

Astronomy targets: July 2017

Unless stated otherwise, all times are for mid-month, for Birmingham UK and are GMT+1. 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 times

Date	S.Set	Dark	Astro dark	Light	S.Rise	Moon
01/07/17	2133	2342		0241	0450	☾ ☾
08/07/17	2130	2332		0254	0457	☾ ☾ ☾
15/07/17	2123	2318		0309	0505	☾ ☾
22/07/17	2115	2303		0326	0514	
29/07/17	2104	2245	0019 0210	0343	0525	☾

Moon phases

Full Moon 8 Jul; New Moon 22 Jul

Planets

- ☐ Uranus: from 0235
- ☐ Neptune: from 0135

Transient objects

- ☐ Comets visible this month: C/2015 ER61 (PANSTARRS) & 41P (Tuttle-Giacobini-Kresak). See <http://cometchasing.skyhound.com>

Andromeda (0200-Sunrise)

- GA M31, M32 & M110 Andromeda Galaxy
- GA NGC404 Mirach's Ghost
- GA NGC891 (C23) galaxy
- PN NGC7662 (C22) Blue Snowball
- OC NGC752 (C28) open cluster
- DS Almaak γ (gamma): gold & green

Aquarius (0220-Sunrise)

- PN NGC7293 Helix Nebula
- GC M2 globular cluster
- GC M72 globular cluster
- OC M73 open cluster

Aries (0220-Sunrise)

- DS Σ 326: orange & red

Boötes (Sunset-0020)

- DS ξ (xi): yellow & orange

Camelopardalis (all night)

- GA NGC2403 (C7) galaxy
- AS Kemble's Cascade & NGC1502 cluster

Canes Venatici (Sunset-0130)

- GA M51 Whirlpool Galaxy
- GA M63 Sunflower Galaxy
- GA M94 galaxy
- GA M106 galaxy
- GA NGC4631 Whale Galaxy
- GC M3 globular cluster
- DS Cor Caroli α (alpha): yellow & orange
- ST La Superba Y carbon star

Capricornus (low, best 0200)

- GC M30 globular cluster

Cassiopeia (all night)

- EN NGC281 Pacman Nebula
- EN NGC7635 (C11) Bubble Nebula
- EN IC1805 Heart Nebula
- EN IC1848 Soul Nebula
- OC M52 open cluster
- OC M103 open cluster
- OC NGC457 (C13) Owl cluster
- OC NGC654 open cluster
- OC NGC659 open cluster
- OC NGC663 (C10) open cluster
- OC NGC7789 open cluster
- OC NGC7790 open cluster
- DS η (eta): gold & red

Cepheus (all night, best 0250)

- RN NGC7023 (C4) Iris Nebula
- OC NGC188 (C1) open cluster
- OC NGC7160 open cluster
- DS δ (delta): yellow & purple
- DS Σ 2816: yellow & two white
- ST The Garnet Star: μ (mu)

Coma Berenices (Sunset-2350)

- GA M64 Black Eye Galaxy
- GA M85 galaxy
- GA M88 galaxy
- GA M91 galaxy
- GA M98 galaxy
- GA M99 galaxy
- GA M100 galaxy
- GA NGC4565 Needle Galaxy
- GC M53 globular cluster
- OC Melotte 111 open cluster

Cygnus (all night, best 0210)

- GA NGC6946 (C12) Fireworks Galaxy
- EN NGC6888 Crescent nebula
- EN NGC6960 Veil nebula
- EN IC5070 Pelican Nebula
- EN IC5146 (C19) Cocoon Nebula
- EN IC7000 (C20) North American Nebula
- PN NGC6826 Blinking Nebula
- PN NGC7008 Fetus Nebula
- OC M29 open cluster
- OC M39 open cluster
- OC NGC6871 open cluster
- OC NGC6883 open cluster
- OC NGC6910 Rocking Horse Cluster
- DS Albireo β (beta): gold & blue
- DS 61: orange & red

Delphinus (all night, best 0210)

- GC NGC7006 (C42) globular cluster
- GC NGC6934 (C47) globular cluster
- DS γ (gamma): yellow & blue

Draco (all night)

- GA M102 galaxy
- PN NGC6543 Cats Eye Nebula

Hercules (Sunset-0310)

- GC M13 Hercules Globular Cluster
- GC M92 globular cluster

Lacerta (all night, best 0400)

- OC NGC7243 (C16) open cluster

Lyra (all night, best 0000)

- PN M57 Ring Nebula
- GC M56 globular cluster
- DS Double-Double ϵ (epsilon): four white
- DS Other Double-Double Σ 2470 & Σ 2474: four white

Ophiuchus (Sunset-2350)

- GC M9 globular cluster
- GC M10 globular cluster
- GC M12 globular cluster
- GC M14 globular cluster
- GC M19 globular cluster
- GC M62 globular cluster
- GC M107 globular cluster
- OC ic4665 open cluster

Pegasus (0040-Sunrise)

- GA NGC7320 Stefan's Quintet galaxy cluster
- GA NGC7331 (C30) galaxy cluster
- GC M15 globular cluster
- DS Σ 2841: orange & green

Perseus (0300-Sunrise)

- EN NGC1499 California Nebula
- PN M76 Little Dumbell Nebula
- OC M34 open cluster
- OC NGC869 & NGC884 (C14) Double Cluster
- OC NGC1528 open cluster
- OC NGC1582 open cluster
- OC Melotte 20 open cluster
- DS η (eta): gold & blue

Sagitta (all night, best 0100)

- GC M71 globular cluster

Sagittarius (partly visible, best 2320)

- EN M8 Lagoon Nebula
- EN M17 Swan Nebula
- EN M20 Triffid Nebula
- GC M28 globular cluster
- GC M54 globular cluster
- GC M55 globular cluster
- GC M69 globular cluster
- GC M70 globular cluster
- GC M75 globular cluster
- OC M18 open cluster
- OC M21 open cluster
- OC M22 open cluster
- OC M23 open cluster
- OC M24 open cluster
- OC M25 open cluster
- OC NGC6530 open cluster

Scutum (Sunset-0130, best 0000)

- OC M11 Wild Duck Cluster
- OC M26 open cluster

Serpens (Sunset-0030)

- EN M16 Eagle Nebula
- GC M5 globular cluster

Triangulum (0110-Sunrise)

- GA M33 Triangulum Galaxy

Ursa Major (all night)

- GA M81 Bode's Galaxy & M82 Cigar Galaxy
- GA M101 Pinwheel Galaxy
- GA M108 galaxy
- GA M109 galaxy
- PN M97 Owl Nebula
- DS Mizar & Alcor ζ (zeta): 3 white

Ursa Minor (all night)

- DS Polaris α (alpha): yellow & white

Vulpecula (all night, best 0100)

- PN M27 Dumbell Nebula
- OC NGC6885 (C37) open cluster
- AS Coathanger

Key

- GA Galaxy
- EN Emission nebula
- RN Reflection nebula
- PN Planetary nebula
- GC Globular cluster
- OC Open cluster
- AS Asterism
- DS Double star
- ST Star