25 AL Awards
or
How I Do What I Do

By Mike Hotka

So Who am I?

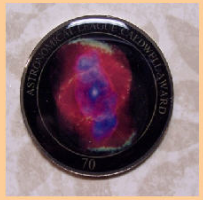
- Amateur Astronomer
- Work in the Aerospace Industry
  - Getting second MS Degree
- Am a JPL Solar System Ambassador
- Write monthly newspaper articles
- Volunteer at SBO and LTO Observatories
- Give talks to groups like yourself

I have a really COOL Job!!!

Astronomical League Observing Clubs

- Benefits of AL Membership
  - Book, Astronomy, S&T Discounts
- 29-30 Programs to Choose From
- http://astroleague.org/observing.html
- Each Club has its own web page
- You learn something new from each club
- Get these neat pins

Messier Binocular Club



Caldwell 70 Club

Comet Observers Club

Double Star Club

Deep Sky Binocular Club

Globular Cluster Club

Herschel 400 Club

Lunar II Club

Lunar Club

Master Observer Club

Messier Club

Northern Constellation Hunter Club

Planetary Observer's Club

Sunspotter Club

Urban Astronomy Club

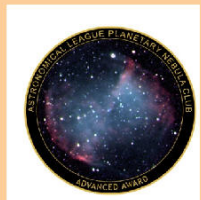
Basic Outreach Club

Meteor Watchers Club

Universe Sampler Club

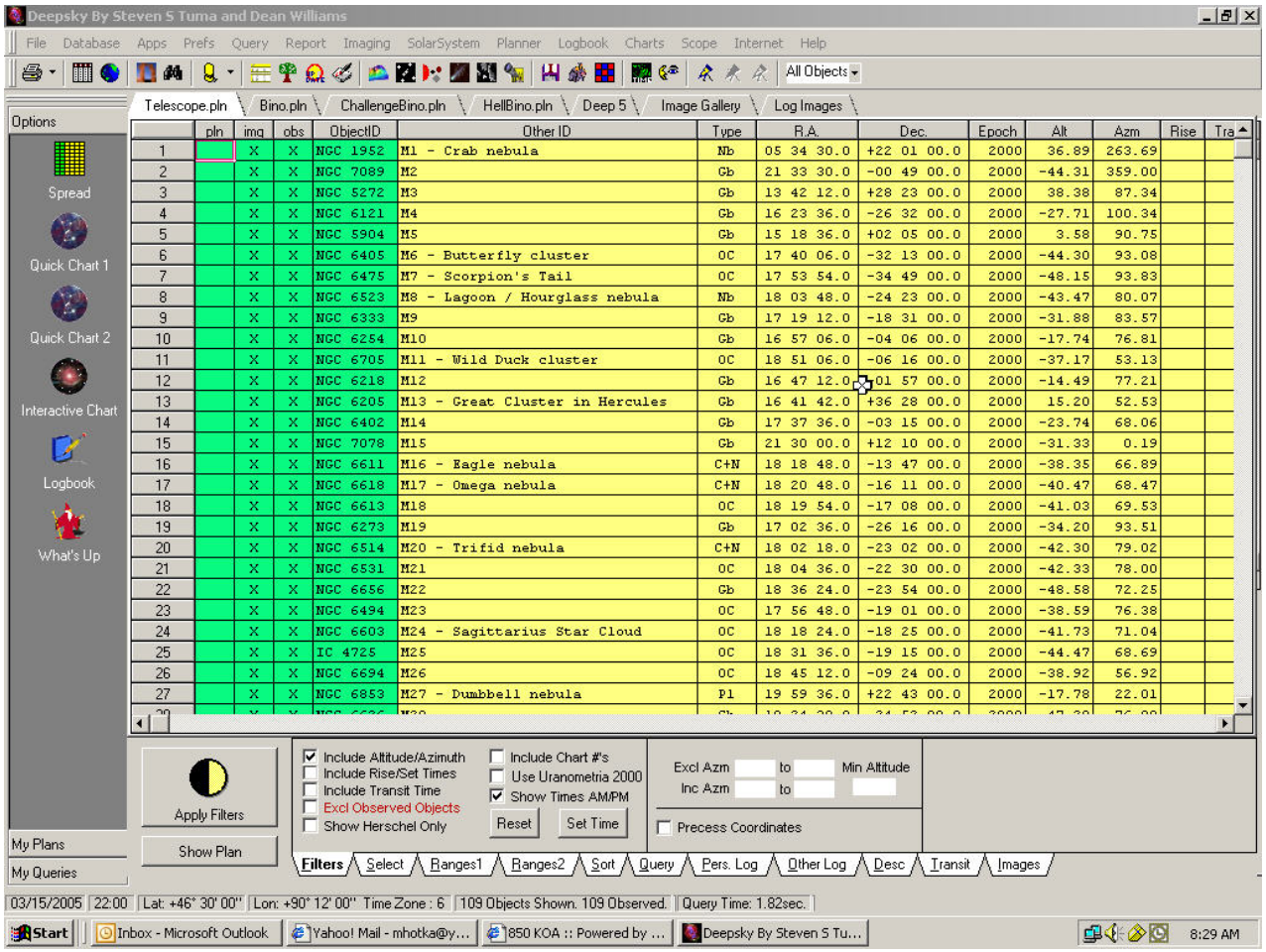
Herschel II Club

Open Cluster Club



Planetary Nebula Club

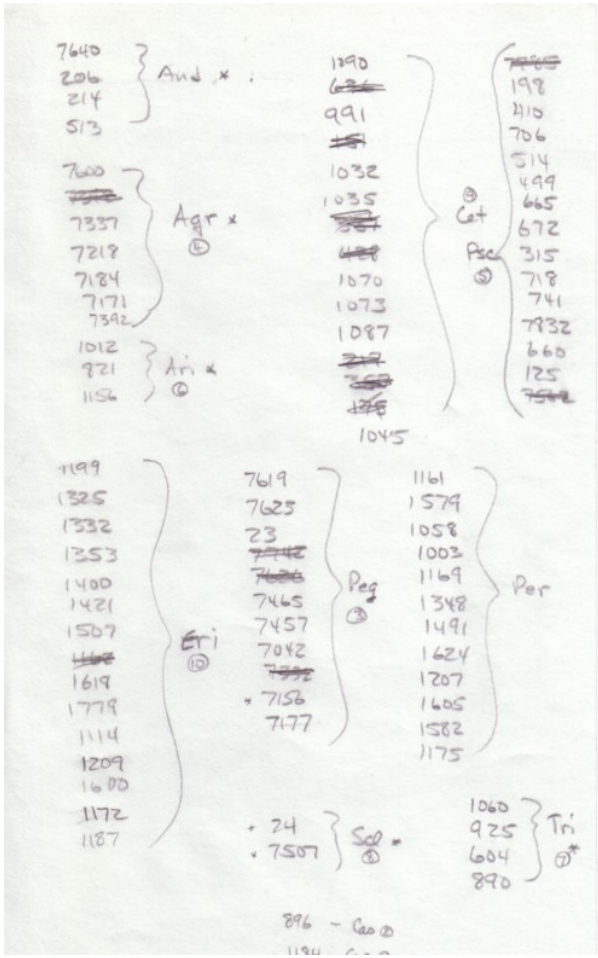
Use a Database Program



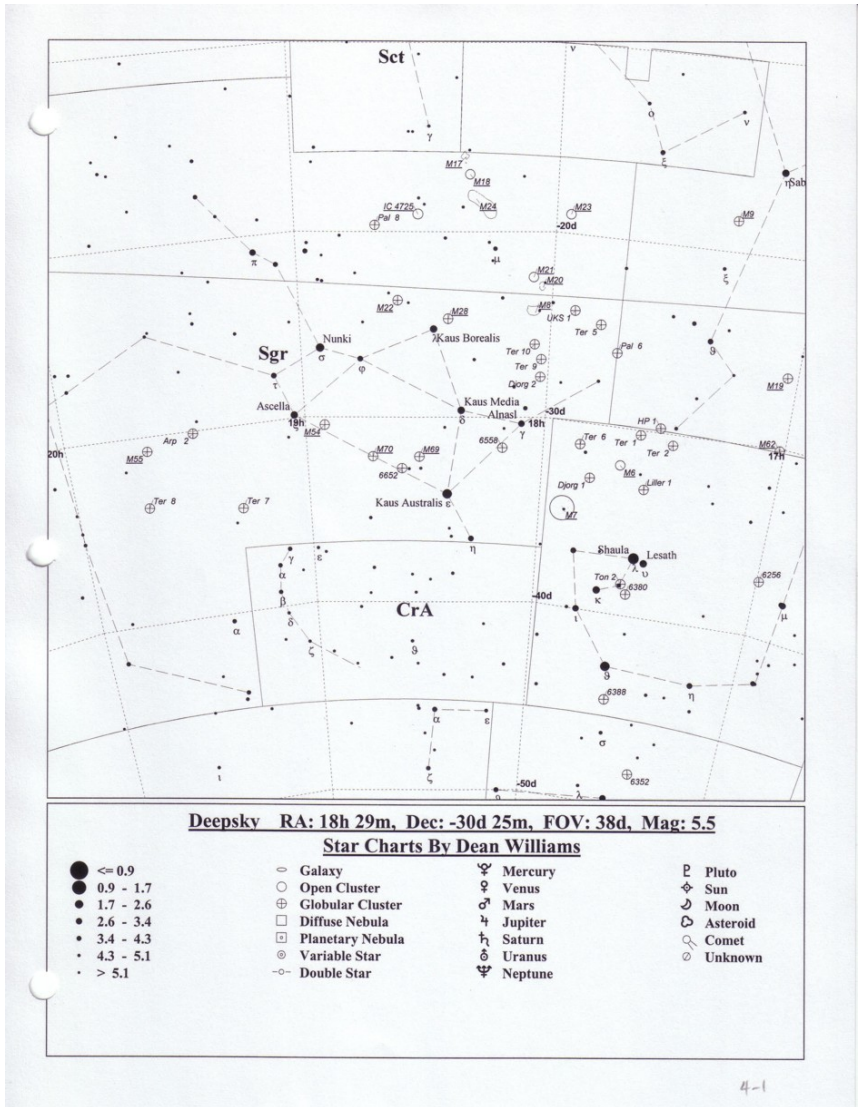
Other Programs

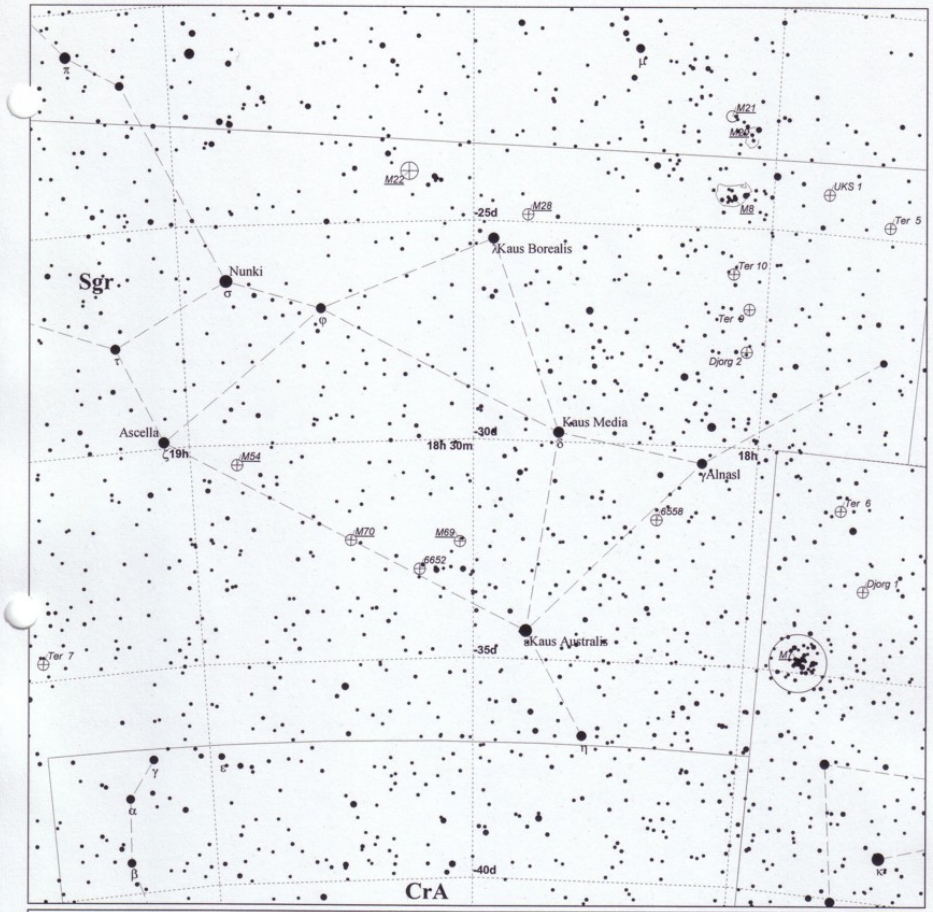
- http://astrotips.com
  - Nice set of free downloads
- Observational Log Programs
  - AstroByte
  - Deepsky Astronomical Software
  - TSOL – The Simple Observing Log
- Chart Printing Programs
  - Sky Charts (a.k.a. Cartes du Ciel)
- Google “astronomy logging programs”

Make a List of Objects



Print Finder Charts



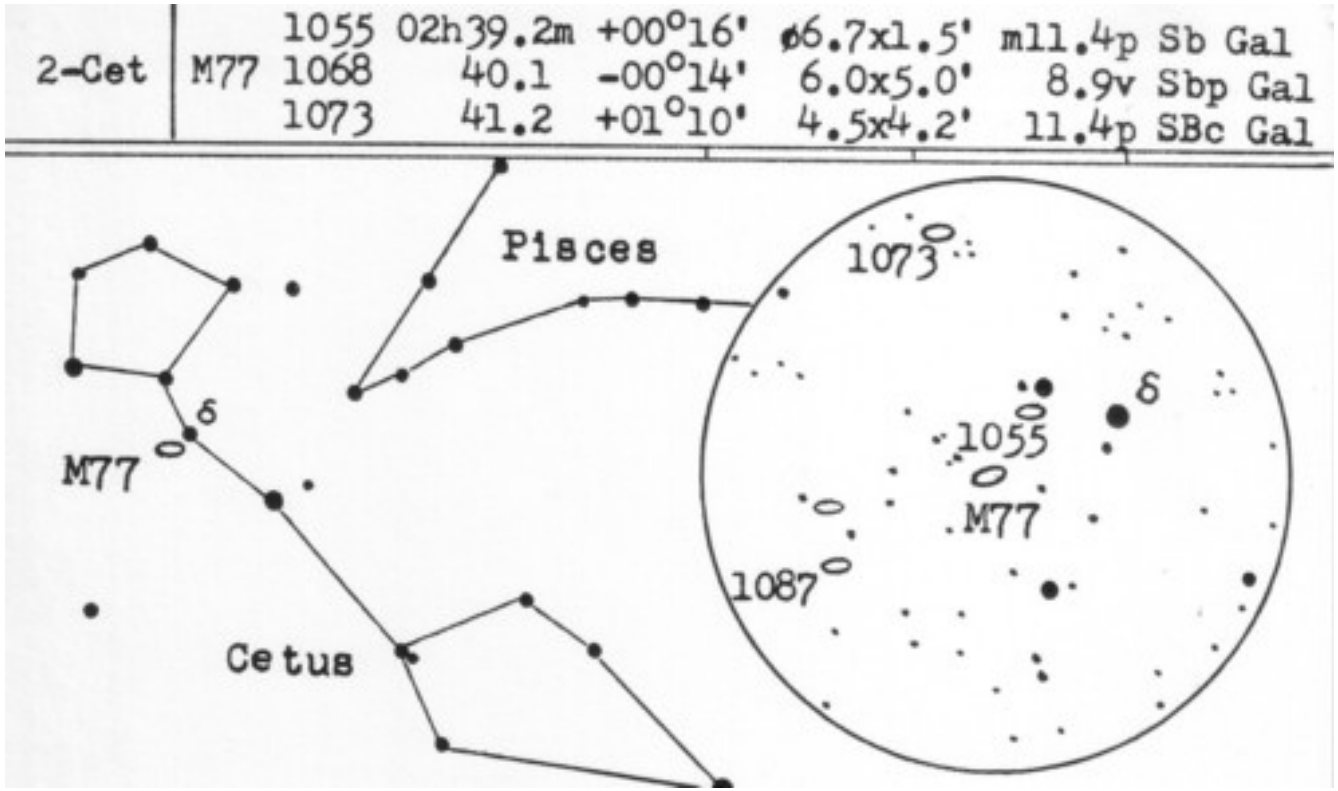


Deepsky RA: 18h 29m, Dec: -30d 25m, FOV: 19d, Mag: 7

Star Charts By Dean Williams

<= 1.3	Galaxy	Mercury	Pluto
1.3 - 2.6	Open Cluster	Venus	Sun
2.6 - 3.9	Globular Cluster	Mars	Moon
3.9 - 5.1	Diffuse Nebula	Jupiter	Asteroid
5.1 - 6.4	Planetary Nebula	Saturn	Comet
6.4 - 7.7	Variable Star	Uranus	Unknown
> 7.7	Double Star	Neptune	

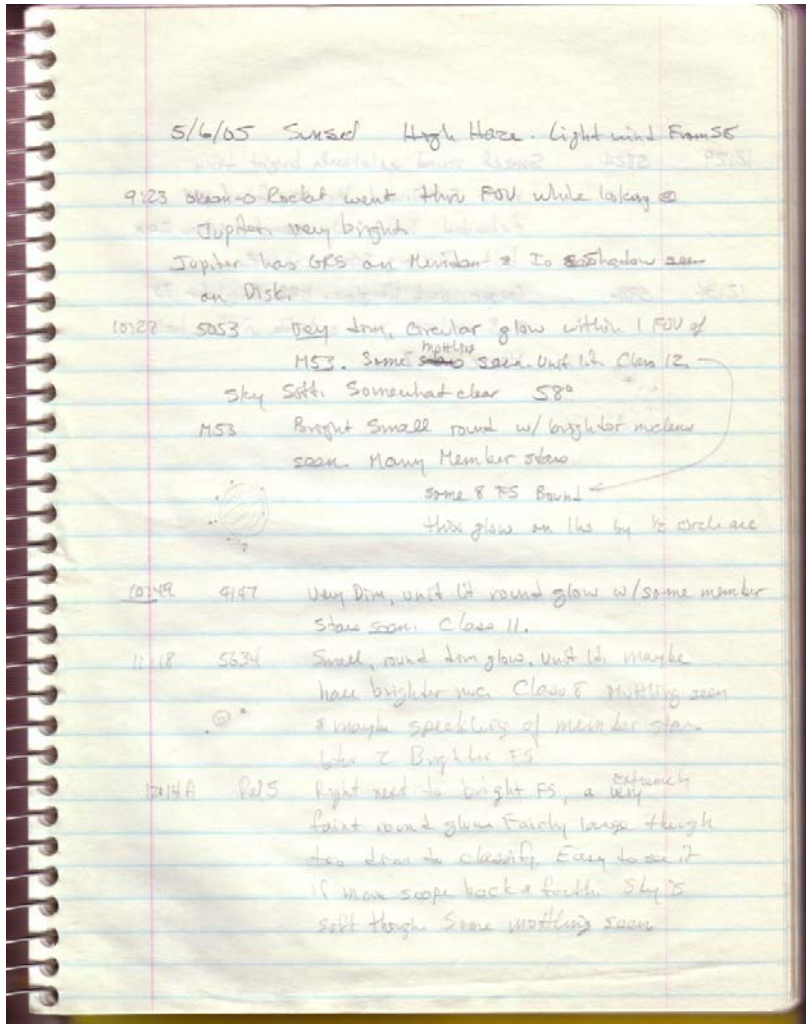
Have Additional Finder Charts



Star Atlases

Heart of My Starhopping

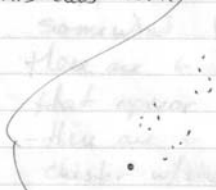
Record Your Observations



2185 3:30A Faint - irregular shaped glow w/4-5 brighter field stars on top of it

2251 3:39A ~20 stars of same mag w/ fainter ones giving underlying area a glow. broken into 3 main chunks w/ a total shape of a tear drop.

2239-37 3:50A This was cool.



32 showed 2 stars surrounded, circularly, by a mottled nebula

19 mm showed upper star >2x brighter than lower star in center of a nebula. near stars nebula was uniform lit & bright. then faded into a mottled lit texture & faded out into nothing

- 2261 4:07A Fan shaped cone w star easily seen @ apex both 32 & 19 show this object

2286 4:18A Very loose cluster of ~20 stars of same mag - irreg. in shape - matches picture @ 250 Night Sky

32mm

2:34 AM NGC 2371-72 19mm w/O3-see a two lobed, almost bow-tie object with a stellar object in the left lobe. Left lobe is brighter than right. W/o O3-see 2 lobes w/ star in left lobe. Basically same view. Easy to see w/AV.

2:40 AM NGC 1964 Off the tip of an arrowhead. Bright stellar nucleus w/very hard to see halo. Halo is circular or a bit elliptical. It's hard to say for it is so faint.

Saturn is awesome. Crisp image. See 2 bands on planet. Saw 6 stars of trapezium of M42.

3:27 AM NGC 2215 Approx 15 stars all about the same magnitude. Easy to find bcs in star poor field. Somewhat compact and shaped in a downward arrow.

3:30 AM NGC 2185 Faint, irregular shaped glow w/4-5 brighter field stars on top of it.

3:37 AM NGC 2251 Approx. 20 stars of same magnitude with fainter ones giving underlying area a glow. Broken into 3 main chunks w/ a total shape of a tear drop.

3:50 AM NGC 2239-37 This was COOL. 32mm showed 2 stars surrounded by a circular, mottled nebula.
19mm showed upper star >2x brighter than lower star in center of nebula. Near stars, the nebula was uniformly lit and bright. Then it faded into a mottled lit texture before fading out into nothing.

4:07 AM NGC 2261 Fan shaped cone w/star easily seen at apex. Both 19 and 32 easily showed this object.

9:49PM *Gamma Leporis* Magnitude 3.7, 6.3 with separation 96"
Drawing #87
Easy one to see. Widely separated. Off white, maybe yellow in color. Brighter is about 2x as bright as dimmer one. Brighter is on the left. Dimmer may be redder in color than brighter. Definitely not blue-white in color.

9:50 PM *Theta Aurigae* Magnitude 2.6, 7.1 with separation 3.6"
Drawing #88
Two little blue-white stars very close together. Used OIII filter. The one on the left is a bit dimmer and is red in color. The one on the right is blue-green in color. Filter knocks glare down and makes them easy to see.

9:55 PM *Epsilon Monocerotis* Magnitude 4.5, 6.5 with separation 13.4"
Drawing #89
Off-white, maybe yellow in color. One on left is more than 2x as bright. Easy to see with good separation between them.

9:58 PM *Beta Monocerotis* Magnitude 4.7, 5.2 with separation 7.3"
Drawing #90
Two evenly bright stars. Blue-white.

10:00 PM *12 Lycnis* Magnitude 5.4, 7.3 with separation 8.7"
Drawing #91
Two stars that are blue-white in color. One on right is a lot brighter. Easy to see.

10:03 PM *Epsilon Canis Majoris* Magnitude 1.5, 7.4 with separation 7.5"
Drawing #92
Another bright mismatched pair. Used OIII filter. Bottom star is the bright one and blue-green in color. Dimmer is right on top of brighter one and is red in the filter. Sits at 11 o'clock. Seeing steadies and it comes right in. Without filter, bright one is boiling and covers up the dim one.

10:09 PM *Delta Geminorum* Magnitude 3.5, 8.2 with separation 6.8"
Drawing #93
Hard to see and keep my eye off EP. Bottom one on right is very bright. Close, but not too close is the fainter member on the top.

Jupiter has lots of band on it tonight. Have never seen this many bands on Jupiter before. See two big bands. Band on left is then split into two. OIII filter shows the bands easily.

Snowed a lot yesterday.

Date: 81
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Power: 54x

Date: 100
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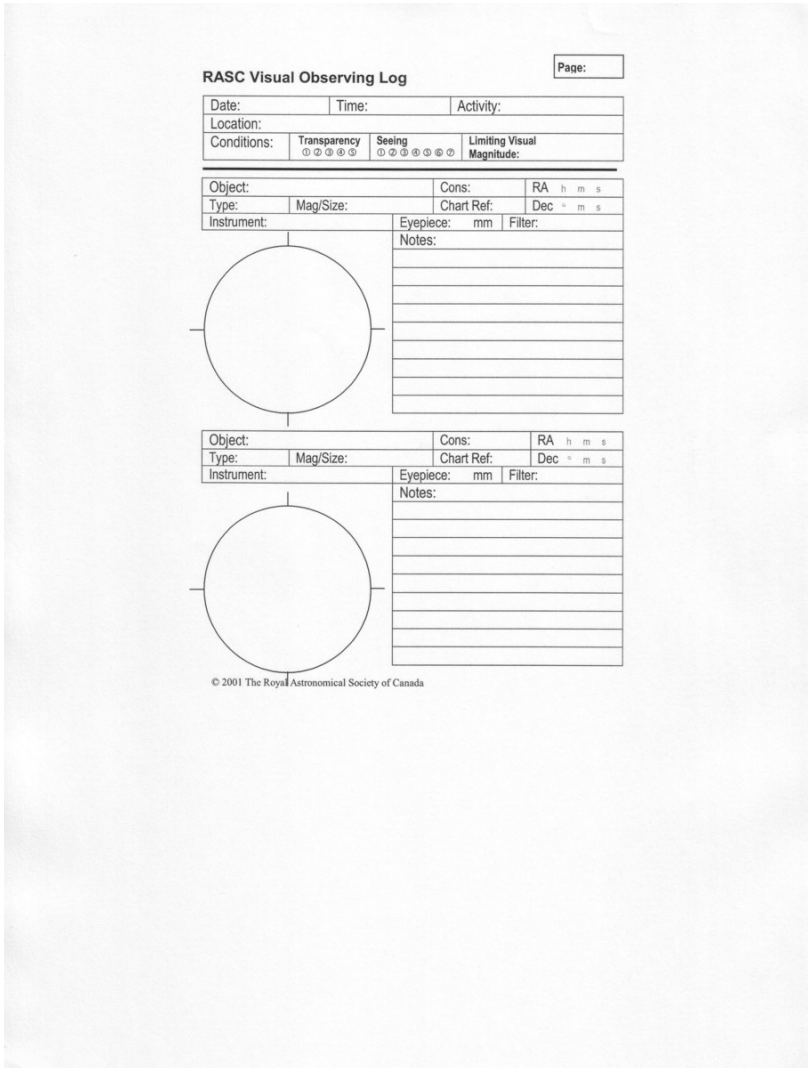
Power:

Make Your Own Form



RASC Visual Observing Log

Page:

Date:	Time:	Activity:
Location:		
Conditions:	Transparency ① ② ③ ④ ⑤	Seeing ① ② ③ ④ ⑤ ⑥ ⑦ / Limiting Visual Magnitude:

Object:		Cons:	RA h m s
Type:	Mag/Size:	Chart Ref:	Dec ° m s
Instrument:	Eyepiece: mm	Filter:	

Notes:

Object:		Cons:	RA h m s
Type:	Mag/Size:	Chart Ref:	Dec ° m s
Instrument:	Eyepiece: mm	Filter:	

Notes:

Page:

Mike Hotka's Observing Log

Date:	Time:	Activity:
Location:		
Conditions:	Transparency ① ② ③ ④ ⑤	Seeing ① ② ③ ④ ⑤ ⑥ ⑦	Limiting Visual Magnitude:

Object:		Cons:	RA h m s
Type:	Mag/Size:	Chart Ref:	Dec ° m s
Instrument:		Eyepiece: mm	Filter:

Notes:

Object:		Cons:	RA h m s
Type:	Mag/Size:	Chart Ref:	Dec ° m s
Instrument:		Eyepiece: mm	Filter:

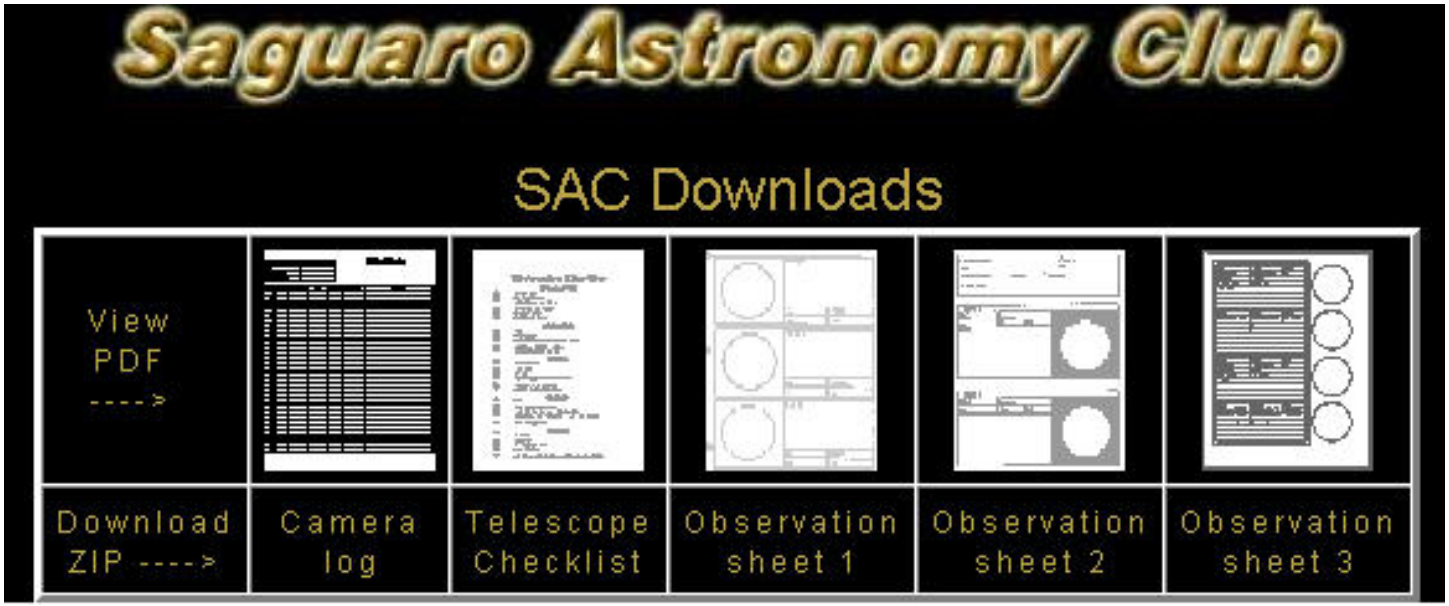
Notes:

EP (mm)	True FOV	Power
55	64.8'	46.2x
40	44.4'	63.5x
32	37.8'	79.4x
20	22.2'	127.0x
19	30.6'	133.7x
12.5	13.8'	203.2x
10	12.0'	254.0x
9	17.4'	282.2x
6	6.6'	423.3x

Object:		Cons:	RA h m s
Type:	Mag/Size:	Chart Ref:	Dec ° m s
Instrument:		Eyepiece: mm	Filter:

Notes:

http://www.saguaroastro.org/content/downloads.htm



Other Considerations

- Set Goals
  - Go out at least one night per month
  - Choose objects to observe
- Measure Progress
  - http://skinny.jeans.tripod.com/astronomy

Michael Hotka
Amateur Astronomer
Deep Sky Marine
JPL Solar System Ambassador
Broomfield, Colorado - USA

Web Site Navigation

My Best Friend

Current Lunar Phase

Astronomical League Observing Programs I am Doing		
Observing Club Name	**Status**	**Observations**
Messier	Certificate #762	To Be Added
Double Star	Certificate #166	To Be Added
Lunar	Certificate #391	To Be Added
Messier Binocular	Certificate #574	To Be Added
Deepsky Binocular	Certificate #172	To Be Added
Sun Spotter	Certificate #75	To Be Added
Venus Transit	Certificate Received 7/27/04	To Be Added
Herschel 400	Certificate #303	
Planetary Observing	Certificate #31	To Be Added
Caldwell Silver Certificate	Certificate #68	To Be Added
Globular Cluster	Certificate #2	To Be Added
Urban Astronomy	Certificate #68	To Be Added
Master Observer	Certificate #34	
Northern Constellation Hunter	Certificate #19	To Be Added
Earth Orbiting Satellite	Certificate #16	To Be Added
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	52:30/100:00 hrs Complete	Log of Observations
Silver Comet Club	Certificate #17	Link to Observations
Gold Comet Club	12/18 Complete	Link to Observations
Meteor Watching	Certificate #31	
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	
Planetary Nebula - Advanced	Certificate #14	Log of Observations
Arp Peculiar Galaxies	54/100 Complete	Log of Observations
Galaxy Groups & Clusters	1/30 Galaxy Trios	Log of Observations
	3/30 Hickson Groups	
	7/30 Other Galaxy Groups	
	0/30 Abell Clusters	

Other Lists of Objects I am Doing		
Object List	**Number Seen**	**Observations**
TSP Binocular Observing Program	Complete May, 2005	
TSP Challenge Binocular Program	Complete May, 2005	
TSP Binocular Program from "Hell"	0/25 Seen	
TSP 1999 Telescope List	0/89 Seen	
TSP 2000 Telescope List	0/67 Seen	
TSP 2001 Telescope List	0/26 Seen	
TSP 2003 Telescope List	0/25 Seen	
TSP 2004 Telescope List	0/25 Seen	
TSP 2005 Telescope List	Complete May, 2005	
Mag 10 List	0 Seen	
Max Moe 80	0/80 Seen	
RASC Finest Deep Sky Objects	0/110 Seen	
RASC Deep Sky Challenge Objects	0/45 Seen	
TAAS 200	0/200 Seen	
EVAC 200	0/200 Seen	
Herschel 300	18/300 Seen	
Kepple and Sanner 400	237/400 Seen	Log of Observations
Old Starhopper's Observing Guide	0 Seen	
Old Starhopper's Finder Charts	0 Seen	
View 1000 Galaxies	688/1000 Seen	
Best of Benard's Dark Nebula	0/39 Seen	

Pawnee (RAC) Weather
NWS (Briggsdale, CO) Local Forecast
Hourly Key Weather Indicators
Pawnee Clear Sky Clock
NE Colorado WebCam
Satellite View of Region

Denver DSS Weather
NWS (Deer Trail, CO) Local Forecast
Hourly Key Weather Indicators
DSS Clear Sky Clock
Limon WebCam
Current Weather Conditions
Satellite View of Region

Fox Park Weather
NWS (Woods Landing, WY) Local Forecast
Hourly Key Weather Indicators
Fox Park Clear Sky Clock
WebCams from Area
Satellite View of Region

My Backyard Weather
NWS (Broomfield, CO) Local Forecast
Hourly Key Weather Indicators
Broomfield Clear Sky Clock
Broomfield WebCam
Satellite View of Region

John Martin State Park
NWS (Lamar, CO) Local Forecast
Hourly Key Weather Indicators
Lamar Clear Sky Clock
Area WebCam
Satellite View of Region

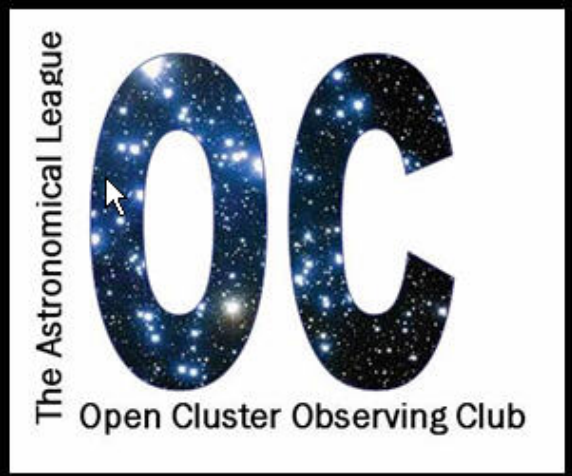
Database Programs

The NGC/IC Project - Nice Astronomical Database Program
Deep Sky Browser - Nice Star Chart Program
Extragalactic Database - NASA/IPAC Extragalactic Database
Current Sky Events
Weekly Bright Comets - Weekly Information about Bright Come
What's Up in the Sky - SkyHound includes Current Comets
Target Lists
East Valley Astronomy Observing Lists

Selecting an Club to do

Open Cluster Club Chair:

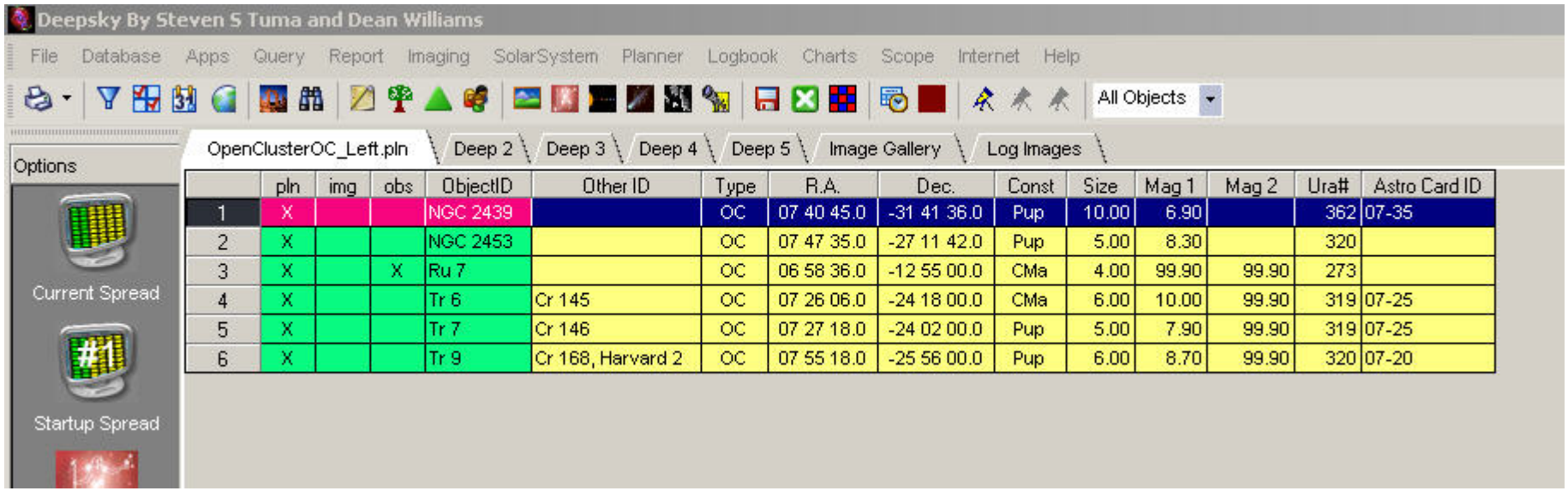
Benjamin Jones
9322 Tyler Oaks
Helotes, Texas 78023
(210) 378-0835
E-mail: benjamin_jones2@yahoo.com



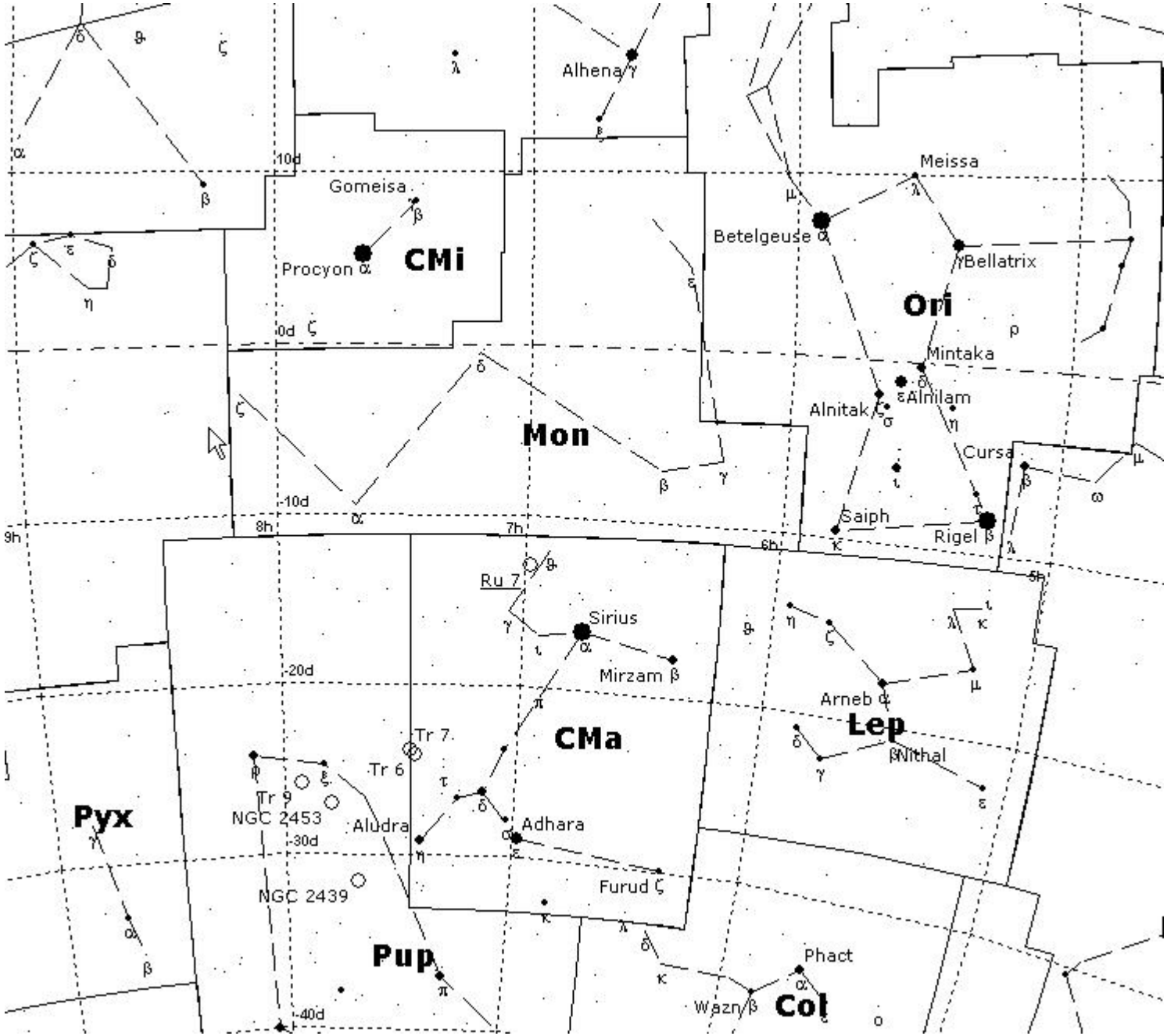
Introduction

Open clusters are of tremendous importance to the science of astronomy, if not to astrophysics and cosmology generally. Star clusters serve as the "laboratories" of astronomy, with stars now all at nearly the same distance and all created at essentially the same time. Each cluster thus is a running experiment, where we can observe the effects of composition, age, and environment. We are hobbled by seeing only a snapshot in time of each cluster, but taken collectively we can understand their evolution, and that of their included stars. These clusters are also important tracers of the Milky Way and other parent galaxies. They help us to understand their current structure and derive theories of the creation and evolution of galaxies. Just as importantly, starting from just the Hyades and the Pleiades, and then going to more distance clusters, open clusters serve to define the distance scale of the Milky Way, and from there all other galaxies and the entire universe.

How I use the DAS



	pln	img	obs	ObjectID	Other ID	Type	R.A.	Dec.	Const	Size	Mag 1	Mag 2	Ura#	Astro Card ID
1	X			NGC 2439		OC	07 40 45.0	-31 41 36.0	Pup	10.00	6.90		362	07-35
2	X			NGC 2453		OC	07 47 35.0	-27 11 42.0	Pup	5.00	8.30		320	
3	X		X	Ru 7		OC	06 58 36.0	-12 55 00.0	CMa	4.00	99.90	99.90	273	
4	X			Tr 6	Cr 145	OC	07 26 06.0	-24 18 00.0	CMa	6.00	10.00	99.90	319	07-25
5	X			Tr 7	Cr 146	OC	07 27 18.0	-24 02 00.0	Pup	5.00	7.90	99.90	319	07-25
6	X			Tr 9	Cr 168, Harvard 2	OC	07 55 18.0	-25 56 00.0	Pup	6.00	8.70	99.90	320	07-20


Alhena γ
Meissa
Betelgeuse α
γBellatrix
Ori
Mintaka
εAlnilam
Alnitak ζ
Cursa
Saiph κ
Rigel β
Gomeisa
Procyon α
CMi
Mon
Ru 7
Sirius α
Mirzam β
CMa
Tr 7
Tr 6
Tr 9
NGC 2453
Aludra η
Adhara
Furud ζ
NGC 2439
Pyx
Pup
Arneb α
Lep
βNithal
Phact α
Wazn β
Col
10d
0d
-10d
-20d
-30d
-40d
9h
8h
7h
6h
5h

The **Deep Sky Browser** J2000.0

v3.1.6 (2007.04.13), data updated 2003.02.21 10:10:16 with 490890 objects

Place your query: Search

Need help? Read this!
Hint: Try searching with "near": galaxies near m13

Login Username Password Login Create a new user

Introduction

The **Deep Sky Browser** is a front end to the ever expanding database called the **Deep Sky Database**. You'll find all popular Deep Sky objects known organized to be easy to locate and to include in observing lists. Each object has maps and images as well as available information needed for the Deep Sky observer. The database is continously updated and corrected. If you do find errors or missing objects, please give notice at the e-mail address below.

Why login?

When you create a user and log in it enables you to create and store several observation lists, add observation locations, view objects visible at these locations at any given time, change the look and feel of the Deep Sky Browser to your liking and lots of other nice things. The username and password is just to be able to connect you with your saved data. There's no "e-mail required" or anything. You remain completely anonymous if you wish.

How to use the search engine

Simple: **Just write your query in the search field at the top of this page.** The search is case insensitive. Here are several searches that may help you in the beginning:

- **NGC IN AURIGA** gives all NGC objects in the constellation Auriga.
- **NGC 253** gives information for the galaxy NGC 253.
- **Messier 9*** gives all objects having a name starting with *Messier 9*.
- **Mrk Dec>80** gives all Markarian galaxies with declination greater than 80°.

One of the primary goals of this service is to make it easy to use, but of course a limited insight into astronomy is required. You should be able to understand the workings of the service by trial and (hopefully not) error. Otherwise the help pages might help you understand more. The tips on the bottom of this page may also help you along.

Do you need support?

You are welcome to ask the creator of anything related to this service. Contact information is at the bottom of this page.

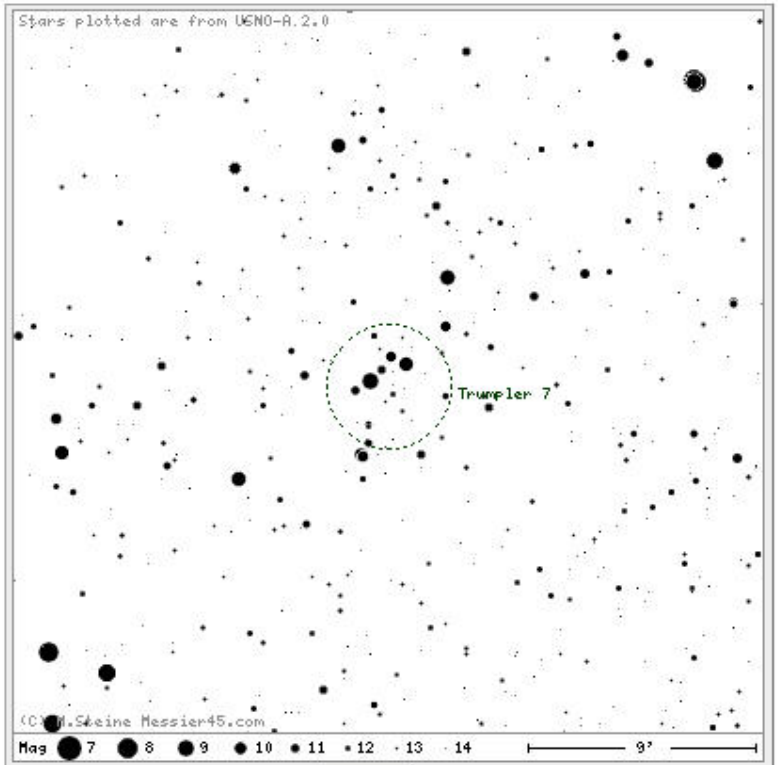
The Deep Sky Browser J2000.0

v3.1.6 (2007.04.13), data updated 2003.02.21 10:10:16 with 490890 objects

Place your query: trumpler 7 Search

Need help? Read this!
Hint: Try searching in constellations: GX mag<12 in Leo

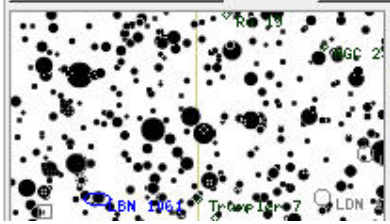
Login Username Password Login Create a new user

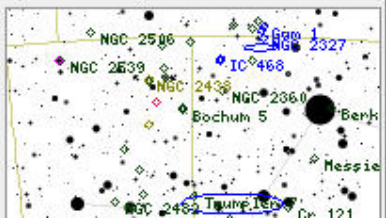


Normal North Expand map

Zoom In East Reset West Zoom Out

Zoom In Max South Zoom Out Max





Details for Trumpler 7

You're the first to visit this object!

Cr 146, OCL 635, Lund 340, C 0725-239

Right Ascension:	07 27 20.4	**Uranometria:**	319
Declination:	-23 56 42	**Uranometria 2nd ed.:**	153
Constellation:	Pup	**Millenium S.A.:**	1:344
Skyatlas:	19		

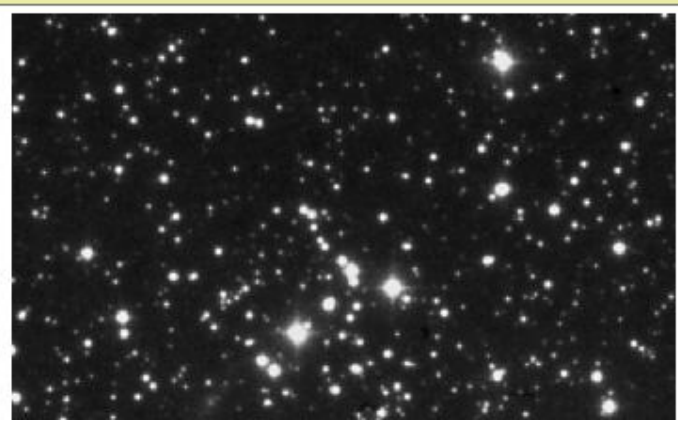
Type:	OC	**Class:**	II 3 m n
Size:	5'	**Magnitude:**	07.9
Brightest star:	10.0	**B-V color:**	0.2660000026
No. of stars:	30	**Radial Velocity:**	+34.00
Redshift:	0.0000000000	**Distance:**	1474pc

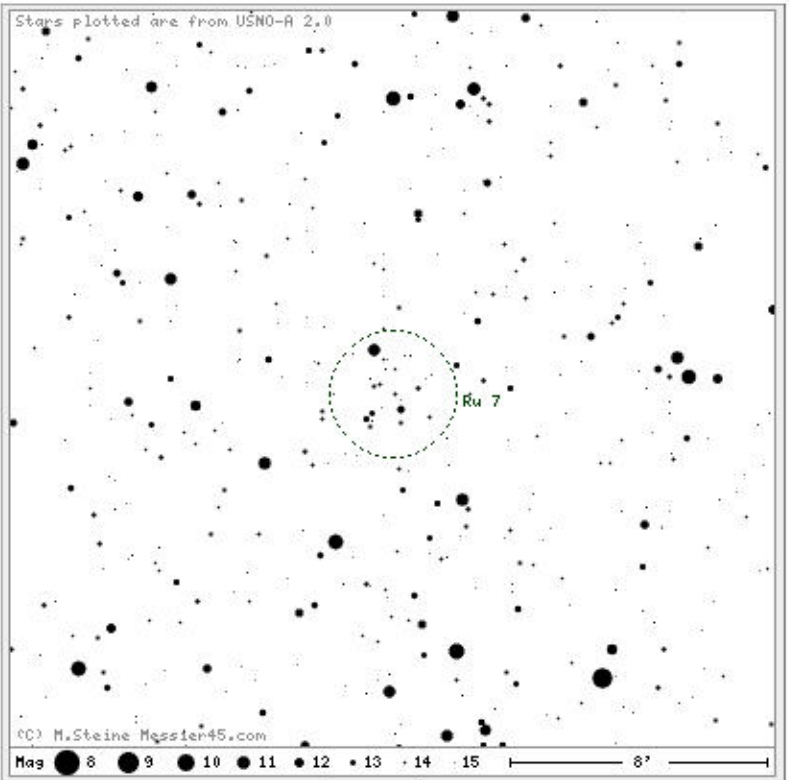
This is an **open cluster which is detached with a weak concentration toward the center, has a large brightness range and is moderately rich in stars (50-100 stars)**. It is involded with or contains nebulosity.

Other objects: Nearby | All nearby | Similar | Similar nearby | Similar in Pup

External links: SIMBAD | NED | 2MASS image | Google | Google Images

DSS image — Offset only works properly at least several degrees from the poles





Normal | Expand map

North | West | East | South | Reset | Zoom In | Zoom Out | Zoom In Max | Zoom Out Max

Details for **Ru 7** — Visited 62 times

Berkeley 33, OCL 570, Lund 275, C 0655-131

Right Ascension:	06 57 51.2	**Uranometria:**	273
Declination:	-13 13 10	**Uranometria 2nd ed.:**	135
Constellation:	CMa	**Millenium S.A.:**	1:298
Skyatlas:	12		

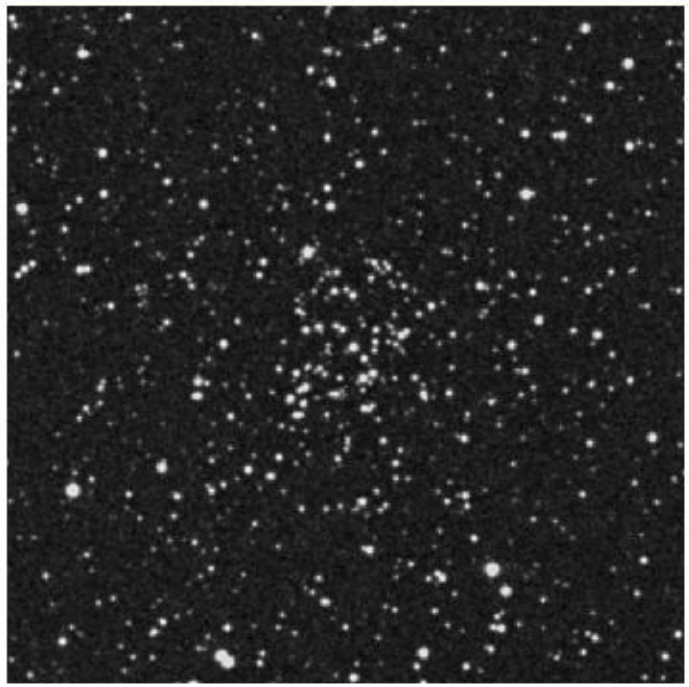
Type:	OC	**Class:**	II 2 m
Size:	4'	**Brightest star:**	14.0
B-V color:	0.6999999881	**No. of stars:**	30
Redshift:	0.0000000000	**Distance:**	4635pc

This is an **open cluster which is detached with a weak concentration toward the center, has a moderate brightness range and is moderately rich in stars (50-100 stars)**.

Other objects: Nearby | All nearby | Similar | Similar nearby | Similar in CMa

External links: SIMBAD | NED | 2MASS image | Google | Google Images

DSS image — Offset only works properly at least several degrees from the poles



Sky Great Steady no wind 34°

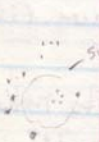
19

8:46 6885 a very bright BV star sits in the middle of a bunch of stars 50+ of about 4 mags that are a little more dense to upper right than lower left. Almost fills FOV of 19. Very nice. Class I 2 m.

8:56 7209 Nice. 50+ stars. Nice concentration. Most of same mag. 2-3 dimmer mags seen w/ these stars. 3 FS form triangle on lower left of Cluster. These 3 stars & cluster fit all in 9 mm FOV Class I 2 m. Nice.

9:05 IC1434 19mm. Very compact & very dim. 4 Bright FS stars bound cluster to left. 10-15 very faint stars sit on a very dim glow. that is easily seen. Class I 3p. Hard to classify bcs can't count the stars in glow.

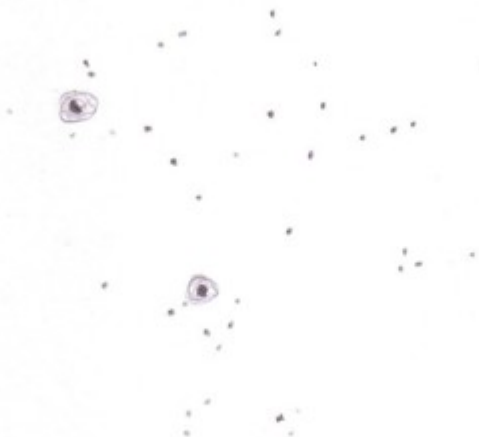
9:21 King 9 19mm. Right on star field. See all the ref stars but shows nothing. 9 mm shows 4 very faint stars in area where cluster should be but nothing else. Couldn't classify.

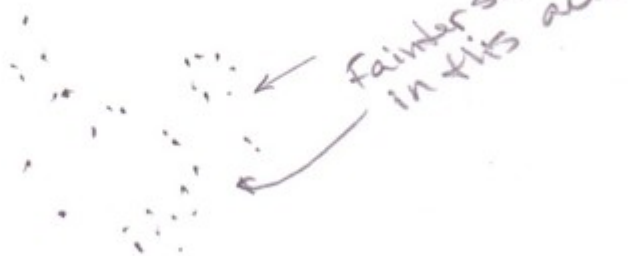


9:42 Berk 59 19mm 5 stars seen of 2 mag sitting on a very faint glow. 9 mm showed 3-4 more very faint stars w/ these 5. Class III 3p

	A	B	C	D	E	F	G	H	I
79	NGC 6709	9/12/2007	9:51 PM MDT	Sky clear. Seeing Good. Transp. Good. Light Wind.	II 2 m	12.5" f/8 Newtonian		19mm - 50+ stars of approx 5 magnitudes. Roughly circular. Very loose. Brighter blue white stars stand out in an area void of these. Fills center of FOV of 19mm nicely. Approx 1/2 FOV in diameter.	Denver Dark Sky Site near Deer Trail, CO. Moderately Dark Skies.
80	Ru 146	9/12/2007	8:35 PM MDT	Sky clear. Seeing Good. Transp. Good. Light Wind.	III 1 p	12.5" f/8 Newtonian		19mm - A boxy, linear cluster with approx 10 stars of same, dim magnitude and one star on rhs a hare brighter. Approx 1/2 FOV in length.	Denver Dark Sky Site near Deer Trail, CO. Moderately Dark Skies.
81	Berk 80	9/12/2007	9:18 PM MDT	Sky clear. Seeing Good. Transp. Good. Light Wind.	III 1 p	12.5" f/8 Newtonian		19mm - 10 very faint stars sit atop a faint glow. Pretty loose and irregular. 3 stars in a row match photo I have of it. 9mm doesn't show any more stars.	Denver Dark Sky Site near Deer Trail, CO. Moderately Dark Skies.
82	Steph 1	9/12/2007	10:43 PM MDT	Sky soft. Seeing Fair. Transp. Fair. Light Wind.	III 3 p	12.5" f/8 Newtonian		19mm - 20+ stars are centered around a very bright field star of Lyra. Approx 4 magnitudes seen with faintest barely there, but seen. Brightest are very bright. Scattered around the bright field star with no real shape. Very loose.	Denver Dark Sky Site near Deer Trail, CO. Moderately Dark Skies.
83	NGC 6716	9/12/2007	8:39 PM MDT	Sky clear. Seeing Good. Transp. Good. Light Wind.	II 1 p	12.5" f/8 Newtonian	Yes	19mm - Nice. Easy to see. Makes a fishhook pattern with an eyelet and hook. 20-30 stars of 3 magnitudes makeup this string of stars. Stands out for these stars are brighter than surrounding stars. Much brighter field star to upper left top of string.	Denver Dark Sky Site near Deer Trail, CO. Moderately Dark Skies.
84	Berk 82	9/12/2007	9:43 PM MDT	Sky clear. Seeing Good. Transp. Good. Light Wind.	I 3 p	12.5" f/8 Newtonian	Yes	19mm - 3 brighter stars and 3 dimmer starts form an arc that bounds the outside of a glow that is distinctly there.	Denver Dark Sky Site near Deer Trail, CO. Moderately Dark Skies.
85	NGC 6774	9/12/2007	8:47 PM MDT	Sky clear. Seeing Good. Transp. Good. Light Wind.	II 3 p	12.5" f/8 Newtonian		32mm - Fills FOV nicely with many blue white stars of 4-5 magnitudes. Roughly circular in shape. Has couple of hare brighter field stars in amongst these stars.	Denver Dark Sky Site near Deer Trail, CO. Moderately Dark Skies.
86	NGC 6791	9/12/2007	10:54 PM MDT	Sky soft. Seeing Fair. Transp. Fair. Light Wind.	I 1 m	12.5" f/8 Newtonian		19mm - 5-6 brighter stars at top edge of a glow that is pretty circular. Can tell there are stars in the glow. 9mm shows the very faint stars now. Many seen. Also, a mottling of the glow is seen of much fainter unseen stars. Very faint overall. But you can see its boundary because has nice contract against background sky.	Denver Dark Sky Site near Deer Trail, CO. Moderately Dark Skies.
87	NGC 6793								
88	King 25	9/12/2007	9:59 PM MDT	Sky clear. Seeing Good. Transp. Good. Light Wind.	III 1 p	12.5" f/8 Newtonian	Yes	19mm - 10 stars of 3 magnitudes bound a faint glow with their center. 9mm shows the glow and can almost resolve it into stars.	Denver Dark Sky Site near Deer Trail, CO. Moderately Dark Skies.
89	NGC 6800								
90	Berk 47	9/12/2007	10:12 PM MDT	Sky clear. Seeing Good. Transp. Good. Light Wind.	II 3 p	12.5" f/8 Newtonian	Yes	19mm - Shows a circlet of 3 easy to see stars on upper left side and a dimmer 4th star on bottom right and a 5th very faint star on upper right that is seen every once in a while. 9mm show same view, only larger.	Denver Dark Sky Site near Deer Trail, CO. Moderately Dark Skies.

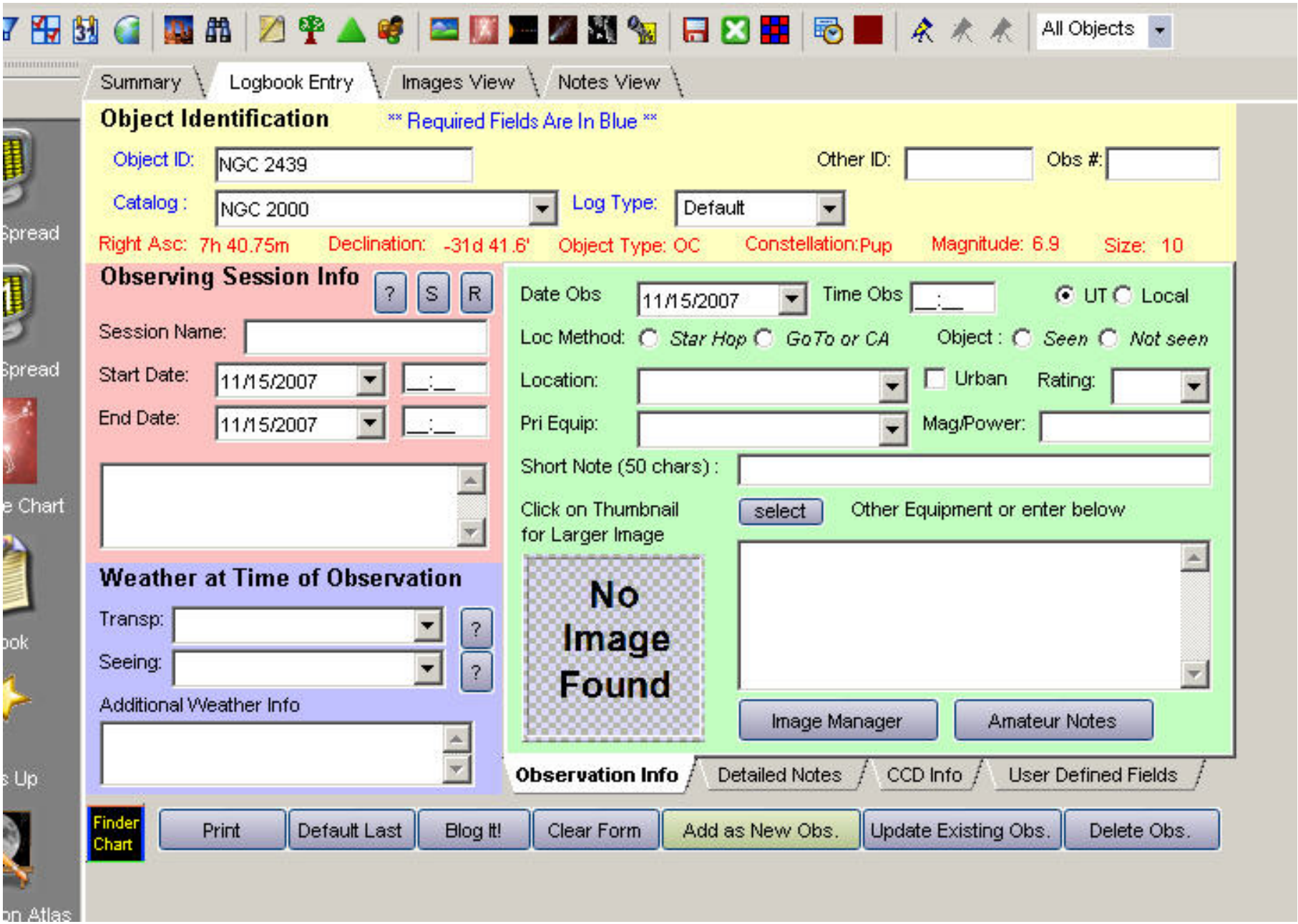
Cr 69





King 14

NGC 1807


All Objects
Summary
Logbook Entry
Images View
Notes View
Object Identification
** Required Fields Are In Blue **
Object ID:
NGC 2439
Other ID:
Obs #:
Catalog :
NGC 2000
Log Type:
Default
Right Asc: 7h 40.75m
Declination: -31d 41.6'
Object Type: OC
Constellation: Pup
Magnitude: 6.9
Size: 10
Observing Session Info
?
S
R
Session Name:
Start Date:
11/15/2007
End Date:
11/15/2007
Weather at Time of Observation
Transp:
Seeing:
Additional Weather Info
Date Obs
11/15/2007
Time Obs
UT
Local
Loc Method:
Star Hop
GoTo or CA
Object :
Seen
Not seen
Location:
Urban
Rating:
Pri Equip:
Mag/Power:
Short Note (50 chars) :
Click on Thumbnail for Larger Image
select
Other Equipment or enter below
No Image Found
Image Manager
Amateur Notes
Observation Info
Detailed Notes
CCD Info
User Defined Fields
Finder Chart
Print
Default Last
Blog It!
Clear Form
Add as New Obs.
Update Existing Obs.
Delete Obs.

Summary | Logbook Entry | Images View | Notes View

	ObjectID	Catalog	Date Obs	Time Obs	Rating	Log Type	Star/Goto
1	PK 114-4.1	SAC71	11/04/2007	12:51:00 AM		Default	S
2	PK 205+14.1	SAC71	11/04/2007	1:17:00 AM		Default	S
3	Biur 9	SAC71	11/04/2007	1:48:00 AM		Default	S
4	PK 144-15.1	SAC71	11/03/2007	9:49:00 PM		Default	S
5	PK 65-27.1	SCGP	11/03/2007	7:48:00 PM		Default	S
6	PK 104-29.1	SAC71	11/03/2007	9:33:00 PM		Default	S
7	NGC 7094	2000	11/03/2007	7:42:00 PM		Default	S
8	IC 289	SAC71	11/02/2007	9:24:00 PM		Default	S
9	IC 1747	SAC71	11/02/2007	9:07:00 PM		Default	S
10	NGC 7662	2000	11/02/2007	11:42:00 PM		Default	S
11	NGC 650	2000	11/02/2007	10:57:00 PM		Default	S
12	NGC 7319	2000	11/02/2007	10:37:00 PM		Default	S
13	NGC 7320	2000	11/02/2007	10:37:00 PM		Default	S
14	NGC 7317	2000	11/02/2007	10:37:00 PM		Default	S
15	NGC 7318	2000	11/02/2007	10:37:00 PM		Default	S
16	NGC 7337	2000	11/02/2007	10:24:00 PM		Default	S
17	NGC 7340	2000	11/02/2007	10:24:00 PM		Default	S
18	NGC 7331	2000	11/02/2007	10:24:00 PM		Default	S
19	NGC 7335	2000	11/02/2007	10:24:00 PM		Default	S
20	NGC 7063	2000	11/02/2007	10:01:00 PM		Default	S
21	NGC 7354	2000	11/02/2007	9:52:00 PM		Default	S
22	NGC 40	2000	11/02/2007	9:45:00 PM		Default	S
23	NGC 1501	2000	11/02/2007	9:30:00 PM		Default	S
24	NGC 7025	2000	11/02/2007	8:30:00 PM		Default	S
25	NGC 7142	2000	11/02/2007	8:13:00 PM		Default	S
26	PK 205+14.1	SAC71	10/12/2007	3:00:00 AM		Default	
27	Ru 7	SAC71	10/12/2007	3:35:00 AM		Default	S
28	Biur 9	SAC71	10/12/2007	2:03:00 AM		Default	S
29	BIUR 2	SAC71	10/12/2007	2:03:00 AM		Default	S
30	IC 351	SAC71	10/12/2007	12:30:00 AM		Default	S
31	IC 2003	SAC71	10/12/2007	12:18:00 AM		Default	S

The EOSOC

EARTH ORBITING SATELLITE OBSERVERS CLUB

Tuesday April 1, 2008

- INTRODUCTION
- EOSOC AWARDS
- EOSOC TUTORIAL
- EOSOC RESOURCES
- EOSOC FAQ

- AL OBSERVING CLUBS
- CSAS WEB SITE

INTRODUCTION

The Astronomical League's satellite observing program is called the **Earth Orbiting Satellite Observers Club** and is administered by Tom DeClue of the Colorado Springs Astronomical Society. This club is similar to many of the observing award programs hosted by the League whereby participants record observations for a variety of Earth orbiting satellites. After meeting all of the program requirements, award certificates are issued to the observer. Participants **must be members** of the Astronomical League to recieve this award.

This observing program is designed to get those new to satellite observing familiar with the terminology, and techniques of tracking satellites. The list of objects required for the basic award include targets that can be easily tracked using the unaided eye or binoculars, including the space shuttle, the international space station - Alpha, several operational vehicles, and numerous rocket bodies such as GPS (Global Positioning System) satellites, Russian Molniya spacecraft, and even geosynchronous/geostationary satellites. Some of the smaller targets may require telescopes and/or photographic techniques to identify.

The specifics of the EOSOC observing program are listed on the EOSOC Tutorial page, and are also on the downloadable observation report forms.

EOSOC Program Aids

Observation Log - MS Word
Observation Log - Adobe Acrobat
Excel Observation Checklist

For More Information

If you have additional questions or would like to contact the program administrators, please contact Tom DeClue and Gary Frerking at:
EOSOC Administrators
c/o Colorado Springs Astronomical Society

Equipment


FM 88 90 94 98 103 106 108 MHz
AM 530 600 700 850 1000 1400 1710 kHz
SW1 3.2 3.6 4.2 5.2 6.2 7.0 7.6 MHz
SW2 9.2 10.6 12.6 14.8 17.8 20.0 22.0 MHz
AM/FM/SW1,2 RADIO
WORLD BAND RECEIVER
FLASH LIGHT
POWER SELECTOR
FM SW2 SW1 AM
FR-200
RECYCLE POWER
AVR

Welcome **deepskymike**, you successfully logged-on

Space Shuttle Mission STS-123
Endeavour has landed safely.
Next mission will be STS-124 scheduled for 31st May.

ATV Jules Verne Launched
Europes unmanned space tranporter Jules Verne has been successfully launched.
Please use the link below for visibility predictions.

Configuration

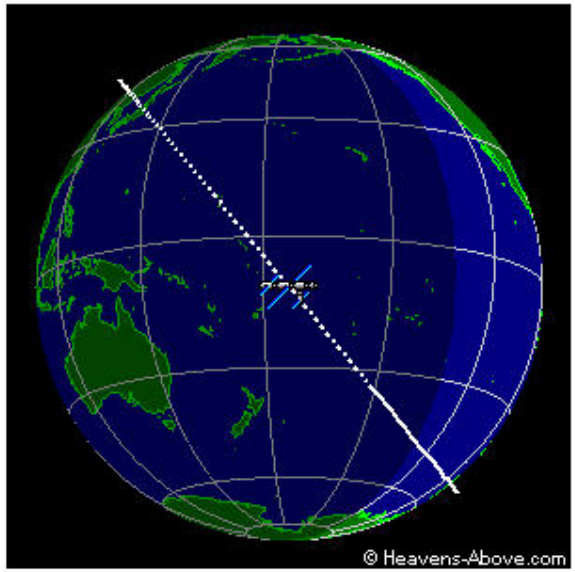
Current observing site: **Broomfield, 39.9210°N, 105.0860°W**
Switch observing sites
Change your personal configuration
Subscribe to our AvantGo channel

Satellites

10 day predictions for: ISS | ATV | Genesis-1 / 2 | Envisat | HST
Daily predictions for all satellites brighter than magnitude:
(brightest) 3.5 | 4.0 | 4.5 (dimmest)
Iridium Flares
next 24 hrs | next 7 days | previous 48 hrs
Daytime flares for 7 days - see satellites in broad daylight!
Spacecraft escaping the Solar System - where are they now?
Radio amateur satellites - 24 hour predictions (all passes)
Select a satellite from the database
Enter/edit observations
Select observations
Height of the ISS - how does it vary with time

Astronomy

Comets currently brighter than mag. 12
17P Holmes | 46P Wirtanen | 8P Tuttle | C/2006 Q1 McNaught
Minor planets currently brighter than mag. 10
4 Vesta | 1 Ceres | 41 Daphne | 5 Astraea | 7 Iris | 2 Pallas
Whole sky chart
Sun and Moon data for today
Planet summary data
Planet details (under construction)
Mercury | Venus | Earth | Mars | Jupiter | Saturn | Uranus | Neptune | Pluto
Solar system chart
Constellations



Current position of the ISS

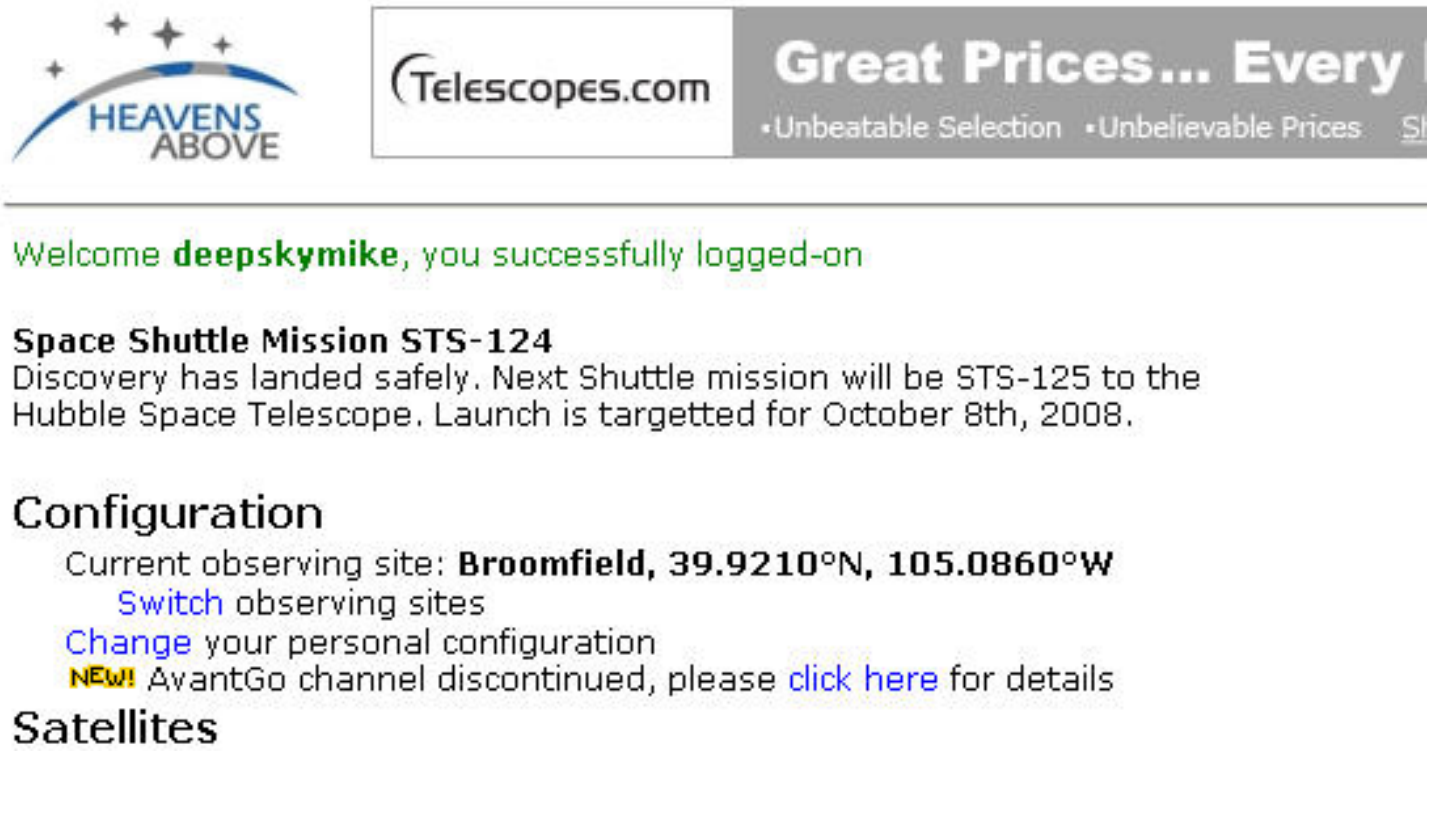
Iridium Flares

Clicking on the time of the flare will load another page with more details, including a map showing the track of the flare along the ground, and the location of the nearest point of maximum intensity.

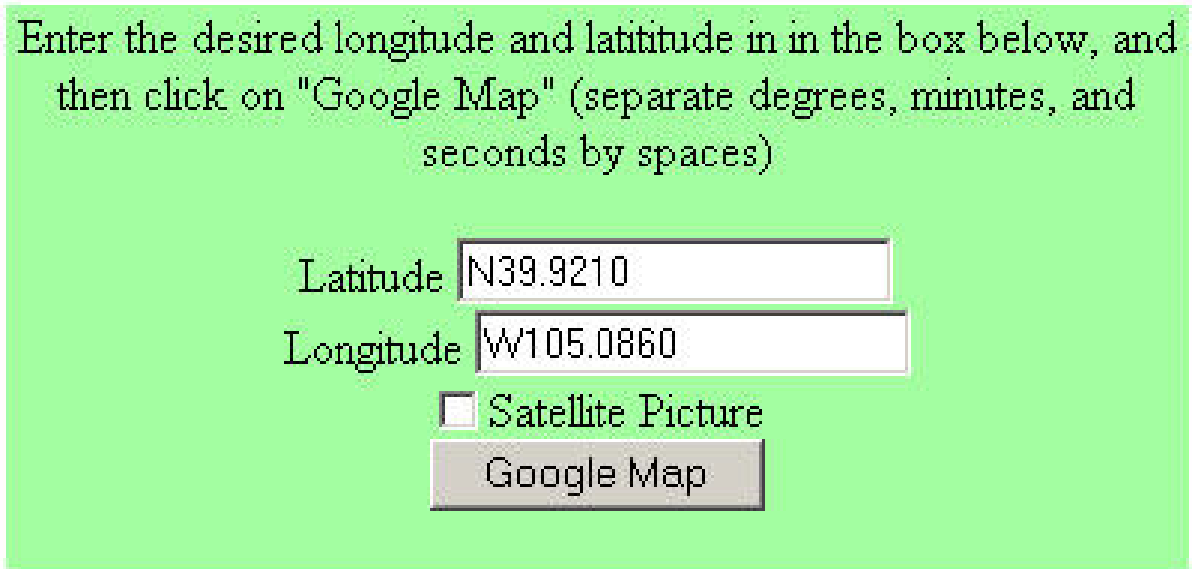
Search Period Start: 08:58, Tuesday, 01 April, 2008
Search Period End: 09:58, Wednesday, 02 April, 2008
Observer's Location: Broomfield (39.9210°N, 105.0860°W)
Local Time: Mountain Daylight Time (GMT - 6:00)

Date	Local Time	Intensity (Mag)	Alt.	Azimuth	Distance to flare centre	Intensity at flare centre (Mag.)	Satellite
01 Apr	20:49:09	-8	55°	115° (ESE)	1.9 km (W)	-8	Iridium 91

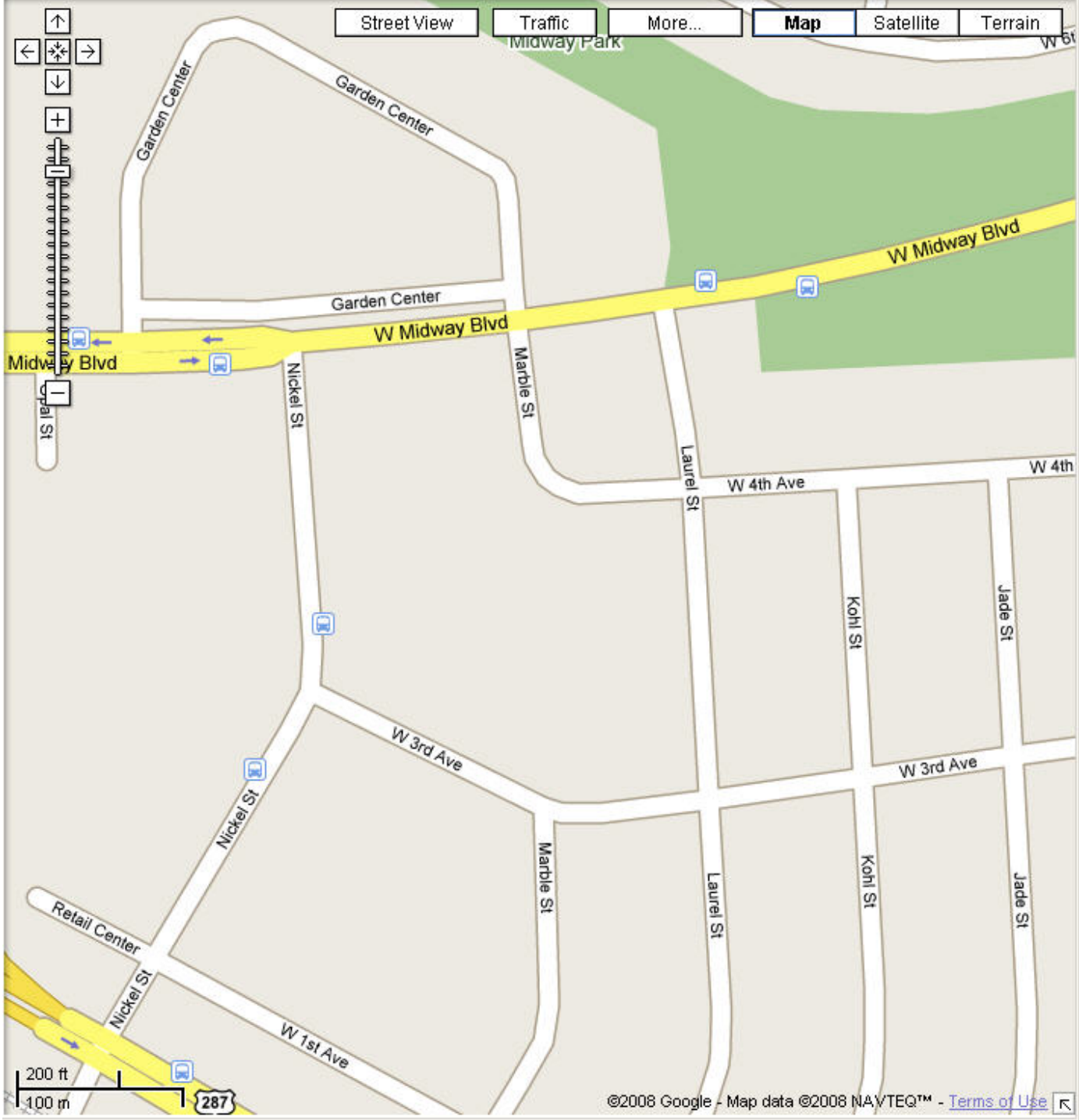
How to Determine Flare Center



http://www.stolaf.edu/people/hansonr/longlat.htm



Disclaimer


Street View
Traffic
More...
Map
Satellite
Terrain
Midway Park
Garden Center
Garden Center
Garden Center
W Midway Blvd
W Midway Blvd
Midway Blvd
Nickel St
Marble St
Laurel St
W 4th Ave
W 4th
Kohl St
Jade St
W 3rd Ave
W 3rd Ave
Nickel St
Marble St
Laurel St
Kohl St
Jade St
Retail Center
Nickel St
W 1st Ave
200 ft
100 m
287
©2008 Google - Map data ©2008 NAVTEQ™ - Terms of Use

Find a Satellite Pass

Configuration

Current observing site: **Broomfield, 39.9210°N, 105.0860°W**
Switch observing sites
Change your personal configuration
NEW! AvantGo channel discontinued, please click here for details

Satellites

10 day predictions for: ISS | ATV | Genesis-1 / 2 | Envisat | HST
Daily predictions for all satellites brighter than magnitude:
(brightest) 3.5 | 4.0 | 4.5 (dimmest)
Iridium Flares
next 24 hrs | next 7 days | previous 48 hrs
Daytime flares for 7 days - see satellites in broad daylight!
Spacecraft escaping the Solar System - where are they now?
Radio amateur satellites - 24 hour predictions (all passes)
Select a satellite from the database
Enter/edit observations
Select observations
Height of the ISS - how does it vary with time

Select Satellite

Use this page to select one or more satellites from our large database of orbiting objects. Once selected, you can then obtain information about the satellite, its orbit, and make pass predictions for it.

US Space Command ID:
(e.g. 16609) Submit

International launch designator:
(e.g. 86017 which will list all objects from that launch) Submit

Satellite name:
(Use the % character as a wildcard, e.g. Mir, Irid%, %Rocket, the search is NOT case sensitive) grace% Submit

Enter year of launch:
(e.g. 98 or 1998 will list all objects launched that year) Submit

Developed and maintained by Chris Peat, Heavens-Above GmbH
Please read the updated FAQ before sending e-mail.

Satellite Search Results

Click on a satellite in the list to go to its information page. From there you can also get pass predictions and orbital data.

GRACE-1 In Earth orbit
GRACE-2 In Earth orbit

Developed and maintained by Chris Peat, Heavens-Above GmbH
Please read the updated FAQ before sending e-mail.

Hosted by DLR/GSOC

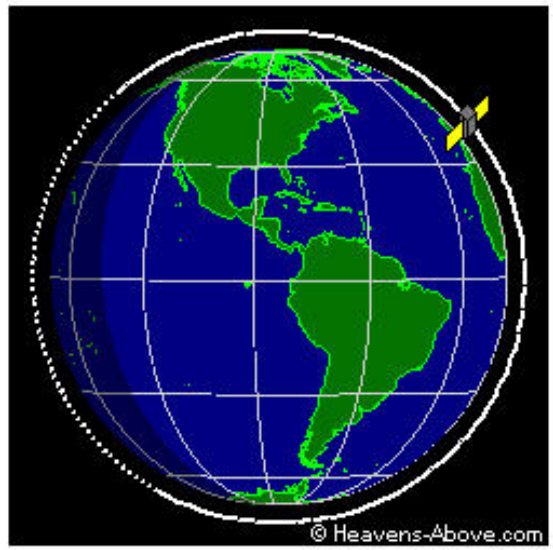
GRACE-1- Information

Identification

USSPACECOM Catalog No.: 27391
International Designation Code: 2002-012-A

Satellite Details

Orbit:	452 x 477 km, 89.0°
Category:	Earth Observation
Country/Org. of Origin:	USA/Germany
Mass:	487 kg
Dimensions:	3.1 metres long
Intrinsic brightness (Mag):	5.5 (at 1000km distance, 50% illuminated)
Maximum brightness (Mag):	2.0 (at perigee, 100% illuminated)



Launch

Date (UTC): 00:00, March 17, 2002

For further information, please click here.

GRACE-1 - Visible Passes

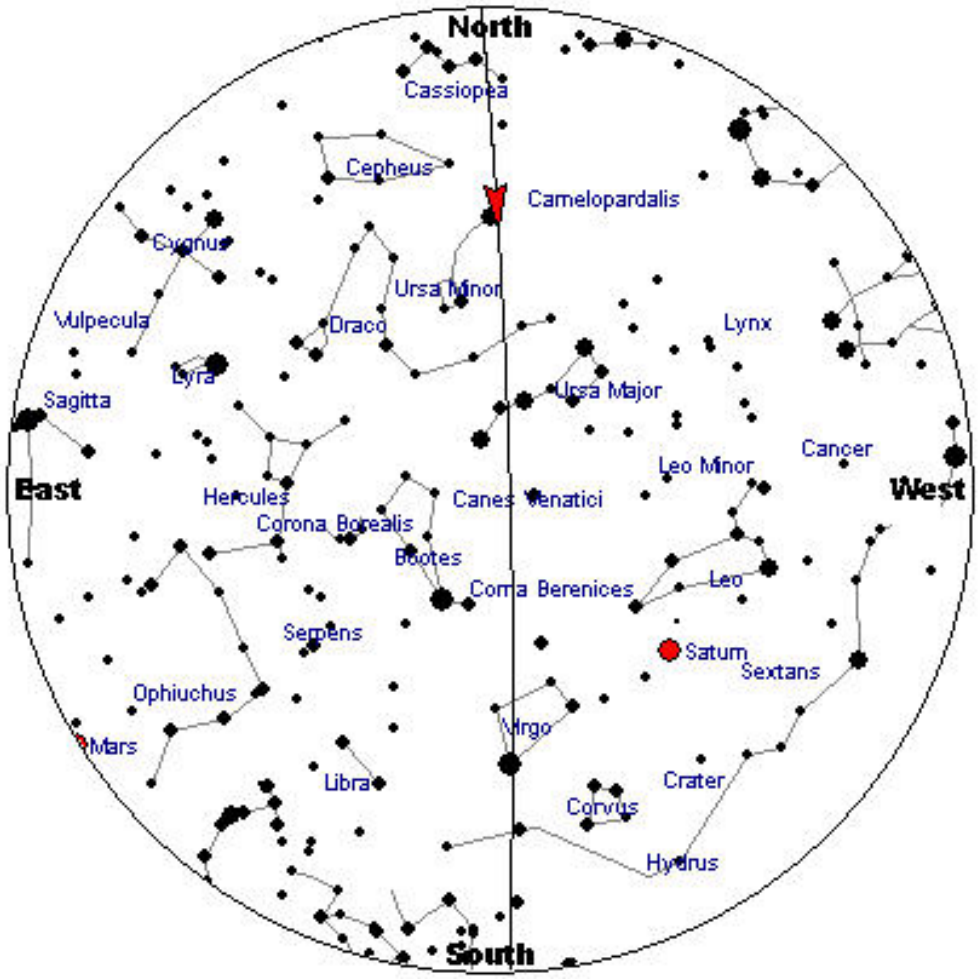
Search period start: 00:00 Wednesday, 24 December, 2008
Search period end: 00:00 Saturday, 3 January, 2009
Observer's location: Broomfield, 39.9210°N, 105.0860°W
Local time zone: Mountain Standard Time (UTC - 7:00)
Orbit: 451 x 477 km, 89.0° (Epoch Sep 26)

Click on the date to get a star chart and other pass details.

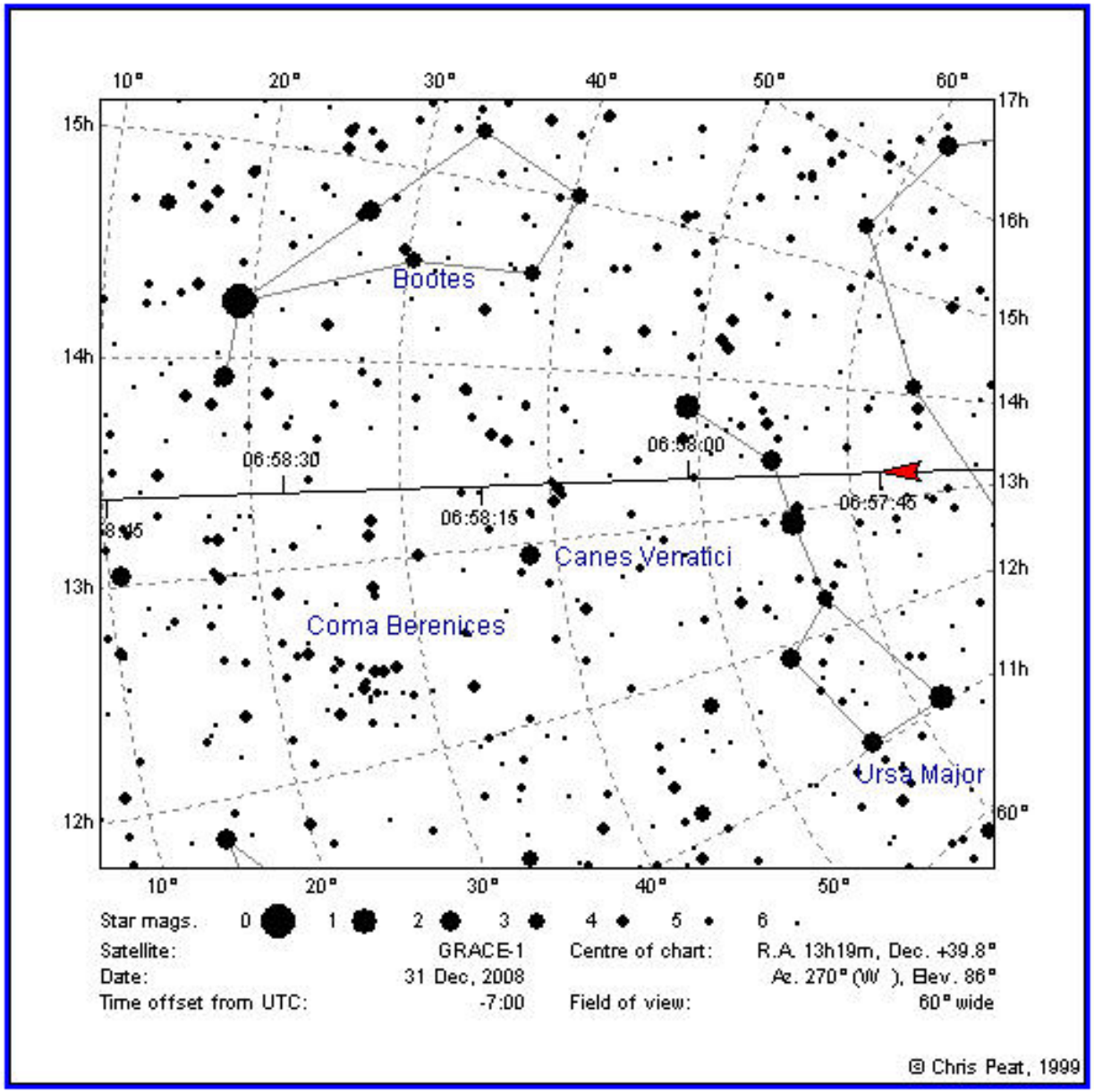
Date	Mag	Starts			Max. altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
25 Dec	5.7	06:52:49	10	NNE	06:56:12	34	E	06:59:16	10	SSE
26 Dec	6.9	06:22:43	10	NE	06:24:58	16	E	06:27:12	10	ESE
28 Dec	4.6	06:53:40	10	N	06:57:07	57	E	07:00:34	10	S
29 Dec	6.3	06:23:10	10	NNE	06:26:06	24	E	06:29:01	10	SE
30 Dec	7.4	05:53:46	10	ENE	05:54:58	11	E	05:56:10	10	E
31 Dec	3.8	06:54:38	10	N	06:58:10	86	W	07:01:40	10	S
1 Jan	5.4	06:23:53	10	NNE	06:27:11	38	E	06:30:29	10	SSE
2 Jan	6.8	05:53:42	10	NE	05:56:07	17	E	05:58:32	10	SE
2 Jan	6.9	19:32:55	10	SW	19:33:09	11	SW	19:33:09	11	SW

Whole Sky Chart

This chart shows the path of the satellite across the sky. Please note
NOT the "wrong way round" if you hold the chart over your head to c
the sky.



Detailed Star Chart



Grab and Go


STACK-ON


DURACELL
10 mm
Walgreens
Healthcare Plus
6 mm
Walgreens
Healthcare Plus
20 mm
Walgreens
Healthcare Plus

Find a Dark Site
Fox Park

Pawnee Grasslands
Cactus Flats North

Pawnee Grasslands
Crow Valley

DAS Deer Trail Site

Pawnee Grasslands
North of Raymer, CO

Presentation At

Web Site Navigation

My Astro Biography

My Astro Accomplishments

My Astro Buddies

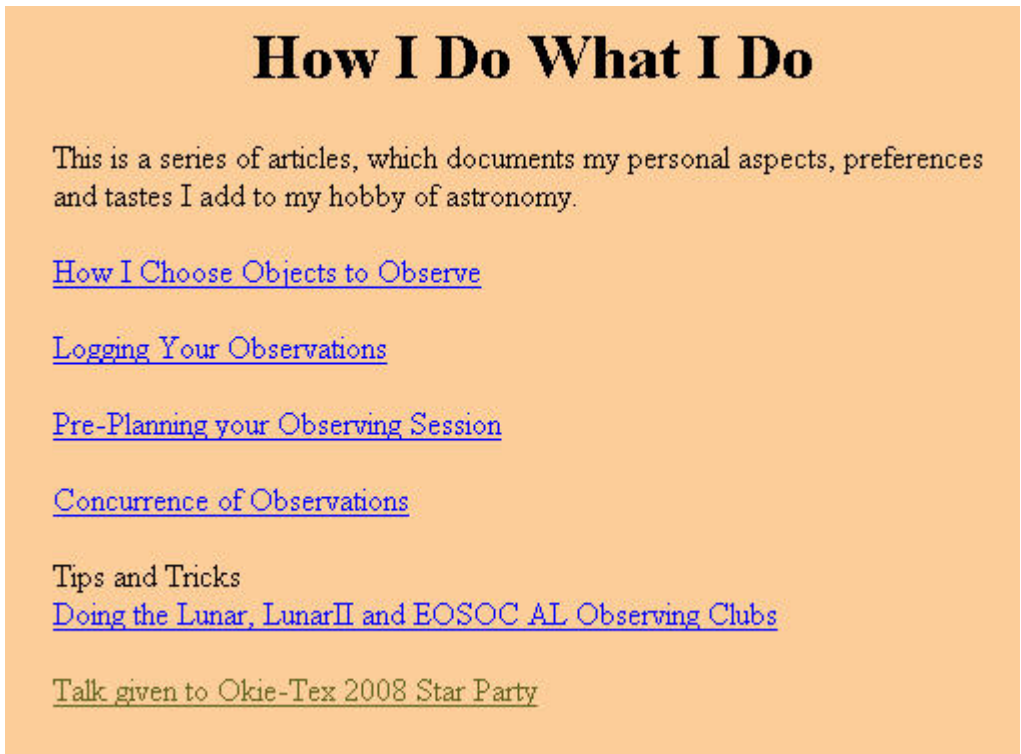
Observing Lists

Awards Page

Observing Logbook

How I Do What I Do

- http://skinny.jeans.tripod.com/astronomy/HIDWID_Index.html



How I Do What I Do

This is a series of articles, which documents my personal aspects, preferences and tastes I add to my hobby of astronomy.

How I Choose Objects to Observe

Logging Your Observations

Pre-Planning your Observing Session

Concurrence of Observations

Tips and Tricks
Doing the Lunar, LunarII and EOSOC AL Observing Clubs

Talk given to Okie-Tex 2008 Star Party

That’s All There Is To It…

- Final Thoughts
- Questions?
- Comments?