

# Astronomy targets: January 2019

Unless stated otherwise, all times are for mid-month, for Birmingham UK and are GMT. Rise & set times are for 20 degrees above horizon. Dark & light times are nautical twilight times (Sun 12 degrees below horizon) and astronomical darkness (Sun 18 degrees below horizon).

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## Sun & Moon times

Monday date	Sunset	Naut	Astro	Astro	Naut	Sunrise	Moon
		Dark	Dark	Light	Light		
07/01/19	1611	1736	1817	0611	0652	0816	3%
14/01/19	1622	1744	1825	0608	0649	0811	57%
21/01/19	1633	1754	1835	0603	0643	0804	99%
28/01/19	1646	1805	1845	0555	0635	0754	39%

## Calendar

3 Jan Quadrantids Meteor Shower

5 Jan New Moon

20 Jan Full Moon

## Planets

Mercury: Low at Sunrise (early Jan)

Mars: Sunset-2110

Jupiter: Low at Sunrise

Uranus: Sunset-2255

Neptune: Sunset-1825

## Andromeda Sunset-2250

Planetary nebula: NGC7662 (C22) Blue Snowball

Open cluster: NGC752 (C28)

Galaxies:

M31, M32 & M110 Andromeda Galaxy

NGC404 Mirach's Ghost

NGC891 (C23)

Multiple star: Almaak  $\gamma$ -And (gamma-And) gold & green

## Aries Sunset-2340, best 1840

Multiple star:  $\Sigma$ 326 orange & red

## Auriga Sunset-0400, best 2140

Emission nebula: IC405 (C31) Flaming Star Nebula

Open clusters:

M36

M37

M38

Multiple star: O $\Sigma$ 147 yellowish & two blue

## Boötes 0110-Sunrise, best 0650

Multiple star:  $\xi$ -Boo (xi-Boo) yellow & orange

## Camelopardalis all night, best 2110

Galaxy: NGC2403 (C7)

Asterism: Kemble's Cascade & NGC1502 cluster

## Cancer 2040-0510, best 0130

Open clusters:

M44 Beehive Cluster

M67

Multiple star:  $\iota$ -Cnc (iota-Cnc) gold & blue

## Canes Venatici 2220-Sunrise, best 0530

Globular cluster: M3

Galaxies:

M51 Whirlpool Galaxy

M63 Sunflower Galaxy

M94

M106

NGC4631 Whale Galaxy

Coloured star: La Superba Y-CVn carbon star

Multiple star: Cor Caroli  $\alpha$ -CVn (alpha-CVn) yellow & orange

## Cassiopeia Sunset-0350 & 0620-Sunrise

Emission nebulae:

NGC281 Pacman Nebula

NGC7635 (C11) Bubble Nebula

IC1805 Heart Nebula

IC1848 Soul Nebula

Open clusters:

M52

M103

NGC457 (C13) Owl cluster

NGC654

NGC659

NGC663 (C10)

NGC7789

NGC7790

Multiple star:  $\eta$ -Cas (eta-Cas) gold & red

## Cepheus Sunset-0150 & 0350-Sunrise

Reflection nebula: NGC7023 (C4) Iris Nebula

Open clusters:

NGC188 (C1)

NGC7160

Coloured star: Garnet Star  $\mu$ -Cep (mu-Cep)

Multiple stars:

$\delta$ -Cep (delta-Cep) yellow & purple

$\Sigma$ 2816 yellow & two white

## Cetus low, best 1920

Planetary nebula: NGC246 (C56)

Galaxy: M77

## Coma Berenices 0020-Sunrise, best 0540

Globular cluster: M53

Open clusters: Melotte 111

Galaxies:

M64 Black Eye Galaxy

M85

M88

M91

M98

M99

M100

NGC4565 Needle Galaxy

## **Cygnus** Sunset-1800 & 0640-Sunrise

Emission nebulae:

NGC6888 Crescent Nebula  
NGC6960 Veil Nebula  
IC5070 Pelican Nebula  
IC7000 (C20) North American Nebula

Planetary nebulae:

IC5146 (C19) Cocoon Nebula  
NGC6826 Blinking Nebula  
NGC7008 Fetus Nebula

Open clusters:

M29  
M39  
NGC6871  
NGC6883  
NGC6910 Rocking Horse Cluster

Galaxy: NGC6946 (C12) Fireworks Galaxy

Multiple stars:

Albireo  $\beta$ -Cyg (beta-Cyg) gold & blue  
61-Cyg orange & red

## **Draco** Sunset-1910 & 0120-Sunrise

Planetary nebula: NGC6543 Cats Eye Nebula

Galaxy: M102

## **Eridanus** partly visible, best 2050

Planetary nebula: NGC1535

## **Gemini** 1840-0400, best 2300

Planetary nebula: NGC2392 (C39) Eskimo Nebula

Open cluster: M35

Multiple star: Castor  $\alpha$ -Gem (alpha-Gem) two blue

## **Hercules** 0420-Sunrise

Globular clusters:

M13 Hercules Globular Cluster  
M92

## **Hydra** partly visible, best 0100

Globular cluster: M68

Open cluster: M48

Galaxy: M83

## **Lacerta** Sunset-2150

Open cluster: NGC7243 (C16)

## **Leo** 2320-Sunrise, best 0250

Galaxies

M65, M66 & NGC3628 Leo Triplet  
M95  
M96  
M105 & NGC3384

Multiple star: Algieba  $\gamma$ -Leo (gamma-Leo) two yellow

## **Lepus** low, best 2230

Globular cluster: M79

Coloured star: Hind's Crimson Star R-Lep

## **Lynx** 1900-Sunrise, best 0150

Globular cluster: NGC2419 (C25)

## **Lyra** 0450-Sunrise

Planetary nebula: M57 Ring Nebula

Globular cluster: M56

Multiple stars:

Double-Double  $\epsilon$ -Lyr (epsilon-Lyr) four white  
Other Double-Double  $\Sigma$ 2470 &  $\Sigma$ 2474 four white

## **Monoceros** 2140-0140, best 2340

Emission nebula: NCG2239 Rosette Nebula

Reflection nebula: NGC2261 (C46) Hubble's Variable Nebula

Open clusters:

M50  
NGC2232  
NGC2264

Multiple star:  $\beta$ -Mon (beta-Mon) three blue

## **Orion** 1820-0020, best 2200

Emission nebulae:

NGC2024 Flame Nebula  
NGC2174 Monkey Head Nebula  
IC434 Horsehead Nebula

Reflection nebulae:

M42 & M43 Orion Nebula  
M78  
NGC1977 Running Man

Open clusters:

NGC1662  
NGC1981

Multiple star: Trapezium  $\theta$ 1-Ori (theta-1-Ori) four white

## **Pegasus** Sunset-2040

Globular cluster: M15

Galaxies:

NGC7320 Stefan's Quintet galaxy cluster  
NGC7331 (C30) galaxy cluster

Multiple star:  $\Sigma$ 2841 orange & green

## **Perseus** Sunset-0230, best 2000

Emission nebula: NGC1499 California Nebula

Planetary nebula: M76 Little Dumbell Nebula

Open clusters:

M34  
NGC869 & NGC884 (C14) Double Cluster  
NGC1528  
NGC1582  
Melotte 20

Multiple star:  $\eta$ -Per (eta-Per) gold & blue

## **Pisces** Sunset-1940

Galaxies: M74

## **Puppis** partly visible, best 0000

Open clusters:

M46  
M47  
M93  
NGC2539

## **Taurus** Sunset-0020, best 2110

Planetary nebulae:

M1 Crab Nebula  
NGC1514

Open clusters:

M45 Pleiades  
NGC1647  
Melotte 25 Hyades

## **Triangulum** Sunset-0040, best 1800

Galaxy: M33 Triangulum Galaxy

## **Ursa Major** 2140-Sunrise, best 0440

Planetary nebula: M97 Owl Nebula

Galaxies:

M81 Bode's Galaxy & M82 Cigar Galaxy  
M101 Pinwheel Galaxy  
M108  
M109

Multiple star: Mizar & Alcor  $\zeta$ -UMa (zeta-UMa) 3 white

## **Ursa Minor** all night

Multiple star: Polaris  $\alpha$ -UMi (alpha-UMi) yellow & white

## **Virgo** 0420-Sunrise, best 0550

Galaxies:

M49  
M58  
M59  
M60  
M61  
M84, M86, NGC4435, etc. Markarian's Chain  
M87  
M89  
M90  
M104 Sombrero Galaxy