

December Viewing

Auriga

Small Scope Objects:

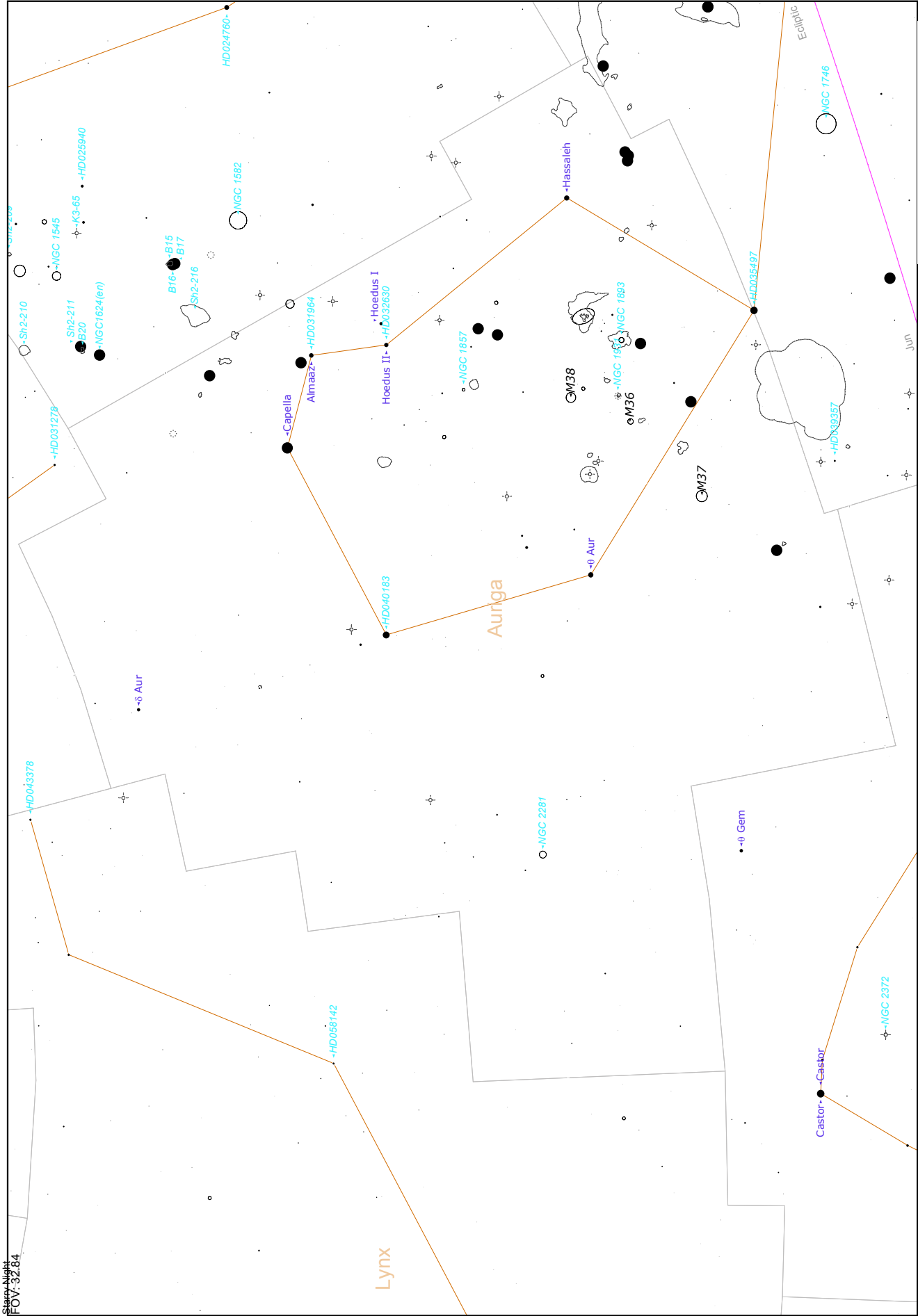
✓	Name	R.A.	Decl.	Details
	M36 (NGC 1960)	05hr 36.1m	+34° 08'	A bright, easy open cluster of 60 stars, mag. 9 to 14. Covers 15 arc minutes of sky, glowing at an integrated magnitude of 6.0. Naked eye from a dark location.
	M37 ¹ (NGC 2099)	05hr 52.4m	+32° 33'	The richest of Auriga's open clusters. 150 stars mag 12 and brighter, a total population of at least 500 members. 20 arc minutes in diameter, magnitude 5.6.
	M38 (NGC 1912)	05hr 28.7m	+35° 50'	Another bright, easy cluster. About 100 stars, 21 arc minutes in size. The faintest of Auriga's Messier clusters at mag 6.4. Many bright stars, arranged in pairs.

Big Scope Objects:

✓	Name	R.A.	Decl.	Details
	NGC 1907	05hr 28m	+35° 19'	Located just SW of M38, a mag. 8.2 open cluster. Visible in the same low power field as M38. 30 stars, mag 10 and fainter, 6 arc minutes in size.
	NGC 1931	05hr 31.4m	+34° 15'	A reflection/emission nebula not far from M36. No magnitude stated, only 3 x 3 arc minutes in size. Look for a haze surrounding 4 close stars. (110NGC)
	NGC 1664	04hr 51m	+43° 41'	A nice open cluster SW of Capella. 40 stars 11th mag and fainter, 18 arc minutes in size. Total magnitude 7.6.
	NGC 1893	05hr 23m	+33° 25'	A small cluster of 60 stars embedded inside IC410. 11 arc minutes in size, magnitude 7.5.
	NGC 1985	05hr 37m	+32° 00'	A small emission nebula, only 3 arc minutes in size. Difficult object.
	IC 2149	05hr 56m	+46° 07'	A small planetary nebula, about 3° north of β Auriga. Mag 11.2 photographic, 10 arc seconds in size with a 11.5 mag. central star.

Challenge Objects:

✓	Name	R.A.	Decl.	Details
	IC 405 and IC 410	05hr 14m 05hr 22m	+34° 10' +33° 27'	A pair of large but faint emission nebula. Good skies, low power and a nebula filter will be required to make these objects less invisible. 30 x 19, and 40 x 30 arc minutes in size. IC 405 is currently illuminated by AE Auriga, a fast moving "runaway star" originating from Orion.
	PK173-5.1	05hr 07m	+30° 49'	A difficult type 3 planetary nebula, located between the bottom 2 stars in the pentagon of Auriga. 132 arc seconds in diameter. Large, round, diffuse and very faint. Mag 13.7.



Viewing from Prince George, Canada
Chart centre (J2000): RA: 6h 08m 11.1s, Dec: 42° 30' 43"
Altitude: 78° 5.241', Azimuth: 161° 9.835' (south)

Long: -122° 43' 42" Lat: 53° 55' 09"
2009/12/20 12:02:56 AM (Local)
Limiting Magnitude: 7.3

Legend:

- Globular Cluster
- Variable
- Galaxy
- Cluster
- Multiple
- Quasar
- Planetary

Cetus

Small Scope Objects:

✓	Name	R.A.	Decl.	Details
<input type="checkbox"/>	Ceti (Mira)	02hr 19m	-02° 58'	"Mira" - the prototype of long-period variable stars. Variability was first noticed in 1596, by German astronomer David Fabricius. Varies in magnitude from about ninth to third magnitudes over a period of about 331 days. Believed to be a pulsating red giant some 70 parsecs away.
<input type="checkbox"/>	Ceti	02hr 43m	+03° 15'	A blue and yellow double star, separated by 2.7 arcseconds. Components shine at magnitudes 3.6 and 6.1. A third physical 10th magnitude companion is located 14 arc minutes NW.
	UV Ceti	01hr 39m	-17° 58'	"Luyten's Flare Star" - one of the closest star systems to the sun, 9 light-years away. A double star system, (red dwarfs) each star has only 8% of the sun's mass. Magnitudes 12.4 and 12.95, separation is about 7 arc seconds. Proper motion is 3.35 arc seconds/year, in P.A. 80°. "B" component is variable. This star can increase 1 or 2 mags. and fade back to normal in 3 minutes or less!
	M77 (NGC 1068)	02hr 42.7m	-00° 01'	A bright compact Sb galaxy, mag 9.6. Only 2.5 x 1.7 arc minutes in size with a very bright core. M77 is a Seyfert galaxy, with intense and variable UV emissions.

Big Scope Objects:

✓	Name	R.A.	Decl.	Details
	NGC 1055	02hr 42m	+00° 29'	Located near M77, this edge-on Sbc galaxy measures 5.0 x 1.0 arc minutes in size, magnitude 11.4. It appears as a faint sliver of light with a dust lane visible in larger scopes.
	NGC 1073	02hr 44m	+01° 23'	A face-on Sbc barred spiral galaxy near M77. Mag. 11.5 and about 4 arc minutes across giving low surface brightness. Central bar may be visible in larger 'scopes.
	NGC 936	02hr 27.6m	-01° 09'	An 11th magnitude SB0 barred spiral galaxy, 3 x 2 arcminutes in size. (110NGC) Look for 13th mag Sc galaxy NGC 941 12 arc minutes to the west.
	NGC 908	02hr 23m	-21° 13'	A bright Sc galaxy, but located deep in the south. Magnitude 10.9, measuring 4.0 x 1.3 arc minutes.
	NGC 578	01hr 30m	-22° 41'	Another reasonably bright Sc galaxy glowing at magnitude 11.5. Covering 4.5 x 2.5 arc minutes of sky with a bright nucleus.
	NGC 246	00hr 47.0m	-11° 53'	A large but faint planetary nebula. 8th magnitude, but spread over 240 x 210 arc seconds giving low surface brightness. An OIII or UHC filter will help a lot. Central star is 12th mag, forming part of a "Y" shaped asterism which helps in locating this nebula. Will appear "lumpy" in larger apertures. (110NGC)
	NGC 247	00hr 47m	-20° 45'	The largest galaxy in Cetus, 18 x 5 arc minutes. Magnitude 9.5, but of low surface brightness. Part of the Sculptor group of galaxies, including NGC's 45, 55, 253, 300 and 7793. This is the closest group of galaxies to us, outside of the Local Group. NGC 45 is fainter at magnitude 11.1, covering 8 x 5.5 arc minutes. Difficult due to southern declination.

Challenge Objects:

✓	Name	R.A.	Decl.	Details
	IC 1613	01hr 05m	+01° 18'	A faint irregular galaxy some 680 kiloparsecs distant, about the same distance as M31. Magnitude 12.0 but 11 x 9 arc minutes across giving low surface brightness.

Orion

Small Scope Objects:

✓	Name	R.A.	Decl.	Details
	M42 (NGC 1976)	05hr 35.4m	-05° 27'	The famous "Orion Nebula" - the brightest and easiest to find emission nebula in the winter sky. 85 x 60 arc minutes in size, this nebula will fill a low power eyepiece field of view. At magnitude 3.5, it is visible to the naked eye as a "fuzzy" star. Plenty of detail is visible at high magnifications.
	M43 (NGC 1982)	05hr 35.6m	-05° 16'	A fainter, detached portion of the "Orion Nebula" (M42), resembling a bloated coma. 10 x 5 arc minutes in size, magnitude 9.0, illuminated by an 8th magnitude star.
	M78 (NGC 2068)	05hr 46.7m	+00° 03'	One of the easiest reflection nebulas to observe. Use medium magnification, without filters. 8 x 6 arc minutes, magnitude 11.

Big Scope Objects:

✓	Name	R.A.	Decl.	Details
	NGC 2022	05hr 42.1m	+09° 05'	A magnitude 12.4 planetary nebula, 28 x 27 arc seconds in size with a 14th mag. central star. Bluish in colour, use high power to distinguish it from nearby stars. (110NGC)
	NGC 2024	05hr 41.9m	-01° 51'	An emission nebula located just east of ζ Orionis, 30 x 30 arc minutes in size. Use medium power to remove ζ from the field of view. (110NGC)
	NGC 2023	05hr 42m	-02° 14'	Another reflection nebula, just south of NGC 2024. 10 arc minutes in size. Use medium power and no filters.
	NGC 1788	05hr 06.9m	-03° 21'	A more challenging reflection nebula. 8 x 5 arc minutes in size. (110NGC)
	NGC 2194	06hr 13.8m	+12° 48'	A faint but rich open cluster of 80 stars, packed into a diameter of 10 arc minutes. Magnitude 9.0. (110NGC)
	NGC 1973/5/7	05hr 35.1m	-04° 44'	A patch of reflection and emission nebulosity just north of M42 covering 45 x 35 arc minutes. (110NGC)
	NGC 1981	06hr 14m	+12° 48'	A loose open cluster of 10 stars, magnitude 8 to 10. Located just north of the NGC 1973/5/7 group in Orion's sword.
	NGC 2174/5	06hr 14m	+12° 48'	An easy open cluster (75) surrounded by an emission nebula (74). 2175 is a loose open cluster at mag. 6.8 about 18 arc minutes in diameter. 2174 covers 30 x 40 arc minutes of sky and responds well to filters.

Challenge Objects:

✓	Name	R.A.	Decl.	Details
	IC 434 (B 33)	05hr 41m	-02° 31'	The famous "Horsehead Nebula" - a dark nebula backlit by a faint strip of nebulosity. Located just south of ζ, B33 is small (5 arc min) and difficult, requiring excellent observing conditions.

