



S.A.A. 100 Observing Club

Raleigh Astronomy Club

Version 1.2 07-AUG-2005

Introduction

Welcome to the S.A.A. 100 Observing Club! This list started on the USENET newsgroup sci.astro.amateur when someone asked about everyone's favorite, non-Messier objects for medium sized telescopes (8-12"). The members of the group nominated objects and voted for their favorites. The top 100 objects, by number of votes, were collected and ranked into a list that was published.

This list is a good next step for someone who has observed all the objects on the Messier list. Since it includes objects in both the Northern and Southern Hemispheres (DEC +72 to -72), the award has two different levels to accommodate those observers who aren't able to travel. The first level, the Silver SAA 100 award requires 88 objects (all visible from North Carolina). The Gold SAA 100 Award requires all 100 objects to be observed.

One further note, many of these objects are on other observing lists, especially Patrick Moore's Caldwell list. For convenience, there is a table mapping various SAA100 objects with their Caldwell counterparts. This will facilitate observers who are working or have worked on these lists of objects.

We hope you enjoy looking at all the great objects recommended by other avid astronomers!

Rules

In order to earn the Silver certificate for the program, the applicant must meet the following qualifications:

1. Be a member in good standing of the Raleigh Astronomy Club.
2. Observe 80 Silver observations.
3. Record the time and date of each observation.
4. Any record sheet/format can be used. There is an attached list that can also be used.
5. Use of Go-To and Digital Setting Circles are permitted.
6. Send a copy of the observing record to the Raleigh Astronomy Club at:

Raleigh Astronomy Club
c/o P.O. Box 10643
Raleigh, NC 27605
Email: rac@rtpnet.org

In order to earn the Gold certificate for the program, the applicant must meet the following qualifications:

1. Be a member in good standing of the Raleigh Astronomy Club.
2. Observe all 100 observations.
3. Record the time and date of each observation.
4. Any record sheet/format can be used. There is an attached list that can also be used.
5. Use of Go-To and Digital Setting Circles are permitted.
6. Send a copy of the observing record to the Raleigh Astronomy Club at:

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Definitions

The following terms are used in the observing list:

OC – Open Cluster
GC – Globular Cluster
BN – Bright Nebula
DN – Diffuse Nebula
PN – Planetary Nebula
SNR – Super Nova Remnant
Str – Star
Ast – Asterism
Gal – Galaxy
GalCl – Galaxy Cluster
GalCh – Galaxy Chain
Qsr -- Quasar

Good Luck and Good Observing!!

Raleigh Astronomy Club

S.A.A. 100 Observing Club List

Ranked by Popularity

#	Object	Type	Mag	Con	R.A.	DEC	Comments
1.	NGC 253	Gal	7.2	Scl	00h 47m 35s	-25° 17' 01"	edge-on spiral
2.	NGC 4565	Gal	9.6	Com	12h 36m 20s	+25° 59' 23"	Bernice's Hair Clip ¹
3.	NGC 6960	SNR	---	Cyg	20h 45m 38s	+30° 43' 20"	Western Veil
4.	NGC 6992	SNR	---	Cyg	20h 56m 14s	+31° 04' 20"	Eastern Veil
5.	NGC 869	OC	5.3	Per	02h 19m 03s	+57° 08' 58"	Double Cluster ²
6.	NGC 884	OC	6.1	Per	02h 22m 27s	+57° 06' 57"	Double Cluster ³
7.	NGC 457	OC	6.4	Cas	01h 19m 10s	+58° 20' 02"	Owl Cluster
8.	NGC 5139	GC	3.7	Cen	13h 26m 46s	-47° 28' 45"	Omega Centauri ⁴
9.	NGC 7293	PN	6.3	Aqr	22h 29m 40s	-20° 47' 23"	Helical Nebula
10.	NGC 7789	OC	6.7	Cas	23h 57m 04s	+56° 44' 09"	
11.	NGC 2237	BN	5.5	Mon	06h 32m 19s	+04° 59' 03"	Rosette Nebula ⁵
12.	NGC 2244	OC	4.8	Mon	06h 32m 25s	+04° 52' 03"	in Rosette Nebula
13.	NGC 2359	BN	---	CMa	07h 17m 48s	-13° 12' 54"	Thor's Helmet/Duck ⁶
14.	NGC 2392	PN	8.6	Gem	07h 29m 10s	+20° 54' 42"	Eskimo/Clown Face
15.	NGC 3242	PN	8.6	Hya	10h 24m 48s	-18° 38' 14"	Ghost of Jupiter
16.	NGC 6543	PN	8.3	Dra	17h 58m 36s	+66° 38' 17"	Cat's Eye Nebula
17.	NGC 4631 ⁷	Gal	9.2	CVn	12h 42m 11s	+32° 32' 42"	
18.	NGC 4656 ⁸	Gal	10.5	CVn	12h 43m 58s	+32° 10' 21"	
19.	NGC 5128	Gal	6.8	Cen	13h 25m 29s	-43° 01' 07"	Centaurus A ⁹
20.	NGC 6781	PN	11.8	Aql	19h 18m 28s	+06° 32' 46"	

¹ Classic edge-on spiral with dust lane

² With NGC 884

³ With NGC 869

⁴ Best Globular Cluster in the sky

⁵ Open Cluster NGC 2244 embedded in nebula

⁶ Wolf-Rayet remnant

⁷ Same LP field as NGC 4656

⁸ Same LP field as NGC 4631

⁹ Strong radio source

21.	NGC 6826	PN	8.8	Cyg	19h 44m 53s	+50° 31' 42"	Blinking Planetary
22.	NGC 7009	PN	8.3	Aqr	21h 04m 15s	-11° 21' 49"	Saturn Nebula
#	Object	Type	Mag	Con	R.A.	DEC	Comments
23.	Abell 1656	GalCl	11	Com	12h 59m 48s	+27° 59' 04"	Coma Gal Cluster ¹⁰
24.	NGC 1023	Gal	9.4	Per	02h 40m 27s	+39° 03' 47"	
25.	NGC 2362	OC	4.1	CMa	07h 18m 48s	-24° 56' 51"	
26.	NGC 2403	Gal	8.5	Cam	07h 36m 55s	+65° 35' 42"	
27.	NGC 4038	Gal	10.3	Cor	12h 01m 53s	-18° 51' 55"	Antennae; Ringtail Gal ¹¹
28.	NGC 4039	Gal	10.6	Cor	12h 01m 54s	-18° 53' 07"	The Antennae ¹²
29.	NGC 5907	Gal	10.3	Dra	15h 15m 52s	+56° 19' 48"	
30.	NGC 6369	PN	11	Oph	17h 29m 22s	-23° 45' 37"	
31.	NGC 663	OC	7.1	Cas	01h 46m 04s	+61° 15' 00"	
32.	NGC 654	OC	6.5	Cas	01h 44m 10s	+61° 53' 00"	
33.	NGC 659	OC	7.9	Cas	01h 44m 16s	+60° 42' 00"	
34.	NGC 7000	BN	---	Cyg	20h 58m 32s	+44° 33' 21"	N. American Neb. ¹³
35.	NGC 7331	Gal	9.5	Peg	22h 37m 08s	+34° 25' 27"	Little And Galaxy
36.	NGC 7662	PN	8.6	And	23h 25m 57s	+42° 32' 44"	Blue Snowball Neb.
37.	B 59, 65-7	DN	---	Oph	17h 21m 02s	-26° 59' 58"	Pipe Nebula (stem)
38.	B 78	DN	---	Oph	17h 33m 02s	-25° 59' 58"	Pipe Nebula (bowl)
39.	IC 1396	BN	3.5	Cep	21h 39m 09s	+57° 46' 58"	
40.	IC 418	PN	10.7	Lep	05h 27m 30s	-12° 41' 32"	
41.	IC 4665	OC	4.2	Oph	17h 46m 20s	+05° 43' 08"	
42.	Mel 111	OC	1.8	Com	12h 25m 00s	+26° 00' 07"	Coma Berenices Cluster
43.	Mel 20	OC	1.2	Per	03h 22m 03s	+48° 59' 56"	Alpha Persei Assoc.
44.	NGC 1502 ¹⁴	OC	6.9	Cam	04h 07m 45s	+62° 19' 49"	
45.	NGC 1528	OC	6.4	Per	04h 15m 25s	+51° 13' 49"	
46.	NGC 1907	OC	8.2	Aur	05h 28m 00s	+35° 18' 53"	

¹⁰ Tough in 8-12" aperture

¹¹ Interacting with NGC 4039

¹² Interacting with NGC 4038

¹³ Large; often easier in binoculars than telescope

¹⁴ Near SE end of Kemble's Cascade

47.	NGC 1973	BN	---	Ori	05h 35m 09s	-04° 43' 56"	part of Running Man
48.	NGC 1975	BN	---	Ori	05h 35m 21s	-04° 40' 56"	part of Running Man
49.	NGC 1977	BN	---	Ori	05h 35m 27s	-04° 49' 56"	part of Running Man ¹⁵
#	Object	Type	Mag	Con	R.A.	DEC	Comments
50.	NGC 2070	BN	8.3	Dor	05h 38m 39s	-69° 04' 51"	Tarantula Nebula ¹⁶
51.	3C 273 ¹⁷	Qsr	12	Vir	12h 29m 06s	+02° 03' 01"	
52.	Albireo	Str	3.1	Cyg	19h 30m 45s	+27° 57' 55"	blue-white/yellow dbl
53.	Cr 399	Ast	3.6	Vul	19h 25m 26s	+20° 11' 18"	Brocchi's Cluster ¹⁸
54.	Fornax ¹⁹	GalCl	---	For	03h 38m 31s	-35° 26' 40"	
55.	Kemble's	Ast	---	Cam	03h 57m 30s	+63° 04' 13"	chain of 20 stars ²⁰
56.	King 10	OC	---	Cep	22h 54m 58s	+59° 10' 16"	
57.	Markarian's	GalCh	---	Vir	12h 25m 04s	+12° 53' 16"	string of bright Gals. ²¹
58.	Mel 25	OC	0.5	Tau	04h 27m 02s	+16° 00' 03"	Hyades ²²
59.	NGC 104	GC	4.0	Tuc	00h 24m 10s	-72° 04' 37"	47 Tucanae
60.	NGC 1535	PN	10.4	Eri	04h 14m 16s	-12° 44' 16"	multiple shells
61.	NGC 2158	OC	8.6	Gem	06h 07m 33s	+24° 05' 56"	
62.	NGC 2169	OC	5.9	Ori	06h 08m 27s	+13° 56' 59"	"37" Cluster
63.	NGC 2174	BN	---	Ori	06h 10m 01s	+20° 33' 58"	
64.	NGC 2232	OC	3.9	Mon	06h 26m 37s	-04° 44' 54"	
65.	NGC 225	OC	7.0	Cas	00h 43m 28s	+61° 47' 06"	
66.	NGC 2261	BN	---	Mon	06h 39m 13s	+08° 44' 01"	Hubble's Var Neb
67.	NGC 2264	OC	3.9	Mon	06h 40m 58s	+09° 53' 42"	Christmas Tree ²³
68.	NGC 2301	OC	6.0	Mon	06h 51m 49s	+00° 28' 04"	

¹⁵ 42 Orionis nebula

¹⁶ In Large Magellanic Cloud

¹⁷ Brightest quasar. Most remote object visible in modest amateur telescopes (~2 billion light years)

¹⁸ The Coathanger. Once assumed to be an OC. Data from Hipparcos spacecraft shows it to be a chance alignment of stars

¹⁹ Approximately 20 galaxies brighter than magnitude 13

²⁰ First described by Canadian amateur Lucian J. Kemble. Beautiful chain of about 20 magnitude 5-9 stars. Coordinates are for SAO 12969, a magnitude 5 star in the middle of the cascade

²¹ Covers 3 degrees of sky, starting with M84 & M86 in Virgo, ending with NGCs 4459 & 4474 in Coma Berenices; coordinates are for M84

²² Aldeberan is not a member

²³ Cone nebula; includes naked-eye S Mon (15 Mon)

69.	NGC 2360	OC	7.2	CMa	07h 17m 48s	-15° 36' 53"	
70.	NGC 2438	PN	11	Pup	07h 41m 51s	-14° 44' 06"	foreground of M46
71.	NGC 2467	BN	7.1	Pup	07h 52m 30s	-26° 22' 52"	Use UHC or OIII filter
72.	NGC 247	Gal	9.1	Cet	00h 47m 11s	-20° 45' 21"	
73.	NGC 2841	Gal	9.2	UMa	09h 22m 01s	+50° 58' 21"	
#	Object	Type	Mag	Con	R.A.	DEC	Comments
74.	NGC 2903	Gal	9.0	Leo	09h 32m 10s	+21° 29' 58"	
75.	NGC 3115	Gal	8.9	Sex	10h 05m 14s	-07° 43' 06"	Spindle Galaxy
76.	NGC 3372	BN	---	Car	10h 43m 47s	-59° 52' 01"	Eta Carina Nebula
77.	NGC 3532	OC	3.0	Car	11h 06m 23s	-58° 40' 03"	
78.	NGC 3766	OC	5.3	Cen	11h 36m 05s	-61° 37' 04"	
79.	NGC 3877	Gal	11	UMa	11h 46m 07s	+47° 29' 37"	
80.	NGC 40	PN	10.7	Cep	00h 13m 08s	+72° 31' 47"	
81.	NGC 4244	Gal	10.4	CVn	12h 17m 29s	+37° 48' 28"	
82.	NGC 4361	PN	10.3	Cor	12h 24m 30s	-18° 47' 38"	
83.	NGC 4526	Gal	9.7	Vir	12h 34m 03s	+07° 42' 03"	Lost Galaxy
84.	NGC 4567	Gal	11.3	Vir	12h 36m 33s	+11° 15' 33"	Siamese Twins ²⁴
85.	NGC 4568	Gal	10.8	Vir	12h 36m 35s	+11° 14' 17"	Siamese Twins ²⁵
86.	NGC 4755	OC	4.2	Cru	12h 53m 35s	-60° 20' 08"	Jewel Box Cluster
87.	NGC 5746	Gal	10.3	Vir	14h 44m 57s	+01° 57' 20"	
88.	NGC 6210	PN	9.7	Her	16h 44m 30s	+23° 48' 46"	
89.	NGC 6231	OC	2.6	Sco	16h 54m 01s	-41° 48' 06"	Table of Scorpius ²⁶
90.	NGC 6397	GC	5.7	Ara	17h 40m 43s	-53° 40' 33"	Nearest Globular
91.	NGC 6545	Gal	13.2	Pav	18h 12m 18s	-63° 46' 45"	Needle Galaxy
92.	NGC 6572	PN	9.0	Oph	18h 12m 09s	+06° 51' 01"	
93.	NGC 6633	OC	4.6	Oph	18h 27m 43s	+06° 34' 14"	
94.	NGC 6819	OC	7.3	Cyg	19h 41m 20s	+40° 11' 22"	
95.	NGC 6885	OC	8.1	Vul	20h 12m 02s	+26° 20' 20"	

²⁴ Overlaps NGC 4568

²⁵ Overlaps NGC 4567

²⁶ Zeta Scorpius complex

96.	NGC 6888	BN	---	Cyg	20h 12m 14s	+38° 20' 21"	Crescent Nebula
97.	NGC 6839	OC	7.8	Cep	20h 31m 27s	+60° 38' 22"	
98.	NGC 752	OC	5.7	And	01h 57m 51s	+37° 41' 05"	
99.	NGC 891	Gal	9.9	And	02h 22m 36s	+42° 20' 50"	edge-on spiral ²⁷
100.	Stock2	OC	4.4	Cas	02h 15m 04s	+59° 15' 58"	Muscleman Cluster

²⁷ Features prominent dust lane

Raleigh Astronomy Club

S.A.A. 100 Observing Club List

Ranked by Constellation

#	Object	Type	Mag	Con	R.A.	DEC	Comments
98	NGC 752	OC	5.7	And	01h 57m 51s	+37° 41' 05"	
99	NGC 891	Gal	9.9	And	02h 22m 36s	+42° 20' 50"	edge-on spiral
36	NGC 7662	PN	8.6	And	23h 25m 57s	+42° 32' 44"	Blue Snowball Neb.
20	NGC 6781	PN	11.8	Aql	19h 18m 28s	+06° 32' 46"	
22	NGC 7009	PN	8.3	Aqr	21h 04m 15s	-11° 21' 49"	Saturn Nebula
9	NGC 7293	PN	6.3	Aqr	22h 29m 40s	-20° 47' 23"	Helical Nebula
90	NGC 6397	GC	5.7	Ara	17h 40m 43s	-53° 40' 33"	Nearest Globular
46	NGC 1907	OC	8.2	Aur	05h 28m 00s	+35° 18' 53"	
55	Kemble's	Ast	---	Cam	03h 57m 30s	+63° 04' 13"	chain of 20 stars ²⁸
44	NGC 1502	OC	6.9	Cam	04h 07m 45s	+62° 19' 49" ²⁹	
26	NGC 2403	Gal	8.5	Cam	07h 36m 55s	+65° 35' 42"	
76	NGC 3372	BN	---	Car	10h 43m 47s	-59° 52' 01"	Eta Carina Nebula
77	NGC 3532	OC	3.0	Car	11h 06m 23s	-58° 40' 03"	
65	NGC 225	OC	7.0	Cas	00h 43m 28s	+61° 47' 06"	
7	NGC 457	OC	6.4	Cas	01h 19m 10s	+58° 20' 02"	Owl Cluster
31	NGC 663	OC	7.1	Cas	01h 46m 04s	+61° 15' 00"	
32	NGC 654	OC	6.5	Cas	01h 44m 10s	+61° 53' 00"	
33	NGC 659	OC	7.9	Cas	01h 44m 16s	+60° 42' 00"	
100	Stock2	OC	4.4	Cas	02h 15m 04s	+59° 15' 58"	Muscleman Cluster
10	NGC 7789	OC	6.7	Cas	23h 57m 04s	+56° 44' 09"	
78	NGC 3766	OC	5.3	Cen	11h 36m 05s	-61° 37' 04"	
19	NGC 5128	Gal	6.8	Cen	13h 25m 29s	-43° 01' 07"	Centaurus A ³⁰

²⁸ First described by Canadian amateur Lucian J. Kemble; beautiful chain of about 20 magnitude 5-9 stars. Coordinates are for SAO 12969, a magnitude 5 star in the middle of the cascade.

²⁹ Near SE end of Kemble's Cascade

³⁰ Strong radio source

8	NGC 5139	GC	3.7	Cen	13h 26m 46s	-47° 28' 45"	Omega Centauri ³¹
80	NGC 40	PN	10.7	Cep	00h 13m 08s	+72° 31' 47"	
#	Object	Type	Mag	Con	R.A.	DEC	Comments
97	NGC 6839	OC	7.8	Cep	20h 31m 27s	+60° 38' 22"	
39	IC 1396	BN	3.5	Cep	21h 39m 09s	+57° 46' 58"	
56	King 10	OC	---	Cep	22h 54m 58s	+59° 10' 16"	
72	NGC 247	Gal	9.1	Cet	00h 47m 11s	-20° 45' 21"	
13	NGC 2359	BN	---	CMa	07h 17m 48s	-13° 12' 54"	Thor's Helmet/Duck ³²
69	NGC 2360	OC	7.2	CMa	07h 17m 48s	-15° 36' 53"	
25	NGC 2362	OC	4.1	CMa	07h 18m 48s	-24° 56' 51"	
42	Mel 111	OC	1.8	Com	12h 25m 00s	+26° 00' 07"	Coma Berenices Cluster
2	NGC 4565	Gal	9.6	Com	12h 36m 20s	+25° 59' 23"	Bernice's Hair Clip ³³
23	Abell 1656	GalCl	11	Com	12h 59m 48s	+27° 59' 04"	Coma Gal Cluster ³⁴
27	NGC 4038	Gal	10.3	Cor	12h 01m 53s	-18° 51' 55"	Antennae; Ringtail Gal ³⁵
28	NGC 4039	Gal	10.6	Cor	12h 01m 54s	-18° 53' 07"	The Antennae ³⁶
82	NGC 4361	PN	10.3	Cor	12h 24m 30s	-18° 47' 38"	
86	NGC 4755	OC	4.2	Cru	12h 53m 35s	-60° 20' 08"	Jewel Box Cluster
81	NGC 4244	Gal	10.4	CVn	12h 17m 29s	+37° 48' 28"	
17	NGC 4631	Gal	9.2	CVn	12h 42m 11s	+32° 32' 42" ³⁷	
18	NGC 4656	Gal	10.5	CVn	12h 43m 58s	+32° 10' 21" ³⁸	
52	Albireo	Str	3.1	Cyg	19h 30m 45s	+27° 57' 55"	blue-white/yellow dbl
94	NGC 6819	OC	7.3	Cyg	19h 41m 20s	+40° 11' 22"	
21	NGC 6826	PN	8.8	Cyg	19h 44m 53s	+50° 31' 42"	Blinking Planetary
96	NGC 6888	BN	---	Cyg	20h 12m 14s	+38° 20' 21"	Crescent Nebula
3	NGC 6960	SNR	---	Cyg	20h 45m 38s	+30° 43' 20"	Western Veil

³¹ Best globular cluster in the sky

³² Wolf-Rayet remnant

³³ Classic edge-on spiral with dust lane

³⁴ Tough in 8-12" aperture

³⁵ Interacting with NGC 4039

³⁶ Interacting with NGC 4038

³⁷ Same LP field as NGC 4656

³⁸ Same LP field as NGC 4631

4	NGC 6992	SNR	---	Cyg	20h 56m 14s	+31° 04' 20"	Eastern Veil
34	NGC 7000	BN	---	Cyg	20h 58m 32s	+44° 33' 21"	N. American Neb. ³⁹
50	NGC 2070	BN	8.3	Dor	05h 38m 39s	-69° 04' 51"	Tarantula Nebula ⁴⁰
#	Object	Type	Mag	Con	R.A.	DEC	Comments
29	NGC 5907	Gal	10.3	Dra	15h 15m 52s	+56° 19' 48"	
16	NGC 6543	PN	8.3	Dra	17h 58m 36s	+66° 38' 17"	Cat's Eye Nebula
60	NGC 1535	PN	10.4	Eri	04h 14m 16s	-12° 44' 16"	multiple shells
54	Fornax	GalCl	---	For	03h 38m 31s	-35° 26' 40"	~20 Gal > Mag 13
61	NGC 2158	OC	8.6	Gem	06h 07m 33s	+24° 05' 56"	
14	NGC 2392	PN	8.6	Gem	07h 29m 10s	+20° 54' 42"	Eskimo/Clown Face
88	NGC 6210	PN	9.7	Her	16h 44m 30s	+23° 48' 46"	
15	NGC 3242	PN	8.6	Hya	10h 24m 48s	-18° 38' 14"	Ghost of Jupiter
74	NGC 2903	Gal	9.0	Leo	09h 32m 10s	+21° 29' 58"	
40	IC 418	PN	10.7	Lep	05h 27m 30s	-12° 41' 32"	
64	NGC 2232	OC	3.9	Mon	06h 26m 37s	-04° 44' 54"	
11	NGC 2237	BN	5.5	Mon	06h 32m 19s	+04° 59' 03"	Rosette Nebula ⁴¹
12	NGC 2244	OC	4.8	Mon	06h 32m 25s	+04° 52' 03"	w/ Rosette Nebula
66	NGC 2261	BN	---	Mon	06h 39m 13s	+08° 44' 01"	Hubble's Var Neb
67	NGC 2264	OC	3.9	Mon	06h 40m 58s	+09° 53' 42"	Christmas Tree ⁴²
68	NGC 2301	OC	6.0	Mon	06h 51m 49s	+00° 28' 04"	
37	B 59, 65-7	DN	---	Oph	17h 21m 02s	-26° 59' 58"	Pipe Nebula (stem)
30	NGC 6369	PN	11	Oph	17h 29m 22s	-23° 45' 37"	
38	B 78	DN	---	Oph	17h 33m 02s	-25° 59' 58"	Pipe Nebula (bowl)
41	IC 4665	OC	4.2	Oph	17h 46m 20s	+05° 43' 08"	
92	NGC 6572	PN	9.0	Oph	18h 12m 09s	+06° 51' 01"	
93	NGC 6633	OC	4.6	Oph	18h 27m 43s	+06° 34' 14"	
47	NGC 1973	BN	---	Ori	05h 35m 09s	-04° 43' 56"	part of Running Man
48	NGC 1975	BN	---	Ori	05h 35m 21s	-04° 40' 56"	part of Running Man

³⁹ Large; often easier in binoculars than telescope

⁴⁰ In Large Magellanic Cloud

⁴¹ OC NGC 2244 embedded in nebula

⁴² Includes naked eye S Mon (15 Mon)

49	NGC 1977	BN	---	Ori	05h 35m 27s	-04° 49' 56"	part of Running Man ⁴³
62	NGC 2169	OC	5.9	Ori	06h 08m 27s	+13° 56' 59"	"37" Cluster
63	NGC 2174	BN	---	Ori	06h 10m 01s	+20° 33' 58"	
91	NGC 6545	Gal	13.2	Pav	18h 12m 18s	-63° 46' 45"	Needle Galaxy
#	Object	Type	Mag	Con	R.A.	DEC	Comments
35	NGC 7331	Gal	9.5	Peg	22h 37m 08s	+34° 25' 27"	Little And Galaxy
5	NGC 869	OC	5.3	Per	02h 19m 03s	+57° 08' 58"	Double Cluster ⁴⁴
6	NGC 884	OC	6.1	Per	02h 22m 27s	+57° 06' 57"	Double Cluster ⁴⁵
24	NGC 1023	Gal	9.4	Per	02h 40m 27s	+39° 03' 47"	
43	Mel 20	OC	1.2	Per	03h 22m 03s	+48° 59' 56"	Alpha Persei Assoc.
45	NGC 1528	OC	6.4	Per	04h 15m 25s	+51° 13' 49"	
70	NGC 2438	PN	11	Pup	07h 41m 51s	-14° 44' 06"	foreground of M46
71	NGC 2467	BN	7.1	Pup	07h 52m 30s	-26° 22' 52"	Use UHC or OIII filter
89	NGC 6231	OC	2.6	Sco	16h 54m 01s	-41° 48' 06"	Table of Scorpius ⁴⁶
1	NGC 253	Gal	7.2	Scl	00h 47m 35s	-25° 17' 01"	edge-on spiral
75	NGC 3115	Gal	8.9	Sex	10h 05m 14s	-07° 43' 06"	Spindle Galaxy
58	Mel 25	OC	0.5	Tau	04h 27m 02s	+16° 00' 03"	Hyades ⁴⁷
59	NGC 104	GC	4.0	Tuc	00h 24m 10s	-72° 04' 37"	47 Tucanae
73	NGC 2841	Gal	9.2	UMa	09h 22m 01s	+50° 58' 21"	
79	NGC 3877	Gal	11	UMa	11h 46m 07s	+47° 29' 37"	
57	Markarian's	GalCh---		Vir	12h 25m 04s	+12° 53' 16"	string of bright Gals. ⁴⁸
51	3C 273	Qsr	12	Vir	12h 29m 06s	+02° 03' 01"	brightest quasar ⁴⁹
83	NGC 4526	Gal	9.7	Vir	12h 34m 03s	+07° 42' 03"	Lost Galaxy
84	NGC 4567	Gal	11.3	Vir	12h 36m 33s	+11° 15' 33"	Siamese Twins ⁵⁰

⁴³ 42 Orionis nebula

⁴⁴ With NGC 884

⁴⁵ With NGC 869

⁴⁶ Zeta Sco complex

⁴⁷ Aldeberan not a member

⁴⁸ String of bright galaxies; covers 3 degrees of sky, starting with M84 & M86 in Virgo, ending with NGC's 4459 & 4474 in Coma Berenices. The coordinates are for M84.

⁴⁹ Brightest quasar. Most remote object visible in modest amateur telescopes (~2 billion light-years)

⁵⁰ Overlaps NGC 4568

85	NGC 4568	Gal	10.8	Vir	12h 36m 35s	+11° 14' 17"	Siamese Twins ⁵¹
87	NGC 5746	Gal	10.3	Vir	14h 44m 57s	+01° 57' 20"	
53	Cr 399	Ast	3.6	Vul	19h 25m 26s	+20° 11' 18"	Brocchi's Cluster ⁵²
95	NGC 6885	OC	8.1	Vul	20h 12m 02s	+26° 20' 20"	

⁵¹ Overlaps NGC 4567

⁵² Once assumed to be an OC; data from Hipparchos shows it to be a chance alignment of stars

Raleigh Astronomy Club

S.A.A. 100 Observing Club Log

Observer: _____

Instruments Used: _____

OBJECT	Location	Date	Time	Sketch
1. [] NGC 253	_____	_____	_____	_____
2. [] NGC 4565	_____	_____	_____	_____
3. [] NGC 6960	_____	_____	_____	_____
4. [] NGC 6992	_____	_____	_____	_____
5. [] NGC 869	_____	_____	_____	_____
6. [] NGC 884	_____	_____	_____	_____
7. [] NGC 457	_____	_____	_____	_____
8. [] NGC 5139	_____	_____	_____	_____
9. [] NGC 7293	_____	_____	_____	_____
10. [] NGC 7789	_____	_____	_____	_____
11. [] NGC 2237	_____	_____	_____	_____
12. [] NGC 2244	_____	_____	_____	_____
13. [] NGC 2359	_____	_____	_____	_____
14. [] NGC 2392	_____	_____	_____	_____
15. [] NGC 3242	_____	_____	_____	_____
16. [] NGC 6543	_____	_____	_____	_____
17. [] NGC 4631	_____	_____	_____	_____
18. [] NGC 4656	_____	_____	_____	_____
19. [] NGC 5128	_____	_____	_____	_____
20. [] NGC 6781	_____	_____	_____	_____

- | | | | | | | |
|-----|-----|------------|-------|-------|-------|-------|
| 21. | [] | NGC 6826 | _____ | _____ | _____ | _____ |
| 22. | [] | NGC 7009 | _____ | _____ | _____ | _____ |
| 23. | [] | Abell 1656 | _____ | _____ | _____ | _____ |
| 24. | [] | NGC 1023 | _____ | _____ | _____ | _____ |
| 25. | [] | NGC 2362 | _____ | _____ | _____ | _____ |
| 26. | [] | NGC 2403 | _____ | _____ | _____ | _____ |
| 27. | [] | NGC 4038 | _____ | _____ | _____ | _____ |
| 28. | [] | NGC 4039 | _____ | _____ | _____ | _____ |
| 29. | [] | NGC 5907 | _____ | _____ | _____ | _____ |
| 30. | [] | NGC 6369 | _____ | _____ | _____ | _____ |
| 31. | [] | NGC 663 | _____ | _____ | _____ | _____ |
| 32. | [] | NGC 654 | _____ | _____ | _____ | _____ |
| 33. | [] | NGC 659 | _____ | _____ | _____ | _____ |
| 34. | [] | NGC 7000 | _____ | _____ | _____ | _____ |
| 35. | [] | NGC 7331 | _____ | _____ | _____ | _____ |
| 36. | [] | NGC 7662 | _____ | _____ | _____ | _____ |
| 37. | [] | B 59, 65-7 | _____ | _____ | _____ | _____ |
| 38. | [] | B78 | _____ | _____ | _____ | _____ |
| 39. | [] | IC 1396 | _____ | _____ | _____ | _____ |
| 40. | [] | IC 418 | _____ | _____ | _____ | _____ |
| 41. | [] | IC 4665 | _____ | _____ | _____ | _____ |
| 42. | [] | Mel 111 | _____ | _____ | _____ | _____ |
| 43. | [] | Mel 20 | _____ | _____ | _____ | _____ |
| 44. | [] | NGC 1502 | _____ | _____ | _____ | _____ |
| 45. | [] | NGC 1528 | _____ | _____ | _____ | _____ |
| 46. | [] | NGC 1907 | _____ | _____ | _____ | _____ |
| 47. | [] | NGC 1973 | _____ | _____ | _____ | _____ |
| 48. | [] | NGC 1975 | _____ | _____ | _____ | _____ |
| 49. | [] | NGC 1977 | _____ | _____ | _____ | _____ |
| 50. | [] | NGC 2070 | _____ | _____ | _____ | _____ |

- 51. [] 3C 273 _____
- 52. [] Albiero _____
- 53. [] Cr 399 _____
- 54. [] Fornax GalCl _____
- 55. [] Kemble's Cascade _____
- 56. [] King 10 _____
- 57. [] Markarian's Ch _____
- 58. [] Mel 25 _____
- 59. [] NGC 104 _____
- 60. [] NGC 1535 _____
- 61. [] NGC 2158 _____
- 62. [] NGC 2169 _____
- 63. [] NGC 2174 _____
- 64. [] NGC 2232 _____
- 65. [] NGC 225 _____
- 66. [] NGC 2261 _____
- 67. [] NGC 2264 _____
- 68. [] NGC 2301 _____
- 69. [] NGC 2360 _____
- 70. [] NGC 2438 _____
- 71. [] NGC 2467 _____
- 72. [] NGC 247 _____
- 73. [] NGC 2841 _____
- 74. [] NGC 2903 _____
- 75. [] NGC 3115 _____
- 76. [] NGC 3372 _____
- 77. [] NGC 3532 _____
- 78. [] NGC 3766 _____
- 79. [] NGC 3877 _____
- 80. [] NGC 40 _____

81.	[]	NGC 4244	_____	_____	_____	_____
82.	[]	NGC 4361	_____	_____	_____	_____
83.	[]	NGC 4526	_____	_____	_____	_____
84.	[]	NGC 4567	_____	_____	_____	_____
85.	[]	NGC 4568	_____	_____	_____	_____
86.	[]	NGC 4755	_____	_____	_____	_____
87.	[]	NGC 5746	_____	_____	_____	_____
88.	[]	NGC 6210	_____	_____	_____	_____
89.	[]	NGC 6231	_____	_____	_____	_____
90.	[]	NGC 6397	_____	_____	_____	_____
91.	[]	NGC 6545	_____	_____	_____	_____
92.	[]	NGC 6572	_____	_____	_____	_____
93.	[]	NGC 6633	_____	_____	_____	_____
94.	[]	NGC 6819	_____	_____	_____	_____
95.	[]	NGC 6885	_____	_____	_____	_____
96.	[]	NGC 6888	_____	_____	_____	_____
97.	[]	NGC 6939	_____	_____	_____	_____
98.	[]	NGC 752	_____	_____	_____	_____
99.	[]	NGC 891	_____	_____	_____	_____
100.	[]	Stock 2	_____	_____	_____	_____

Raleigh Astronomy Club
S.A.A. 100 Observing Club List
Patrick Moore's Caldwell List Mapping

<u>SAA Number</u>	<u>Object</u>	<u>Caldwell Number</u>
1	NGC 253	C65
2	NGC 4565	C38
3	NGC 6960	C34
4	NGC 6992	C33
5	NGC 869	C14
6	NGC 884	C14
7	NGC 457	C13
8	NGC 5139	C80
9	NGC 7293	C63
11	NGC 2237	C49
12	NGC 2244	C50
14	NGC 2392	C39
15	NGC 3242	C59
16	NGC 6543	C6
17	NGC 4631	C32
19	NGC 5128	C19
21	NGC 6826	C15
22	NGC 7009	C55
25	NGC 2362	C64
26	NGC 2403	C7
27	NGC 4038	C60
28	NGC 4039	C61
31	NGC 663	C10
34	NGC 7000	C20
35	NGC 7331	C30

36	NGC 7662	C22
50	NGC 2070	C103
SAA Number	Object	Caldwell Number
59	NGC 104	C106
66	NGC 2261	C46
69	NGC 2360	C58
72	NGC 247	C62
75	NGC 3115	C53
76	NGC 3372	C92
77	NGC 3532	C91
78	NGC 3766	C97
80	NGC 40	C2
81	NGC 4244	C26
86	NGC 4755	C94
89	NGC 6231	C76
90	NGC 6397	C86
95	NGC 6885	C37
96	NGC 6888	C27
98	NGC 752	C28
99	NGC 891	C23