

# Constellation of the Month: September Aquarius

## Small Scope Objects:

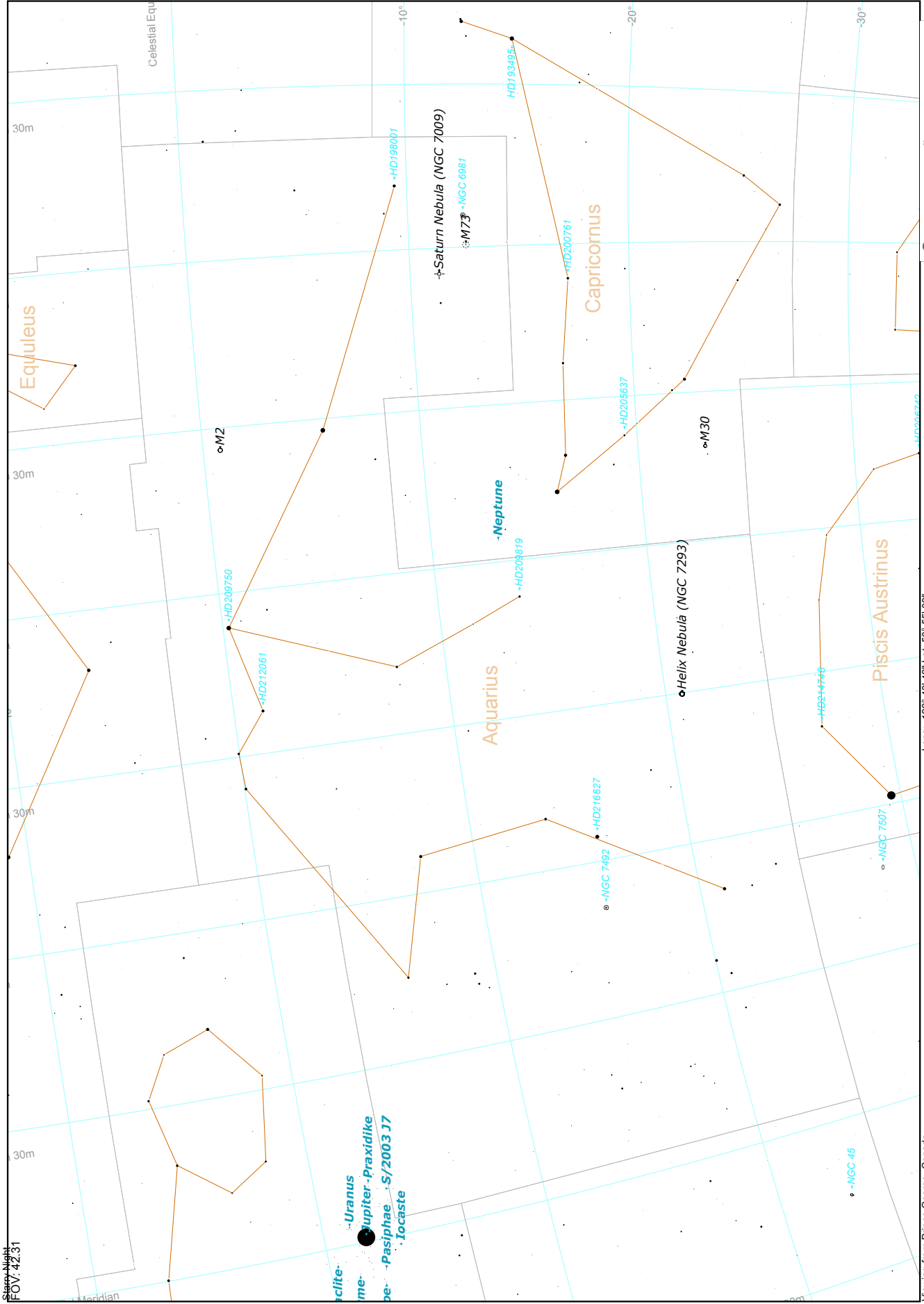
✓	Name	R.A.	Decl.	Details
	R Aqr	23hr 43.8m	-15° 17'	A long period variable star, swinging from mag 5.8 to mag 12.4 over a period of 387 days.
	M2 (NGC 7089)	21hr 33.5m	-00° 49'	A bright (mag. 6.5) globular cluster, located 5° north of β Aqr. Only a few arc minutes in size smaller than M13, measuring 12.9 arc minutes in diameter. Use high power with medium sized scopes to resolve into stars.
	M72 (NGC 6981)	20hr 53.5m	-12° 32'	Another Messier globular cluster, smaller and fainter than M2. Mag 9.2, only 5.9 arc minutes in size. A 6 to 8" scope will give partial resolution at high power.
	M73 (NGC 6994)	20hr 59.0m	-12° 38'	Located about 1.5° SE of M72, this is one of the most disappointing of the Messier objects. An asterism of 4 stars, 2.8 arc min. across, mag 8.9. Worth looking at once.

## Big Scope Objects:

✓	Name	R.A.	Decl.	Details
	NGC 7009 <sup>II</sup>	21hr 04.2m	-11° 22'	The "Saturn Nebula" - an easy planetary nebula. Magnitude 8.3, 28 arc seconds in size. Look for 2 protruding ansae or "ears" and a 12th mag. central star. (110NGC)
	NGC 7293 <sup>II</sup>	22hr 29.6m	-20° 48'	The "Helix Nebula" - a huge planetary nebula. Mag 6.5, spread over an area 769 arc seconds in diameter. Can be difficult to observe due to it's low declination, but responds well to almost any LP filter. Look for the 13th mag bluish central star. (110NGC)
	NGC 7492	23hr 08m	-15° 37'	A third globular cluster, much fainter at mag 11.5, 4.2 arc minutes in diameter. Large aperture scopes required for any resolution.
	NGC 7606	23hr 19m	-08° 29'	An 10.8 mag spiral galaxy, 5.8 x 2.6 arc min in size with a bright core.
	NGC 7727	23hr 40m	-12° 18'	A nice mag 10.7 S(B)a pec galaxy. 4.2 x 3.4 arc minutes.
	NGC 7184	22hr 03m	-20° 49'	A nice Sb spiral galaxy, a few degrees east of the Helix. Mag 11.7, 5.8 x 1.8 arc minutes in size.

## Challenge Objects:

✓	Name	R.A.	Decl.	Details
	NGC 7181 and NGC 7182	22hr 01m 22hr 01m	-01° 57' -02° 11'	A pair of challenging galaxies, small and faint. 7181 is the brighter one - 0.9 x 0.7 arc minutes, mag 15.0. 7182 is 0.8 x 0.3 arc minutes at mag. 15.4. Big scopes and good skies essential!



Long: -122° 43' 42" Lat: 53° 55' 09"  
 2010/09/15 11:00:51 PM (Local)  
 Limiting Magnitude: 6.7

Viewing from Prince George, Canada  
 Chart centre (J2000): RA: 22h 15.549m Dec: -10° 58.032"  
 Altitude: 24° 26.388', Azimuth: 167° 37.077' (south)

Starry Night  
 FOV: 42.31

# Constellation of the Month: September

## Aquila (The Eagle)

### Small Scope Objects:

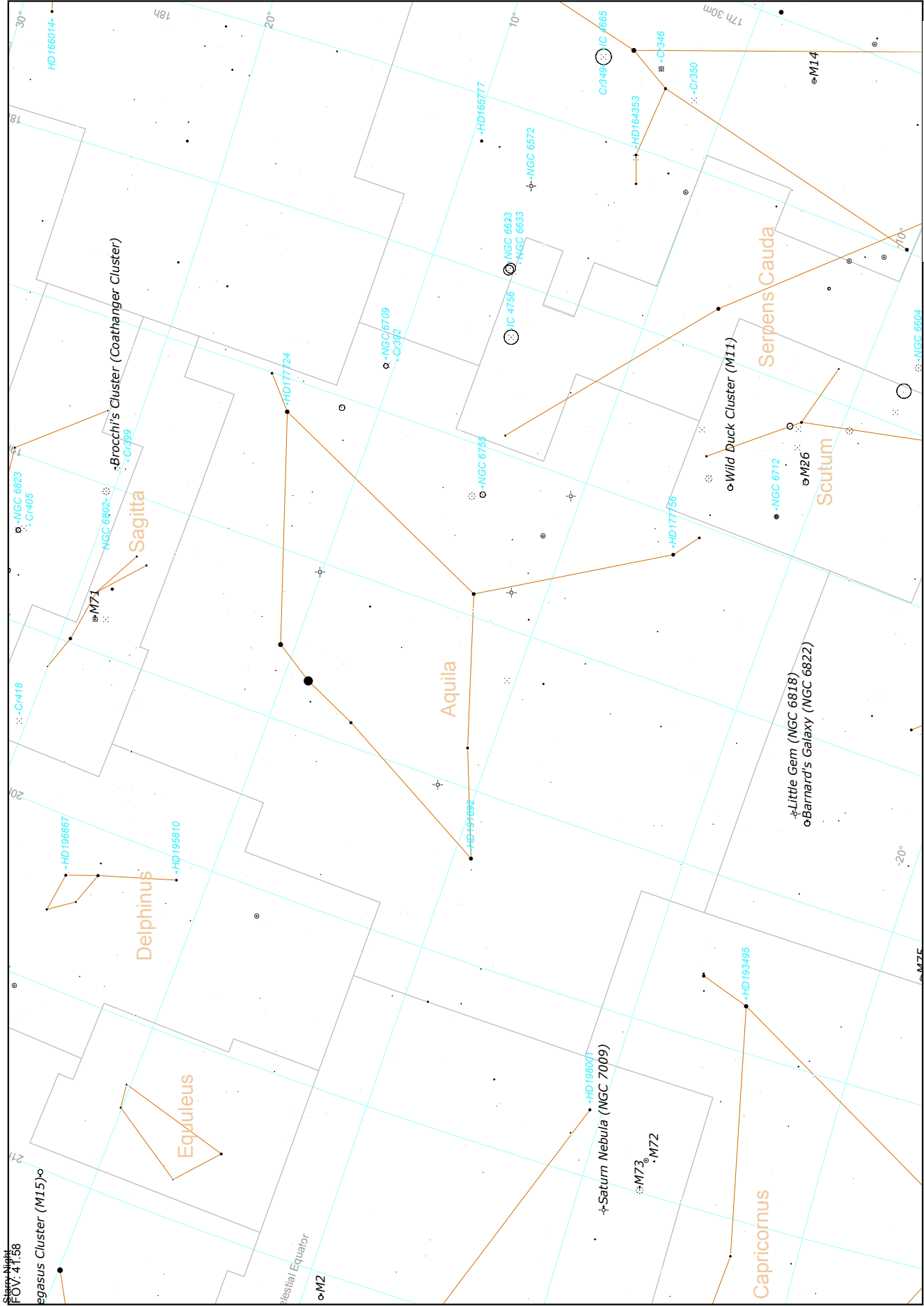
✓	Name	R.A.	Decl.	Details
	<b>B142, B143</b>	19hr 41m	+10° 57'	"Barnard's E" - located west of $\gamma$ Aquilae. A pair of dark nebula, easy in binoculars from a dark site, large at 80 x 50 arc minutes. (Aql)
	<b>NGC 6709</b>	18hr 51m	+10° 20'	A mag 8 open cluster of 40 stars, 12 arc min diameter. (Aql)
	<b>M71 (NGC 6838)</b>	19hr 53.8m	+18° 47'	A bright, loose globular cluster glowing at mag. 8.3, easily resolved with larger scopes. Mag. 7.7, 7.2 arc minutes across. Stars are 12th mag. and fainter, for an integrated magnitude of 8.3. (Sge)
	<b>H 20</b>	19hr 53m	+18° 20'	"Harvard 20" - a small open cluster 1/2° SSW of <b>M71</b> . This small cluster of 15 stars, mag 9.8 and fainter, is only 7 arc minutes in diameter and shines at mag. 7.7 (Sge)

### Big Scope Objects:

✓	Name	R.A.	Decl.	Details
	<b>NGC 6781<sup>1</sup></b>	19hr 18.4m	+06° 33'	A large planetary nebula, 109 arc sec across. Fairly low surface brightness at mag. 11.8, but responds well to LPR filters. (Aql) (110NGC)
	<b>NGC 6886</b>	20hr 13m	+19° 59'	A bright 12th magnitude planetary nebula, but only 4 arc seconds in size. "Blinking" with an OIII filter will help detect this nebula under poor seeing conditions. Central star m15.7 (Sge)
	<b>NGC 6804</b>	19hr 32m	+09° 13'	A fairly bright planetary, at mag 12.2. 31 arc sec. in diameter. Mag 13 central star. (Aql)
	<b>NGC 6751</b>	19hr 06m	-06° 00'	A small "Ring Nebula", 20 arc sec. across, mag 12.5 with a central star of about mag. 13. (Aql)
	<b>NGC 6814</b>	19hr 43m	-10° 19'	A compact face-on spiral galaxy. 3x2.7 arc min, mag 12.2. (Aql)
	<b>NGC 6879</b>	20hr 10m	+16° 55'	A bright but small planetary, only 5 arc sec across. Mag 13. (Sge)
	<b>NGC 7046</b>	21hr 15m	+02° 50'	Difficult SB galaxy in smaller scopes, mag 13.8. 1.9x1.3 arc min(Equ)
	<b>NGC 6755</b>	19hr 08m	+04° 14'	Open cluster of 50 stars, mag 12 and fainter. 10 arc min in diameter. Look for fainter cluster <b>NGC 6756</b> , 28 arc min. N.E., mag 10.5, 3 arc min diameter. (Aql)
	<b>NGC 6760</b>	19hr 11m	+01° 02'	A compact globular cluster, only 2 arc minutes across. Mag 11. (Aql)

### Challenge Objects:

✓	Name	R.A.	Decl.	Details
	<b>Palomar 10</b>	19hr 18m	+18° 34'	A faint class 12 globular cluster. Mag 13.2, 3.2 arc minutes in diameter. Use good skies, clean optics, high power, observing hood, parabolic steroids, a big scope, etc. (Sge)
	<b>Palomar 11</b>	19hr 45m	-08° 00'	One of the 'easier' Palomar clusters at mag. 9.8, 3.5 arc minutes in diameter. (Aql)



Starry Nights  
FOV: 41.58

Regulus Cluster (M15)

Long: -122° 43' 42" Lat: 53° 55' 09"  
2010/09/15 11:00:51 PM (Local)  
Limiting Magnitude: 6.7

Viewing from Prince George, Canada  
Chart centre (J2000): RA: 19h 36m 18.5s Dec: 2° 33.944'  
Altitude: 33° 39.056', Azimuth: 214° 46.881' (south west)

# Constellation of the Month: September

## Capricornus

### Small Scope Objects:

✓	Name	R.A.	Decl.	Details
	<b>M30 (NGC 7099)</b>	21hr 40.4m	-23° 11'	A compact globular cluster, 11 arc minutes in size. Mag. 7.5. Partial resolution with a 6" scope at high power. Discovered by Messier in August 1764.
	<b>α Cap</b>	20hr 18m	-12° 30'	An easy double in any scope or binoculars, magnitude 3.6 for a1 and 4.2 for a2. Separated by over 6 arc minutes. Yellowish in colour, a double by alignment only. Each star does have real companions. a1 has 2 physical companion stars. The first is a 9th mag star 45.4" away in p.a. 221°, the second is 13th mag. at 44.3 arc seconds at p.a. 182°. a2 has an 11th magnitude companion 45.4" away at p.a. 172°.
	<b>β Cap</b>	20hr 21m	-14° 47'	An easy double star, magnitudes 3.4 and 6.2, separated by 205 arc seconds. Primary star is white, the secondary is blue.
	<b>π Cap</b>	20hr 27m	-18° 13'	Another double star, with only 3.2 arc seconds of separation. Primary is magnitude 3.4, secondary 8.9.

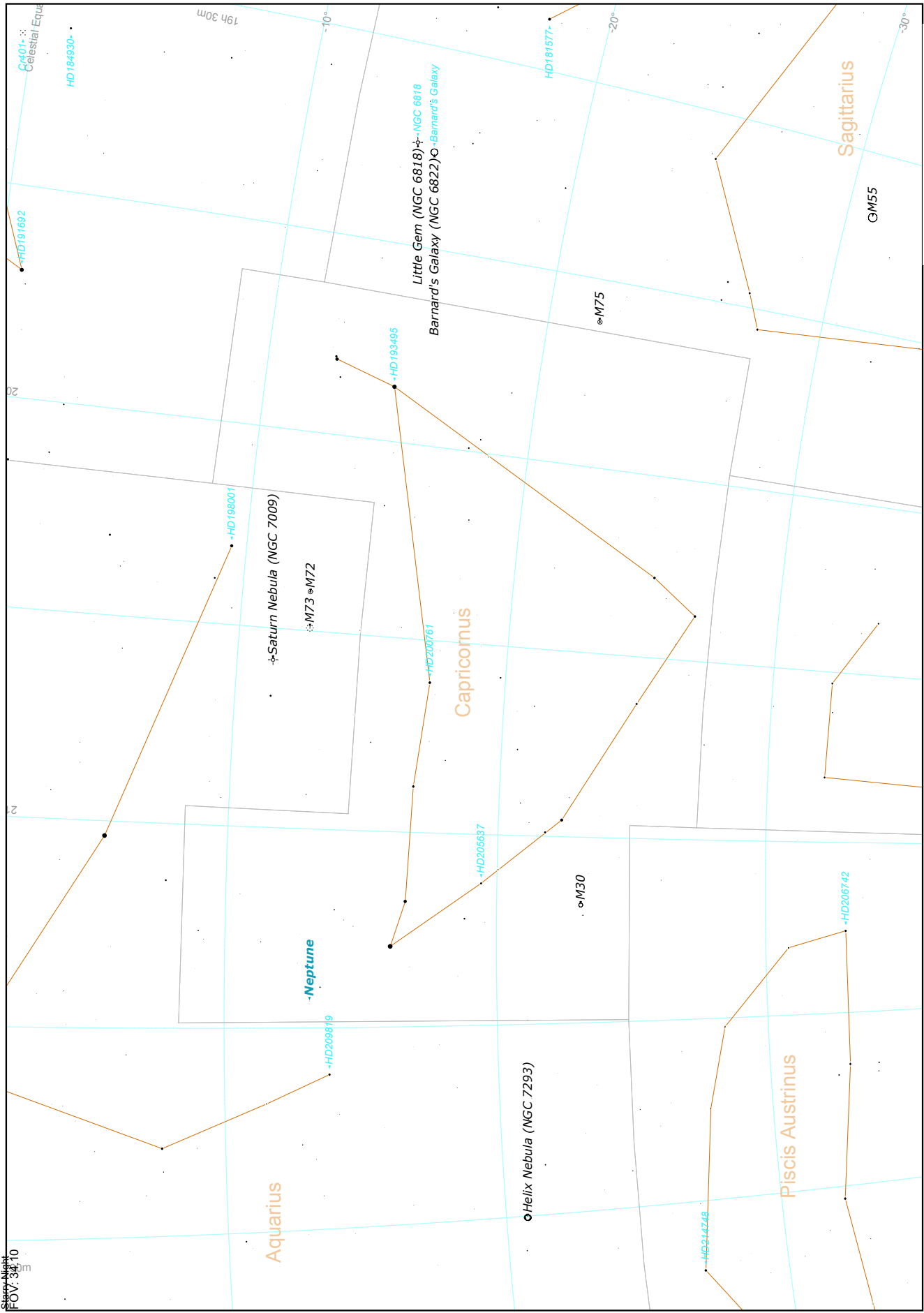
### Big Scope Objects:

✓	Name	R.A.	Decl.	Details
	<b>NGC 6907</b>	20hr 25m	-24° 49'	A mag. 11.3 SBb spiral galaxy, 3.4 x 3.0 arc minutes in size, may be visible in a 6" scope under very good skies.
	<b>NGC 6903</b>	20hr 24m	-19° 19'	A fainter magnitude 12.9 galaxy, 2.7' x 2.5' in size.
	<b>NGC 6924</b>	20hr 33m	-25° 30'	A faint, compact S0 galaxy. Magnitude 13.5, 1.6 x 1.4 arc minutes in size.
	<b>NGC 6936</b>	20hr 36m	-25° 17'	Another faint S0 galaxy, not far from <b>NGC 6924</b> . Fainter and smaller - magnitude 13.8, 1.5 x 0.9 arc minutes in size.

### Challenge Objects:

✓	Name	R.A.	Decl.	Details
	<b>Palomar 12</b>	21hr 47m	-23° 11'	A difficult class 12 globular cluster, being small and faint. Mag. 11.7, 2.9 arc minutes in diameter with low surface brightness.
	<b>NGC 6912</b>	20hr 27m	-18° 38'	A challenging SBc spiral, not far from π Cap. Only 1.6' x 1.3' in size, magnitude 14.

Starry Nights  
FOV: 34.10



Viewing from Prince George, Canada  
Chart centre (J2000): RA: 21h 1.587m Dec: -18° 26' 88.1"  
Altitude: 17° 25.485', Azimuth: 186° 58.505' (south)

Long: -122° 43' 42" Lat: 53° 55' 09"  
2010/09/15 11:00:51 PM (Local)  
Limiting Magnitude: 7.2

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

# Constellation of the Month: September Lyra (The Lyre) and Delphinus (The Dolphin)

## Small Scope Objects:

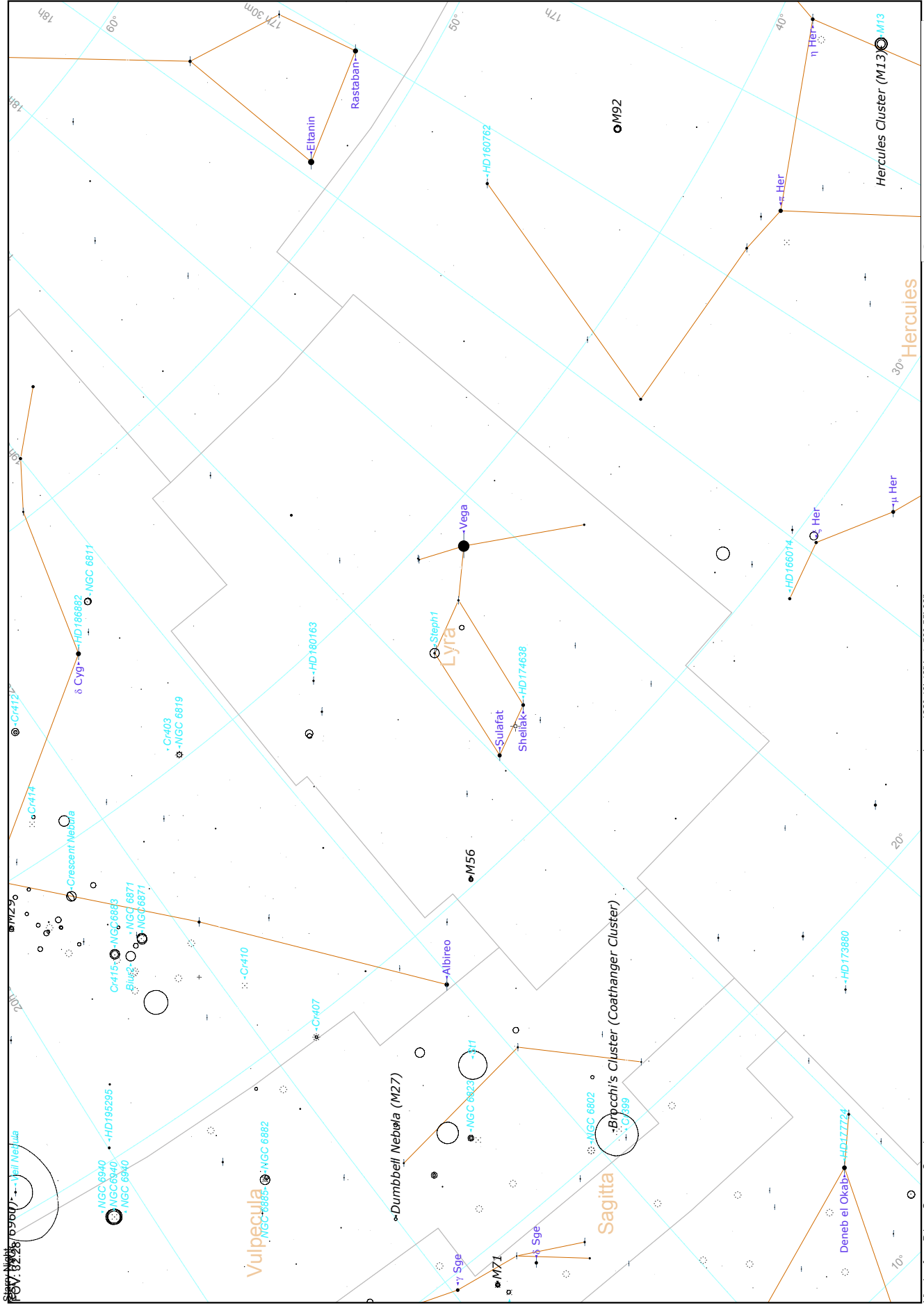
✓	Name	R.A.	Decl.	Details
	ε Lyrae	18hr 44m	+39° 40'	The famous "Double Double". ε 1 and 2 are separated by 108 arc sec. Each star is a double. ε 1 consists of mag. 5.5 and 6.5 stars, separated by 2.8 arc sec., in P.A. 359°. ε 2 is mag. 5.0 and 5.5, P.A. 98° with a separation of 2.2 arc seconds.
	M57 <sup>1</sup> (NGC 6720)	18hr 53.6m	+33° 02'	The "Ring Nebula" - a bright ring shaped planetary nebula, 80 x 60 arc seconds in diameter. Very high surface brightness at magnitude 8.8. (Lyra)
	M56 (NGC 6779)	19hr 16.6m	+30° 11'	A bright globular cluster 7.1 arc minutes across, shining at mag. 8.3. A dense type 10 globular, difficult to resolve with small scopes. (Lyra)

## Big Scope Objects:

✓	Name	R.A.	Decl.	Details
	NGC 6791	19hr 21m	+37° 51'	A rich open cluster of 300 stars, 13th mag and fainter. 16 arc minutes in diameter, total integrated magnitude of 9.5. (Lyra)
	NGC 6765	19hr 11m	+30° 33'	Another planetary nebula, 38 arc seconds in size. Mag 13.1p. with a 16th mag central star. (Lyra)
	NGC 6703	18hr 47m	+45° 33'	An 11.4th mag S0 lenticular galaxy, 2.6 x 2.5 arc minutes in size. Look for mag 11.2 <b>NGC 6702</b> next door, an E3 elliptical 2.1 x 1.6 arc minutes. (Lyra)
	NGC 6891	20hr 15m	+12° 42'	A small planetary nebula, 12 arc seconds in diameter, mag 11.7p with a mag 12.4 central star. (Delphinus)
	NGC 6934	20hr 34m	+07° 24'	A compact (class 8) but bright globular cluster glowing at mag 8.9. 5.9 arc minutes in diameter. (Delphinus)
	NGC 6905	20hr 22m	+20° 07'	One of the best summer planetary nebulae, this ring shaped nebula is 46 arc seconds in diameter, glowing at mag 11.9. (Delphinus)
	NGC 7006	21hr 01m	+16° 11'	One of the most distant globular clusters at 185,000 LY. 2.2 arc minutes across, magnitude 10.6. (Delphinus)

## Challenge Objects:

✓	Name	R.A.	Decl.	Details
				M57 - the central star! This elusive mag 15.2 star is made difficult by the brightness of the nebula. Requires steady seeing, good clean optics and high magnification.
	IC 1296	18hr 53m	+33° 04'	A difficult mag 14.8p SBb spiral galaxy located 4 arc minutes from <b>M57</b> . Only 0.9 x 0.5 arc minutes in size.

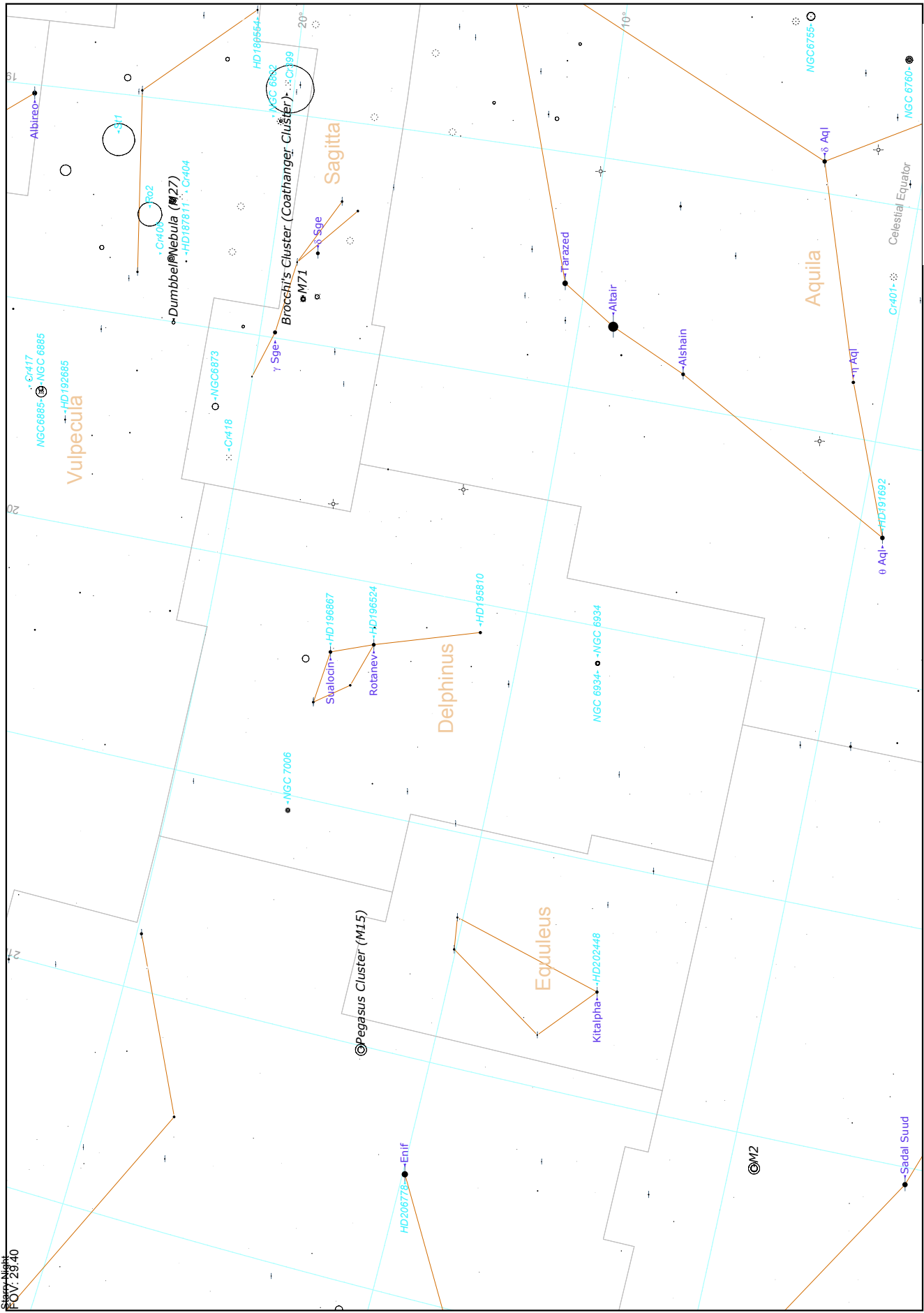


Viewing from Prince George, Canada  
 Chart centre (J2000): RA: 18h 50.598m Dec: 36° 10.142'  
 Altitude: 57° 22.470', Azimuth: 253° 28.470' (west)  
 Long: -122° 43' 42" Lat: 53° 55' 09"  
 2010/09/15 11:00:51 PM (Local)  
 Limiting Magnitude: 7.3

○ Globular Cluster  
 ○ Cluster  
 + Quasar  
 ○ Variable  
 ○ Multiple  
 ○ Planetary  
 ○ Galaxy



Seeing: 0.8"  
FOV: 29.40



Viewing from Prince George, Canada  
Chart centre (J2000): RA: 20h 36.807m Dec: 11° 39.321'  
Altitude: 46° 29.086', Azimuth: 198° 59.980' (south)

Long: -122° 43' 42" Lat: 53° 55' 09"  
2010/09/15 11:00:51 PM (Local)  
Limiting Magnitude: 7.5

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