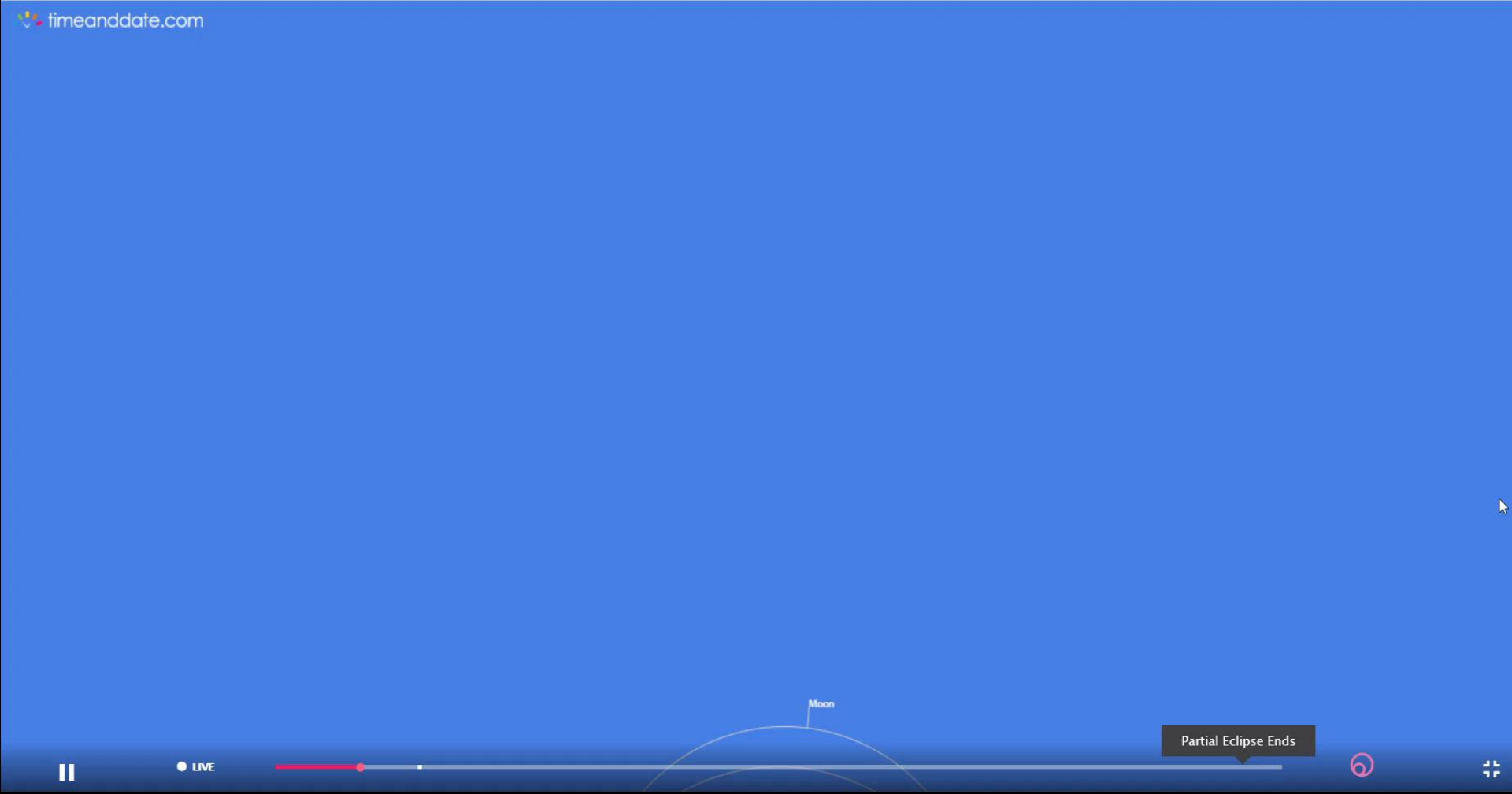


Date	Event	Sun		Moon 27%	
		Rise	Set	Rise	Set
Thursday Jun 03 2021	M12 (mag 6.7) Globular Cluster reaches the heights point in the sky @ 01:22 a.m. EDT in constellation Ophiuchus 44° above southern horizon.	05:44 am	09:00 pm	02:48 am	02:22 pm
				Waning Crescent	

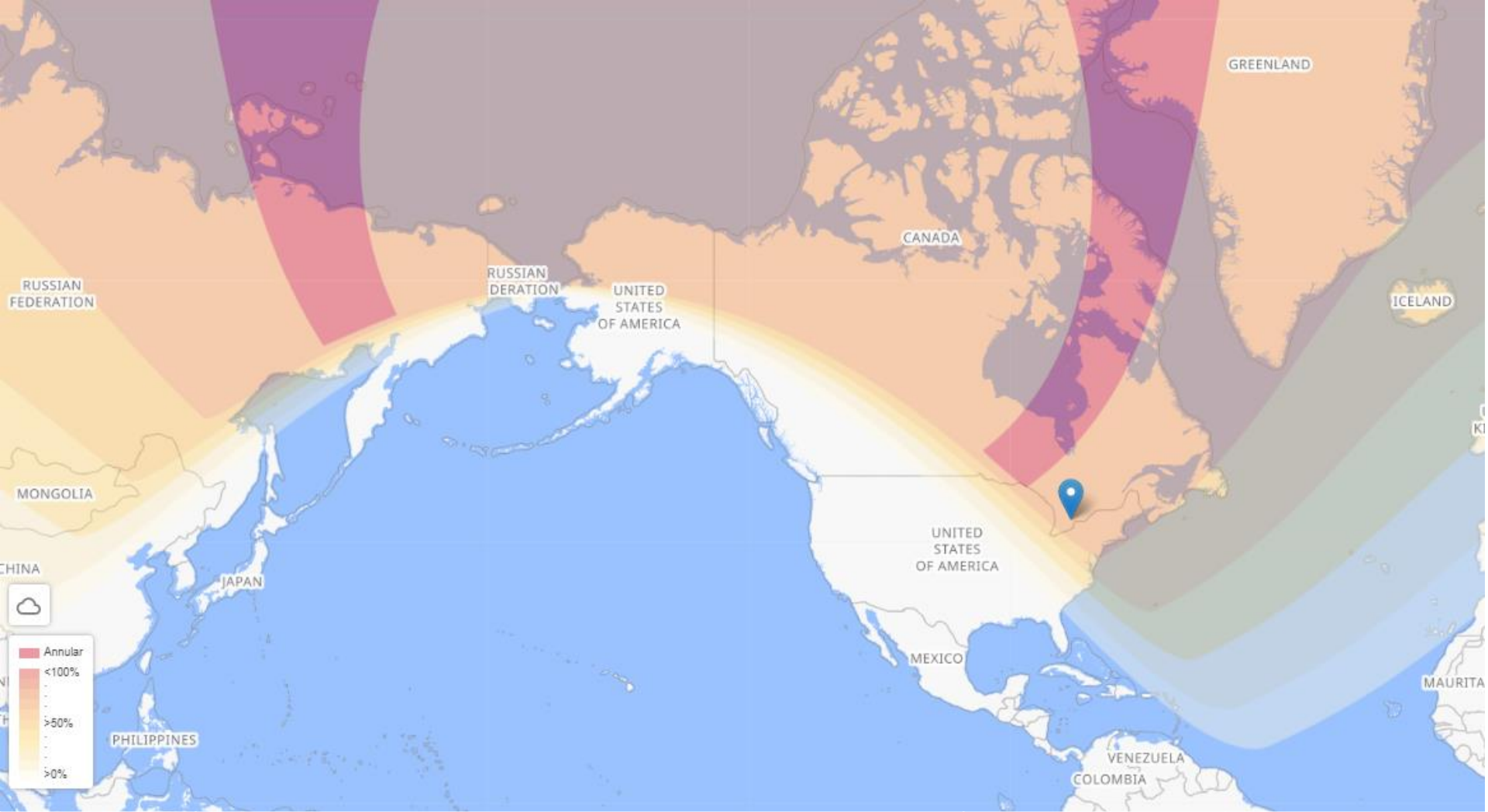
M10 highest point @ 01:26 a.m. EDT





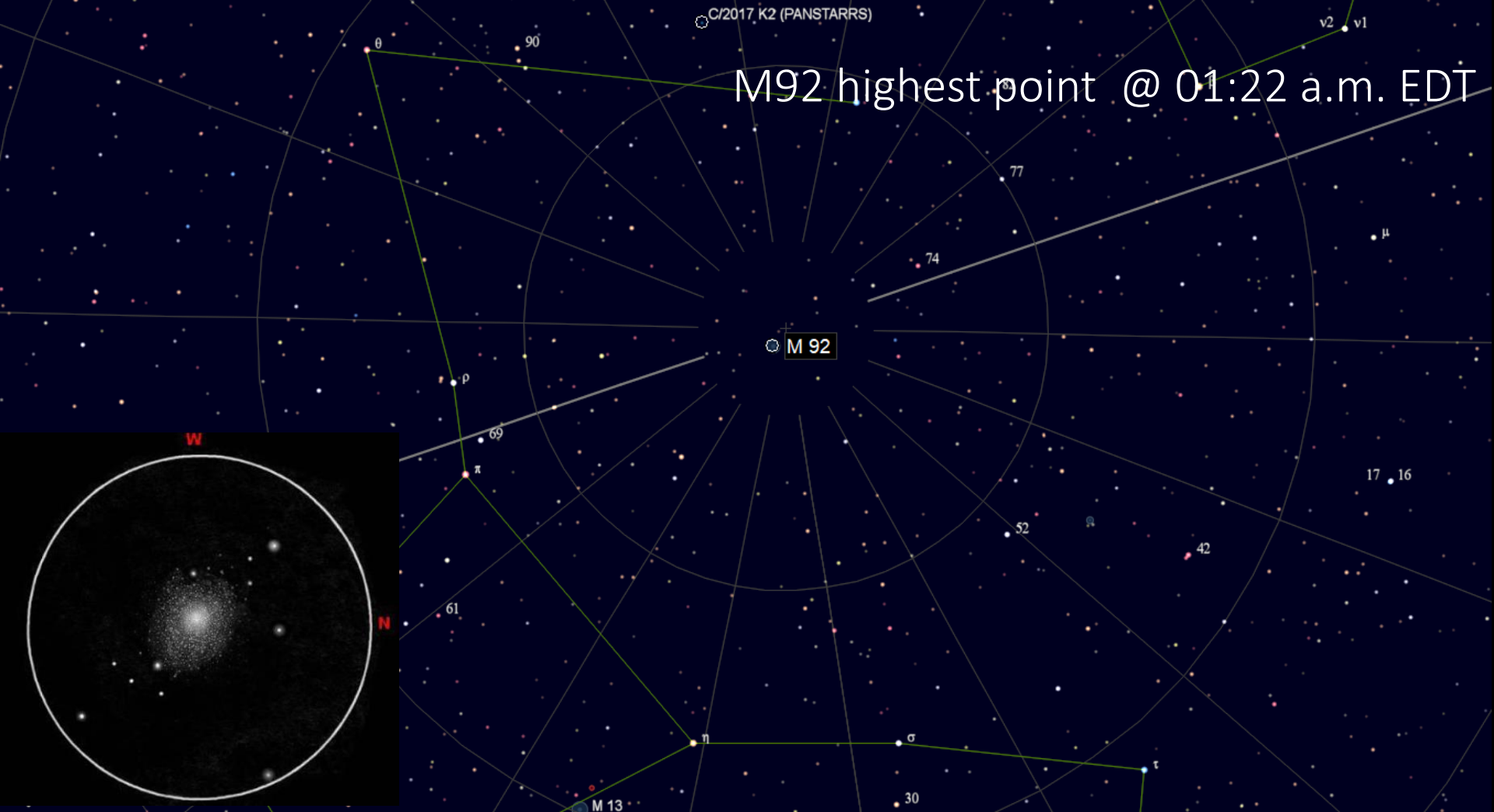
Date	Event	Sun		Moon 12%	
		Rise	Set	Rise	Set
Friday Jun 05 2021	M10 (mag 6.6) Globular Cluster reaches the heights point in the sky @ 01:26 a.m. EDT in constellation Ophiuchus 42° above southern horizon.	05:40 am	09:00 pm	03:30 am	04:28 pm
				Waning Crescent	





Date	Event	Sun 		Moon 0% 	
Thursday Jun 10 2021	Partial Solar Eclipse (annular) 04:46 a.m. EDT – Partial begins (not visible) 05:40 a.m. EDT – Sunrise 05:47 a.m. EDT – Maximum 06:38 a.m. EDT – Partial ends	Rise 05:41 am	Set 09:06 pm	Rise 05:41 am	Set 09:36 pm
				New	



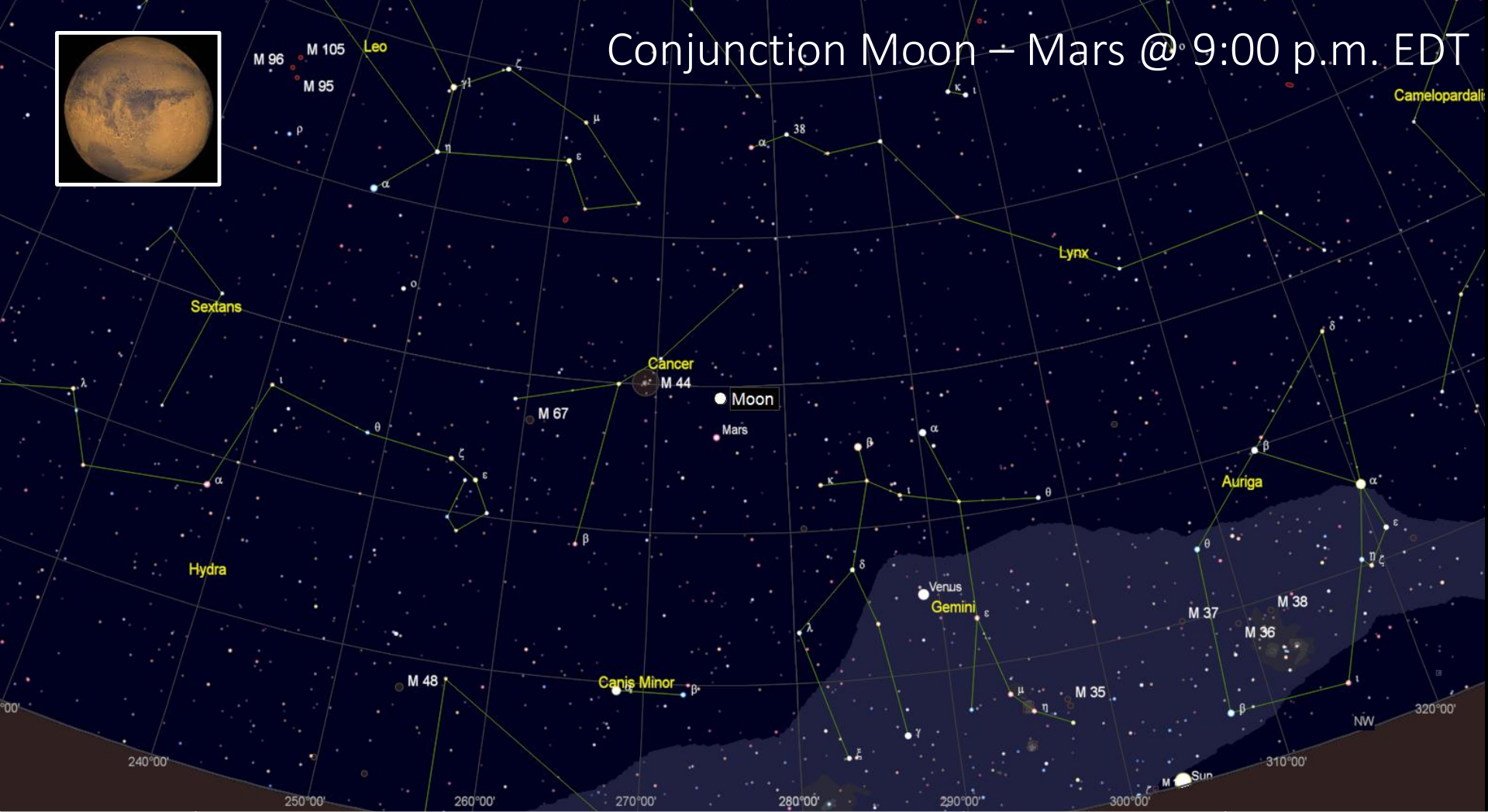
Date	Event	Sun 		Moon 0% 	
Thursday Jun 10 2021	Partial Solar Eclipse (annular) 04:46 a.m. EDT – Partial begins (not visible) 05:40 a.m. EDT – Sunrise 05:47 a.m. EDT – Maximum 06:38 a.m. EDT – Partial ends	Rise 05:41 am	Set 09:06 pm	Rise 05:41 am	Set 09:36 pm
				New	





M92 highest point @ 01:22 a.m. EDT

Date	Event	Sun 		Moon 4% 	
Friday Jun 11 2021	M92 (mag 6.4) Globular Cluster reaches the heights point in the sky @ 01:22 a.m. EDT in constellation Hercules 89° above south-western horizon.	Rise 05:41 am	Set 09:05 pm	Rise 06:21 am	Set 10:38 pm
				Waning Crescent	

Conjunction Moon – Mars @ 9:00 p.m. EDT



Date	Event	Sun 		Moon 13% 	
Friday Jun 13 2021	Conjunction Moon (mag -10.2) and Mars (mag 1.8) @ 03:52 a.m. EDT in constellation Cancer. Moon passing 2°48' to the north of Mars.	Rise 05:42 am	Set 09:07 pm	Rise 08:09 am	Set ---
				Waxing Crescent	

December



March





June



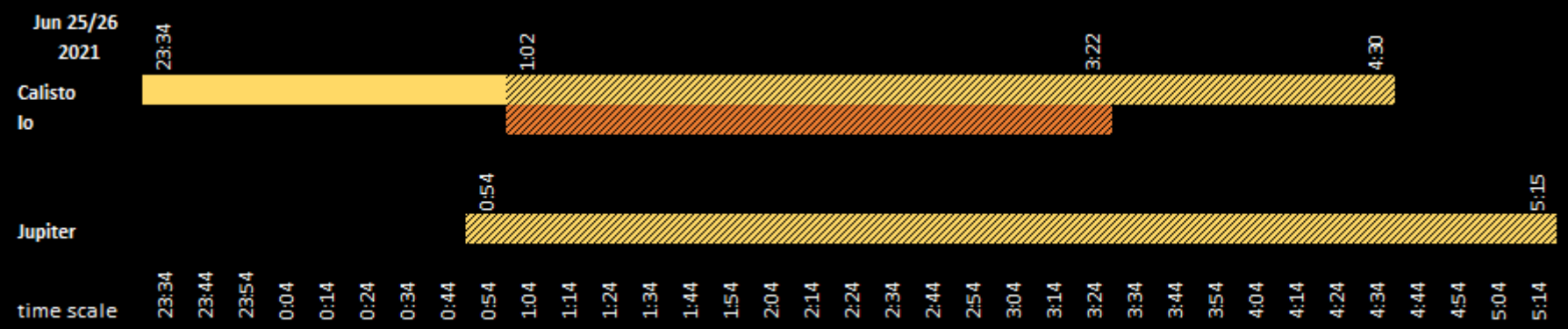
September





June solstice @ 11:25 p.m. EDT

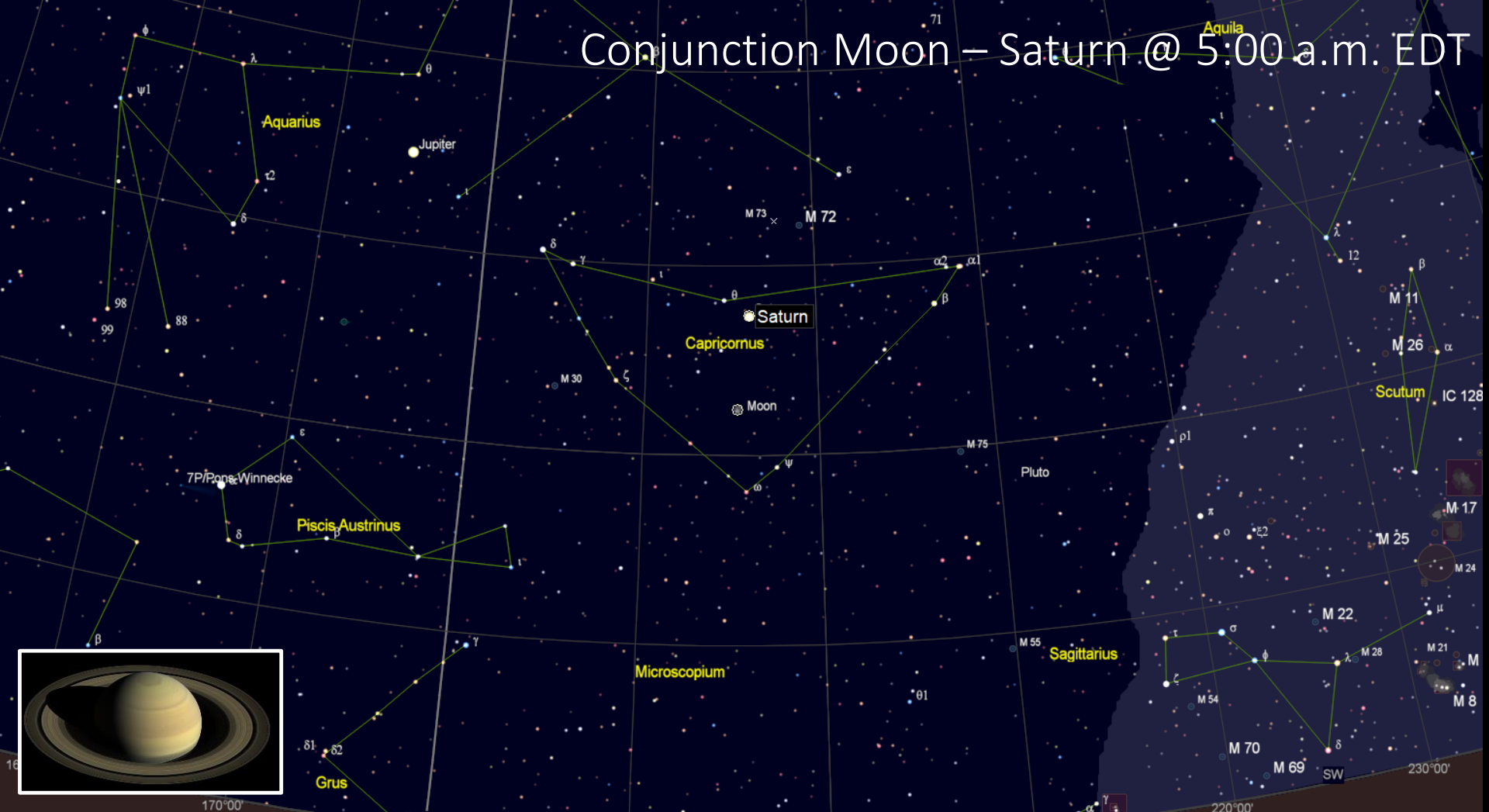
Date	Event	Sun 		Moon 86% 	
Sunday Jun 20 2021	1 st day of the Summer for northern hemisphere. Here are 4 photos of quarter-Earth seen from space, showing equinoxes and solstices. Image via Geosync.	Rise 05:42 am	Set 09:29 pm	Rise 04:21 pm	Set 03:46 am
				Waxing Gibbous	



Double Shadow Transit Jupiter @ 5:00 a.m. EDT



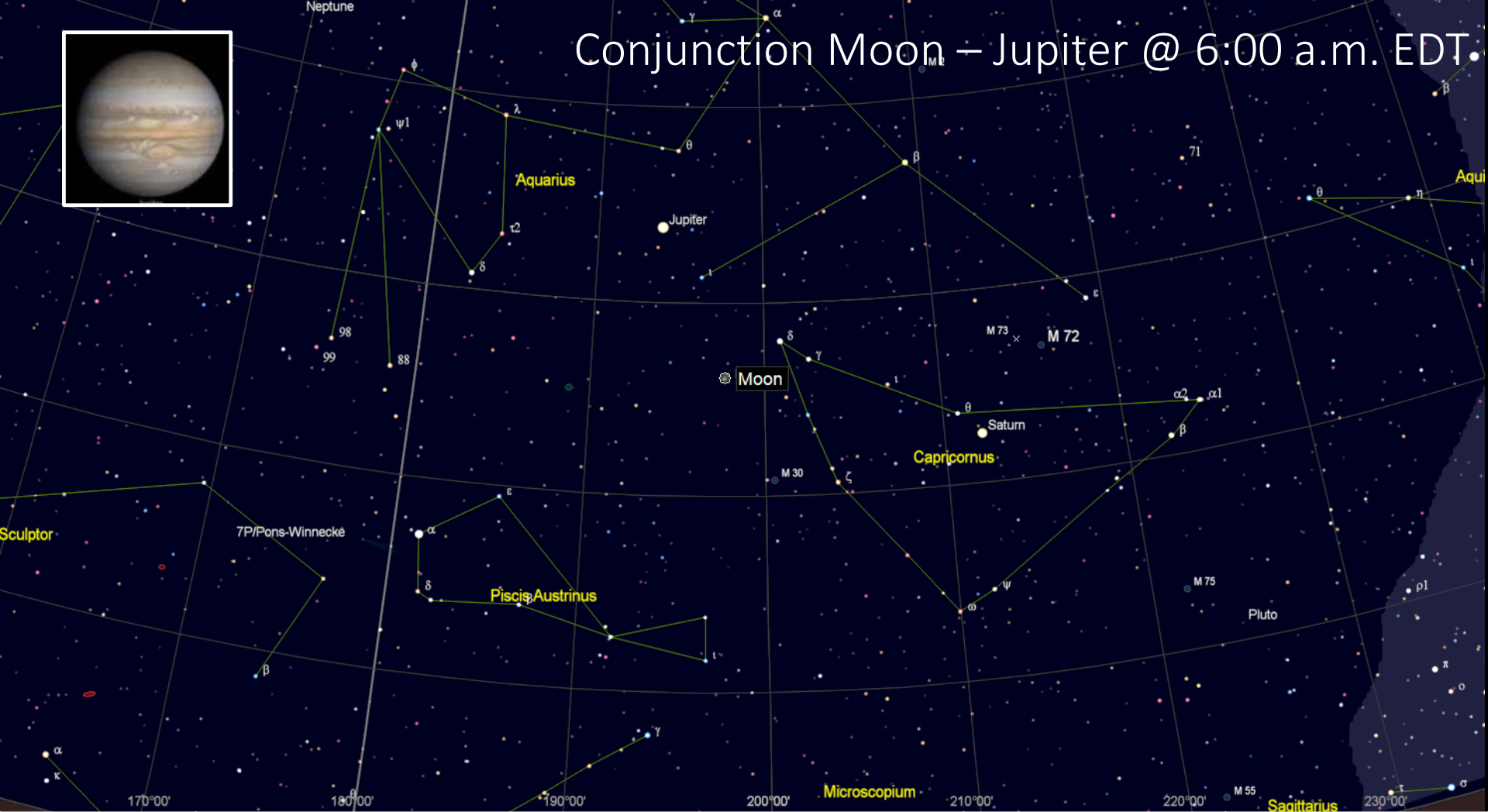
Date	Event (Double Shadow: Jupiter visible: 00:54 to 05:15)		Sun 	Moon 94% 		
Saturday Jun 26 2021	UTC	Event	Rise	Set	Rise	Set
	3:34	Callisto's shadow begins to cross Jupiter.	05:43	09:24	10:55	07:04
	5:02	Io's shadow begins to cross Jupiter.	am	pm	pm	am
	5:02	** A multi-shadow transit event begins.				
	7:22	Io's shadow leaves Jupiter's disk.				
	7:22	** The multi-shadow transit event ends.				
8:30	Callisto's shadow leaves Jupiter's disk.				Waning Gibbous	



Conjunction Moon – Saturn @ 5:00 a.m. EDT



Date	Event	Sun 		Moon 87% 	
Sunday Jun 27 2021	Conjunction Moon (mag -12.5) and Saturn (mag 0.3) @ 05:26 p.m. EDT in constellation Capricornus. Moon passing 4°01' to the south of Saturn.	Rise 05:43 am	Set 09:24 pm	Rise 11:55 pm	Set 08:40 am
				Waning Gibbous	

Conjunction Moon – Jupiter @ 6:00 a.m. EDT.



Date	Event	Sun 		Moon 75% 	
Monday Jun 28 2021	Conjunction Moon (mag -12.4) and Jupiter (mag -2.7) @ 02:41 p.m. EDT in constellation Aquarius. Moon passing 4°27' to the south of Jupiter.	Rise 05:43 am	Set 09:07 pm	Rise ----	Set 09:56 am
				Waning Gibbous	

Messier List

OBJ	TYPE	CON	Constalation	RA	DEC	MAG		Best to see as 9PM
M3	GCL	CVn	Canes Venatici	13:42.2	+28:23	6.2	easy	May
M51	GAL	CVn	Canes Venatici	13:29.9	+47:12	8.4	moderate	May
M63	GAL	CVn	Canes Venatici	13:15.8	+42:02	8.6	moderate	May
M94	GAL	CVn	Canes Venatici	12:50.9	+41:07	8.2	moderate	May
M106	GAL	CVn	Canes Venatici	12:19.0	+47:18	8.4		May
M53	GCL	Com	Coma Berenices	13:12.9	+18:10	7.6	easy	May
M64	GAL	Com	Coma Berenices	12:56.7	+21:41	8.5	moderate	May
M85	GAL	Com	Coma Berenices	12:25.4	+18:11	9.1	moderate	May
M88	GAL	Com	Coma Berenices	12:32.0	+14:25	9.6	moderate	May
M91	GAL	Com	Coma Berenices	12:35.4	+14:30	10.2	very hard	May
M98	GAL	Com	Coma Berenices	12:13.8	+14:54	10.1	very hard	May
M99	GAL	Com	Coma Berenices	12:18.8	+14:25	9.9	hard	May
M100	GAL	Com	Coma Berenices	12:22.9	+15:49	9.4	very hard	May
M49	GAL	Vir	Virgo	12:29.8	+08:00	8.4	moderate	May
M58	GAL	Vir	Virgo	12:37.7	+11:49	9.7	moderate	May
M59	GAL	Vir	Virgo	12:42.0	+11:39	9.6	hard	May
M60	GAL	Vir	Virgo	12:43.7	+11:33	8.8	moderate	May
M61	GAL	Vir	Virgo	12:21.9	+04:28	9.7		May
M84	GAL	Vir	Virgo	12:25.1	+12:53	9.1	moderate	May
M86	GAL	Vir	Virgo	12:26.2	+12:57	8.9	moderate	May
M87	GAL	Vir	Virgo	12:30.8	+12:24	8.6	moderate	May
M89	GAL	Vir	Virgo	12:35.7	+12:33	9.8	moderate	May
M90	GAL	Vir	Virgo	12:36.8	+13:10	9.5	hard	May
M104	GAL	Vir	Virgo	12:40.0	-11:37	8	easy	May
M52	OCL	Cas	Cassiopeia	23:24.2	+61:35	6.9	easy	Circumpolar
M103	OCL	Cas	Cassiopeia	01:33.2	+60:42	7.4		Circumpolar
M102	GAL	Dra	Draco	15:06.5	+55:46	9.9		Circumpolar
M40	OTH	UMa	Ursa Major	12:22.3	+58:05	9.1	easy	Circumpolar
M81	GAL	UMa	Ursa Major	09:55.6	+69:04	6.9	easy	Circumpolar
M82	GAL	UMa	Ursa Major	09:55.8	+69:41	8.4	easy	Circumpolar
M97	PLN	UMa	Ursa Major	11:14.8	+55:01	9.9	very hard	Circumpolar
M101	GAL	UMa	Ursa Major	14:03.2	+54:21	7.9	very hard	Circumpolar
M108	GAL	UMa	Ursa Major	11:11.5	+55:40	10	hard	Circumpolar
M109	GAL	UMa	Ursa Major	11:57.6	+53:23	9.8	hard	Circumpolar

What's Up 2021

Objects under City view

OBJ	TYPE	CON	RA	DEC	MAG	Best to see as 10PM
NGC 5128	Cen	GX	13h 25.5m	-43° 01'	7	May
ω Cen	Cen	GC	13h 26.8m	-47° 29'	3.7	May
24 Com	Com	DS	12h 35.1m	+18° 23'	5.1, 6.3	May
M64	Com	GX	12h 56.7m	+21° 41'	8.5	May
α CVn	CVn	DS	12h 56.0m	+38° 19'	2.9, 5.6	May
M3	CVn	GC	13h 42.2m	+28° 23'	6.3	May
M51	CVn	GX	13h 29.9m	+47° 12'	8.4	May
M94	CVn	GX	12h 50.9m	+41° 07'	8.2	May
Y CVn	CVn	Star	12h 45.1m	+45° 26'	5.2	May
3C 273	Vir	QSO	12h 29.1m	+2° 03'	12.7	May
γ Vir	Vir	DS	12h 41.7m	-1° 27'	3.4, 3.5	May
M104	Vir	GX	12h 40.0m	-11° 37'	8	May
M49	Vir	GX	12h 29.8m	+8° 00'	8.4	May
M87	Vir	GX	12h 30.8m	+12° 24'	8.6	May
Spica	Vir	Star	13h 25.3m	-11° 10'	1	May
Arcturus	Boo	Star	14h 15.9m	+19° 11'	-0.1	June
ε Boo	Boo	DS	14h 45.0m	+27° 04'	2.3, 4.5	June
μ Boo	Boo	MS	15h 24.5m	+37° 23'	4.3, 7.0, 7.6	June
η Cas	Cas	DS	0h 49.1m	+57° 49'	3.5, 7.2	Circumpolar
ι Cas	Cas	MS	2h 29.1m	+67° 24'	4.5, 6.9	Circumpolar
σ Cas	Cas	DS	23h 59.0m	+55° 45'	5.0, 7.1	Circumpolar
ν Dra	Dra	DS	17h 32.2m	+55° 11'	4.9, 4.9	Circumpolar
NGC 6543	Dra	PN	17h 58.6m	+66° 38'	8.1	Circumpolar
M81	UMa	GX	9h 55.6m	+69° 04'	6.9	Circumpolar
M82	UMa	GX	9h 55.8m	+69° 41'	8.4	Circumpolar
Mizar	UMa	DS	13h 23.9m	+54° 56'	2.2, 3.9	Circumpolar
ξ Uma	UMa	DS	11h 18.2m	+31° 32'	4.3, 4.8	Circumpolar

X = Galaxy; GC = Globular cluster; OC = Open cluster; NB = Nebula; PN = Planetary nebula; DS = Double star; MS = Multiple star; SC = Starcloud; QSO = Quasar; RA and Dec. are equinox 2000.0; SA 2000.0 = Sky Atlas 2000 chart number

"The events described in this presentation are just a fiction. Any similarity to any real celestial events is pure coincidence"

Just joking

Clear Sky!

Observers HandBook 2020 Editor: James S.Edgar

Software :

Chart du Ciel : <https://www.ap-i.net/skychart/en/start>

Stellarium : <https://stellarium.org/>

<https://svs.gsfc.nasa.gov/>

<https://solarsystem.nasa.gov/planets/overview/>

<https://in-the-sky.org/>

<http://www.astronomy.com/>

<https://www.solarsystemscope.com/>

www.astropixels.com

www.timeanddate.com

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