

Planning Observing Outings

Mike Hotka

In The Beginning

- ◉ Watched Echo 1 in 1960
- ◉ Been an Amateur Since 1965
 - > Comet Ikeya-Seki
- ◉ 1st Astronomical League Observation
 - > M57 on July 12, 1986
- ◉ Since that 1st Observation, I have:
 - > Completed 59 AL Observing Programs
 - > Completed 30 Other Observing Programs
- ◉ I am a Platinum Master Observer



Drawing by David Nicholls

Received the 2019 Lone Star Gazer Award



What Drives My Desire to Observe?

- Goal Oriented Observing

1. To Observe 10,000 Unique Celestial Objects
 - 6334 Unique Objects Observed Already
2. Complete 3 More ALOPs
 1. Lunar Evolution, Occultation, Spectroscopy

- Comedian Ron White once said
(well sort of):

If you've seen one galaxy...
You want to see them all



Lists Are Everywhere

- ◉ ALOPs support my observing
 - > They are like a box of Cracker Jacks
- ◉ Other lists I've found
 - > Okie-Tex Star Party
 - > Texas Star Party
 - > Internet

Astronomical Database Programs

- ◉ DeepSky Astronomy Software
- ◉ SkyTools 4
- ◉ Sky Safari

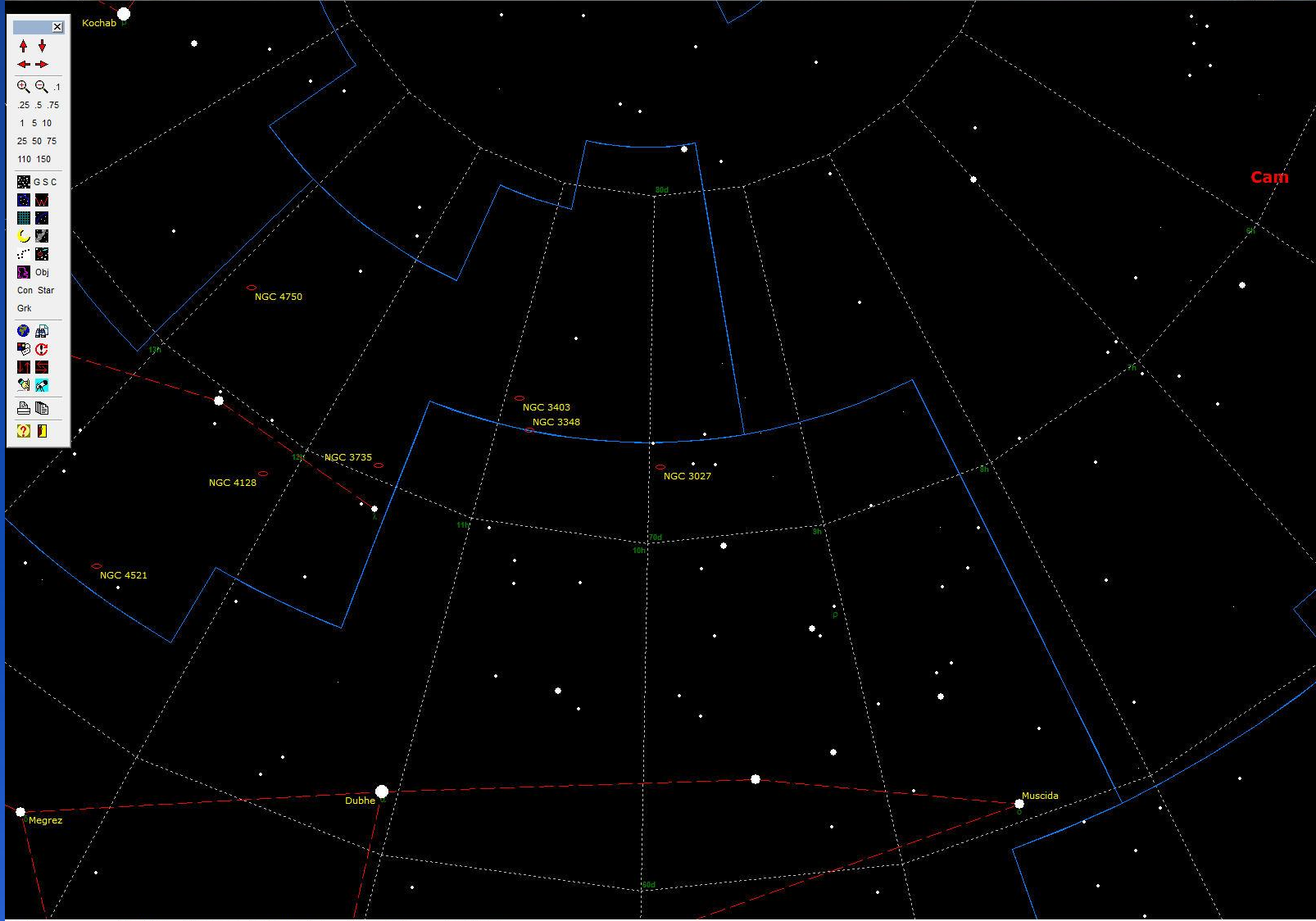
Deepsky Astronomy Software

Windows taskbar: All Objects

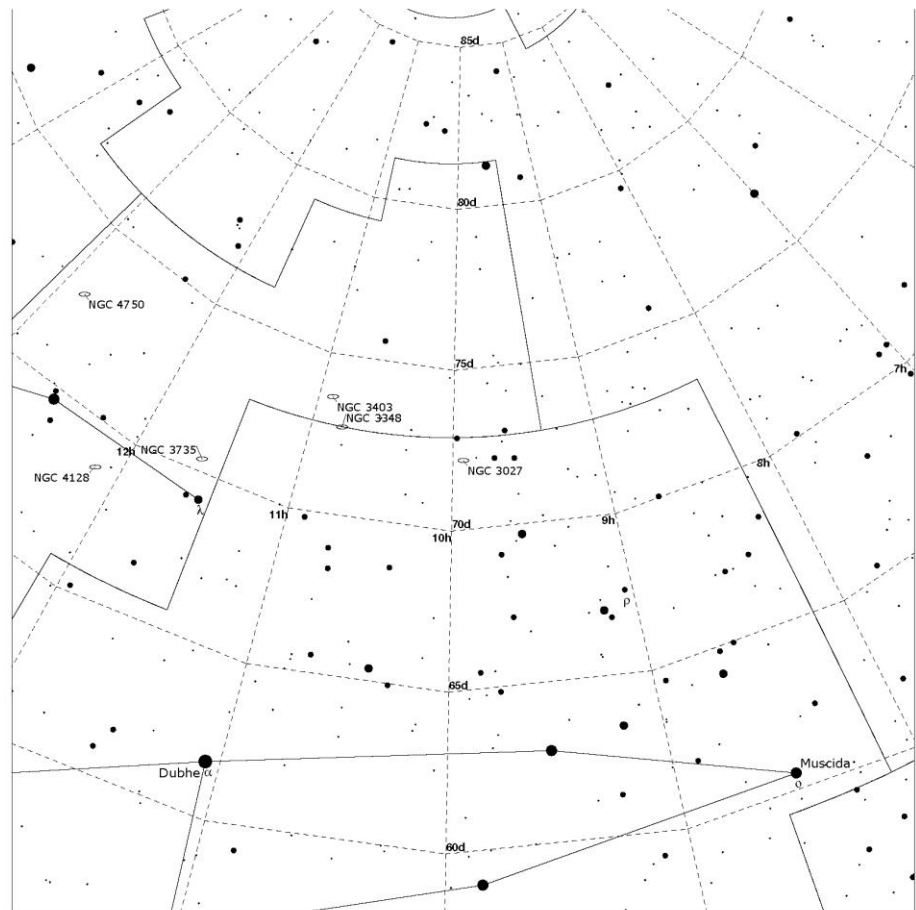
Navigation tabs: Herschel300_Left.PLN | Deep 2 | Deep 3 | Deep 4 | Deep 5 | Image Gallery | Log Images | POD

	pln	img	obs	ObjectID	Other ID	Type	R.A.	Dec.	Transit	Set	Const	Size	Mag 1	Mag 2
1	X			NGC 3027		Gx	09 55 40.5	+72 12 12.4	CPolar	CPolar	UMa	4.70	12.00	
2	X			NGC 3348		Gx	10 47 10.2	+72 50 22.8	CPolar	CPolar	UMa	2.20	11.20	
3	X			NGC 3381		Gx	10 48 24.8	+34 42 41.3	04:36 PM	01:04 AM	LMi	2.40	13.00	
4	X			NGC 3403		Gx	10 53 54.8	+73 41 22.6	CPolar	CPolar	Dra	3.10	13.00	
5	X			NGC 3735		Gx	11 35 57.3	+70 32 07.0	CPolar	CPolar	Dra	4.20	12.00	
6	X			NGC 3917		Gx	11 51 13.5	+52 00 02.0	CPolar	CPolar	UMa	4.90	12.00	
7	X			NGC 4123		Gx	12 08 11.2	+02 52 40.6	05:56 PM	12:11 AM	Vir	4.50	11.20	
8	X			NGC 4128		Gx	12 08 14.3	+68 47 09.4	CPolar	CPolar	Dra	2.80	13.00	
9	X			NGC 4145		Gx	12 10 53.3	+39 44 55.9	05:58 PM	03:02 AM	CVn	5.80	11.00	
10	X			NGC 4348		Gx	12 23 54.0	-03 26 37.3	06:11 PM	12:06 AM	Vir	3.50	13.00	
11	X			NGC 4378		Gx	12 25 18.1	+04 55 30.0	06:13 PM	12:35 AM	Vir	3.30	12.00	
12	X			NGC 4389		Gx	12 25 35.1	+45 41 05.1	06:13 PM	04:19 AM	CVn	2.70	12.00	
13	X			NGC 4412		Gx	12 26 36.0	+03 57 53.0	06:14 PM	12:33 AM	Vir	1.50	13.00	
14	X			NGC 4417		Gx	12 26 50.5	+09 35 02.1	06:14 PM	12:53 AM	Vir	3.60	11.20	
15	X			NGC 4421		Gx	12 27 02.6	+15 27 40.6	06:14 PM	01:14 AM	Com	2.70	11.60	
16	X			NGC 4425	Virgo Cluster of Galaxies, UGC 7562	Gx	12 27 13.3	+12 44 05.4	06:15 PM	01:04 AM	Vir	3.40	11.90	
17	X			NGC 4452		Gx	12 28 43.3	+11 45 17.5	06:16 PM	01:02 AM	Vir	2.40	12.40	
18	X			NGC 4455		Gx	12 28 44.1	+22 49 19.0	06:16 PM	01:45 AM	Com	2.80	13.00	
19	X			NGC 4457	UGC 7609	Gx	12 28 59.1	+03 34 14.2	06:16 PM	12:34 AM	Vir	3.00	10.80	
20	X			NGC 4460		Gx	12 28 45.8	+44 51 48.6	06:16 PM	04:11 AM	CVn	4.40	12.00	
21	X			NGC 4469		Gx	12 29 28.1	+08 45 00.5	06:17 PM	12:52 AM	Vir	3.90	12.00	
22	X			NGC 4474		Gx	12 29 53.5	+14 04 06.3	06:17 PM	01:12 AM	Com	2.30	11.80	
23	X			NGC 4479		Gx	12 30 18.4	+13 34 39.3	06:18 PM	01:10 AM	Com	1.80	12.50	
24	X			NGC 4496		Gx	12 31 40.9	+03 55 34.3	06:19 PM	12:38 AM	Vir	3.90	12.00	

Left sidebar: bread, bread, Chart, Ciel, bk



Print them on
Your Printer
as a PDF File

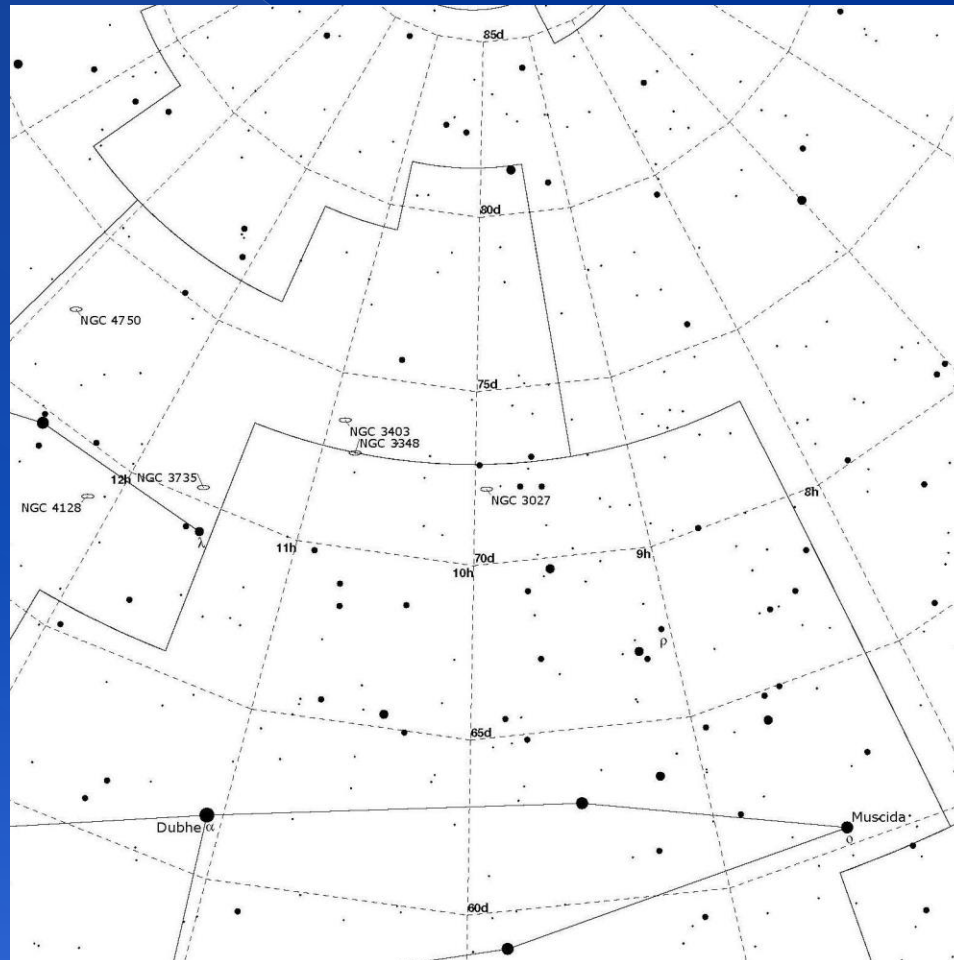


Deepsky RA: 9h 55m, Dec: 72d 12m, FOV: 26d, Mag: 6

Star Charts By Dean Williams

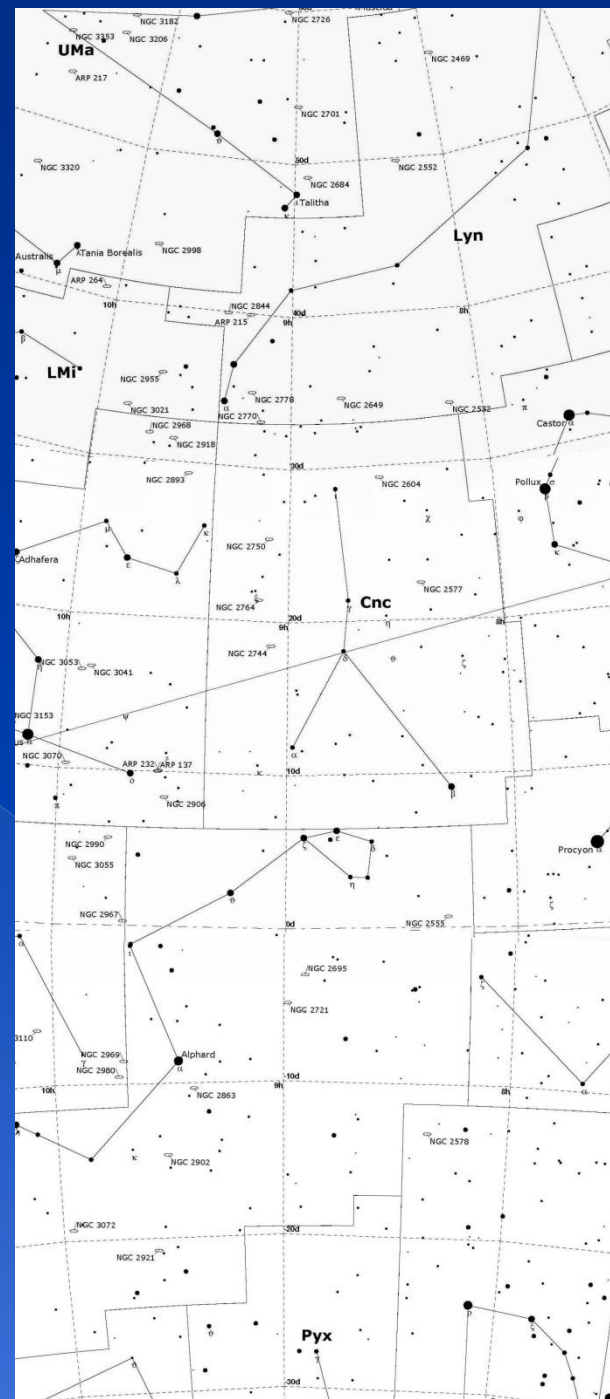
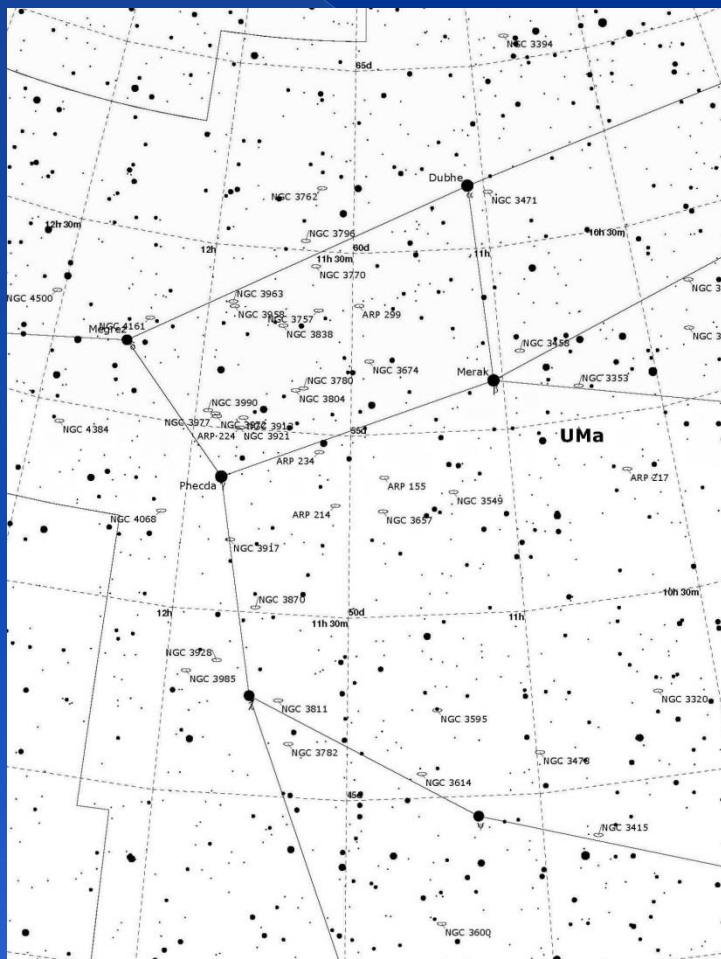
● ≤ -1.0	☉ Galaxy	♿ Mercury	♇ Pluto
● 1.0 - 2.0	○ Open Cluster	♀ Venus	☼ Sun
● 2.0 - 3.0	⊕ Globular Cluster	♂ Mars	☾ Moon
● 3.0 - 4.0	☁ Diffuse Nebula	♃ Jupiter	♁ Asteroid
● 4.0 - 5.0	☄ Planetary Nebula	♄ Saturn	☄ Comet
● 5.0 - 6.0	⊙ Variable Star	♅ Uranus	♁ Unknown
● > 6.0	♁ Double Star	♆ Neptune	

Ready to put on my Surface 2



Amazon.com

Make Panoramas with free Microsoft ICE



SkyTools 4 Main Menu

SkyTools 4 Visual Standard Edition

Setup Tools Data Help

Nightly Planner Ephemerides Event Finder

Evening of 2021 Jun 17 MDT Deer Trail DSS DAS 17.5° 744 Mike Hotka Help

Observing List: My_H2500_Left

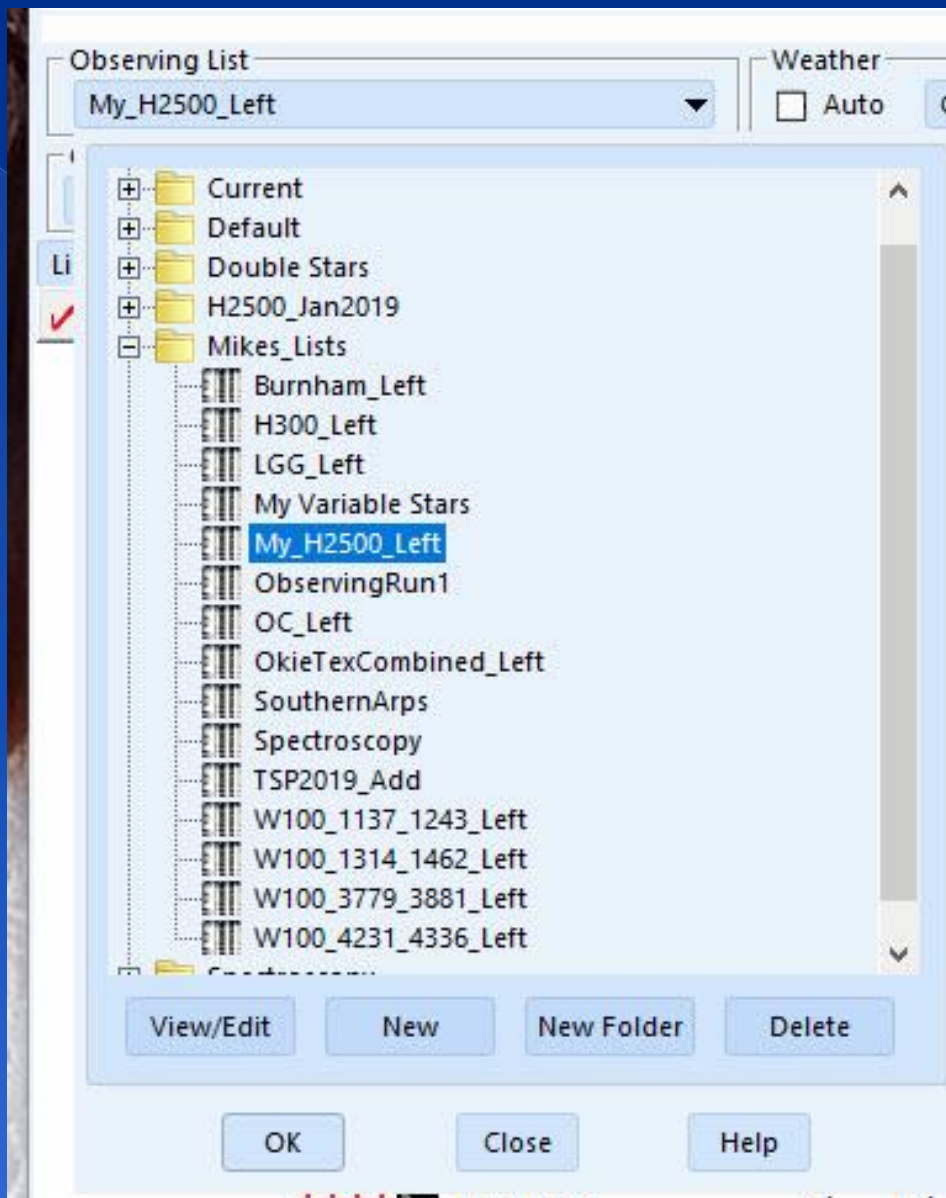
Weather: Auto Good Seeing (0.4" - 1" P8-S) 45F 60%

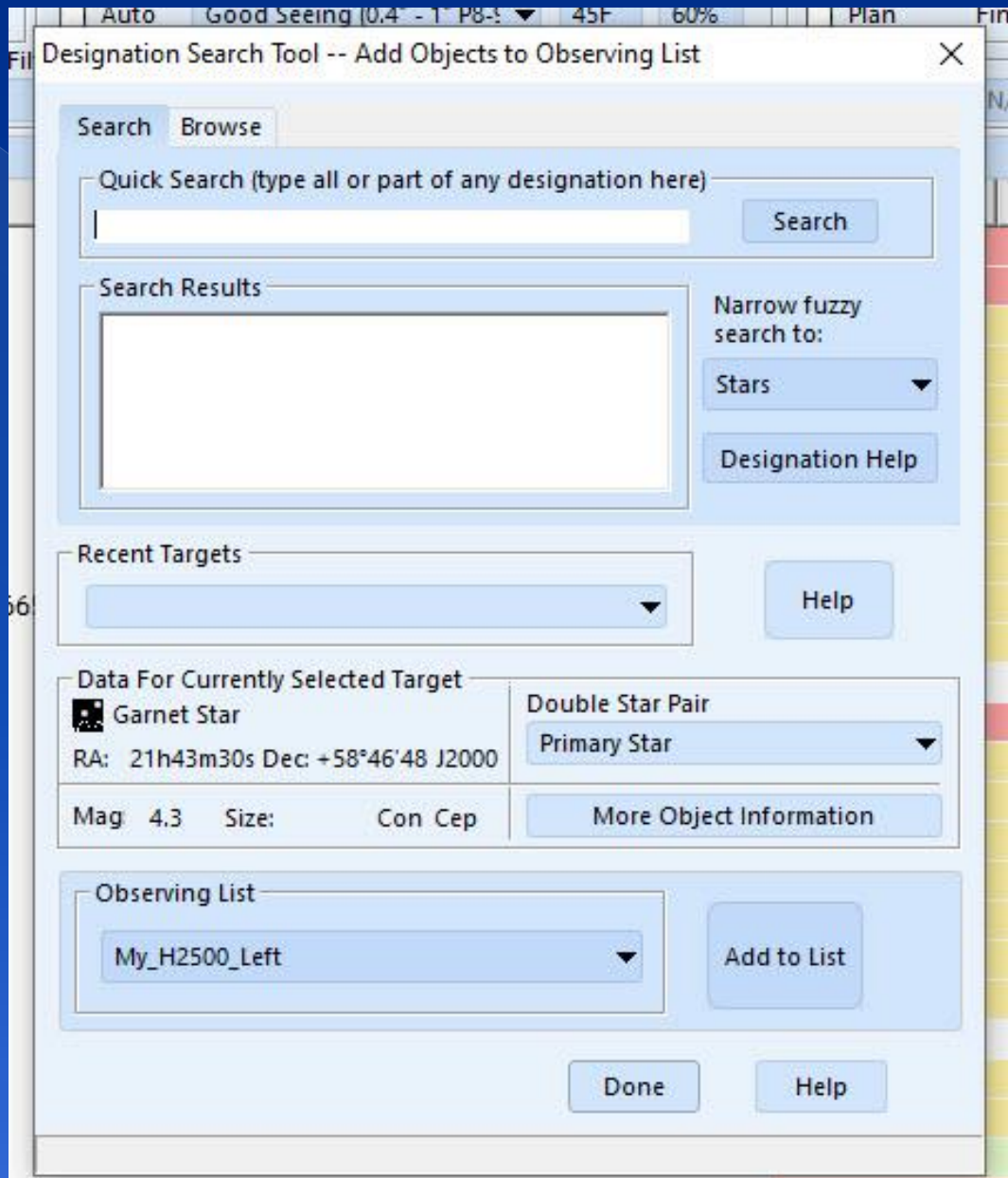
Generate Observing Plan: Plan Find/Slew 5 min View 5 min Attachments: My Attachments

Class Filter: All Classes Constellation Filter: All Log Filter: Any Quality, Difficulty and Double-Star Splitability Filters: Any quality Ignore Difficulty: N/A Ignore Splitability: From 12:00 to 11:59

List Functions	Default columns	Add Objects	Get Observing Lists	Share/Export List	Begin	Best	End	Difficulty	Best Difficulty	Ideal Eyepiece	Attachm
☆☆☆☆	IC 4051	Com	13h01m56.1s +27°53'46"	14.2 1.2' x 0.8'	22:10	22:46	01:20	challenging	difficult	Stratus 13mm	
☆☆☆☆	NGC 4139	Vir	12h05m39.1s +01°41'02"	14.9 1.2' x 0.5'	22:20	22:26	22:50	undetectable	challenging	Stratus 13mm	
☆☆☆☆	NGC 4145	CVn	12h11m05.8s +39°46'11"	11.8 4.7' x 2.1'	22:00	22:39	01:30	difficult	apparent	Stratus 13mm	
☆☆☆☆	NGC 4156	CVn	12h11m54.1s +39°21'28"	14.0 1.1' x 1.0'	22:05	22:39	01:15	challenging	apparent	Stratus 13mm	
☆☆☆☆	NGC 4218	CVn	12h16m49.6s +48°01'04"	13.7 57" x 37"	21:55	22:39	02:20	apparent	apparent	Stratus 13mm	
☆☆☆☆	NGC 4240 (NGC 4243)	Vir	12h18m29.9s -10°04'12"	14.3 1.5' x 1.3'	22:05	22:22	23:00	undetectable	challenging	Stratus 13mm	
☆☆☆☆	NGC 4307	Vir	12h23m10.4s +08°55'38"	12.8 3.5' x 0.8'	22:00	22:32	00:20	challenging	difficult	Stratus 13mm	
☆☆☆☆	NGC 4323 (NGC 4322)	Com	12h24m06.2s +15°47'23"	15.0 1.2' x 0.7'	22:15	22:38	00:00	undetectable	very challenging	Stratus 13mm	
☆☆☆☆	NGC 4357	CVn	12h25m01.0s +48°39'59"	13.5 3.5' x 1.3'	22:30	22:47	23:25	very challenging	challenging	Stratus 13mm	
☆☆☆☆	NGC 4389	CVn	12h26m36.9s +45°34'19"	12.5 2.5' x 1.7'	22:00	22:41	02:10	difficult	apparent	Stratus 13mm	
☆☆☆☆	NGC 4392	CVn	12h26m21.2s +45°44'03"	14.3 1.6' x 1.1'	22:25	22:46	23:55	very challenging	challenging	Stratus 13mm	
☆☆☆☆	NGC 4460	CVn	12h29m47.5s +44°45'04"	12.4 3.9' x 1.0'	22:00	22:42	02:05	difficult	apparent	Stratus 13mm	
☆☆☆☆	NGC 4541	Vir	12h36m16.1s -00°20'17"	13.9 1.6' x 0.6'	22:00	22:28	23:55	very challenging	difficult	Stratus 13mm	
☆☆☆☆	NGC 4599	Vir	12h41m32.3s +01°04'51"	13.8 1.7' x 0.7'	22:00	22:29	00:05	very challenging	difficult	Stratus 13mm	
☆☆☆☆	NGC 4600	Vir	12h41m28.0s +03°00'07"	13.5 1.4' x 1.0'	22:10	22:30	23:35	challenging	apparent	Stratus 13mm	
☆☆☆☆	NGC 4625	CVn	12h42m53.8s +41°09'41"	13.0 1.4' x 1.1'	21:55	22:41	02:25	apparent	apparent	Stratus 13mm	
☆☆☆☆	NGC 4630	Vir	12h43m36.1s +03°50'40"	13.2 1.7' x 1.2'	22:05	22:30	23:45	challenging	apparent	Stratus 13mm	
☆☆☆☆	NGC 4632	Vir	12h43m37.6s -00°11'54"	12.2 2.6' x 1.0'	21:55	22:26	00:10	apparent	apparent	Stratus 13mm	
☆☆☆☆	NGC 4642	Vir	12h44m23.3s -00°45'35"	13.7 1.5' x 0.5'	22:10	22:28	23:10	challenging	difficult	Stratus 13mm	
☆☆☆☆	NGC 4653	Vir	12h44m56.3s -00°40'38"	12.8 2.3' x 2.0'	22:15	22:28	23:10	challenging	difficult	Stratus 13mm	
☆☆☆☆	NGC 4655	CVn	12h44m37.4s +40°54'22"	14.9 51" x 46"	22:15	22:48	01:20	very challenging	difficult	Stratus 13mm	
☆☆☆☆	NGC 4664 (NGC 4665)	Vir	12h46m11.0s +02°56'23"	11.5 4.6'	22:10	22:30	23:35	challenging	apparent	Stratus 13mm	
☆☆☆☆	NGC 4668	Vir	12h46m37.4s -00°39'03"	13.5 1.6' x 0.9'	22:10	22:28	23:25	challenging	apparent	Stratus 13mm	
☆☆☆☆	NGC 4688	Vir	12h48m51.4s +04°13'15"	13.5 3.7' x 3.4'	-	-	-	undetectable	very challenging	Stratus 13mm	
☆☆☆☆	NGC 4690	Vir	12h49m01.1s -01°46'17"	13.8 1.6' x 1.1'	22:00	22:29	00:00	very challenging	difficult	Stratus 13mm	
☆☆☆☆	NGC 4701	Vir	12h50m16.4s +03°16'24"	12.8 1.7' x 1.3'	22:00	22:29	00:15	difficult	apparent	Stratus 13mm	
☆☆☆☆	NGC 4704	CVn	12h49m46.7s +41°48'35"	14.5 1.0' x 0.9'	22:10	22:48	01:45	challenging	difficult	Stratus 13mm	
☆☆☆☆	NGC 4707	CVn	12h49m21.3s +51°03'17"	13.4 2.2' x 2.0'	22:10	22:51	02:05	challenging	difficult	Stratus 13mm	
☆☆☆☆	NGC 4713	Vir	12h51m02.7s +05°11'48"	12.2 1.7' x 1.5'	21:50	22:28	00:50	apparent	apparent	Stratus 13mm	
☆☆☆☆	NGC 4741	CVn	12h51m58.4s +47°33'38"	14.3 1.2' x 0.8'	22:05	22:49	02:10	challenging	difficult	Stratus 13mm	
☆☆☆☆	NGC 4747	Com	12h52m48.2s +25°39'48"	13.0 2.1' x 1.0'	22:00	22:40	01:30	difficult	apparent	Stratus 13mm	
☆☆☆☆	NGC 4765	Vir	12h54m19.4s +04°20'56"	13.4 1.1' x 0.8'	22:00	22:30	00:30	difficult	apparent	Stratus 13mm	
☆☆☆☆	NGC 4767	Cen	12h55m03.8s -39°49'57"	12.5 2.8' x 1.4'	-	-	-	undetectable	very challenging	Stratus 13mm	
☆☆☆☆	NGC 4771	Vir	12h54m26.5s +01°09'16"	12.9 3.1' x 1.0'	22:10	22:30	23:25	challenging	difficult	Stratus 13mm	
☆☆☆☆	NGC 4772	Vir	12h54m34.3s +02°03'14"	12.0 4.1' x 2.0'	22:05	22:30	23:55	challenging	apparent	Stratus 13mm	

210 objects out of 210 meet criteria





Observing List Usage

ST SkyTools 4 Visual Standard Edition
— □ ×

Setup Tools Data Help
SkyTools 4 Visual

Nightly Planner Ephemerides Event Finder

Evening of 2021 Jun 17 MDT
Deer Trail DSS
DAS 17.5° 744
Mike Hotka
Help

Observing List
Weather
Generate Observing Plan
Attachments

My_H2500_Left
 Auto
Good Seeing (0.4" - 1" P8-S)
45F
60%
 Plan
Find/Slew 5 min
View 5 min
My Attachments

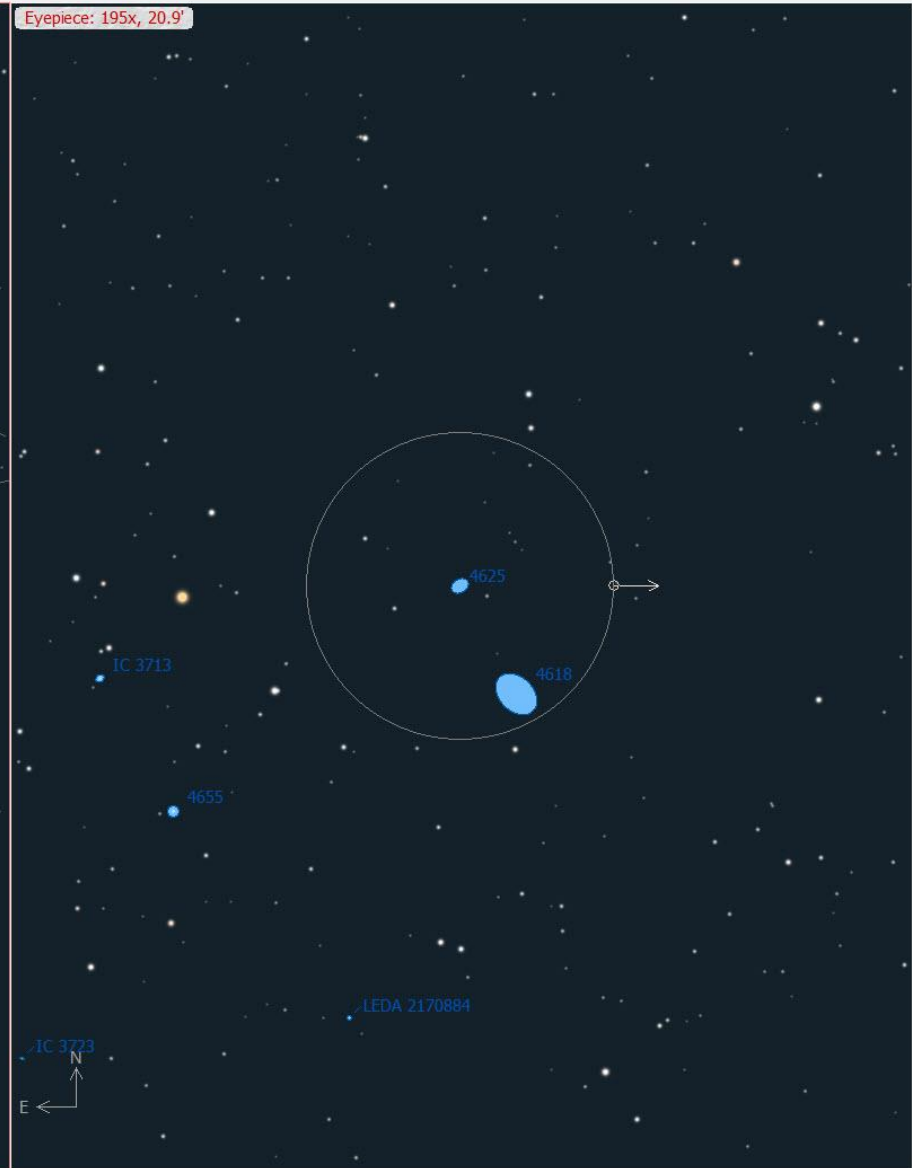
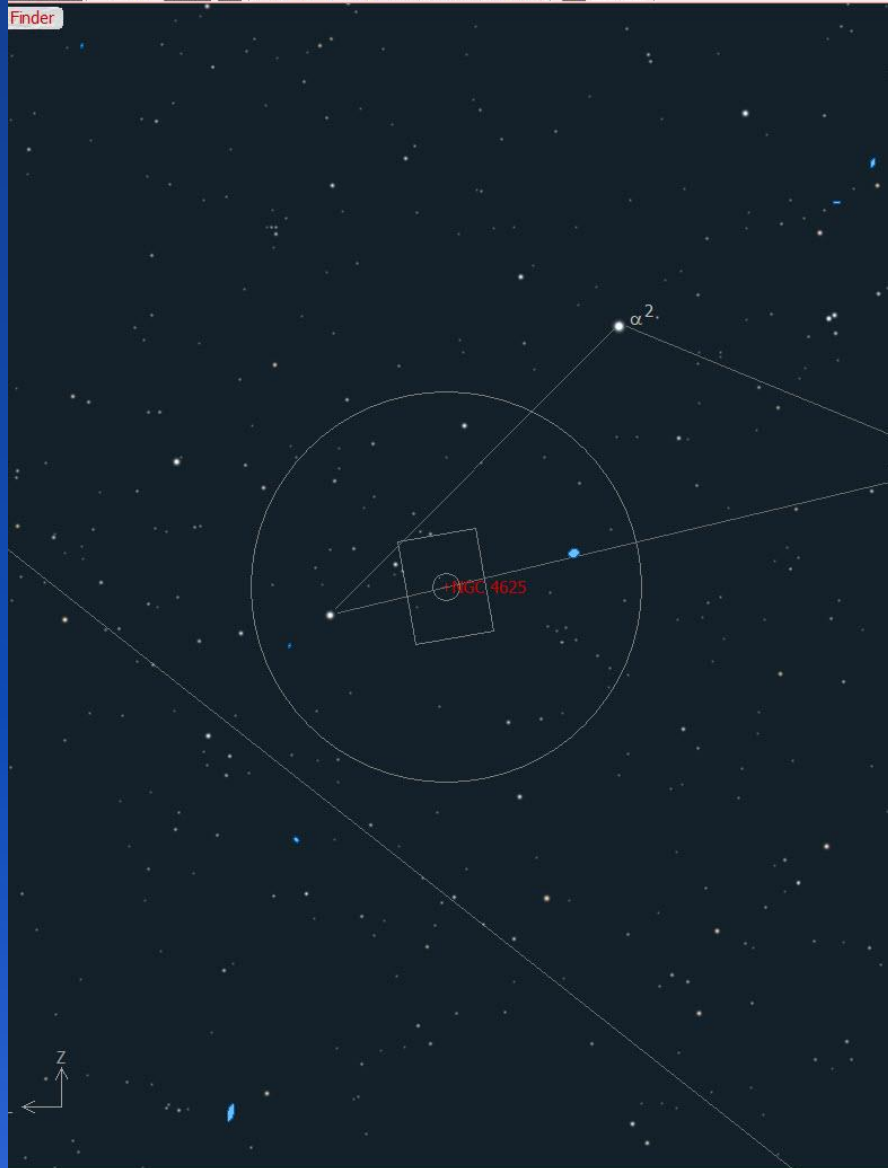
Class Filter
Constellation Filter
Log Filter
Quality, Difficulty and Double-Star Splitability Filters

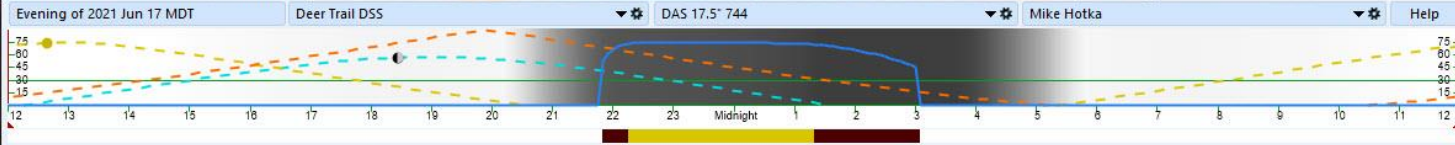
All Classes
All
Any
Any quality
Ignore Difficulty
N/A
Ignore Splitability
From 12:00 to 11:59

List Functions
Default columns
Add Objects
Get Observing Lists
Share/Export List

Primary ID	Con	RA (Ap)	Dec (Ap)	Mag	Ang. Size	Begin	Best	End	Difficulty	Best Difficulty	Ideal Eyepiece	Attachm
IC 4051	Com	13h01m56.1s	+27°53'46"	14.2	1.2' x 0.8'	22:10	22:46	01:20	challenging	difficult	Stratus 13mm	
NGC 4139	Vir	12h05m39.1s	+01°41'02"	14.9	1.2' x 0.5'	22:20	22:26	22:50	undetectable	challenging	Stratus 13mm	
NGC 4145	CVn	12h11m05.8s	+39°46'11"	11.8	4.7' x 2.1'	22:00	22:39	01:30	difficult	apparent	Stratus 13mm	
NGC 4156	CVn	12h11m54.1s	+39°21'28"	14.0	1.1' x 1.0'	22:05	22:39	01:15	challenging	apparent	Stratus 13mm	
NGC 4218	CVn	12h16m49.6s	+48°01'04"	13.7	57" x 37"	21:55	22:39	02:20	apparent	apparent	Stratus 13mm	
NGC 4240 (NGC 4243)	Vir	12h18m29.9s	-10°04'12"	14.3	1.5' x 1.3'	22:05	22:22	23:00	undetectable	challenging	Stratus 13mm	
NGC 4307	Vir	12h23m10.4s	+08°55'38"	12.8	3.5' x 0.8'	22:00	22:32	00:20	challenging	difficult	Stratus 13mm	
NGC 4323 (NGC 4322)	Com	12h24m06.2s	+15°47'23"	15.0	1.2' x 0.7'	22:15	22:38	00:00	undetectable	very challenging	Stratus 13mm	
NGC 4357	CVn	12h25m01.0s	+48°39'59"	13.5	3.5' x 1.3'	22:30	22:47	23:25	very challenging	challenging	Stratus 13mm	
NGC 4389	CVn	12h26m36.9s	+45°34'19"	12.5	2.5' x 1.7'	22:00	22:41	02:10	difficult	apparent	Stratus 13mm	
NGC 4392	CVn	12h26m21.2s	+45°44'03"	14.3	1.6' x 1.1'	22:25	22:46	23:55	very challenging	challenging	Stratus 13mm	
NGC 4460	CVn	12h29m47.5s	+44°45'04"	12.4	3.9' x 1.0'	22:00	22:42	02:05	difficult	apparent	Stratus 13mm	
NGC 4541	Vir	12h36m16.1s	-00°20'17"	13.9	1.6' x 0.6'	22:00	22:28	23:55	very challenging	difficult	Stratus 13mm	
NGC 4599	Vir	12h41m32.3s	+01°04'51"	13.8	1.7' x 0.7'	22:00	22:29	00:05	very challenging	difficult	Stratus 13mm	
NGC 4600	Vir	12h41m28.0s	+03°00'07"	13.5	1.4' x 1.0'	22:10	22:30	23:35	challenging	apparent	Stratus 13mm	
NGC 4625	CVn	12h42m53.8s	+41°09'41"	13.0	1.4' x 1.1'	21:55	22:41	02:25	apparent	apparent	Stratus 13mm	
NGC 4630	Vir	12h43m36.1s	+03°50'40"	13.2	1.7' x 1.2'	22:05	22:30	23:45	challenging	apparent	Stratus 13mm	
NGC 4632	Vir	12h43m37.6s	-00°11'54"	12.2	2.6' x 1.0'	21:55	22:26	00:10	apparent	apparent	Stratus 13mm	
NGC 4642	Vir	12h44m23.3s	-00°45'35"	13.7	1.5' x 0.5'	22:10	22:28	23:10	challenging	difficult	Stratus 13mm	
NGC 4653	Vir	12h44m56.3s	-00°40'38"	12.8	2.3' x 2.0'	22:15	22:28	23:10	challenging	difficult	Stratus 13mm	
NGC 4655	CVn	12h44m37.4s	+40°54'22"	14.9	51" x 46"	22:15	22:48	01:20	very challenging	difficult	Stratus 13mm	
NGC 4664 (NGC 4665)	Vir	12h46m11.0s	+02°56'23"	11.5	4.6'	22:10	22:30	23:35	challenging	apparent	Stratus 13mm	
NGC 4668	Vir	12h46m37.4s	-00°39'03"	13.5	1.6' x 0.9'	22:10	22:28	23:25	challenging	apparent	Stratus 13mm	
NGC 4688	Vir	12h48m51.4s	+04°13'15"	13.5	3.7' x 3.4'	-	-	-	undetectable	very challenging	Stratus 13mm	
NGC 4690	Vir	12h49m01.1s	-01°46'17"	13.8	1.6' x 1.1'	22:00	22:29	00:00	very challenging	difficult	Stratus 13mm	
NGC 4701	Vir	12h50m16.4s	+03°16'24"	12.8	1.7' x 1.3'	22:00	22:29	00:15	difficult	apparent	Stratus 13mm	
NGC 4704	CVn	12h49m46.7s	+41°48'35"	14.5	1.0' x 0.9'	22:10	22:48	01:45	challenging	difficult	Stratus 13mm	
NGC 4707	CVn	12h49m21.3s	+51°03'17"	13.4	2.2' x 2.0'	22:10	22:51	02:05	challenging	difficult	Stratus 13mm	
NGC 4713	Vir	12h51m02.7s	+05°11'48"	12.2	1.7' x 1.5'	21:50	22:28	00:50	apparent	apparent	Stratus 13mm	
NGC 4741	CVn	12h51m58.4s	+47°33'38"	14.3	1.2' x 0.8'	22:05	22:49	02:10	challenging	difficult	Stratus 13mm	
NGC 4747	Com	12h52m48.2s	+25°39'48"	13.0	2.1' x 1.0'	22:00	22:40	01:30	difficult	apparent	Stratus 13mm	
NGC 4765	Vir	12h54m19.4s	+04°20'56"	13.4	1.1' x 0.8'	22:00	22:30	00:30	difficult	apparent	Stratus 13mm	
NGC 4767	Cen	12h55m03.8s	-39°49'57"	12.5	2.8' x 1.4'	-	-	-	undetectable	very challenging	Stratus 13mm	
NGC 4771	Vir	12h54m26.5s	+01°09'16"	12.9	3.1' x 1.0'	22:10	22:30	23:25	challenging	difficult	Stratus 13mm	
NGC 4772	Vir	12h54m34.3s	+02°03'14"	12.0	4.1' x 2.0'	22:05	22:30	23:55	challenging	apparent	Stratus 13mm	

210 objects out of 210 meet criteria





Observing List: My_H2500_Left

Weather: Auto Good Seeing (0.4" - 1" P_{0.5}) 45F 60%

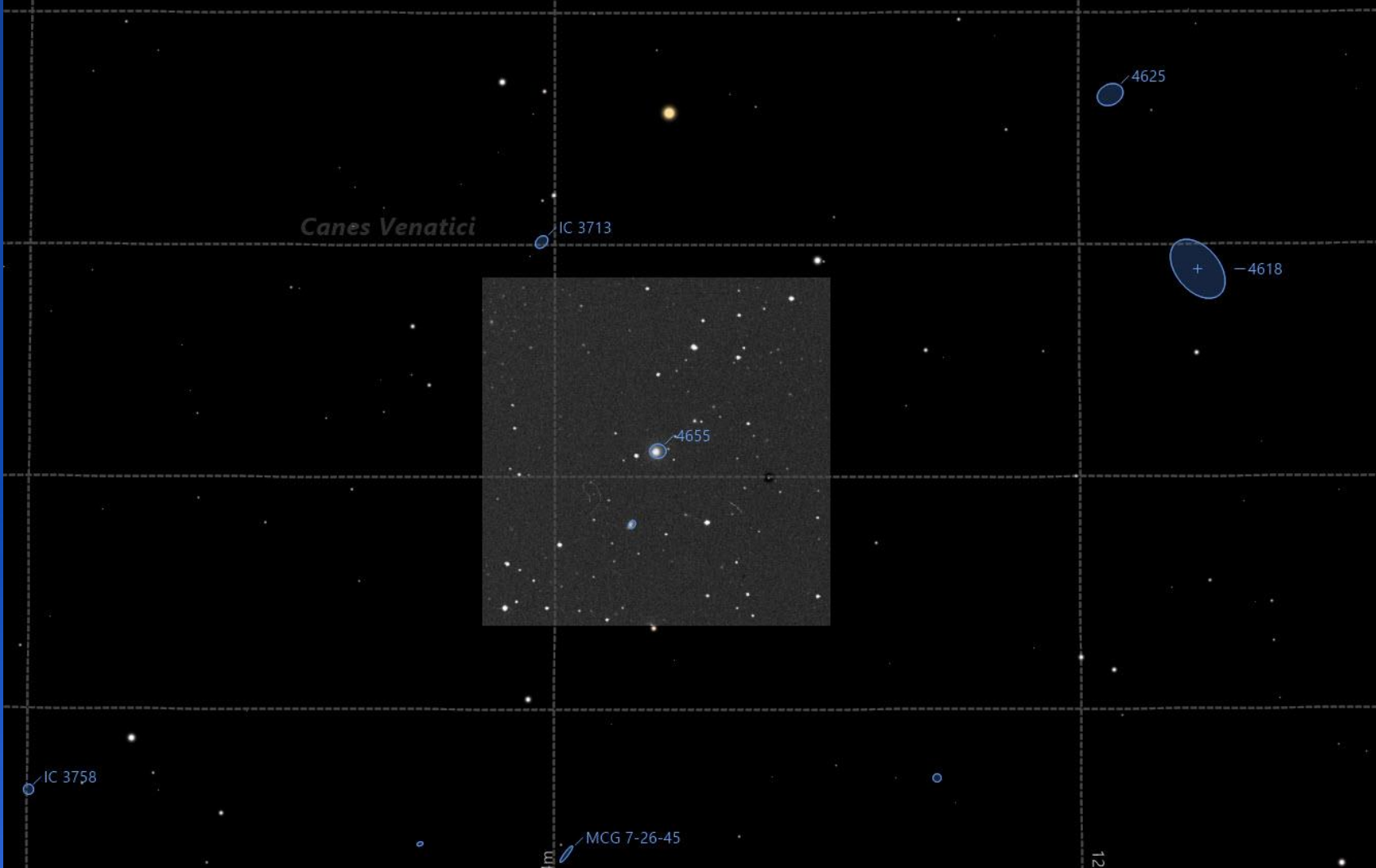
Generate Observing Plan: Plan Find/Slew 5 min View 5 min

Attachments: My Attachments

Class Filter: All Classes Constellation Filter: All Log Filter: Any

Quality, Difficulty and Double-Star Splitability Filters: Any quality Ignore Difficulty: N/A Ignore Splitability: From 12:00 to 11:59

Primary ID	Con	RA (Ap)	Dec (Ap)	Mag	Ang. Size	Begin	Best	End	Difficulty	Best Difficulty	Ideal Eyepiece	Attachm
IC 4051	Com	13h01m56.1s	+27°53'46"	14.2	1.2' x 0.8'	22:10	22:46	01:20	challenging	difficult	Stratus 13mm	
NGC 4139	Vir	12h05m39.1s	+01°41'02"	14.9	1.2' x 0.5'	22:20	22:26	22:50	undetectable	challenging	Stratus 13mm	
NGC 4145	CVn	12h11m05.8s	+39°46'11"	11.8	4.7' x 2.1'	22:00	22:39	01:30	difficult	apparent	Stratus 13mm	
NGC 4156	CVn	12h11m54.1s	+39°21'28"	14.0	1.1' x 1.0'	22:05	22:39	01:15	challenging	apparent	Stratus 13mm	
NGC 4218	CVn	12h16m49.6s	+48°01'04"	13.7	57" x 37"	21:55	22:39	02:20	apparent	apparent	Stratus 13mm	
NGC 4240 (NGC 4243)	Vir	12h18m29.9s	-10°04'12"	14.3	1.5' x 1.3'	22:05	22:22	23:00	undetectable	challenging	Stratus 13mm	
NGC 4307	Vir	12h23m10.4s	+08°55'38"	12.8	3.5' x 0.8'	22:00	22:32	00:20	challenging	difficult	Stratus 13mm	
NGC 4323 (NGC 4322)	Com	12h24m06.2s	+15°47'23"	15.0	1.2' x 0.7'	22:15	22:38	00:00	undetectable	very challenging	Stratus 13mm	
NGC 4357	CVn	12h25m01.0s	+48°39'59"	13.5	3.5' x 1.3'	22:30	22:47	23:25	very challenging	challenging	Stratus 13mm	
NGC 4389	CVn	12h26m36.9s	+45°34'19"	12.5	2.5' x 1.7'	22:00	22:41	02:10	difficult	apparent	Stratus 13mm	
NGC 4392	CVn	12h26m21.2s	+45°44'03"	14.3	1.6' x 1.1'	22:25	22:46	23:55	very challenging	challenging	Stratus 13mm	
NGC 4460	CVn	12h29m47.5s	+44°45'04"	12.4	3.9' x 1.0'	22:00	22:42	02:05	difficult	apparent	Stratus 13mm	
NGC 4541	Vir	12h36m16.1s	-00°20'17"	13.9	1.6' x 0.6'	22:00	22:28	23:55	very challenging	difficult	Stratus 13mm	
NGC 4599	Vir	12h41m32.3s	+01°04'51"	13.8	1.7' x 0.7'	22:00	22:29	00:05	very challenging	difficult	Stratus 13mm	
NGC 4600	Vir	12h41m28.0s	+03°00'07"	13.5	1.4' x 1.0'	22:10	22:30	23:35	challenging	apparent	Stratus 13mm	
NGC 4625	CVn	12h42m53.8s	+41°09'41"	13.0	1.4' x 1.1'	21:55	22:41	02:25	apparent	apparent	Stratus 13mm	
NGC 4630	Vir	12h43m36.1s	+03°50'40"	13.2	1.7' x 1.2'	22:05	22:30	23:45	challenging	apparent	Stratus 13mm	
NGC 4632	Vir	12h43m37.6s	-00°11'54"	12.2	2.6' x 1.0'	21:55	22:26	00:10	apparent	apparent	Stratus 13mm	
NGC 4642	Vir	12h44m23.3s	-00°45'35"	13.7	1.5' x 0.5'	22:10	22:28	23:10	challenging	difficult	Stratus 13mm	
NGC 4653	Vir	12h44m56.3s	-00°40'38"	12.8	2.3' x 2.0'	22:15	22:28	23:10	challenging	difficult	Stratus 13mm	
NGC 4655	CVn	12h44m37.4s	+40°54'22"	14.9	51" x 46"	22:15	22:48	01:20	very challenging	difficult	Stratus 13mm	
NGC 4664 (NGC 4665)	Vir	12h46m11.0s	+02°56'23"	11.5	4.6'	22:10	22:30	23:35	challenging	apparent	Stratus 13mm	
NGC 4668	Vir	12h46m37.4s	-00°39'03"	13.5	1.6' x 0.9'	22:10	22:28	23:25	challenging	apparent	Stratus 13mm	
NGC 4688	Vir	12h48m51.4s	+04°13'15"	13.5	3.7' x 3.4'	-	-	-	undetectable	very challenging	Stratus 13mm	
NGC 4690	Vir	12h49m01.1s	-01°46'17"	13.8	1.6' x 1.1'	22:00	22:29	00:00	very challenging	difficult	Stratus 13mm	
NGC 4701	Vir	12h50m16.4s	+03°16'24"	12.8	1.7' x 1.3'	22:00	22:29	00:15	difficult	apparent	Stratus 13mm	
NGC 4704	CVn	12h49m46.7s	+41°48'35"	14.5	1.0' x 0.9'	22:10	22:48	01:45	challenging	difficult	Stratus 13mm	
NGC 4707	CVn	12h49m21.3s	+51°03'17"	13.4	2.2' x 2.0'	22:10	22:51	02:05	challenging	difficult	Stratus 13mm	
NGC 4713	Vir	12h51m02.7s	+05°11'48"	12.2	1.7' x 1.5'	21:50	22:28	00:50	apparent	apparent	Stratus 13mm	
NGC 4741	CVn	12h51m58.4s	+47°33'38"	14.3	1.2' x 0.8'	22:05	22:49	02:10	challenging	difficult	Stratus 13mm	
NGC 4747	Com	12h52m48.2s	+25°39'48"	13.0	2.1' x 1.0'	22:00	22:40	01:30	difficult	apparent	Stratus 13mm	
NGC 4765	Vir	12h54m19.4s	+04°20'56"	13.4	1.1' x 0.8'	22:00	22:30	00:30	difficult	apparent	Stratus 13mm	
NGC 4767	Cen	12h55m03.8s	-39°49'57"	12.5	2.8' x 1.4'	-	-	-	undetectable	very challenging	Stratus 13mm	
NGC 4771	Vir	12h54m26.5s	+01°09'16"	12.9	3.1' x 1.0'	22:10	22:30	23:25	challenging	difficult	Stratus 13mm	
NGC 4772	Vir	12h54m34.3s	+02°03'14"	12.0	4.1' x 2.0'	22:05	22:30	23:55	challenging	apparent	Stratus 13mm	



Canes Venatici

IC 3713

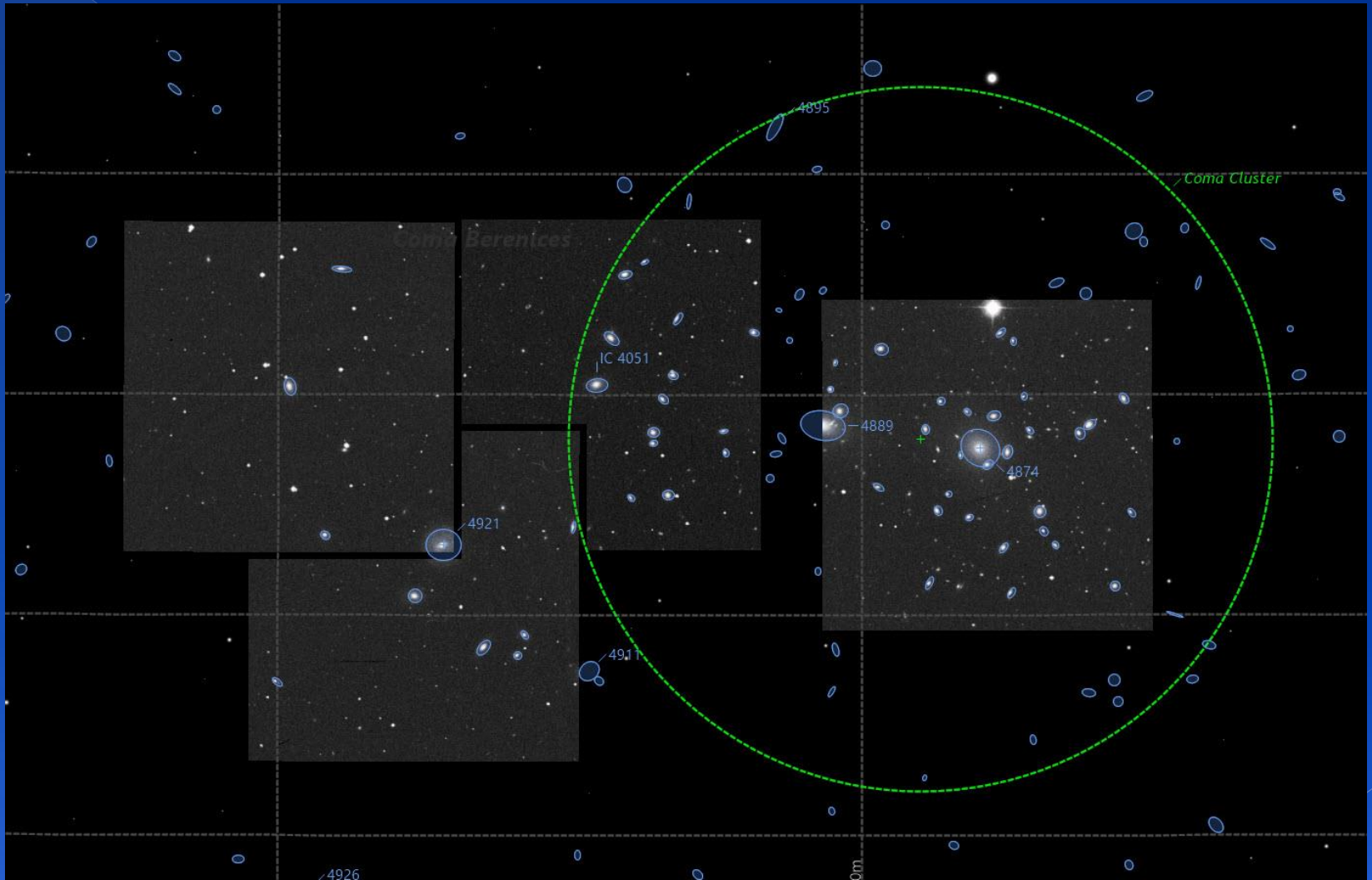
4625

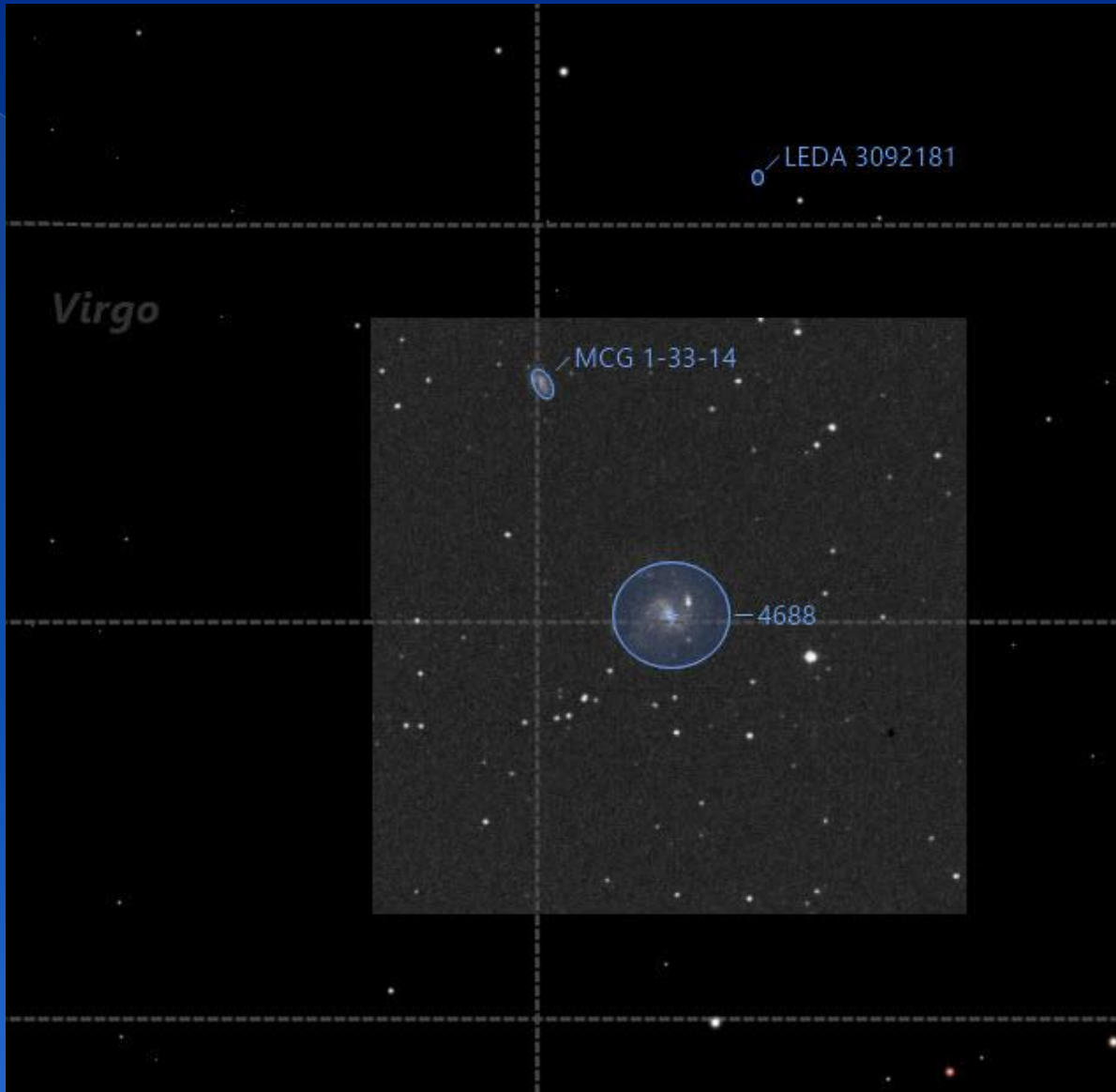
+ 4618

4655

IC 3758

MCG 7-26-45





Overnight List of Items to Pack

12.5" Base/Poles/Upper Cage/ Finder Platform	Alieve	Winter Boots	Chart Box(es)
Little Giant ladder	Tums	Wool Socks	Night Sky Guides
Black 12.5" Equipment Case	Bug Spray	Ski Pants	Double Star Charts
8" Scope/Base	Hand Sanitizer	Long Johns	2 Seasonal Notebooks
Telrad for 8" Scope	Sun Screen	Thermal Wools	Pgm Notebook(s)
Sky Commander/Pedestal/Alt Arm	Water	Sweat Shirt	Spiral Notes Book
Weights (2 small clamps)	Snacks	Gloves	Double Star List
Rock Weights	Dinner	Ski Hat	Pencils
Table	Sleeping Bags/Foam	Ear Muff Hat	Blue Tape
Chair	My Pillow	Neck Gator	Duct Tape
8x50 Binoculars	Camera/Tripod	Jacket	Needle Nose Pliers
3 Eyepiece Cases	4 - AA Batteries	Winter Coat	Leveling Blocks
20x80 Binoculars/Mount/Weights	1 - 9V Battery	Coveralls	Toilet Set/Enclosure
Multi-Band Radio		Eye Shade	Table Top Dew Guard
Scope Cover	Hat	Ear Plugs	Back Brace
Ground Tarp	Shovel	Noise Maker	
12V Deep Cycle Battery	Toilet Paper		
Extension Cord/3 way connector	Paper Towels		
DC/AC Power Converter	Fly Swatter		
Window Net/Magnets	Electric Fan		
Phone Red Screen	Electric Heater		
Phone Charger	Window Net/Magnets		
PC/Red Screen/Box			

Week/Weekend List of Items to Pack

12.5" Base/Poles/Upper Cage/ Finder Platform	Alieve	Winter Boots	Chart Box(es)
Little Giant ladder	Tums	Wool Socks	Night Sky Guides
Black 12.5" Equipment Case	Bug Spray	Ski Pants	Double Star Charts
8" Scope/Base	Hand Sanitizer	Long Johns	2 Seasonal Notebooks
Telrad for 8" Scope	Sun Screen	Thermal Wools	Pgm Notebook(s)
Sky Commander/Pedestal/Alt Arm	Water	Sweat Shirt	Spiral Notes Book
Weights (2 small clamps)	Snacks	Fingerless Gloves	Double Star List
Rock Weights	Dinner	Black Gloves	Pencils
Table	Sleeping Bags/Foam	Ski Hat	Noise Maker
Chair	My Pillow	Ear Muff Hat	Electric Fan
8x50 Binoculars	Camera/Tripod	Neck Gator	Electric Heater
3 Eyepiece Cases	4 - AA Batteries	Jacket	DC Fan
20x80 Binoculars/Mount/Weights	1 - 9V Battery	Winter Coat	Blue Tape
Multi-Band Radio		Coveralls	Duct Tape
Scope Cover	Hat	Eye Shade	Needle Nose Pliers
Ground Tarp	Shovel	Ear Plugs	Leveling Blocks
12V Deep Cycle Battery	Toilet Paper	Cups/Bowls/Plates	Toilet Set/Enclosure
Solar Charger	Paper Towels	Spoon/Fork/Knife	Table Top Dew Guard
Phone Red Screen	Fly Swatter	Tooth brush/paste	Back Brace
PC/Red Screen/Box	Cot	Towel/Wash Cloth	Aluminum Tarp Poles
Power Cord/3 way connector	Camp Stove	Soap/Shampoo	Hammer, stakes, rope
Rheostat Cord	Propane	Shaver	Wire ties/Nippers
Phone Charger	Matches	Food	Spring Clamps
Red Lamp Pedestal Arm	Dish Soap	Coffee/Cup	
DC/AC Converter	Window Net/Magnets	Flavored Drinks	



3/28/14


6:50P Clear. Breez breeze from NE. Put Blue Locktite on Threads of AZ Bolt of #749 (#737 doesn't have locktite). Will see how that work. Preliminary tests this afternoon didn't see missed counts. Blue tape down threads just didn't do it. Slipped Right after setup.

Sunset 7:54P. 61° Still breezy from NE. Clouds/fog low along western horizon.

9:05 SE workings M4Z ^{easy to see} ~~live~~ ^{stars} seen in topaz.

G205 ST005 9:10 Cool. Thick filaments in a loop. w/03. on Bottom.

on top is a much dimmer

 ~~top~~ are that thicken of top. 2 FOV of 17mm

with a 3 FOV tall

N2532 9:37 A small round dim glow. can see mottling of glow, maybe ² core areas. in center of glow is tiny hb core

N2649 9:42 A small round very dim v.l. glow has brighter FS on upper ~~part~~ part of halo glow

N2604 9:46 A very faint fat oval v.l. glow

N2577 9:49 A ^{very} small, tilted oval. dim. has larger brighter core. Then above = 2. Left = near = under a Bright FS is this smaller roundish v.l. ^{very} faint glow

N224 9:54 A small, long thin ^{very dim} glow w/ large, lower one that is brightest a small bright one in center. low faint but easy to see w/AN


Transposing Notes

3/28/14

6:50P Clear. Brisk breeze from NE. Put Blue Locktite on Threads of AZ bolt of #749 (#737 doesn't have locktite). Will see how that works. Preliminary tests this afternoon didn't see missed counts. Blue tape down threads just didn't do it. Slipped Right after setup.

Sunset 7:54P. 61° SHR breeze from NE. Clouds/fog low along western horizon.

9:05 SC works! M42 awesome. 6 stars seen in trapezium. G205 stars A/D. Cool. Thick filaments in a loop. w/O3. on Bottom.

on top is a much dimmer  arc that thickens at top. 2 FOV of 17mm wide • 3 FOV tall.

N2532 9:37 A small round dim glow. can see mottling of glow, maybe 2 arms. in center of glow is tiny hb core.

N2649 9:42 A small round very dim v.b. glow has brighter FS on upper part of halo glow.

N2604 9:46 A very faint fat oval v.b. glow.

N2577 9:49 A ^{very} small, tilted oval. dim. has larger brighter core. Then above • 2 left • near • under • bright FS is this smaller roundish v.b. very faint glow.

N2724 9:54 A small, long thin ^{very dim} glow w/ large, linear core that is brightest • small bright core in center. core faint but easy to see w/AV.

Friday, March 28, 2014

Cady Alverado brought Blue Locktite to lock the AZ bolt to the ground board of scope #749 (#737 doesn't have Locktite for the threads grabbed by themselves and there is no AZ slippage). Preliminary tests showed this solved the slippage issue (didn't see missed counts) and I used the Sky Commander the rest of the night. The blue masking tape down the threads from the night before just didn't do it. It slipped right after the setup steps.

6:50 PM. Clear, Brisk breeze from NE. Sunset at 7:54 PM. 61 degrees. Smoke low along western horizon.

9:05 PM. Sky Commander works. M42 awesome. 6 stars seen in trapezium. Slewed between M41 and M42 twice and object in FOV both times.

G205.5+00.5 9:10 PM 17mm – Cool. This. Easy to see with O3. Thick filaments in a loop on bottom and arc that thickens at top. 2 FOV wide and 3 FOV tall.



NGC 2532 9:37 PM 17mm – A small, round, dim glow. Can see mottling of glow, maybe 2 CCW arms. In center of glow is a tiny, hare brighter core.

NGC 2649 9:42 PM 17mm – A small, round, very dim, uniformly lit glow. Has brighter field star on upper part of halo glow.

NGC 2604 9:46 PM 17mm – A very faint, fat oval, uniformly lit glow.

NGC 2577 UGC 4367 9:49 PM 17mm – A very small, tilted oval. Dim. Has larger, brighter core. Then above and to right and near and under a bright field star is this smaller, roundish, uniformly lit, very faint glow of U4367.

U4367

NGC 2764 9:54 PM 17mm – A small, long thin, very dim glow with larger, linear core that is brighter with small, bright core in center. Core faint but easy to see w/AV.

TSP Summary

I also did some satellite observing for the INOC AL program. I wanted to see more satellites but the early evening clouds prevented me from seeing many.

I finished and received the nice pins from John Waggoner for the regular and challenge binocular programs. I used my 20x80 binoculars for this. I also finished the Eye to the Sky Telescope program also.

I looked at some southern globulars but didn't get a real good look at them for the sky was very soft. The faint globulars just stood out above the sky glow. I will re-look at these in darker skies to see more detail.

Wednesday, May 4, 2005

Attended the Texas Star Party, 2005. Arrived Monday afternoon to clouds. Monday night thru Wednesday noon, misty clouds and drizzle was everywhere.

I set up in the lower field, where the car lights from the road was a bit annoying. The motel house was nearby though.

At sunset, light wind from north. A few puffy clouds drifting off to the east. 1" clear night at the TSP. After sunset, a high haze dominated the sky, but was able to do binocular observing lists through it.

Omega 10:21 PM 32mm. Nice tight bright core with large extended halo.
NGC 5139 19mm. Almost fills FOV with halo stars. Tons of member stars seen. Large, extended halo. Class 6.

NGC 5102 11:28 PM Small, dim cigar shaped galaxy with brighter nucleus.

Sky is soft. Seeing OK. Dew VERY heavy. Temp 45 degrees.

NGC 5460 12:31 AM Approx 10 stars makeup this loose, small OC. Approx 3 groups of stars in this OC. All these stars are of the same magnitude.

NGC 5286 1:15 AM Small, yet bright. Its to the lower left of a brighter field star. Small, bright tight core and dim halo around it. Member stars seen. More of a mottling texture though. Class 3.

IC 4406 1:24 AM Small, round uniformly lit glow. Sometimes see central star with AV, w/OIII filter, central star easily seen. Glow easier to see though.

NGC 5986 1:33 AM little larger than 5286 yet it's a small, round, fairly compact OC. Member stars easily seen. Most of what can be seen is uniformly lit nucleus with a hint of a halo around this. Class 2. There is a much brighter star at 4 o'clock at edge of halo that doesn't appear to belong.

The sky comes and goes from where its completely clear for about 45 minutes and then completely covered. It was like the sky was going through the dew point all night. It did this twice and by 2:00 AM, it was completely overcast for the rest of the night. By 3 AM, a misty fog was setting in on the observing area.

Update DAS Database

Summary | **Logbook Entry** | Images View | Notes View

Object ID: Catalog: Observation #:

Other ID: Other Desig:

Right Asc: Declination: Type: Constellation: Magnitude: Size: Log Type:

Session Name:

Start Date: End Date:

Date: Time:

Location:

Primary Equip:

Short Note:

Mag/Power:

Rating:

Time Recorded as:
 UT Local

Object found using:
 Star Hop GoTo or CA

Object was:
 Seen Not seen

Object viewed under:
 Urban (light polluted)

Equipment List:

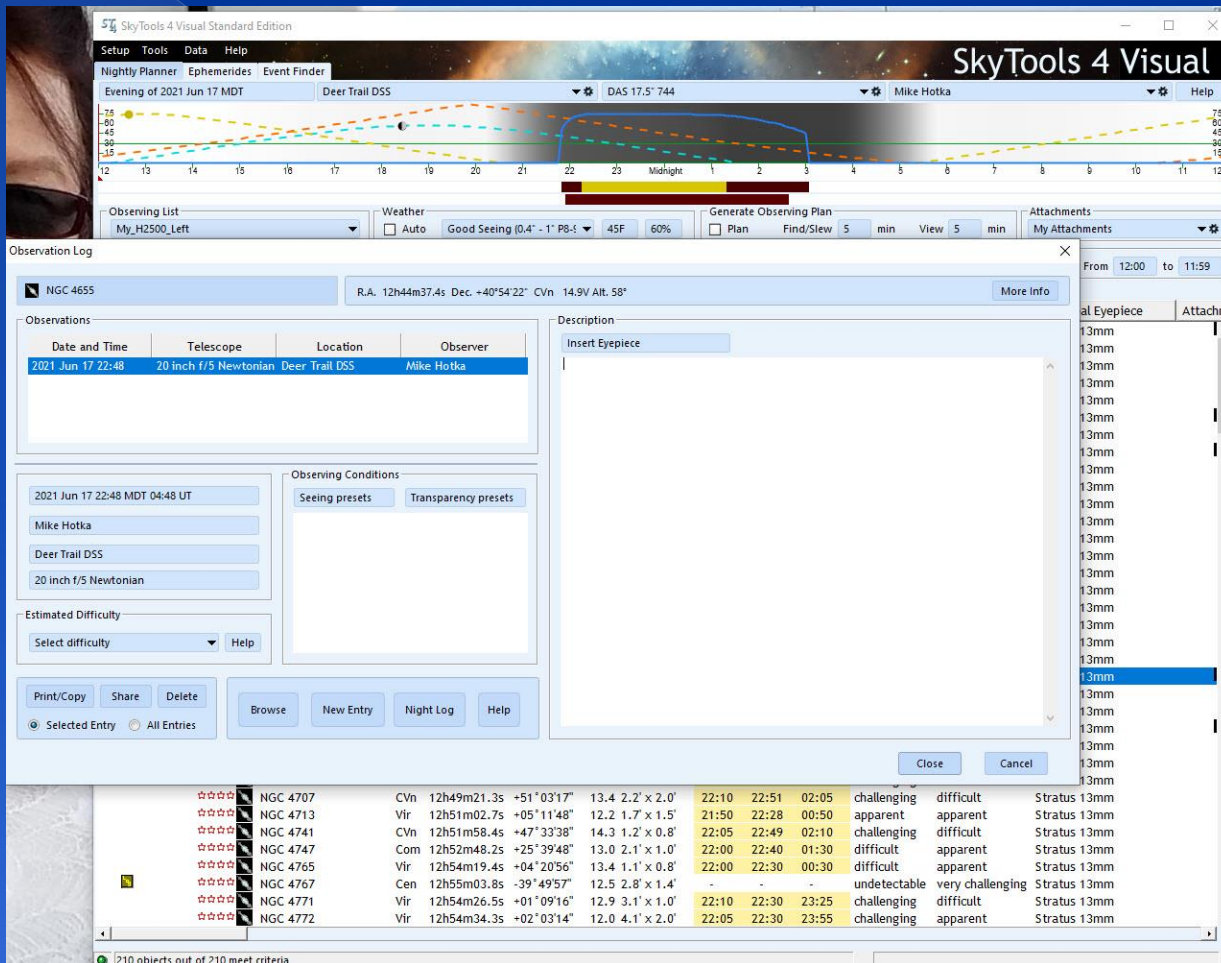
No Image Found

Transp: Seeing:

Additional Weather Info:

Observation Info | Detailed Notes | CCD Info | User Defined Fields

	pln	img	obs	ObjectID	Other ID	Type	R.A.
1	X	X	X	NGC 2988		Gx	09 46 47.8
2	X	X		IC 5370		Gx	00 00 09.1
3	X	X		NGC 3	UGC 58	Gx	00 07 18.0
4	X	X		NGC 68	UGC 170	Gx	00 18 18.0
5	X	X		NGC 80		Gx	00 21 11.0
6	X	X		NGC 329		Gx	00 58 01.4
7	X	X		NGC 383	Pisces Cloud, UGC 689, VV 193	Gx	01 07 24.0
8	X	X		NGC 439	ESO 412-18	Gx	01 13 48.0
9	X	X		NGC 507		Gx	01 23 39.9
10	X	X	X	NGC 1129	UGC 2373	Gx	02 54 30.0
11	X	X	X	NGC 1380	ESO 358-28	Gx	03 36 30.0
12	X	X	X	NGC 2289		Gx	06 50 53.5
13	X	X	X	NGC 2340	UGC 3720	Gx	07 11 12.0
14	X	X	X	NGC 2804	UGC 4901	Gx	09 16 48.0
15	X	X	X	NGC 2943	UGC 5136	Gx	09 38 30.0
16	X	X	X	NGC 3158	UGC 5511	Gx	10 13 48.0
17	X	X	X	NGC 3607	UGC 6297	Gx	11 16 54.0
18	X	X	X	NGC 3627	M66 - in the Leo Triplet	Gx	11 20 15.0
19	X	X	X	IC 696		Gx	11 28 39.9
20	X	X	X	NGC 3730	MCG-01-30-003	Gx	11 34 18.0
21	X	X	X	NGC 3801	UGC 6635	Gx	11 40 18.0
22	X	X	X	NGC 4005		Gx	11 58 10.2
23	X	X	X	NGC 4065		Gx	12 04 06.3
24	X	X	X	NGC 4303	M61	Gx	12 21 54.0



Import .txt file into SkyTools 4

SkyTools 4 Visual Standard Edition

Setup Tools Data Help

Nightly Planner Ephemerides Event Finder

Evening of 2021 Jun 17 MDT Deer Trail DSS DAS 17.5° 744 Mike Hotka Help

Observing List: My_H2500_Left

Weather: Good Seeing (0.4" - 1" P8-S) 45F 60%

Generate Observing Plan: Plan Find/Slew 5 min View 5 min

Attachments: My Attachments

Class Filter: All Classes

Constellation Filter: All

Log Filter: Any

Quality, Difficulty and Double-Star Splitability Filters: Any quality Ignore Difficulty N/A Ignore Splitability From 12:00 to 11:59

Primary ID	Con	RA (Ap)	Dec (Ap)	Mag	Ang. Size	Begin	Best	End	Difficulty	Best Difficulty	Ideal Eyepiece	Attachm
IC 4051	Com	13h01m56.1s	+27°53'46"	14.2	1.2" x 0.8"	22:10	22:46	01:20	challenging	difficult	Stratus 13mm	
NGC 4139	Vir	12h05m39.1s	+01°41'02"	14.9	1.2" x 0.5"	22:20	22:26	22:50	undetectable	challenging	Stratus 13mm	
NGC 4145	CVn	12h11m05.8s	+39°46'11"	11.8	4.7" x 2.1"	22:00	22:39	01:30	difficult	apparent	Stratus 13mm	
NGC 4156	CVn	12h11m54.1s	+39°21'28"	14.0	1.1" x 1.0"	22:05	22:39	01:15	challenging	apparent	Stratus 13mm	
NGC 4218	CVn	12h16m49.6s	+48°01'04"	13.7	57" x 37"	21:55	22:39	02:20	apparent	apparent	Stratus 13mm	
NGC 4240 (NGC 4243)	Vir	12h18m29.9s	-10°04'12"	14.3	1.5" x 1.3"	22:05	22:22	23:00	undetectable	challenging	Stratus 13mm	
NGC 4307	Vir	12h23m10.4s	+08°55'38"	12.8	3.5" x 0.8"	22:00	22:32	00:20	challenging	difficult	Stratus 13mm	
NGC 4323 (NGC 4322)	Com	12h24m06.2s	+15°47'23"	15.0	1.2" x 0.7"	22:15	22:38	00:00	undetectable	very challenging	Stratus 13mm	
NGC 4357	CVn	12h25m01.0s	+48°39'59"	13.5	3.5" x 1.3"	22:30	22:47	23:25	very challenging	challenging	Stratus 13mm	
NGC 4389	CVn	12h26m36.9s	+45°34'19"	12.5	2.5" x 1.7"	22:00	22:41	02:10	difficult	apparent	Stratus 13mm	
NGC 4392	CVn	12h26m21.2s	+45°44'03"	14.3	1.6" x 1.1"	22:25	22:46	23:55	very challenging	challenging	Stratus 13mm	
NGC 4460	CVn	12h29m47.5s	+44°45'04"	12.4	3.9" x 1.0"	22:00	22:42	02:05	difficult	apparent	Stratus 13mm	
NGC 4541	Vir	12h36m16.1s	-00°20'17"	13.9	1.6" x 0.6"	22:00	22:28	23:55	very challenging	difficult	Stratus 13mm	
NGC 4599	Vir	12h41m32.3s	+01°04'51"	13.8	1.7" x 0.7"	22:00	22:29	00:05	very challenging	difficult	Stratus 13mm	
NGC 4600	Vir	12h41m28.0s	+03°00'07"	13.5	1.4" x 1.0"	22:10	22:30	23:35	challenging	apparent	Stratus 13mm	
NGC 4625	CVn	12h42m53.8s	+41°09'41"	13.0	1.4" x 1.1"	21:55	22:41	02:25	apparent	apparent	Stratus 13mm	
NGC 4630	Vir	12h43m36.1s	+03°50'40"	13.2	1.7" x 1.2"	22:05	22:30	23:45	challenging	apparent	Stratus 13mm	
NGC 4632	Vir	12h43m37.6s	-00°11'54"	12.2	2.6" x 1.0"	21:55	22:26	00:10	apparent	apparent	Stratus 13mm	
NGC 4642	Vir	12h44m23.3s	-00°45'35"	13.7	1.5" x 0.5"	22:10	22:28	23:10	challenging	difficult	Stratus 13mm	
NGC 4653	Vir	12h44m56.3s	-00°40'38"	12.8	2.3" x 2.0"	22:15	22:28	23:10	challenging	difficult	Stratus 13mm	
NGC 4655	CVn	12h44m37.4s	+40°54'22"	14.9	51" x 46"	22:15	22:48	01:20	very challenging	difficult	Stratus 13mm	
NGC 4664 (NGC 4665)	Vir	12h46m11.0s	+02°56'23"	11.5	4.6"	22:10	22:30	23:35	challenging	apparent	Stratus 13mm	
NGC 4668	Vir	12h46m37.4s	-00°39'03"	13.5	1.6" x 0.9"	22:10	22:28	23:25	challenging	apparent	Stratus 13mm	
NGC 4688	Vir	12h48m51.4s	+04°13'15"	13.5	3.7" x 3.4"	-	-	-	undetectable	very challenging	Stratus 13mm	
NGC 4690	Vir	12h49m01.1s	-01°46'17"	13.8	1.6" x 1.1"	22:00	22:29	00:00	very challenging	difficult	Stratus 13mm	
NGC 4701	Vir	12h50m16.4s	+03°16'24"	12.8	1.7" x 1.3"	22:00	22:29	00:15	difficult	apparent	Stratus 13mm	
NGC 4704	CVn	12h49m46.7s	+41°48'35"	14.5	1.0" x 0.9"	22:10	22:48	01:45	challenging	difficult	Stratus 13mm	
NGC 4707	CVn	12h49m21.3s	+51°03'17"	13.4	2.2" x 2.0"	22:10	22:51	02:05	challenging	difficult	Stratus 13mm	
NGC 4713	Vir	12h51m02.7s	+05°11'48"	12.2	1.7" x 1.5"	21:50	22:28	00:50	apparent	apparent	Stratus 13mm	
NGC 4741	CVn	12h51m58.4s	+47°33'38"	14.3	1.2" x 0.8"	22:05	22:49	02:10	challenging	difficult	Stratus 13mm	
NGC 4747	Com	12h52m48.2s	+25°39'48"	13.0	2.1" x 1.0"	22:00	22:40	01:30	difficult	apparent	Stratus 13mm	
NGC 4765	Vir	12h54m19.4s	+04°20'56"	13.4	1.1" x 0.8"	22:00	22:30	00:30	difficult	apparent	Stratus 13mm	
NGC 4767	Cen	12h55m03.8s	-39°49'57"	12.5	2.8" x 1.4"	-	-	-	undetectable	very challenging	Stratus 13mm	
NGC 4771	Vir	12h54m26.5s	+01°09'16"	12.9	3.1" x 1.0"	22:10	22:30	23:25	challenging	difficult	Stratus 13mm	
NGC 4772	Vir	12h54m34.3s	+02°03'14"	12.0	4.1" x 2.0"	22:05	22:30	23:55	challenging	apparent	Stratus 13mm	

210 objects out of 210 meet criteria

AL Observing Programs

- ◉ Lots of Observing Programs to choose from
- ◉ <http://astroleague.org/observing.html>
 - > Click: Observing Programs (listed alphabetically)

Observing Programs and Awards (alphabetical)

<https://www.astroleague.org/content/youth-astronomer-observing-program>



Active Galactic Nuclei Observing Program



Advanced Binocular Double Star Observing Program



Advanced Observer Award

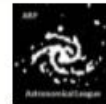
no pin AL Observing Challenge Certificates



Alternate Constellations Observing Program



Analemma Observing Program



Arp Peculiar Galaxies Northern Observing Program



Arp Peculiar Galaxies Southern Observing Program



Asterism Observing Program



Asteroid Observing Program

No pin Astronomy Before the Telescope Observing Certificate



Beyond Polaris Observing Program



Binocular Double Star Observing Program

Messier Observing Program

Messier Observing Program Coordinator:

Scott Kranz
106 N Darrowby Drive
Raymore, MO 64083-9181
(816) 522-8921
E-mail: s.kranz1@comcast.net



Introduction

Almost every amateur astronomer begins to be aware of the Messier Catalog as soon as he or she opens their first book. The novice is sure to find some spectacular object pictured and designated by its "Messier Number" with the universal abbreviation "M". Of the myriads of star clusters and nebulae scattered over the sky only about 100 (perhaps 110 at most) can claim membership to this celebrated list. However, this happens to include most, but not quite all, of the finest of these objects observable from mid-northern latitudes.

There is nothing in the catalog that the owner of so humble an instrument as a three-inch reflector cannot reach under good observing conditions. Many of

Quick View of Requirements	
Messier Observing Program	
Regular / Honorary	
Tools Used (Eyes (E), Binoculars (B), Telescopes (T))	T
Manual (M) / Device Aided (DA)	M
Remote Telescopes Allowed	No
Visual (V) / Imaging (I)	V
Number of Levels	2
Number of Observations by Level	70 / 110
Must be an AL Member	Yes
Recommended Minimum Instrument Size	6 inch

- See cool objects off the beaten path
- Gives structure to your Observing Sessions
 - > List after list of **what** to observe
- Each program will teach you something new
 - > Build a set of skills to aid you in observing
- Classification/Sketching Requirements
 - > Forces you to study object to see finer details
 - > Trains your eye to see fainter and fainter objects

“Seeing is in some respect an art,
which must be learnt.”

William Herschel

Alternate Constellation Observing Program

Alternate Constellation Observing Program Coordinator:

Brad Young
212 E. 16th St.
Tulsa OK USA 74119
(918) 629 9160
allenb_young@yahoo.com



Introduction

Welcome to the Astronomical League's Alternate Constellations Observing Program. The Alternate Constellations Observing Program awards both a certificate and pin. The purpose of this program is to provide a historical and cultural overview of the sky for today's amateur astronomers. The program requires no special equipment (other than a standard star atlas and references for the alternate constellations), and no prior knowledge. The objective is to provide a forum for the observer to become more familiar with certain obsolete constellations and the constellations and star patterns developed by cultures outside Europe. Although not required, previous or co-completion of other observation programs such as the Constellation Hunter (North and South), and the Asterism Observing Program would be helpful.

Quick View of Requirements

Alternate Constellation Observing Program

Tools Used (Eyes (E), Binoculars (B), Telescopes (T))	E
Manual (M) / Device Aided (DA)	M
Remote Telescopes Allowed	N/A
Visual (V) / Imaging (I)	V
Number of Levels	1
Number of Observations by Level	90
Must be an AL Member	Yes
Recommended Minimum Instrument Size	N/A
Date Deadline for Submission	No
Special Equipment Required	No
Equipment Must Be Constructed	No
Observations Must Be Submitted to an On-Line Database	No

Planning My Outings to Sketch

- Print blank Observing Forms
- Gather the Finder Charts
 - > Make JPG files of them
 - > Load them onto my Laptop

Observation Log Sheet

Observer's Name: _____
Latitude: _____ Longitude: _____
Star Group Name: _____ Alt Name: _____
Date: _____ Time: _____ AM _____ PM _____ LT _____ UT
Seeing: _____ Transparency: _____
Instrument Used (if applicable): _____

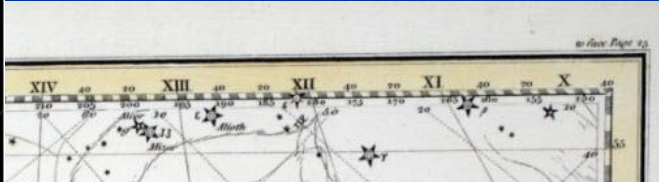
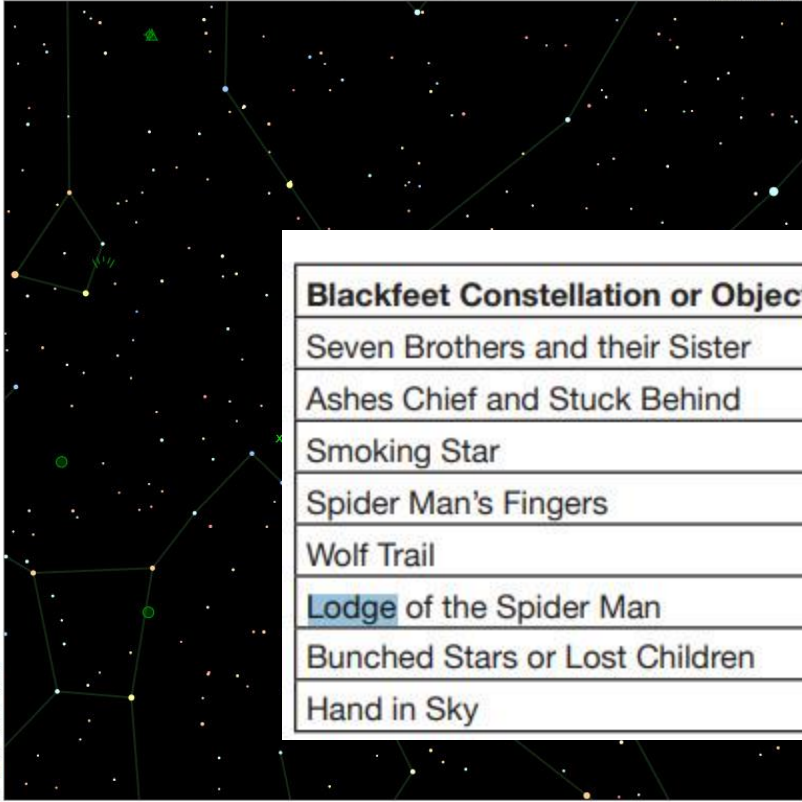
Sketch

Notes/Description: _____

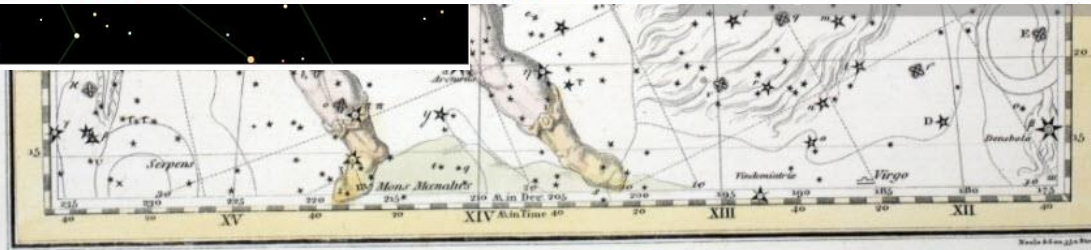
Observing Program: _____ Page # _____

Quadrans Muralis - The Mural Quadrant

45.0° field of view



Blackfeet Constellation or Object	Classical Constellation or Object	Season to Observe
Seven Brothers and their Sister	Big Dipper and North Star	Anytime
Ashes Chief and Stuck Behind	The stars Castor and Pollux in Gemini	Late Winter
Smoking Star	Great Nebula in Orion	Winter
Spider Man's Fingers	Hercules	Summer
Wolf Trail	Milky Way Galaxy	Anytime
Lodge of the Spider Man	Corona Borealis (Northern Crown)	Summer
Bunched Stars or Lost Children	Pleiades	Winter
Hand in Sky	Unknown	?



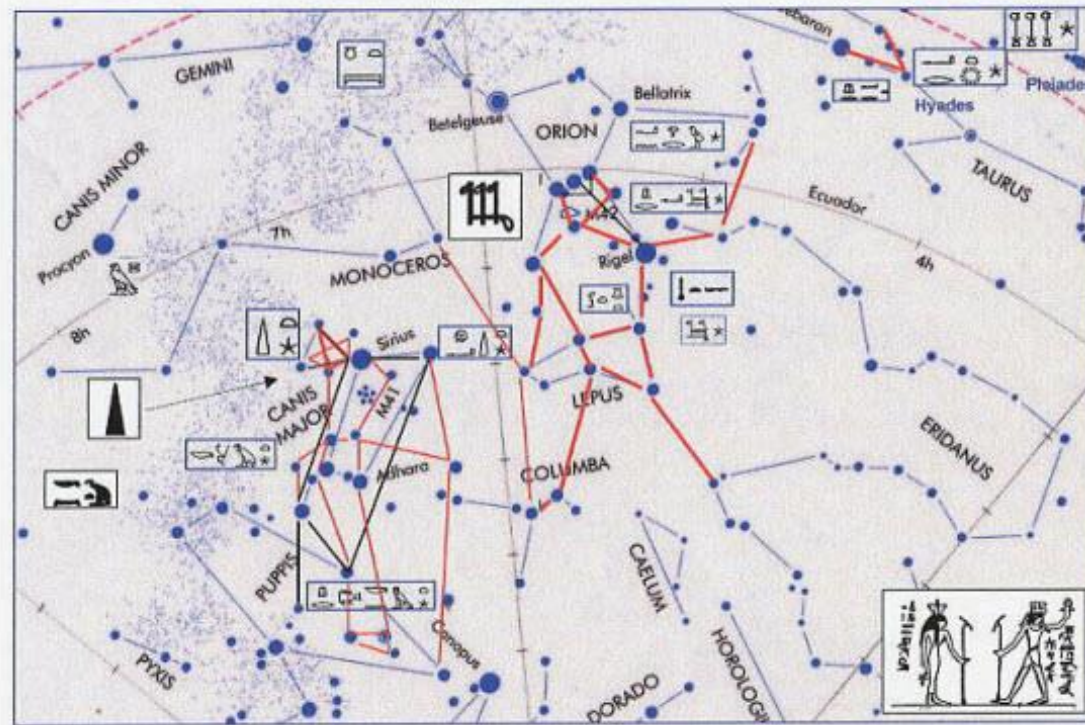
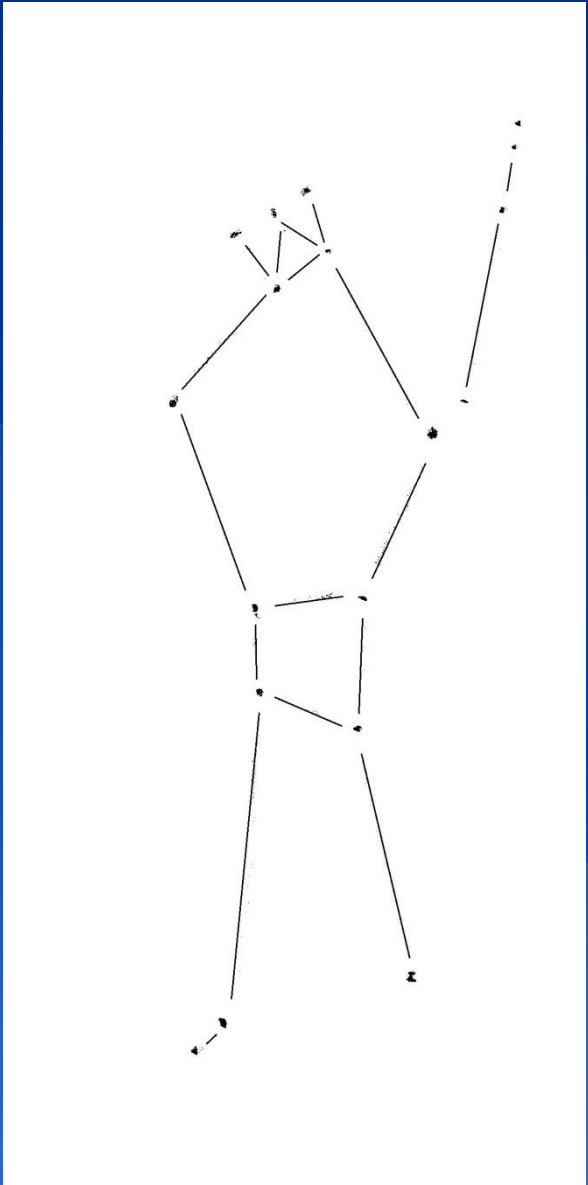
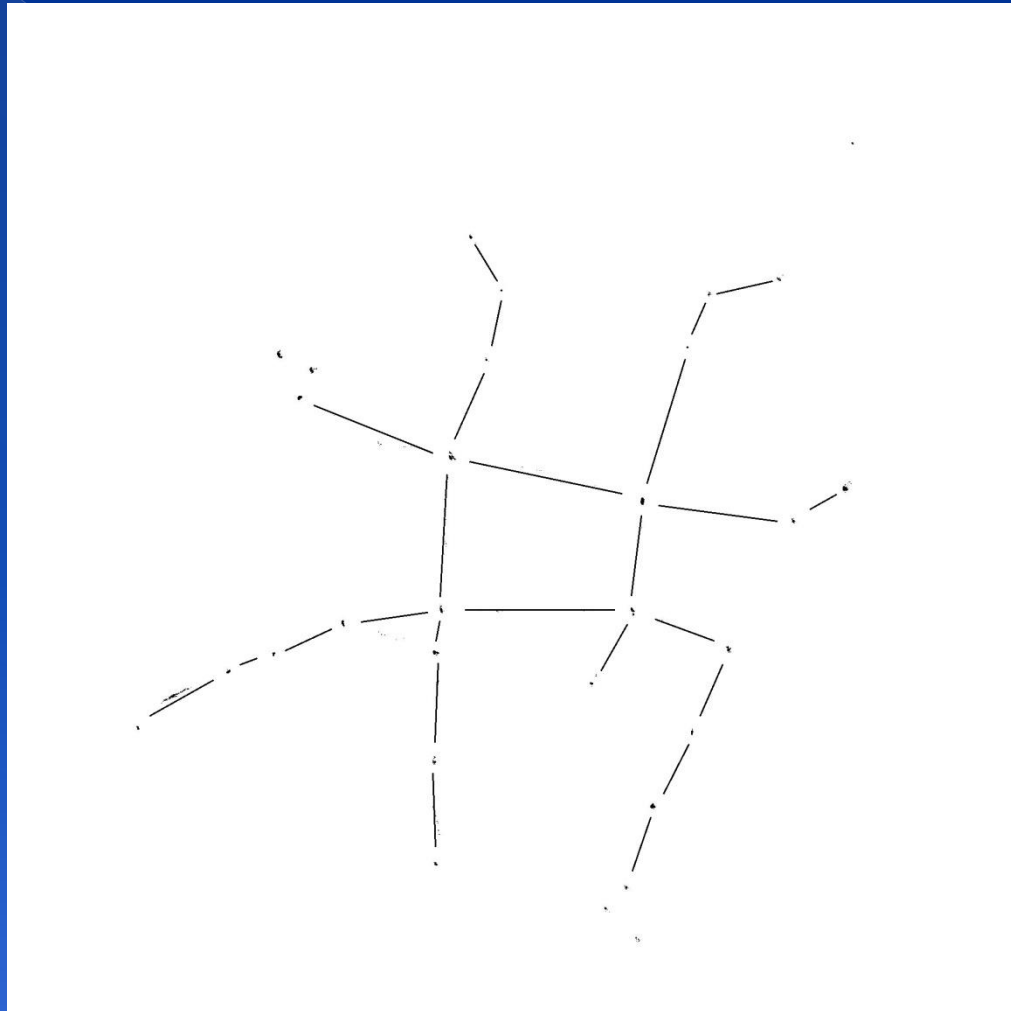


Figure 6.2. Image depicting the region of the sky from the Pleiades to Canopus where some of the most important ancient Egyptian constellations and asterisms have been identified. Note the correlation between Sah and the southern region of Orion. A Middle Kingdom representation of both Sah ♁ and Sopdet ♁ is presented for comparison in the bottom-right corner of the figure. Adapted from Belmonte (2002).



Blackfeet Tribe's Spiderman's Fingers



Fun Time Under the Stars

- Being Prepared allows you to relax and enjoy your time under the stars
- Keeping track of all you've observed is something you will treasure

My website

<http://www.mikehotka.com>

DeepSkyMika's Homepage



My 12.5" f/8 Telescope

Michael Hotka
Amateur Astronomer
Platinum Master Observer
Deep Sky Marine
NPS Dark Sky Ranger
JPL Solar System Ambassador
Broomfield, Colorado USA
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[Globular Clusters: A Guide to the
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Astronomical League Observing Programs Status

Observing Club Name	Status	Observations
First Telescope Observation	Certificate December 26, 1965	
Messier - Basic	Received March 6, 1988	
Messier - Honorary	Original Certificate Updated Certificate #762	To Be Added
Double Star	Certificate #166	Log of Observations
Lunar	Certificate #391	Log of Observations
Messier Binocular	Certificate #574	To Be Added
Deepsky Binocular	Certificate #172	To Be Added
Sun Spotter	Certificate #75	Log of Observations
Venus Transit	Certificate Received 7/27/04	Log of Observations
Herschel 400	Certificate #303	Log of Observations
Planetary Observing	Certificate #31	Log of Observations
Caldwell Silver Certificate	Certificate #68	Log of Observations
Globular Cluster	Certificate #2	Log of Observations
Urban Astronomy	Certificate #68	Log of Observations
Observer Award	Certificate	
Master Observer Award	Certificate #34	
Advanced Observer Award	Certificate	
Master Observer - Silver Award	Certificate	
Master Observer- Gold Award	Certificate	
Master Observer - Platinum Award	Certificate	
Northern Constellation Hunter	Certificate #19	To Be Added
Earth Orbiting Satellite	Certificate #16	Log of Observations
Lunar II	Certificate #1	Log of Observations
Basic Outreach	Certificate #7-0	Log of Observations
Stellar Outreach	Certificate #7-S	Log of Observations
Master Outreach	Certificate #7-M	Log of Observations
Silver Comet Club	Certificate #17	Link to Observations
Gold Comet Club	Certificate #11	Link to Observations
Meteor Watching	Certificate #31	Link to Observations
Universe Sampler	Certificate #68 (T)	Log of Observations
Herschel II	Certificate #54 (M)	Log of Observations
Open Cluster	Certificate #17	Log of Observations
Planetary Nebula - Basic	Certificate #10	

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Astro Links

[Heavens-Above](#) - Satellite Prediction Program

[Moon Rise/Set Times for Denver, CO](#)

[Nautical Twilight Times for 2021](#)

[Rise/Set Times for Solar System Bodies](#)

[Moon Phases - Monthly Calendar](#)

[29 Days of the Moon](#)

[In-The-Sky](#)

[2021 S&T Skygazer's Almanac](#)

[Local Sidereal Time Clock](#)

[Brad Young's Website](#)

Out Reach Links

[Astronomy from the Ground Up](#) - Online Interpretation Forum

[Night Sky Network](#)

[Skywatchers Pronunciation Guide](#)

[Ian Ridpath's Sky Tales](#)

[Constellations of Words](#)

Maps

[US Wind Map](#)

[Colorado Light Pollution Map](#)

[LROC Lunar Map](#)

[Colorado GOES-16](#)

[Weather at My Favorite Observing Sites](#)

[My Weather](#)

Jupiter Moon Events

[S&T Tool](#)

[Shallow Sky Tool](#)

[Moon Events Date/Time](#)

[My Remaining Events](#)

Weather Links

[Clear Sky Clock Home Page](#)
[All of Colorado Clear Sky Clocks](#)

[Satellite View of Colorado Region](#)
[Satellite View of Iowa Region](#)
[Satellite View of Central Texas Region](#)
[US Water Vapor](#)
[US Jetstream Analysis](#)
[SwRI Weather Models](#)
[Astronomy Related Forecasts](#)
[US Cloud Cover Forecast](#)

Weather at My Observing Locations

My Backyard Broomfield, CO Local Forecast Hourly Key Weather Indicators Broomfield Clear Sky Clock	Denver DSS Deer Trail, CO Local Forecast Hourly Key Weather Indicators DSS Clear Sky Clock
Berthoud LTO Berthoud, CO Local Forecast Hourly Key Weather Indicators Berthoud Clear Sky Clock	Pawnee Grasslands Keota, CO Local Forecast Hourly Key Weather Indicators Pawnee Clear Sky Clock
John Martin Reservoir State Park Lamar, CO Local Forecast Hourly Key Weather Indicators	Clayton Lake State Park Clayton, NM Local Forecast Hourly Key Weather Indicators
Okie-Tex Star Party Kenton, OK Local Forecast Hourly Key Weather Indicators Okie-Tex Clear Sky Clock	Texas Star Party Fort Davis, TX Local Forecast Hourly Key Weather Indicators TSP Clear Sky Clock
3RF Crowell, TX Local Forecast Hourly Key Weather Indicators 3RF Clear Sky Clock	Mayhill, NM Local Forecast Hourly Key Weather Indicators Clear Sky Clock

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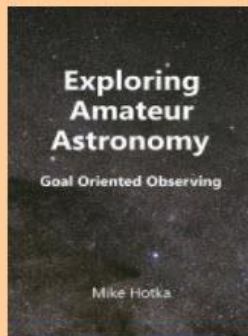
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Mike Hotka became an amateur astronomer in 1965. Since that time, Mike has made thousands of observations of the night sky. He has developed a goal oriented process to get the amateur astronomer out observing the night sky.

Exploring Amateur Astronomy - Goal Oriented Observing, describes a hands-on approach to observational astronomy. It is designed to aid the beginner as well as the experienced amateur astronomer to increase their observational skills. This book is dedicated to anyone who wishes to have a deeper understanding of celestial objects by actually observing them.

Amateur astronomer Bruce Heath sums up the book nicely by stating "The entire book saves you time, helps your organization, enhances your ability to find a wide variety of celestial objects and will increase your enjoyment while you are doing it. Take a lesson from the Cheshire Cat in Alice in Wonderland.... "if you don't know where you are going, then any road will do." Mike helps you pick celestial destinations and gives you the road to get there.....take advantage of it."



Front Cover of Book
(Click for Larger Image)



Back Cover of Book
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This book:

- Learn to navigate the night sky.
- Learn about celestial objects by actually observing them.

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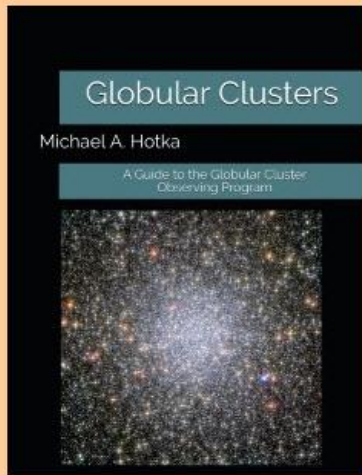
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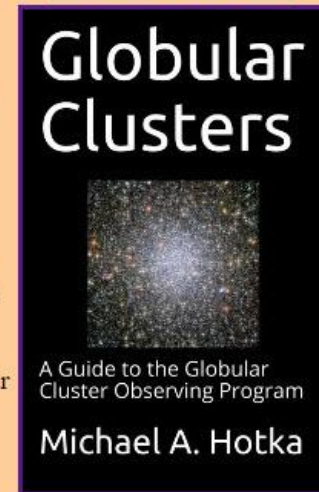


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Mike Hotka became an amateur astronomer in 1965. Since that time, Mike has made thousands of observations of the night sky. He has developed a goal oriented process to get the amateur astronomer out observing the night sky.

In 2004, Mike created the Astronomical League's Globular Cluster Observing Program. The Astronomical League is an organization that supports amateur astronomy.

This guide helps the amateur astronomer understand globular clusters, provides information necessary to complete the Globular Cluster Observing Program and contains descriptions of 190 globular clusters.



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What others are saying about my book:



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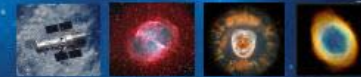
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Obs.Planning

Lobook

ASCOM Scope

Image Gallery

Solar System

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- Detailed Features
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The Ultimate Software for Observers to Plan & Organize your observing session. Includes over 410,000 images of Galaxies, Nebula, and other celestial wonders. Create detailed charts to magnitude 17.5 using the Nomad catalog.



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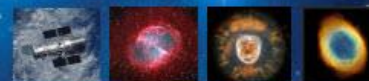
What do people say about Deepsky Software?

I got into the hobby seriously 2 years ago and bought my first real scope at that time, a Hardin 10" dob. For my first year I was using free shareware programs available on the web but they never seemed to fill my needs being a star hopper. I had thought about other programs with more features than the freeware but the prices were way out of line and instead of buying a program I would rather buy eyepieces.

Then I noticed on our club's web site that there was a link to Deepsky and I checked it out. It seemed to have

DEEPSKY ASTRONOMY SOFTWARE

It's Clear Tonight, are you Prepared?



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File Size: 4 Megabytes **Date: December 22, 2013**

» **Companion DSS Images**
Instructions to Download Companion DSS Images. Click [here](#) to access the download directory.
File Size: 3 Gigabytes **Date: December 27, 2018**

» **Companion High Resolution Images**
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File Size: 3.7 Gigabytes **Date: December 22, 2013**

» **Companion Nomad Star Catalog**
Instructions to Download Companion Nomad Star Catalog. Click [here](#) to access the download directory.
File Size: 2.3 Gigabytes **Date: December 22, 2013**

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SkyTools is the premier software for observing. It is not a mere planetarium or a planner, but software designed to aid in every aspect of astronomical observing.

The Legendary Nightly Planner

There is nothing else that comes close to the SkyTools 4 Nightly Planner, both in terms of raw power and ease of use. It distills the most sophisticated astronomical calculations into a remarkably simple interface that anyone (even absolute beginners) can use.



SkyTools 4 for Visual Observing Features

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- Nightly Planner & Observing Plan Generator
- Real Time Observing (not included in Standard Edition)



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Event Blogs

<u>2005 Texas Star Party</u>	<u>2010 Texas Star Party</u>	<u>2011 Okie-Tex Star Party</u>	<u>2016 OzSky</u>
<u>2016 Okie-Tex Star Party</u>	<u>ALCON 2017</u>	<u>2017 Okie-Tex Star Party</u>	<u>Spring Break 2018</u>
<u>2019 Texas Star Party</u>	<u>3RF Mar 2021</u>	<u>3RF May 2021</u>	<u>InReach July 2021</u>

Questions/Comments

