

DIY Astronomy

Fall 2025 Astroimaging

Doug Holland

Images from wide to narrow field of views =>

- $79.4^\circ \times 53.1^\circ$ - Rokinon 16mm f/2.0 Lens + Modified Canon 450D Camera
- $5.14^\circ \times 3.84^\circ$ - Canon 200mm f/2.8 Lens + SC8300 CCD Camera
- 110' x 82.3' – Astrotech AT80ED 560mm f/7 Refractor Telescope + SC8300 CCD Camera
- 38' x 28.6' – Astrotech AT8RC 1600mm f/8 Ritchey Chretien Telescope + SC8300 CCD Camera

79.4° x 53.1° - Rokinon 16mm f/2.0 Lens + Modified Canon 450D Camera



Celestron ASGT Mount
Rok 16mm f/2.0 Lens
Modified Canon 450D Camera
Orion 50mm GS
ZWO ASI120mini Guide Camera
Software:

- * PHD2 Guiding
- * Backyard EOS

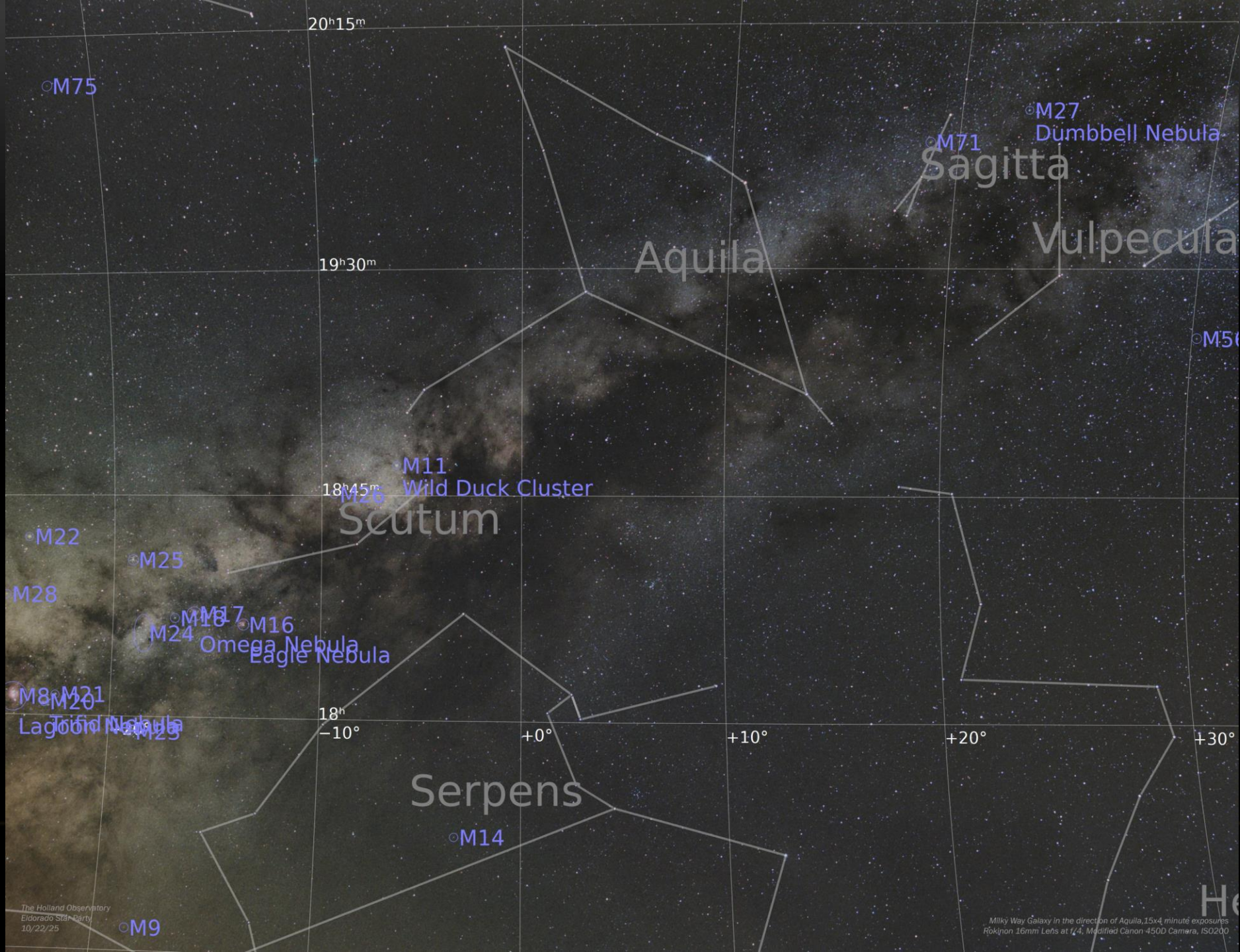
All sub-exposures:

- 4 minutes
- ISO200

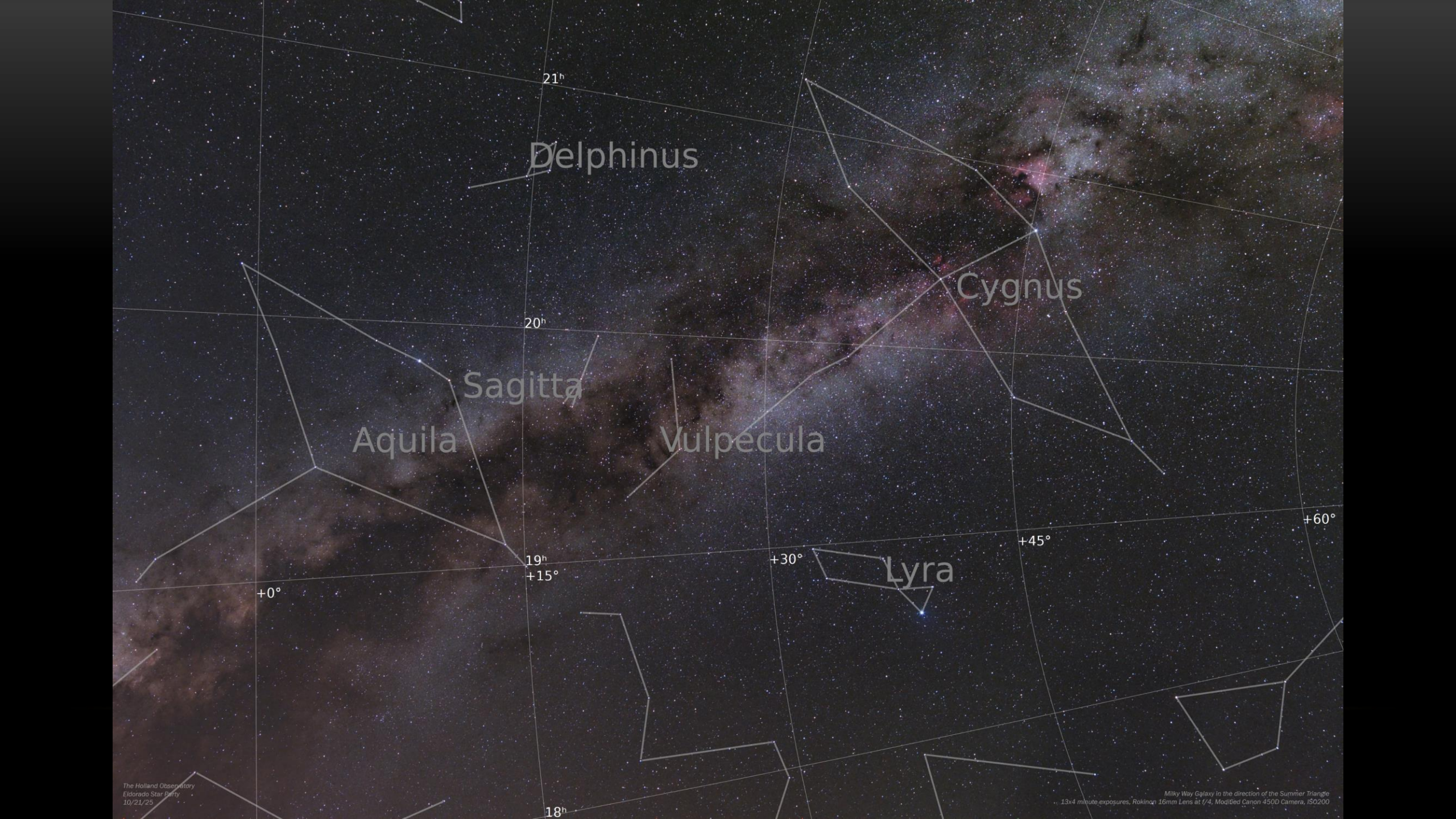
Along the Milky Way from the Summer Milky Way (Sagittarius & Cygnus) to the Winter Milky Way (Orion & Auriga)

Location: Eldorado Star Party, Fall 2025









21^h

20^h

19^h

+15°

18^h

Delphinus

Cygnus

Sagitta

Aquila

Vulpecula

Lyra

+45°

+60°

+0°



Cepheus

M52

Andromeda

M110 M31

Andromeda Galaxy

M74

1^h30^m
+30°

M33
Triangulum Galaxy

Cassiopeia

+45°

Triangulum

Aries

M76

Little Dumbbell

M103 +60°

+75°

M34

3^h

Perseus

Camelopardalis

M45
Pleiades

4^h30^m



Perseus

M45
Pleiades
Uranus
5.62

Taurus

Auriga

M38
M36
M37

M1
Crab Nebula

Orion

M42 M43

M78

M35

+45°

+30°

+15°

4^h
+0°

5^h

6^h

5.14° x 3.84° - Canon 200mm f/2.8 Lens + SC8300 CCD Camera



Losmandy G11 Mount
Canon 200mm f/2.8 Lens
SC8300 CCD Camera
Orion 50mm GS
SC2M034 Guide Camera
Software:
* PHD2 Guiding
* KStars / Ekos



NGC7000 –
North America Nebula
IC5070 –
Pelican Nebula

Location: Home

Narrowband (3nm):
SII, Ha, OIII

Sub-exposures:
5 minutes



Comet C/2025 A6 Lemmon

Location: Eldorado Star Party

LRGB
(luminance, red, green, blue)

Sub-exposures:
30 seconds

Perseus Molecular Cloud

Location:
Eldorado Star Party

LRGB

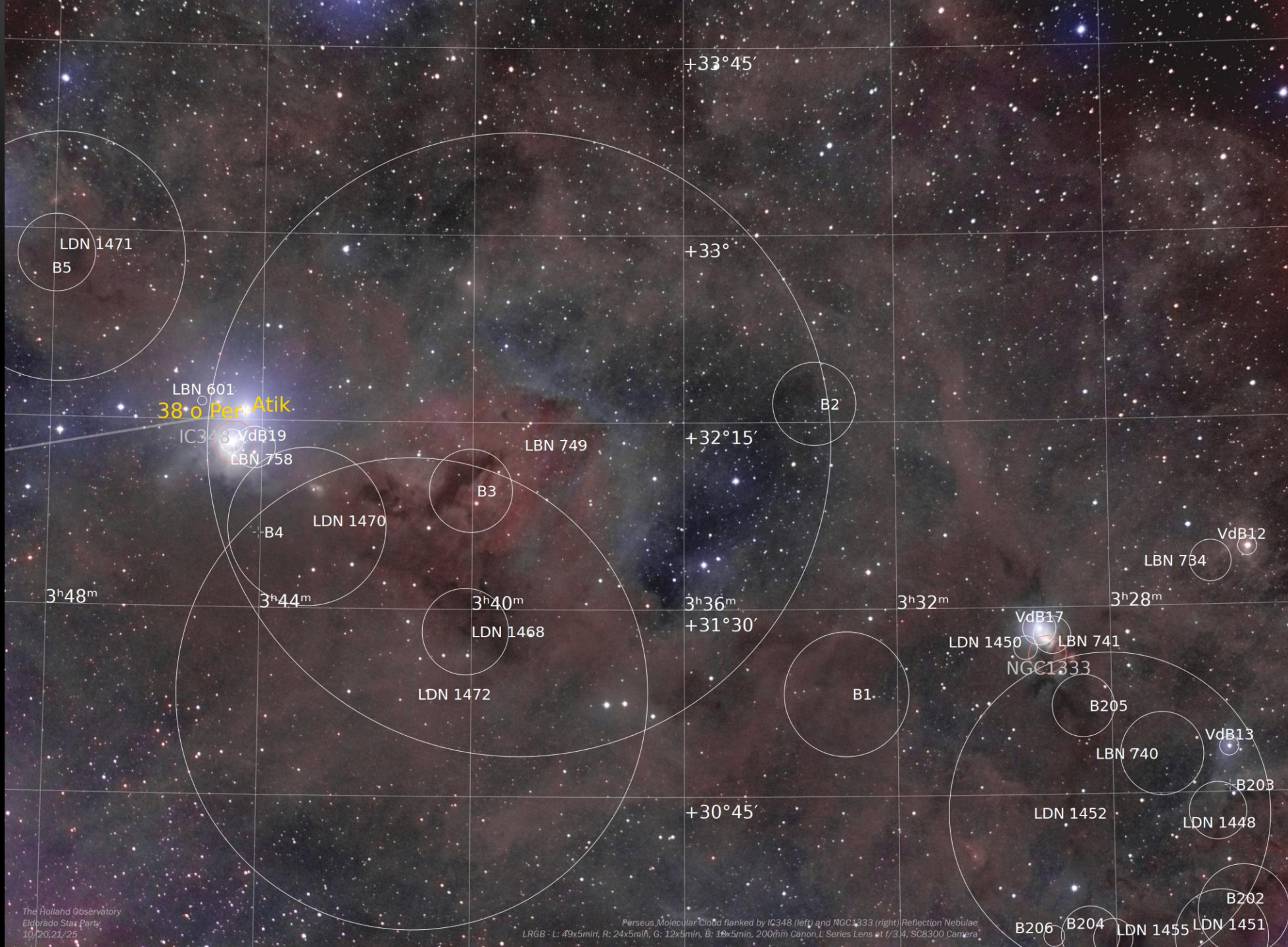
Sub-exposures:
5 minutes

Perseus Molecular Cloud with annotation

Location:
Eldorado Star Party

LRGB

Sub-exposures:
5 minutes





\$5

LBN420 – Galileo's Finger

Location:
Eldorado Star Party

LRGB

Sub-exposures:
5 minutes

110' x 82.3' – Astrotech AT80ED 560mm f/7 Refractor Telescope + SC8300 CCD Camera



- Losmandy G11 Mount
- Astrotech AT80ED 560mm f/7 Refractor Telescope
- SC8300 CCD Camera
- Orion 50mm GS
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- Software:
 - * PHD2 Guiding
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NGC7023 –
Iris Nebula in Cepheus

Location:
Fort McKavett 2024
Okie Tex 2025

LRGB

Sub-exposures:
10 minutes

Sh2-132 –
Lion Nebula in Cepheus

Location:
Home &
Okie Tex 2025

Narrowband (3nm):
SII, Ha, OIII

Sub-exposures:
12 minutes



Sh2-132 –
Lion Nebula in Cepheus
Starless

Location:
Home &
Okie Tex 2025

Narrowband (3nm):
SII, Ha, OIII

Sub-exposures:
12 minutes

38' x 28.6' – Astrotech AT8RC 1600mm f/8 Ritchey Chretien Telescope + SC8300 CCD Camera

- Losmandy G11 Mount
- Astrotech AT8RC 1600mm f/8 Ritchey Chretien Telescope
- SC8300 CCD Camera
- Off-axis guider
- SC2M034 Guide Camera
- Software:
 - * PHD2 Guiding
 - * KStars / Ekos





NGC253 –
Sculptor Galaxy in Sculptor

Location:
Eldorado Star Party

LRGB

Sub-exposures:
3 & 5 minutes

Spiral galaxy,
11.4 million light years

Surface brightness: 12.9
Note, M31: 13.5



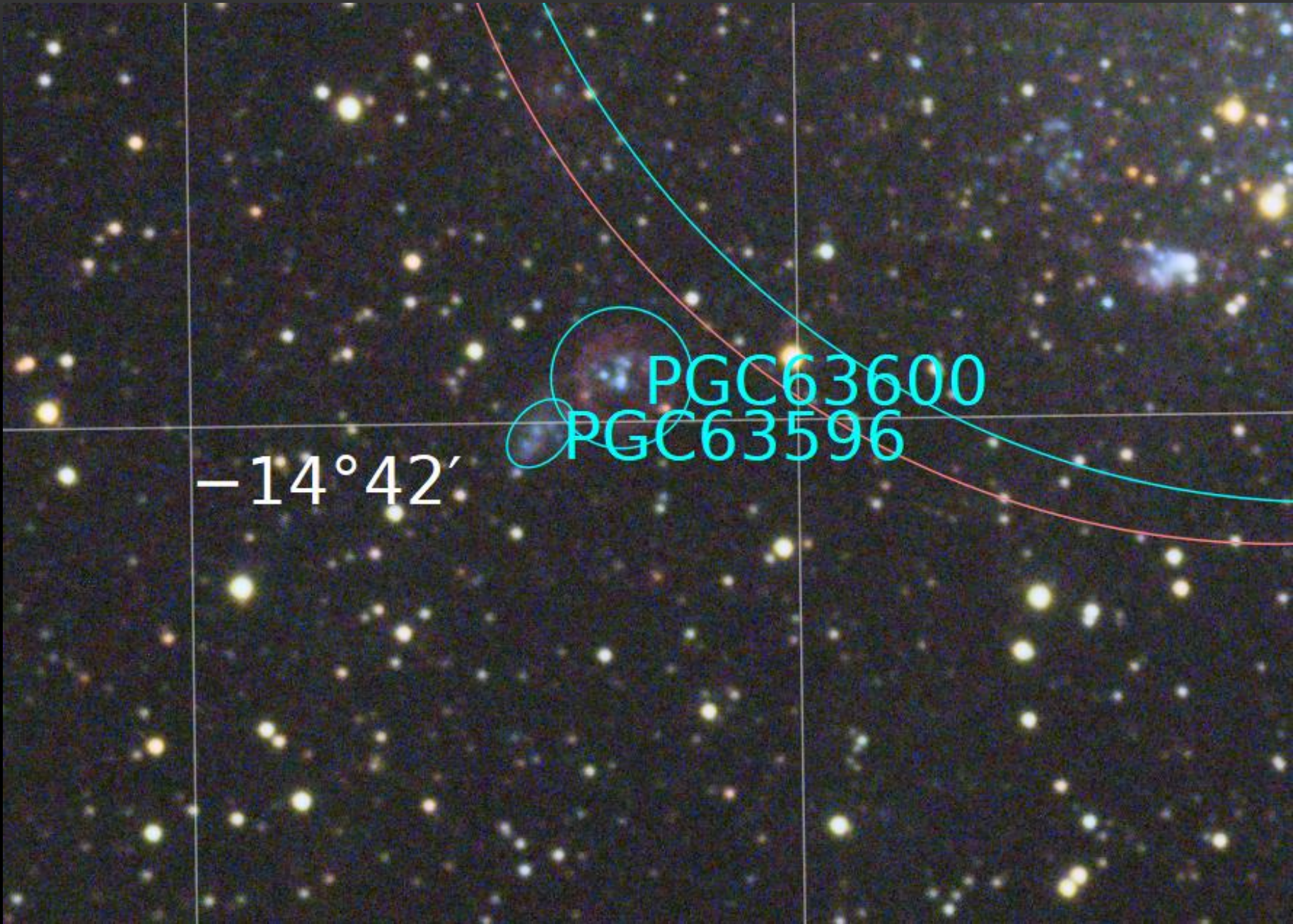
NGC6822 –
Barnard's Galaxy in Sagittarius

Location:
Eldorado Star Party

LRGB

Sub-exposures:
5 minutes

Barred irregular galaxy,
1.6 million light years
distance, part of our
local group of 134 (and
counting) galaxies



PGC63600 (Hubble 1925 III)
Ring Nebula in Barnard's Galaxy
HII emission nebula

PGC63596 (Hubble 1925 I)
Bubble Nebula in Barnard's Galaxy
HII emission nebula

www.holland-observatory.net/recent/

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