

Sky this Month

August 2023

By David Mills

MOON

FULL MOON

Moon

- The full Moon is on August 1, at 2:32 p.m.
- The Moon rises at 9:17 p.m. on August 1st, 2023
- This month's Full Moon is called the Sturgeon Moon.
- August is a supermoon. This is the 2nd of 4 supermoons this year.

Moon

Type: **moon**
Magnitude: **-12.38** (reduced to **-8.32** by **31.49** Airmasses)
Absolute Magnitude: 0.21
Mean Opposition Magnitude: -12.74
RA/Dec (J2000.0): 21h11m42.74s/-22°14'20.3"
RA/Dec (on date): 21h13m03.54s/-22°08'35.8"
HA/Dec: 19h35m17.03s/-21°47'23.1" (apparent)
Az./Alt.: +121°50'39.0"/+0°31'26.8" (apparent)
Gal. long./lat.: +25°50'02.3"/-40°13'56.1"
Supergal. long./lat.: -111°15'49.8"/+39°23'57.0"
Ecl. long./lat. (J2000.0): +313°40'35.2"/-5°46'11.1"
Ecl. long./lat. (on date): +314°00'15.4"/-5°46'18.4"
Ecliptic obliquity (on date): +23°26'18.2"
Mean Sidereal Time: 16h47m01.6s
Apparent Sidereal Time: 16h47m01.1s
Rise: 21h19m
Transit: 1h46m
Set: 6h12m
Parallactic Angle: -40°54'02.6"
IAU Constellation: Cap
Hourly motion: +0°33'57" towards 77.3°
Hourly motion: $da=+0°35'39"$ $d\delta=+0°08'00"$
Elongation: +172°42'18.4"
Phase angle: +7°16'40.1"
Illuminated: 99.6%
Moon age: 15.1 days old (Waning Gibbous)
Position angle of bright limb: +124.7847°
Distance from Sun: 1.017 AU (152.186 M km)
Distance: 0.002388 AU (357271.736 km)
Light time: 0h00m01.2s
Sidereal period: 27.32 days (0.075 a)
Synodic period: 29.53 days (0.081 a)
Apparent diameter: +0°33'26.10"
Diameter: 3474.8 km
Sidereal day: 655h43m11.7s
Mean solar day: 708h44m03.0s
Albedo: 0.120



SE

Date and Time									
Date and Time				Julian Day					
2023	-	8	-	1	21	:	18	:	44

NEW MOON

Moon

- The New Moon is on August 16th, at 5:38 a.m.
- Moon is northeast of the sun.

Moon

Type: **moon**
 Magnitude: **-2.62**
 Absolute Magnitude: 0.21
 Mean Opposition Magnitude: -12.74
 RA/Dec (J2000.0): 9h49m55.12s/+17°26'34.0"
 RA/Dec (on date): 9h51m12.76s/+17°20'00.8"
 HA/Dec: 16h13m54.12s/+17°20'00.8"
 Az./Alt.: +59°06'37.4"/-5°34'02.8"
 Gal. long./lat.: +216°12'01.8"/+47°08'39.2"
 Supergal. long./lat.: +80°40'17.2"/-35°37'40.6"
 Ecl. long./lat. (J2000.0): +143°45'06.5"/+4°04'18.6"
 Ecl. long./lat. (on date): +144°04'48.6"/+4°04'24.4"
 Ecliptic obliquity (on date): +23°26'18.6"
 Mean Sidereal Time: 2h05m07.3s
 Apparent Sidereal Time: 2h05m06.9s
 Rise: 6h15m
 Transit: 13h38m
 Set: 20h47m
 Parallaxic Angle: -40°02'43.8"
 IAU Constellation: Leo
 Hourly motion: +0°33'04" towards 104.0°
 Hourly motion: $da=+0^{\circ}33'31"$ $d\delta=-0^{\circ}08'22"$
 Elongation: 4°08'56.0"
 Elong. in Ecl.Long.: E0°47'20"
 Phase angle: +175°50'23.8"
 Illuminated: 0.1%
 Distance from Sun: 1.010 AU (151.099 M km)
 Distance: 0.002722 AU (407210.900 km)
 Light time: 0h00m01.4s
 Orbital velocity: 0.971 km/s
 Heliocentric velocity: 28.438 km/s
 Sidereal period: 27.32 days (0.075 a)
 Synodic period: 29.53 days (0.081 a)
 Apparent diameter: +0°29'20.08"
 Diameter: 3474.8 km
 Sidereal day: 655h43m11.6s
 Mean solar day: 708h44m02.9s
 Equatorial rotation velocity: 4.624 m/s
 Moon age: 0.0 days old (New Moon)
 Position angle of bright limb: 149°18'32"

NE

E



Procyon

Date and Time ✕

Date and Time				Julian Day			
2023	-	8	-	16	5	:	40
:	:	:	:	:	:	:	15

Full-screen mode [F11]

Position Angle of axis: +18°55'24"

Earth, Peterborough, 188 m

Libration: +5°57'54" towards +3°40'27" (S1)

Libration: +0°22'56" / -5°57'54"

FOV 60° 20.1 FPS 2023-08-16 05:40:15 UTC-04:00



Moon

- The planet Saturn is the furthest west of the sun. Not in view.
- Mercury and Mars are both well south of the sun.
- Jupiter is well east of the sun. Not in view

Moon

Type: **moon**
 Magnitude: **-2.62**
 Absolute Magnitude: 0.21
 Mean Opposition Magnitude: -12.74
 RA/Dec (J2000.0): 9h49m59.19s/+17°26'18.8"
 RA/Dec (on date): 9h51m16.82s/+17°19'45.5"
 HA/Dec: 16h15m39.97s/+17°19'45.5"
 Az./Alt.: +59°26'11.5"/-5°17'57.6"
 Gal. long./lat.: +216°12'53.8"/+47°09'27.9"
 Supergal. long./lat.: +80°41'13.6"/-35°37'01.7"
 Ecl. long./lat. (J2000.0): +143°46'06.6"/+4°04'23.9"
 Ecl. long./lat. (on date): +144°05'48.6"/+4°04'29.6"
 Ecliptic obliquity (on date): +23°26'18.6"
 Mean Sidereal Time: 2h06m57.2s
 Apparent Sidereal Time: 2h06m56.8s
 Rise: 6h15m
 Transit: 13h38m
 Set: 20h47m
 Parallax angle: -40°12'27.9"
 IAU Constellation: Leo
 Hourly motion: +0°33'00" towards 104.0°
 Hourly motion: $da=+0^{\circ}33'27''$ $d\delta=-0^{\circ}08'21''$
 Elongation: 4°09'11.8"
 Elong. in Ecl.Long.: E0°48'16"
 Phase angle: +175°50'08.0"
 Illuminated: 0.1%
 Distance from Sun: 1.010 AU (151.099 M km)
 Distance: 0.002722 AU (407181.172 km)
 Light time: 0h00m01.4s
 Orbital velocity: 0.971 km/s
 Heliocentric velocity: 28.438 km/s
 Sidereal period: 27.32 days (0.075 a)
 Synodic period: 29.53 days (0.081 a)
 Apparent diameter: +0°29'20.21"
 Diameter: 3474.8 km
 Sidereal day: 655h43m11.6s
 Mean solar day: 708h44m02.9s
 Equatorial rotation velocity: 4.624 m/s
 Moon age: 0.0 days old (New Moon)
 Position angle of bright limb: 149°05'58"

Date and Time ✕

Date and Time				Julian Day			
2023	-	8	-	16	5	:	42

Full-screen mode [F11]
Earth, Peterborough, 188 m
FOV 83.7°
19.7 FPS
2023-08-16 05:42:05 UTC-04:00



NE

E

Venus

Sun

Regulus

Mercury

Mars

Procyon

Sirius

Adhara

Pollux

Mercury

Arcturus

AUGUST BLUE MOON

Blue Moon - Supermoon

- On August 30th, the full super Blue Moon rises at 8:08 p.m.
- This is the 2nd supermoon of the month of August.
- It is also the 3rd supermoon of the year 2023.

Moon

Type: **moon**
Magnitude: **-12.39** (reduced to **-7.11** by **42.99** Airmasses)
Absolute Magnitude: 0.21
Mean Opposition Magnitude: -12.74
RA/Dec (J2000.0): 22h40m36.13s/-13°35'23.0"
RA/Dec (on date): 22h41m51.15s/-13°28'01.9"
HA/Dec: 18h51m27.06s/-13°02'36.8" (apparent)
Az./Alt.: +108°14'23.0"/-0°08'17.8" (apparent)
Gal. long./lat.: +50°15'14.2"/-56°37'10.2"
Supergal. long./lat.: -88°13'09.8"/+27°00'57.4"
Ecl. long./lat. (J2000.0): +336°33'58.2"/-4°50'07.7"
Ecl. long./lat. (on date): +336°53'42.3"/-4°50'11.2"
Ecliptic obliquity (on date): +23°26'18.9"
Mean sidereal time: 17h31m36.7s
Apparent Sidereal Time: 17h31m36.3s
Rise: 20h14m
Transit: 1h20m
Set: 6h26m
Parallactic Angle: -44°14'43.7"
IAU Constellation: Aqr
Hourly motion: +0°36'12" towards 68.3°
Hourly motion: $d\alpha=+0^{\circ}34'28''$ $d\delta=+0^{\circ}13'43''$
Elongation: +175°08'18.1"
Phase angle: +4°51'00.6"
Illuminated: 99.8%
Moon age: 14.7 days old (Waxing Gibbous)
Position angle of bright limb: +163.4165°
Distance from Sun: 1.012 AU (151.394 M km)
Distance: 0.002389 AU (357315.008 km)
Light time: 0h00m01.2s
Sidereal period: 27.32 days (0.075 a)
Synodic period: 29.53 days (0.081 a)
Apparent diameter: +0°33'25.86"
Diameter: 3474.8 km
Sidereal day: 655h43m11.7s
Mean solar day: 708h44m03.0s
Albedo: 0.120



Date and Time									
Date and Time				Julian Day					
2023	-	8	-	30	20	:	9	:	10

Blue Moon - Supermoon

- At 9:36 p.m. August 30th, the super Blue Moon reaches its peak brightness.

Moon

Type: **moon**
 Magnitude: **-12.40** (reduced to **-11.84** by **4.35** Airmasses)
 Absolute Magnitude: 0.21
 Mean Opposition Magnitude: -12.74
 RA/Dec (J2000.0): 22h43m35.72s/-13°14'58.1"
 RA/Dec (on date): 22h44m50.59s/-13°07'34.9"
 HA/Dec: 20h14m29.77s/-13°04'18.9" (apparent)
 Az./Alt.: +123°35'05.3"/+13°11'01.4" (apparent)
 Gal. long./lat.: +51°27'02.4"/-57°05'08.8"
 Supergal. long./lat.: -87°31'24.6"/+26°30'23.5"
 Ecl. long./lat. (J2000.0): +337°22'17.1"/-4°47'39.0"
 Ecl. long./lat. (on date): +337°42'01.2"/-4°47'42.4"
 Ecliptic obliquity (on date): +23°26'18.9"
 Mean Sidereal Time: 18h59m10.4s
 Apparent Sidereal Time: 18h59m10.0s
 Rise: 20h15m
 Transit: 1h23m
 Set: 6h30m
 Parallaxic Angle: -37°44'24.3"
 IAU Constellation: Aqr
 Hourly motion: +0°32'45" towards 64.9°
 Hourly motion: $da=+0°30'19"$ $d\delta=+0°14'12"$
 Elongation: +175°11'41.5"
 Phase angle: +4°47'37.9"
 Illuminated: 99.8%
 Moon age: 14.8 days old (Full Moon)
 Position angle of bright limb: +154.4560°
 Distance from Sun: 1.012 AU (151.392 M km)
 Distance: 0.002379 AU (355831.392 km)
 Light time: 0h00m01.2s
 Sidereal period: 27.32 days (0.075 a)
 Synodic period: 29.53 days (0.081 a)
 Apparent diameter: +0°33'34.22"
 Diameter: 3474.8 km
 Sidereal day: 655h43m11.7s
 Mean solar day: 708h44m03.0s
 Albedo: 0.120



Date and Time		Julian Day	
2023	- 8 - 30	21	: 36 : 30

SE

MERCURY

Mercury

- On August 1st, Mercury is low in the west at evening twilight.
- Mercury is visible at 9:17 p.m. and sets around 45 minutes later.



Mercury

Type: **planet**

Magnitude: **0.17** (reduced to **1.83** by **12.74** Airmasses)

Absolute Magnitude: -0.60

RA/Dec (J2000.0): 10h27m56.22s/+9°19'55.5"

RA/Dec (on date): 10h29m10.40s/+9°12'45.5"

HA/Dec: 6h15m16.78s/+9°21'08.3" (apparent)

Az./Alt.: +279°21'22.6"/+3°48'36.3" (apparent)

Gal. long./lat.: +233°47'05.5"/+51°46'17.4"

Supergal. long./lat.: +94°39'30.2"/-31°38'56.2"

Ecl. long./lat. (J2000.0): +155°15'40.9"/-0°16'07.5"

Ecl. long./lat. (on date): +155°35'20.1"/-0°16'03.8"

Ecliptic obliquity (on date): +23°26'18.2"

Mean Sidereal Time: 16h45m02.4s

Apparent Sidereal Time: 16h45m02.0s

Rise: 8h20m

Transit: 15h01m

Set: 21h41m

Parallactic Angle: +45°41'57.1"

IAU Constellation: Leo

Hourly motion: +0°03'13" towards 118.6°

Hourly motion: $da=+0^{\circ}02'51"$ $d\delta=-0^{\circ}01'33"$

Elongation: 26°03'29.4"

Elong. in Ecl.Long.: E26°03'26"

Phase angle: +77°47'33.2"

Illuminated: 60.6%

Distance from Sun: 0.456 AU (68.240 M km)

Distance: 1.008 AU (150.820 M km)

Light time: 0h08m23.1s

Orbital velocity: 39.973 km/s

Sidereal period: 87.97 days (0.241 a)

Synodic period: 115.88 days (0.317 a)

Apparent diameter: +0°00'06.68"

Equatorial diameter: 4881.1 km

Sidereal day: 1407h30m27.0s

Mean solar day: 4222h26m51.1s

Equatorial rotation velocity: 3.026 m/s

Position Angle of axis: +23°36'08"

Center point: $L_s=+318^{\circ}28'12"$ $\phi_s=+6^{\circ}59'27"$

Subsolar point: $L_s=+240^{\circ}46'23"$ $\phi_s=-0^{\circ}00'51"$

Albedo: 0.06

Solar Az./Alt.: +302°16'24"/-6°50'04"

Earth, Peterborough, 188 m

Lunar Az./Alt.: +121°30'51"/+0°16'24"



Date and Time ✕

Date and Time				Julian Day					
2023	-	8	-	1	21	:	16	:	45

FOV 13.4° 31.6 FPS 2023-08-01 21:16:45 UTC-04:00



Mercury

- On August 7th, Mercury is less than 5 degrees above the western horizon by even twilight.
- The observing window is less than 10 minutes.
- After August 9th, Mercury no longer visible this month.

Mercury

Type: **planet**

Magnitude: **0.34** (reduced to **2.81** by **18.86** Airmasses)

Absolute Magnitude: -0.60

RA/Dec (J2000.0): 10h52m25.54s/+5°45'52.1"

RA/Dec (on date): 10h53m38.63s/+5°38'24.2"

HA/Dec: 6h11m13.75s/+5°50'40.2" (apparent)

Az./Alt.: +276°08'27.9"/+2°04'38.5" (apparent)

Gal. long./lat.: +244°35'33.4"/+54°32'36.0"

Supergal. long./lat.: +101°09'36.9"/-27°27'15.8"

Ecl. long./lat. (J2000.0): +162°13'25.6"/-1°18'34.8"

Ecl. long./lat. (on date): +162°33'05.2"/-1°18'32.4"

Ecliptic obliquity (on date): +23°26'18.4"

Mean Sidereal Time: 17h05m43.3s

Apparent Sidereal Time: 17h05m42.8s

Rise: 8h35m

Transit: 15h02m

Set: 21h27m

Parallactic Angle: +45°40'04.8"

IAU Constellation: Leo

Hourly motion: +0°02'39" towards 122.2°

Hourly motion: $da=+0^{\circ}02'15"$ $d\delta=-0^{\circ}01'25"$

Elongation: 27°18'26.0"

Elong. in Ecl.Long.: E27°16'44"

Phase angle: +87°33'05.1"

Illuminated: 52.1%

Distance from Sun: 0.466 AU (69.662 M km)

Distance: 0.921 AU (137.774 M km)

Light time: 0h07m39.6s

Orbital velocity: 38.967 km/s

Sidereal period: 87.97 days (0.241 a)

Synodic period: 115.88 days (0.317 a)

Apparent diameter: +0°00'07.31"

Equatorial diameter: 4881.1 km

Sidereal day: 1407h30m27.0s

Mean solar day: 4222h26m51.1s

Equatorial rotation velocity: 3.026 m/s

Position Angle of axis: +25°17'58"

Center point: $L_s=+348^{\circ}13'42"$ $\phi_s=+7^{\circ}43'44"$

Subsolar point: $L_s=+260^{\circ}42'12"$ $\phi_s=-0^{\circ}01'22"$

Albedo: 0.06

Mars



W

Date and Time ✕

Date and Time				Julian Day					
2023	-	8	-	7	21	:	13	:	47

Full-screen mode [F11]

Solar Az./Alt.: +301°48'16"/+7°43'29"

Earth, Peterborough, 188 m

Lunar Az./Alt.: +38°44'39"/-21°01'28"

FOV 11.3° 25.4 FPS 2023-08-07 21:13:47 UTC-04:00



VENUS

Venus

- On August 23rd, Venus reappears in the morning sky.
- Venus now rises at 5:30 a.m. in the eastern morning twilight sky.

Venus



Type: **planet**
 Magnitude: **-4.26** (reduced to **0.09** by **34.05** Airmasses)
 Absolute Magnitude: -5.18
 Color Index (B-V): **0.91**
 RA/Dec (J2000.0): 8h58m40.83s/+8°44'29.7"
 RA/Dec (on date): 8h59m56.55s/+8°39'03.6"
 HA/Dec: 17h26m22.35s/+9°00'13.7" (apparent)
 Az./Alt.: +77°42'35.8"/+0°20'28.5" (apparent)
 Gal. long./lat.: +219°52'35.3"/+32°12'24.1"
 Supergal. long./lat.: +79°56'28.7"/-50°49'02.4"
 Ecl. long./lat. (J2000.0): +134°34'13.5"/-8°03'26.1"
 Ecl. long./lat. (on date): +134°53'54.0"/-8°03'18.8"
 Ecliptic obliquity (on date): +23°26'18.7"
 Mean Sidereal Time: 2h24m53.5s
 Apparent Sidereal Time: 2h24m53.1s
 Rise: 5h30m
 Transit: 12h06m
 Set: 18h42m
 Parallaxic Angle: -45°04'24.7"
 IAU Constellation: Cnc
 Hourly motion: +0°01'06" towards 291.3°
 Hourly motion: $da = -0°01'02"$ $d\delta = +0°00'24"$
 Elongation: 17°05'28.7"
 Elong. in Ecl.Long.: W15°07'28"
 Phase angle: +155°53'43.2"
 Illuminated: 4.4%
 Distance from Sun: 0.728 AU (108.875 M km)
 Distance: 0.302 AU (45.234 M km)
 Light time: 0h02m30.9s
 Orbital velocity: 34.806 km/s
 Sidereal period: 224.70 days (0.615 a)
 Synodic period: 583.92 days (1.599 a)
 Apparent diameter: +0°00'55.19"
 Equatorial diameter: 12103.6 km
 Sidereal day: 5832h26m37.0s
 Mean solar day: 2802h00m22.2s
 Equatorial rotation velocity: 1.811 m/s
 Position Angle of axis: +15°17'06"
 Center point: $L_s = +343°07'26"$ $\phi_s = +8°21'35"$
 Subsolar point: $L_s = +184°39'10"$ $\phi_s = +2°36'42"$
 Albedo: 0.77
 Solar Az./Alt.: +63°25'18"/-9°38'27"
 Lunar Az./Alt.: +341°24'56"/-6°03'07"



Date and Time ✕

Date and Time				Julian Day					
2023	-	8	-	23	5	:	32	:	27

Venus

- On August 31st, Venus now rises at 4:48 a.m. in the morning eastern pre-dawn sky.

Venus



Type: **planet**
 Magnitude: **-4.61** (reduced to **-0.73** by **29.96** Airmasses)
 Absolute Magnitude: -5.18
 Color Index (B-V): **0.91**
 RA/Dec (J2000.0): 8h50m00.73s/+9°58'16.5"
 RA/Dec (on date): 8h51m17.19s/+9°53'03.2"
 HA/Dec: 17h23m16.24s/+10°12'06.7" (apparent)
 Az./Alt.: +76°19'19.2"/+0°38'50.7" (apparent)
 Gal. long./lat.: +217°28'30.9"/+30°49'49.0"
 Supergal. long./lat.: +76°14'19.7"/-51°39'41.1"
 Ecl. long./lat. (J2000.0): +132°09'11.6"/-7°28'02.7"
 Ecl. long./lat. (on date): +132°28'53.8"/-7°27'55.2"
 Ecliptic obliquity (on date): +23°26'18.9"
 Mean Sidereal Time: 2h13m16.6s
 Apparent Sidereal Time: 2h13m16.2s
 Rise: 4h45m
 Transit: 11h26m
 Set: 18h08m
 Parallaxic Angle: -44°57'22.1"
 IAU Constellation: Cnc
 Hourly motion: +0°00'28" towards 324.7°
 Hourly motion: $d\alpha=-0^{\circ}00'16"$ $d\delta=+0^{\circ}00'23"$
 Elongation: 26°14'38.6"
 Elong. in Ecl.Long.: W25°13'55"
 Phase angle: +142°07'50.8"
 Illuminated: 10.5%
 Distance from Sun: 0.727 AU (108.792 M km)
 Distance: 0.331 AU (49.579 M km)
 Light time: 0h02m45.4s
 Orbital velocity: 34.833 km/s
 Sidereal period: 224.70 days (0.615 a)
 Synodic period: 583.92 days (1.599 a)
 Apparent diameter: +0°00'50.36"
 Equatorial diameter: 12103.6 km
 Sidereal day: 5832h26m37.0s
 Mean solar day: 2802h00m22.2s
 Equatorial rotation velocity: 1.811 m/s
 Position Angle of axis: +14°35'60"
 Center point: $L_c=+352^{\circ}31'30"$ $\phi_c=+7^{\circ}43'10"$
 Subsolar point: $L_s=+209^{\circ}05'34"$ $\phi_s=+2^{\circ}28'00"$
 Albedo: 0.77
 Solar Az./Alt.: +57°13'20"/-18°08'07"
 Lunar Az./Alt.: +21°38'19"/+18°01'02"



Date and Time ✕

Date and Time				Julian Day					
2023	-	8	-	31	4	:	49	:	25

MARS

Mars

- On August 1st, Mars is low on the western horizon at sunset.
- Mars is less than 15 degrees above the horizon at twilight.

Mars



Type: **planet**
 Magnitude: **1.71** (reduced to **2.65** by **7.28** Airmasses)
 Absolute Magnitude: -1.52
 Mean Opposition Magnitude: -2.01
 Color Index (B-V): **1.45**
 RA/Dec (J2000.0): 11h00m49.83s/+7°18'10.3"
 RA/Dec (on date): 11h02m03.01s/+7°10'37.6"
 HA/Dec: 5h46m03.74s/+7°15'25.9" (apparent)
 Az./Alt.: +272°47'33.9"/+7°32'56.7" (apparent)
 Gal. long./lat.: +244°55'06.2"/+57°07'48.0"
 Supergal. long./lat.: +100°23'53.5"/-24°57'10.8"
 Ecl. long./lat. (J2000.0): +163°33'49.7"/+0°54'37.6"
 Ecl. long./lat. (on date): +163°53'29.2"/+0°54'39.8"
 Ecliptic obliquity (on date): +23°26'18.2"
 Mean Sidereal Time: 16h48m27.3s
 Apparent Sidereal Time: 16h48m26.9s
 Rise: 9h03m
 Transit: 15h34m
 Set: 22h05m
 Parallaxic Angle: +46°06'18.7"
 IAU Constellation: Leo
 Hourly motion: +0°01'33" towards 113.4°
 Hourly motion: $da=+0^{\circ}01'26"$ $d\delta=-0^{\circ}00'37"$
 Elongation: 34°22'02.6"
 Elong. in Ecl.Long.: E34°21'27"
 Phase angle: +20°21'52.1"
 Illuminated: 96.9%
 Distance from Sun: 1.646 AU (246.295 M km)
 Distance: 2.381 AU (356.208 M km)
 Light time: 0h19m48.2s

W



Mercury

Orbital velocity: 22.259 km/s
 Sidereal period: 686.97 days (1.881 a)
 Synodic period: 779.95 days (2.135 a)
 Apparent diameter: +0°00'03.93"
 Equatorial diameter: 6792.4 km
 Sidereal day: 24h37m22.7s
 Mean solar day: 24h39m35.2s
 Equatorial rotation velocity: 240.729 m/s
 Position Angle of axis: +18°02'37"
 Center point: $L_c=+99^{\circ}10'23"$ $\phi_c=+25^{\circ}26'00"$
 Subsolar point: $L_s=+76^{\circ}39'29"$ $\phi_s=+24^{\circ}52'13"$
 Albedo: 0.15

Date and Time ✕

Date and Time				Julian Day					
2023	-	8	-	1	21	:	20	:	9

Mars

- On August 1st, Mars now sets at 10:00 p.m. in the western sky.

Mars



Type: **planet**
 Magnitude: **1.70** (reduced to **6.03** by **33.86** Airmasses)
 Absolute Magnitude: -1.52
 Mean Opposition Magnitude: -2.01
 Color Index (B-V): **1.45**
 RA/Dec (J2000.0): 11h00m53.92s/+7°17'43.8"
 RA/Dec (on date): 11h02m07.10s/+7°10'11.1"
 HA/Dec: 6h27m35.74s/+7°31'10.9" (apparent)
 Az./Alt.: +280°11'07.6"/+0°21'13.0" (apparent)
 Gal. long./lat.: +244°56'56.0"/+57°08'17.1"
 Supergal. long./lat.: +100°24'44.9"/-24°56'23.6"
 Ecl. long./lat. (J2000.0): +163°34'56.0"/+0°54'36.6"
 Ecl. long./lat. (on date): +163°54'35.5"/+0°54'38.7"
 Ecliptic obliquity (on date): +23°26'18.2"
 Mean Sidereal Time: 17h31m08.7s
 Apparent Sidereal Time: 17h31m08.3s
 Rise: 9h03m
 Transit: 15h34m
 Set: 22h05m
 Parallaxic Angle: +45°16'38.9"
 IAU Constellation: Leo
 Hourly motion: +0°01'34" towards 113.4°
 Hourly motion: $da=+0^{\circ}01'26"$ $d\delta=-0^{\circ}00'37"$
 Elongation: 34°21'26.5"
 Elong. in Ecl.Long.: E34°20'51"
 Phase angle: +20°21'33.3"
 Illuminated: 96.9%
 Distance from Sun: 1.646 AU (246.292 M km)
 Distance: 2.381 AU (356.229 M km)
 Light time: 0h19m48.3s
 Orbital velocity: 22.259 km/s
 Sidereal period: 686.97 days (1.881 a)
 Synodic period: 779.95 days (2.135 a)
 Apparent diameter: +0°00'03.93"
 Equatorial diameter: 6792.4 km
 Sidereal day: 24h37m22.7s
 Mean solar day: 24h39m35.2s
 Equatorial rotation velocity: 240.729 m/s
 Position Angle of axis: +18°03'16"
 Center point: $L_c=+109^{\circ}31'36"$ $\phi_c: +25^{\circ}26'06"$
 Subsolar point: $L_s=+87^{\circ}01'03"$ $\phi_s: +24^{\circ}52'10"$
 Albedo: 0.15
 Solar Az./Alt.: +312°12'27"/+13°30'46"
 Earth, Peterborough, 188 m



Date and Time ✕

Date and Time					Julian Day				
2023	-	8	-	1	22	:	21	:	44

Mars

- On August 18th, Mars and a young Moon share a very close conjunction at sunset.
- By 9:00 p.m. both objects are visible low in the west at twilight.

Mars



Type: **planet**
 Magnitude: **1.77** (reduced to **3.67** by **14.51** Airmasses)
 Absolute Magnitude: -1.52
 Mean Opposition Magnitude: -2.01
 Color Index (B-V): **1.45**
 RA/Dec (J2000.0): 11h40m03.66s/+2°58'54.8"
 RA/Dec (on date): 11h41m16.06s/+2°51'06.4"
 HA/Dec: 5h54m01.75s/+3°00'36.5" (apparent)
 Az./Alt.: +271°06'50.9"/+3°10'10.9" (apparent)
 Gal. long./lat.: +264°36'31.9"/+60°25'45.3"
 Supergal. long./lat.: +108°12'40.0"/-17°08'33.8"
 Ecl. long./lat. (J2000.0): +174°14'33.9"/+0°45'25.1"
 Ecl. long./lat. (on date): +174°34'15.5"/+0°45'25.3"
 Ecliptic obliquity (on date): +23°26'18.7"
 Mean Sidereal Time: 17h35m57.3s
 Apparent Sidereal Time: 17h35m56.9s
 Rise: 8h52m
 Transit: 15h06m
 Set: 21h20m
 Parallaxic Angle: +45°46'11.7"
 IAU Constellation: Vir
 Hourly motion: +0°01'35" towards 114.2°
 Hourly motion: $da=+0^{\circ}01'27''$ $d\delta=-0^{\circ}00'39''$
 Elongation: 28°45'11.4"
 Elong. in Ecl.Long.: E28°44'40"
 Phase angle: +17°19'44.8"



Illuminated: 97.7%
 Distance from Sun: 1.635 AU (244.556 M km)
 Distance: 2.448 AU (366.198 M km)
 Light time: 0h20m21.5s
 Orbital velocity: 22.430 km/s
 Sidereal period: 686.97 days (1.881 a)
 Synodic period: 779.95 days (2.135 a)
 Apparent diameter: +0°00'03.83"
 Equatorial diameter: 6792.4 km
 Sidereal day: 24h37m22.7s
 Mean solar day: 24h39m35.2s
 Equatorial rotation velocity: 240.729 m/s
 Position Angle of axis: +24°03'05"
 Center point: $L_c=+287^{\circ}36'59''$ $\phi_c: +25^{\circ}57'12''$
 Subsolar point: $L_s=+268^{\circ}35'17''$ $\phi_s: +24^{\circ}04'59''$
 Albedo: 0.15

Date and Time ✕

Date and Time					Julian Day				
2023	-	8	-	18	21	:	0	:	41

Mars

- On August 28th, Mars is just above the western horizon at sunset.
- Mars is now extremely difficult to observe.

Mars



Type: **planet**
 Magnitude: **1.68** (reduced to **5.21** by **27.14** Airmasses)
 Absolute Magnitude: -1.52
 Mean Opposition Magnitude: -2.01
 Color Index (B-V): **1.45**
 RA/Dec (J2000.0): 11h58m39.75s/+0°53'25.6"
 RA/Dec (on date): 11h59m52.06s/+0°45'34.4"
 HA/Dec: 5h59m00.66s/+1°02'48.0" (apparent)
 Az./Alt.: +270°34'35.3"/+0°54'28.5" (apparent)
 Gal. long./lat.: +274°58'43.1"/+60°51'54.8"
 Supergal. long./lat.: +111°41'03.4"/-13°18'09.0"
 Ecl. long./lat. (J2000.0): +179°20'20.4"/+0°41'02.2"
 Ecl. long./lat. (on date): +179°40'03.0"/+0°41'01.4"
 Ecliptic obliquity (on date): +23°26'18.6"
 Mean Sidereal Time: 18h00m03.8s
 Apparent Sidereal Time: 18h00m03.4s
 Rise: 8h47m
 Transit: 14h53m
 Set: 20h59m
 Parallaxic Angle: +45°42'24.1"
 IAU Constellation: Vir
 Hourly motion: +0°01'36" towards 114.3°
 Hourly motion: $da=+0^{\circ}01'28"$ $d\delta=-0^{\circ}00'39"$
 Elongation: 26°08'46.2"
 Elong. in Ecl.Long.: E26°08'18"
 Phase angle: +15°52'12.5"
 Illuminated: 98.1%
 Distance from Sun: 1.628 AU (243.611 M km)
 Distance: 2.473 AU (370.015 M km)
 Light time: 0h20m34.2s
 Orbital velocity: 22.524 km/s
 Sidereal period: 686.97 days (1.881 a)
 Synodic period: 779.95 days (2.135 a)
 Apparent diameter: +0°00'03.79"
 Equatorial diameter: 6792.4 km
 Sidereal day: 24h37m22.7s
 Mean solar day: 24h39m35.2s
 Equatorial rotation velocity: 240.729 m/s
 Position Angle of axis: +26°40'27"
 Center point: $L_c=+207^{\circ}13'45"$ $\phi_c=+25^{\circ}51'05"$
 Subsolar point: $L_s=+189^{\circ}55'57"$ $\phi_s=+23^{\circ}32'59"$
 Albedo: 0.15
 Solar Az./Alt.: +394°45'05"/+7.9°43'58"
 Earth, Peterborough, 188 m



Date and Time ✕

Date and Time				Julian Day					
2023	-	8	-	25	20	:	53	:	16

JUPITER

Jupiter

- On August 1st, Jupiter 12:22 a.m. in the eastern midnight sky.

Jupiter

Perseids

Type: **planet**
 Magnitude: **-2.39** (reduced to **-0.37** by **15.45** Airmasses)
 Absolute Magnitude: -9.40
 Mean Opposition Magnitude: -2.70
 RA/Dec (J2000.0): 2h45m12.22s/+14°41'20.5"
 RA/Dec (on date): 2h46m29.67s/+14°47'17.7"
 HA/Dec: 17h16m40.75s/+14°57'34.8" (apparent)
 Az./Alt.: +71°49'28.3"/+2°53'13.6" (apparent)
 Gal. long./lat.: +159°50'05.7"/-39°53'38.1"
 Supergal. long./lat.: -40°29'00.3"/-21°13'21.8"
 Ecl. long./lat. (J2000.0): +43°22'32.8"/-1°13'15.7"
 Ecl. long./lat. (on date): +43°42'12.1"/-1°13'07.4"
 Ecliptic obliquity (on date): +23°26'18.2"
 Mean Sidereal Time: 20h02m28.7s
 Apparent Sidereal Time: 20h02m28.3s
 Rise: 0h18m
 Transit: 7h23m
 Set: 14h27m
 Parallaxic Angle: -44°44'08.4"
 IAU Constellation: Ari
 Hourly motion: +0°00'19" towards 74.7°
 Hourly motion: $d\alpha=+0^{\circ}00'19"$ $d\delta=+0^{\circ}00'05"$
 Elongation: +85°00'47.6"
 Phase angle: +11°45'33.4" **Capella**
 Illuminated: 99.0%
 Distance from Sun: 4.962 AU (742.268 M km)
 Distance: 4.946 AU (739.889 M km)
 Light time: 0h41m08.0s
 Orbital velocity: 13.684 km/s
 Sidereal period: 4331.87 days (11.860 a)
 Synodic period: 398.89 days (1.092 a)
 Apparent diameter: +0°00'39.86"
 Equatorial diameter: 142984.0 km
 Sidereal day: 9h55m29.7s
 Mean solar day: 9h55m33.1s
 Equatorial rotation velocity: 12.572 km/s
 Albedo: 0.510

NE

Uranus

Jupiter

E

Date and Time						
Date and Time				Julian Day		
2023	-	8	-	1	0	: 37 : 35

Jupiter

- On August 8th, Jupiter and half moon share a wide conjunction.
- Jupiter and the Moon rise at 12:25 a.m. in the eastern sky.
- Jupiter rises below the Moon.

Jupiter

Type: **planet**
 Magnitude: **-2.44** (reduced to **-1.17** by **9.80** Airmasses)
 Absolute Magnitude: -9.40
 Mean Opposition Magnitude: -2.70
 RA/Dec (J2000.0): 2h47m52.22s/+14°52'02.2"
 RA/Dec (on date): 2h49m09.85s/+14°57'56.2"
 HA/Dec: 17h30m33.52s/+15°04'26.5" (apparent)
 Az./Alt.: +74°06'53.2"/+5°20'31.8" (apparent)
 Gal. long./lat.: +160°24'06.2"/-39°23'13.9"
 Supergal. long./lat.: -40°01'40.4"/-21°44'24.0"
 Ecl. long./lat. (J2000.0): +44°02'39.8"/-1°14'33.1"
 Ecl. long./lat. (on date): +44°22'19.7"/-1°14'24.7"
 Ecliptic obliquity (on date): +23°26'18.4"
 Mean Sidereal Time: 20h19m16.4s
 Apparent Sidereal Time: 20h19m16.0s
 Rise: 23h53m
 Transit: 6h58m
 Set: 14h03m
 Parallaxic Angle: -45°28'14.1"
 IAU Constellation: Ari
 Hourly motion: +0°00'14" towards 75.2°
 Hourly motion: $d\alpha=+0^{\circ}00'14''$ $d\delta=+0^{\circ}00'04''$
 Elongation: +91°02'07.1"
 Phase angle: +11°47'23.1"
 Illuminated: 98.9%
 Distance from Sun: 4.963 AU (742.386 M km)
 Distance: 4.840 AU (723.983 M km)
 Light time: 0h40m14.9s
 Orbital velocity: 13.681 km/s
 Sidereal period: 4331.87 days (11.860 a)
 Synodic period: 398.89 days (1.092 a)
 Apparent diameter: +0°00'40.74"
 Equatorial diameter: 142984.0 km
 Sidereal day: 9h55m29.7s
 Mean solar day: 9h55m33.1s
 Equatorial rotation velocity: 12.572 km/s
 Albedo: 0.510



E

Date and Time ✕

Date and Time				Julian Day					
2023	-	8	-	8	0	:	26	:	48

Jupiter

- On August 31st, Jupiter rises at 10:26 p.m. in the eastern sky.
- Now visible all night.

Jupiter

Type: **planet**Magnitude: **-2.61** (reduced to **1.42** by **31.28** Airmasses)

Absolute Magnitude: -9.40

Mean Opposition Magnitude: -2.70

RA/Dec (J2000.0): 2h52m39.68s/+15°08'27.3"

RA/Dec (on date): 2h53m57.77s/+15°14'16.2"

HA/Dec: 17h00m07.29s/+15°34'27.6" (apparent)

Az./Alt.: +68°32'01.5"/+0°32'26.5" (apparent)

Gal. long./lat.: +161°25'38.8"/-38°30'20.7"

Supergal. long./lat.: -39°14'36.4"/-22°40'52.4"

Ecl. long./lat. (J2000.0): +45°13'51.5"/-1°19'11.6"

Ecl. long./lat. (on date): +45°33'35.0"/-1°19'03.1"

Ecliptic obliquity (on date): +23°26'19.0"

Mean Sidereal Time: 19h52m45.4s

Apparent Sidereal Time: 19h52m45.0s

Rise: 22h22m

Transit: 5h28m

Set: 12h35m

Parallactic Angle: -43°44'37.3"

IAU Constellation: Ari

Hourly motion: +0°00'02" towards 86.3°

Hourly motion: $da=+0^{\circ}00'02''$ $d\delta=+0^{\circ}00'00''$

Elongation: +112°51'36.7"

Phase angle: +10°47'46.2"

Illuminated: 99.1%

Distance from Sun: 4.965 AU (742.819 M km)

Distance: 4.485 AU (671.009 M km)

Light time: 0h37m18.2s

Orbital velocity: 13.674 km/s

Sidereal period: 4331.87 days (11.860 a)

Synodic period: 398.89 days (1.092 a)

Apparent diameter: +0°00'43.95"

Equatorial diameter: 142984.0 km

Sidereal day: 9h55m29.7s

Mean solar day: 9h55m33.1s

Equatorial rotation velocity: 12.572 km/s

Albedo: 0.510



Date and Time



Date and Time

Julian Day

2023

-

8

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31

22

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26

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0

SATURN

Saturn

- On August 1st, Saturn rises at 9:46 p.m. in the eastern twilight sky.
- Now visible all night.

Saturn

Type: **planet**
Magnitude: **0.57** (reduced to **5.06** by **35.32** Airmasses)
Absolute Magnitude: -8.88
Mean Opposition Magnitude: 0.67
RA/Dec (J2000.0): 22h31m07.10s/-11°10'28.9"
RA/Dec (on date): 22h32m21.62s/-11°03'16.3"
HA/Dec: 18h43m57.57s/-10°41'20.1" (apparent)
Az./Alt.: +105°16'57.2"/+0°15'34.2" (apparent)
Gal. long./lat.: +51°52'58.3"/-53°24'23.2"
Supergal. long./lat.: -86°53'25.7"/+30°09'06.3"
Ecl. long./lat. (J2000.0): +335°18'45.4"/-1°43'57.0"
Ecl. long./lat. (on date): +335°38'25.0"/-1°44'00.7"
Ecliptic obliquity (on date): +23°26'18.2"
Mean Sidereal Time: 17h14m51.3s
Apparent Sidereal Time: 17h14m50.9s
Rise: 21h45m
Transit: 3h05m
Set: 8h25m
Parallactic Angle: -44°38'01.8"
IAU Constellation: Aqr
Hourly motion: +0°00'10" towards 246.2°
Hourly motion: $da=-0^{\circ}00'09''$ $d\delta=-0^{\circ}00'04''$
Elongation: +153°51'47.0"
Phase angle: +2°37'12.8"
Illuminated: 99.9%
Distance from Sun: 9.780 AU (1463.055 M km)
Distance: 8.859 AU (1325.219 M km)
Light time: 1h13m40.5s
Orbital velocity: 9.422 km/s
Sidereal period: 10760.00 days (29.459 a)
Synodic period: 378.09 days (1.035 a)
Apparent diameter: +0°00'18.76", with rings: +0°00'43.70"
Equatorial diameter: 120536.0 km
Sidereal day: 10h39m22.4s
Mean solar day: 10h39m24.0s
Equatorial rotation velocity: 9.871 km/s
Albedo: 0.500



Date and Time									
Date and Time					Julian Day				
2023	-	8	-	1	21	:	46	:	29

Saturn

- On August 27th, Saturn is at full opposition to Earth.
- Now is the best time view the planet.
- Saturn is well placed in the eastern sky at sunset.

Saturn

Type: **planet**
Magnitude: **0.41** (reduced to **1.80** by **10.70** Airmasses)
Absolute Magnitude: -8.88
Mean Opposition Magnitude: 0.67
RA/Dec (J2000.0): 22h24m07.09s/-11°54'04.1"
RA/Dec (on date): 22h25m22.18s/-11°46'56.3"
HA/Dec: 19h14m45.32s/-11°39'31.6" (apparent)
Az./Alt.: +111°24'44.6"/+4°47'14.5" (apparent)
Gal. long./lat.: +49°25'06.3"/-52°17'13.2"
Supergal. long./lat.: -88°31'57.5"/+31°22'00.9"
Ecl. long./lat. (J2000.0): +333°27'00.5"/-1°46'51.1"
Ecl. long./lat. (on date): +333°46'43.6"/-1°46'55.2"
Ecliptic obliquity (on date): +23°26'18.7"
Mean Sidereal Time: 17h39m39.8s
Apparent Sidereal Time: 17h39m39.4s
Rise: 19h58m
Transit: 1h16m
Set: 6h33m
Parallactic Angle: -42°52'09.5"
IAU Constellation: Aqr
Hourly motion: +0°00'11" towards 248.1°
Hourly motion: $da=-0^{\circ}00'11''$ $d\delta=-0^{\circ}00'04''$
Elongation: +178°04'53.8"
Phase angle: +0°11'53.8"
Illuminated: 100.0%
Distance from Sun: 9.773 AU (1461.999 M km)
Distance: 8.763 AU (1310.934 M km)
Light time: 1h12m52.8s
Orbital velocity: 9.429 km/s
Sidereal period: 10760.00 days (29.459 a)
Synodic period: 378.09 days (1.035 a)
Apparent diameter: +0°00'18.97", with rings: +0°00'44.18"
Equatorial diameter: 120536.0 km
Sidereal day: 10h39m22.4s
Mean solar day: 10h39m24.0s
Equatorial rotation velocity: 9.871 km/s
Albedo: 0.500



Date and Time									
Date and Time					Julian Day				
2023	-	8	-	27	20	:	29	:	0

Saturn

- On August 31st, Saturn rises at 7:45 p.m. not visible until evening twilight.
- Saturn appears at late twilight looking east. Visible all night.

Saturn

Type: **planet**
Magnitude: **0.42** (reduced to **4.42** by **31.04** Airmasses)
Absolute Magnitude: -8.88
Mean Opposition Magnitude: 0.67
RA/Dec (J2000.0): 22h22m58.89s/-12°00'49.2"
RA/Dec (on date): 22h24m14.07s/-11°53'42.3"
HA/Dec: 18h49m20.07s/-11°33'52.6" (apparent)
Az./Alt.: +106°50'12.4"/+0°33'32.5" (apparent)
Gal. long./lat.: +49°02'13.5"/-52°05'56.8"
Supergal. long./lat.: -88°47'53.5"/+31°33'48.7"
Ecl. long./lat. (J2000.0): +333°09'00.4"/-1°47'05.0"
Ecl. long./lat. (on date): +333°28'43.9"/-1°47'09.1"
Ecliptic obliquity (on date): +23°26'19.0"
Mean Sidereal Time: 17h12m15.2s
Apparent Sidereal Time: 17h12m14.8s
Rise: 19h42m
Transit: 0h59m
Set: 6h15m
Parallactic Angle: -44°21'48.2"
IAU Constellation: Aqr
Hourly motion: +0°00'11" towards 248.3°
Hourly motion: $da=-0^{\circ}00'11''$ $d\delta=-0^{\circ}00'04''$
Elongation: +174°50'29.6"
Phase angle: +0°31'55.7"
Illuminated: 100.0%
Distance from Sun: 9.772 AU (1461.837 M km)
Distance: 8.766 AU (1311.382 M km)
Light time: 1h12m54.3s
Orbital velocity: 9.430 km/s
Sidereal period: 10760.00 days (29.459 a)
Synodic period: 378.09 days (1.035 a)
Apparent diameter: +0°00'18.96", with rings: +0°00'44.16"
Equatorial diameter: 120536.0 km
Sidereal day: 10h39m22.4s
Mean solar day: 10h39m24.0s
Equatorial rotation velocity: 9.871 km/s
Albedo: 0.500



SE

Date and Time

Date and Time				Julian Day					
2023	-	8	-	31	19	:	45	:	56

URANUS

Uranus

- On August 1st, Uranus rises at 12:42 a.m. in the eastern sky.
- Visible until morning.

Uranus

Type: **planet**
Magnitude: **5.77** (reduced to **9.91** by **32.24** Airmasses)
Absolute Magnitude: -7.19
Mean Opposition Magnitude: 5.52
RA/Dec (J2000.0): 3h20m24.84s/+18°04'15.3"
RA/Dec (on date): 3h21m44.70s/+18°09'21.6"
HA/Dec: 16h46m39.11s/+18°30'23.9" (apparent)
Az./Alt.: +64°10'47.2"/+0°28'05.2" (apparent)
Gal. long./lat.: +165°44'23.5"/-32°08'50.4"
Supergal. long./lat.: -33°02'30.3"/-27°17'11.4"
Ecl. long./lat. (J2000.0): +52°25'36.5"/-0°18'59.7"
Ecl. long./lat. (on date): +52°45'15.7"/-0°18'50.4"
Ecliptic obliquity (on date): +23°26'18.2"
Mean Sidereal Time: 20h07m02.3s
Apparent Sidereal Time: 20h07m01.9s
Rise: 0h39m
Transit: 7h58m
Set: 15h17m
Parallactic Angle: -42°47'40.7"
IAU Constellation: Ari
Hourly motion: +0°00'03" towards 76.1°
Hourly motion: $d\alpha=+0^{\circ}00'04"$ $d\delta=+0^{\circ}00'01"$
Elongation: +75°57'51.8"
Phase angle: +2°52'27.7"
Illuminated: 99.9%
Distance from Sun: 19.638 AU (2937.737 M km)
Distance: 19.859 AU (2970.868 M km)
Light time: 2h45m09.7s
Orbital velocity: 6.662 km/s
Sidereal period: 30685.00 days (84.011 a)
Synodic period: 369.66 days (1.012 a)
Apparent diameter: +0°00'03.55", with rings: +0°00'13.57"
Equatorial diameter: 51118.0 km
Sidereal day: 17h14m24.0s
Mean solar day: 17h14m22.5s
Albedo: 0.660

Uranus

Jupiter

Date and Time		Julian Day	
2023	- 8 - 1	0	: 42 : 8

Uranus

- On August 31st, Uranus rises at 10:42 p.m. in the eastern sky.
- Now visible all night.

Uranus

Type: **planet**
Magnitude: **5.71** (reduced to **9.58** by **29.91** Airmasses)
Absolute Magnitude: -7.19
Mean Opposition Magnitude: 5.52
RA/Dec (J2000.0): 3h21m42.34s/+18°08'51.3"
RA/Dec (on date): 3h23m02.55s/+18°13'57.3"
HA/Dec: 16h47m32.41s/+18°33'40.5" (apparent)
Az./Alt.: +64°17'49.5"/+0°39'04.8" (apparent)
Gal. long./lat.: +165°57'39.8"/-31°53'33.2"
Supergal. long./lat.: -32°47'49.0"/-27°30'59.0"
Ecl. long./lat. (J2000.0): +52°44'35.4"/-0°19'13.7"
Ecl. long./lat. (on date): +53°04'18.6"/-0°19'04.3"
Ecliptic obliquity (on date): +23°26'18.9"
Mean Sidereal Time: 20h09m18.4s
Apparent Sidereal Time: 20h09m17.9s
Rise: 22h42m
Transit: 6h01m
Set: 13h21m
Parallactic Angle: -42°51'50.7"
IAU Constellation: Ari
Hourly motion: +0°00'00" towards 254.9°
Hourly motion: $da=-0^{\circ}00'00''$ $d\delta=-0^{\circ}00'00''$
Elongation: +104°24'05.4"
Phase angle: +2°51'18.1"
Illuminated: 99.9%
Distance from Sun: 19.633 AU (2937.039 M km)
Distance: 19.357 AU (2895.829 M km)
Light time: 2h40m59.4s
Orbital velocity: 6.664 km/s
Sidereal period: 30685.00 days (84.011 a)
Synodic period: 369.66 days (1.012 a)
Apparent diameter: +0°00'03.64", with rings: +0°00'13.92"
Equatorial diameter: 51118.0 km
Sidereal day: 17h14m24.0s
Mean solar day: 17h14m22.5s
Albedo: 0.660



Jupiter

Uranus

E

Date and Time									
Date and Time					Julian Day				
2023	-	8	-	30	22	:	46	:	26

NEPTUNE

Neptune

- On August 1st, Neptune rises at 10:32 p.m. in the eastern sky.
- Neptune is visible most of the night.

Neptune

Type: **planet**
Magnitude: **7.84** (reduced to **12.07** by **33.06** Airmasses)
Absolute Magnitude: -6.87
Mean Opposition Magnitude: 7.84
RA/Dec (J2000.0): 23h51m18.05s/-2°18'40.7"
RA/Dec (on date): 23h52m30.22s/-2°10'51.3"
HA/Dec: 18h09m28.53s/-1°50'24.7" (apparent)
Az./Alt.: +92°58'16.8"/+0°24'32.5" (apparent)
Gal. long./lat.: +90°15'28.1"/-61°18'29.4"
Supergal. long./lat.: -70°15'40.6"/+14°39'31.1"
Ecl. long./lat. (J2000.0): +357°05'08.4"/-1°15'21.3"
Ecl. long./lat. (on date): +357°24'47.9"/-1°15'20.9"
Ecliptic obliquity (on date): +23°26'18.2"
Mean Sidereal Time: 18h00m35.4s
Apparent Sidereal Time: 18h00m35.0s
Rise: 22h29m
Transit: 4h25m
Set: 10h21m
Parallactic Angle: -45°39'04.4"
IAU Constellation: Psc
Hourly motion: +0°00'02" towards 244.1°
Hourly motion: $d\alpha=-0^{\circ}00'02"$ $d\delta=-0^{\circ}00'01"$
Elongation: +132°09'42.0"
Phase angle: +1°26'29.1"
Illuminated: 100.0%
Distance from Sun: 29.907 AU (4474.094 M km)
Distance: 29.217 AU (4370.765 M km)
Light time: 4h02m59.3s
Orbital velocity: 5.480 km/s
Sidereal period: 60189.00 days (164.789 a)
Synodic period: 367.49 days (1.006 a)
Apparent diameter: +0°00'02.34", with rings: +0°00'05.94"
Equatorial diameter: 49528.0 km
Sidereal day: 16h06m36.0s
Mean solar day: 16h06m36.7s
Equatorial rotation velocity: 2.683 km/s
Albedo: 0.620

Neptune

E

Date and Time									
Date and Time					Julian Day				
2023	-	8	-	1	22	:	32	:	6

Neptune

- On August 31st, Neptune rises at 8:36 p.m. in the eastern night sky.
- Neptune is washed out the full super moon.
- Both objects share a wide conjunction.

Neptune

Type: **planet**
Magnitude: **7.82** (reduced to **11.33** by **26.99** Airmasses)
Absolute Magnitude: -6.87
Mean Opposition Magnitude: 7.84
RA/Dec (J2000.0): 23h48m56.52s/-2°35'01.4"
RA/Dec (on date): 23h50m08.96s/-2°27'10.7"
HA/Dec: 18h13m38.12s/-2°10'00.6" (apparent)
Az./Alt.: +93°55'54.1"/+0°55'24.7" (apparent)
Gal. long./lat.: +88°54'39.7"/-61°15'25.8"
Supergal. long./lat.: -70°42'31.8"/+15°08'33.7"
Ecl. long./lat. (J2000.0): +356°26'11.7"/-1°16'18.1"
Ecl. long./lat. (on date): +356°45'55.2"/-1°16'17.8"
Ecliptic obliquity (on date): +23°26'19.0"
Mean Sidereal Time: 18h02m37.3s
Apparent Sidereal Time: 18h02m36.9s
Rise: 20h30m
Transit: 2h25m
Set: 8h19m
Parallactic Angle: -45°36'13.3"
IAU Constellation: Psc
Hourly motion: +0°00'04" towards 245.7°
Hourly motion: $da=-0^{\circ}00'04''$ $d\delta=-0^{\circ}00'02''$
Elongation: +161°32'39.4"
Phase angle: +0°36'43.9"
Illuminated: 100.0%
Distance from Sun: 29.907 AU (4473.985 M km)
Distance: 28.948 AU (4330.492 M km)
Light time: 4h00m45.0s
Orbital velocity: 5.480 km/s
Sidereal period: 60189.00 days (164.789 a)
Synodic period: 367.49 days (1.006 a)
Apparent diameter: +0°00'02.36", with rings: +0°00'06.00"
Equatorial diameter: 49528.0 km
Sidereal day: 16h06m36.0s
Mean solar day: 16h06m36.7s
Equatorial rotation velocity: 2.683 km/s
Albedo: 0.620



Date and Time		Julian Day	
2023	- 8 - 31	20	: 36 : 10

That is the Sky this Month

By David Mills