

Mars Close Approach 2018												Alt	Azim	Con	ApDia arc sec
d	mm	y	Time	RA	Dec		r AU	delta AU	mag	elong Degrees					
10	Jul	2018	21:00:01	20h47m15.97s	-23	47'	05.5"	1.4132	0.4156	-2.4	159.3	20.21	106.07	Cap	22.50
11	Jul	2018	21:00:01	20h46m37.27s	-23	53'	33.2"	1.4123	0.4128	-2.5	160.4	21.20	105.67	Cap	22.70
12	Jul	2018	21:00:01	20h45m55.72s	-24	00'	05.0"	1.4114	0.4101	-2.5	161.4	22.19	105.27	Cap	22.80
13	Jul	2018	21:00:01	20h45m11.42s	-24	06'	40.0"	1.4106	0.4075	-2.5	162.5	23.20	104.87	Cap	23.00
14	Jul	2018	21:00:01	20h44m24.48s	-24	13'	17.2"	1.4097	0.4051	-2.5	163.6	24.23	104.48	Cap	23.10
15	Jul	2018	21:00:01	20h43m35.02s	-24	19'	55.7"	1.4089	0.4027	-2.6	164.6	25.26	104.08	Cap	23.20
16	Jul	2018	21:00:01	20h42m43.16s	-24	26'	34.3"	1.4081	0.4006	-2.6	165.7	26.30	103.68	Cap	23.40
17	Jul	2018	21:00:01	20h41m49.05s	-24	33'	12.1"	1.4073	0.3986	-2.6	166.7	27.34	103.28	Cap	23.50
18	Jul	2018	21:00:01	20h40m52.82s	-24	39'	48.0"	1.4065	0.3967	-2.6	167.7	28.40	102.88	Cap	23.60
19	Jul	2018	21:00:01	20h39m54.62s	-24	46'	21.0"	1.4057	0.3949	-2.7	168.7	29.47	102.48	Cap	23.70
20	Jul	2018	21:00:01	20h38m54.61s	-24	52'	50.1"	1.4049	0.3933	-2.7	169.7	30.54	102.07	Cap	23.80
21	Jul	2018	21:00:01	20h37m52.94s	-24	59'	14.3"	1.4041	0.3918	-2.7	170.6	31.62	101.67	Cap	23.90
22	Jul	2018	21:00:01	20h36m49.76s	-25	05'	32.5"	1.4034	0.3905	-2.7	171.4	32.70	101.26	Cap	24.00
23	Jul	2018	21:00:01	20h35m45.26s	-25	11'	43.8"	1.4026	0.3893	-2.7	172.2	33.79	100.85	Cap	24.00
24	Jul	2018	21:00:01	20h34m39.58s	-25	17'	47.3"	1.4019	0.3883	-2.8	172.8	34.88	100.44	Cap	24.10
25	Jul	2018	21:00:01	20h33m32.92s	-25	23'	41.9"	1.4012	0.3874	-2.8	173.2	35.98	100.03	Cap	24.20
26	Jul	2018	21:00:01	20h32m25.44s	-25	29'	26.7"	1.4004	0.3866	-2.8	173.5	37.07	99.61	Cap	24.20
27	Jul	2018	21:00:01	20h31m17.32s	-25	35'	01.0"	1.3997	0.3860	-2.8	173.5	38.17	99.19	Cap	24.20
28	Jul	2018	21:00:01	20h30m08.75s	-25	40'	23.8"	1.3990	0.3855	-2.8	173.3	39.28	98.77	Cap	24.30
29	Jul	2018	21:00:01	20h28m59.92s	-25	45'	34.4"	1.3984	0.3852	-2.8	172.9	40.38	98.34	Cap	24.30
30	Jul	2018	21:00:01	20h27m51.01s	-25	50'	31.9"	1.3977	0.3850	-2.8	172.3	41.48	97.91	Cap	24.30
31	Jul	2018	21:00:01	20h26m42.21s	-25	55'	15.6"	1.3971	0.3849	-2.8	171.6	42.58	97.48	Cap	24.30
1	Aug	2018	21:00:01	20h25m33.72s	-25	59'	44.9"	1.3964	0.3850	-2.8	170.8	43.68	97.04	Cap	24.30
2	Aug	2018	21:00:01	20h24m25.73s	-26	03'	59.2"	1.3958	0.3853	-2.8	169.9	44.78	96.59	Cap	24.30
3	Aug	2018	21:00:01	20h23m18.43s	-26	07'	57.9"	1.3952	0.3856	-2.7	169.0	45.87	96.14	Cap	24.30
4	Aug	2018	21:00:01	20h22m12.00s	-26	11'	40.4"	1.3946	0.3861	-2.7	168.0	46.96	95.68	Cap	24.20
5	Aug	2018	21:00:01	20h21m06.66s	-26	15'	06.2"	1.3940	0.3868	-2.7	166.9	48.05	95.21	Cap	24.20

6	Aug	2018	21:00:01	20h20m02.58s	-26	18'	15.1"	1.3934	0.3876	-2.7	165.9	49.13	94.73	Cap	24.10
7	Aug	2018	21:00:01	20h18m59.96s	-26	21'	06.5"	1.3928	0.3885	-2.7	164.8	50.20	94.25	Cap	24.10
8	Aug	2018	21:00:01	20h17m58.99s	-26	23'	40.3"	1.3923	0.3895	-2.7	163.8	51.27	93.75	Cap	24.00
9	Aug	2018	21:00:01	20h16m59.87s	-26	25'	56.1"	1.3918	0.3907	-2.6	162.7	52.33	93.25	Cap	23.90
10	Aug	2018	21:00:01	20h16m02.76s	-26	27'	53.7"	1.3912	0.3921	-2.6	161.6	53.38	92.73	Cap	23.90
11	Aug	2018	21:00:01	20h15m07.85s	-26	29'	33.1"	1.3907	0.3935	-2.6	160.5	54.42	92.20	Cap	23.80
12	Aug	2018	21:00:01	20h14m15.32s	-26	30'	54.2"	1.3902	0.3951	-2.6	159.4	55.45	91.66	Cap	23.70
13	Aug	2018	21:00:01	20h13m25.32s	-26	31'	56.9"	1.3897	0.3968	-2.6	158.3	56.47	91.10	Cap	23.60
14	Aug	2018	21:00:01	20h12m38.00s	-26	32'	41.4"	1.3893	0.3987	-2.5	157.3	57.48	90.52	Cap	23.50
15	Aug	2018	21:00:01	20h11m53.48s	-26	33'	07.7"	1.3888	0.4006	-2.5	156.2	58.48	89.93	Cap	23.40
16	Aug	2018	21:00:01	20h11m11.89s	-26	33'	16.1"	1.3883	0.4027	-2.5	155.1	59.47	89.31	Cap	23.20
17	Aug	2018	21:00:01	20h10m33.33s	-26	33'	06.7"	1.3879	0.4049	-2.5	154.1	60.45	88.68	Cap	23.10
18	Aug	2018	21:00:01	20h09m57.89s	-26	32'	39.8"	1.3875	0.4072	-2.5	153.0	61.41	88.02	Cap	23.00
19	Aug	2018	21:00:01	20h09m25.64s	-26	31'	55.6"	1.3871	0.4097	-2.4	152.0	62.36	87.34	Cap	22.80
20	Aug	2018	21:00:01	20h08m56.66s	-26	30'	54.4"	1.3867	0.4122	-2.4	150.9	63.29	86.63	Cap	22.70
21	Aug	2018	21:00:01	20h08m30.99s	-26	29'	36.6"	1.3863	0.4148	-2.4	149.9	64.22	85.88	Cap	22.60
22	Aug	2018	21:00:01	20h08m08.69s	-26	28'	02.4"	1.3860	0.4176	-2.4	148.9	65.12	85.11	Cap	22.40
23	Aug	2018	21:00:01	20h07m49.80s	-26	26'	12.2"	1.3856	0.4205	-2.3	147.9	66.02	84.30	Cap	22.30
24	Aug	2018	21:00:01	20h07m34.33s	-26	24'	06.2"	1.3853	0.4234	-2.3	146.9	66.89	83.44	Sag	22.10
25	Aug	2018	21:00:01	20h07m22.32s	-26	21'	44.9"	1.3849	0.4265	-2.3	146.0	67.76	82.55	Sgr	21.90
26	Aug	2018	21:00:01	20h07m13.77s	-26	19'	08.5"	1.3846	0.4297	-2.3	145.0	68.60	81.60	Sgr	21.80
27	Aug	2018	21:00:01	20h07m08.69s	-26	16'	17.4"	1.3843	0.4329	-2.2	144.0	69.44	80.61	Sgr	21.60
28	Aug	2018	21:00:01	20h07m07.08s	-26	13'	11.9"	1.3841	0.4363	-2.2	143.1	70.25	79.55	Sgr	21.40
29	Aug	2018	21:00:01	20h07m08.94s	-26	09'	52.3"	1.3838	0.4397	-2.2	142.2	71.05	78.43	Sgr	21.30
30	Aug	2018	21:00:01	20h07m14.25s	-26	06'	18.9"	1.3835	0.4433	-2.1	141.3	71.83	77.24	Sgr	21.10
31	Aug	2018	21:00:01	20h07m23.01s	-26	02'	31.9"	1.3833	0.4469	-2.1	140.4	72.59	75.96	Sgr	20.90
1	Sep	2018	21:00:01	20h07m35.19s	-25	58'	31.8"	1.3831	0.4506	-2.1	139.5	73.33	74.60	Cap	20.80
2	Sep	2018	21:00:01	20h07m50.78s	-25	54'	18.7"	1.3829	0.4544	-2.1	138.6	74.06	73.15	Cap	20.60
3	Sep	2018	21:00:01	20h08m09.75s	-25	49'	52.8"	1.3827	0.4583	-2	137.7	74.76	71.59	Cap	20.40

RA Right Ascension - Part of the equatorial coordinate system used to specify the location of an object in the sky. It is the angular distance of an object from an imaginary line in the sky. It is analogous to lines of longitude on the Earth, Celestial longitude but measured in hours (24hrs = 360deg)

Dec	Declination- Part of the equatorial coordinate system used to specify the location of an object in the sky. It is the angular distance of a body North (+) or South (-) of the Celestial Equator and is analogous to the lines of latitude and longitude on the Earth, Celestial Latitude and longitude.
r	Distance from sun AU- Astronomical Units 1 AU = distance from the Sun to the Earth, or about 93 million miles, or about 148 million kilometers.
delta	distance from observer
mag	Magnitude of the object - Brightness scale of stellar objects. From one magnitude to the next the ratio of brightness is the 5th root of 100, or approximately 2.5. The lower the number the brighter the object. The brightest stars as seen from Earth are magnitude -1 (except for the Sun which is -26.7). The faintest visible to the unaided eye are magnitude 6 (under dark skies)
elong	Elongation- when it is small, the object is close to the Sun and difficult to see in the glare. When it is close to 180 degrees, the object will rise at sunset and set at sunrise, so you can see it all night, far from the Sun's glare.
Alt	Altitude- Altitude tells you how high the object is above the horizon. An altitude of 45 degrees puts the object halfway between the horizon and zenith (straight overhead); of 90 degrees, straight overhead; of zero degrees, on the horizon; and so on for values in between. An altitude of less than zero puts the object below the horizon.
Azim	Azimuth- Azimuth tells you in which direction to look. An azimuth of zero degrees puts the object to the north; of 90 degrees, to the east; of -90 or 270 degrees, to the west; of 180 or -180 degrees, to the south.
Con	Constellation eg Cap is Capricorn, Sag is Sagittarius
ApDiam	Apparent Diameter- All objects in the sky have an angular diameter: the amount of sky they appear to cover. The Sun and Moon, for example, each cover about 1/2 degree of angular diameter. The stars all cover far less than an arcsecond, which is why they appear as pinpoints in a telescope. The Planets are in between, and appear as small disks in a telescope and change their apparent diameter according to their position in their orbit as seen from the Earth.