Globular Cluster Observing Club

Raleigh Astronomy Club

Version 1.2 22 June 2007

Introduction

Welcome to the Globular Cluster Observing Club! This list is intended to give you an appreciation for the deep-sky objects known as globular clusters. There are 153 known Milky Way Globular Clusters of which the entire list can be found on the seds.org site listed below. To receive your Gold level we will only have you do sixty of them along with one challenge object from a list of three. Challenge objects being the extra-galactic globular Mayall II (G1) located in the Andromeda Galaxy, Palomar 4 in Ursa Major, and Omega Centauri a magnificent southern globular. The first two challenge your scope and viewing ability while Omega Centauri challenges your ability to plan for a southern view. A Silver level is also available and will be within the range of a 4 inch to 8 inch scope depending upon seeing conditions. Many of the objects are found in the Messier, Caldwell, or Herschel catalogs and can springboard you into those clubs.

The list is meant for your viewing enrichment and edification of these types of clusters. It is also meant to enhance your viewing skills. You are encouraged to view the clusters with a critical eye toward the cluster's size, visual magnitude, resolvability, concentration and colors. The Astronomical League's Globular Clusters Club book "Guide to the Globular Cluster Observing Club" is an excellent resource for this endeavor. You will be asked to either sketch the cluster or give a short description of your visual impression, citing seeing conditions, time, date, cluster's size, magnitude, resolvability, concentration, and any star colors. All globular clusters are not the same and this club will give you an appreciation for their diversity. You are encouraged to view each cluster for at least 10 minutes using varying eyepieces to increase magnification up to your scope's limit.

Resources including pictures of most of the globular clusters can be found at these sites.

http://www.seds.org/~spider/spider/mwgc/Add/gc_dis.html Link to pictures on them all.

http://www.mporzio.astro.it/~marco/gc/ Globular Cluster database.

http://www.seds.org/~spider/spider/MWGC/mwgc.html List of Milky Way Globular Clusters

http://messier45.com/cgi-bin/dsdb/dsb.pl Deep Sky Browser enter the data for pictures and chart.

http://hometown.aol.com/billferris/index.html

http://www.seds.org/messier/deep-l.html

http://www.angelfire.com/id/jsredshift/gcextra.htm (for Mayall II (G1))

http://www.ngcic.org/DSS/dss_H400.asp all the Herschel 400 info you every wanted.

http://www.saguaroastro.org/content/downloads.htm You can get an observing log from here.

http://simbad.harvard.edu/sim-fid.pl Plug in your request here.

http://www.stargazing.net/astropc/index.html Free sky chart – very good.

http://observers.org/ TAC observing page

http://www.seds.org/~spider/ngc/ngc.html Interactive NGC catalog

http://www.ngcic.org/ All the NGC info you need.

http://archive.stsci.edu/cgi-bin/dss_form Plug in your request.

http://www.seds.org/~spider/spider/MWGC/pal04.html Palomar 4 gateway.

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 30 Globular Clusters from the list – no more than 20 of the 29 Messier objects can be used.
3. Record the time and date of each observation adding a simple sketch or short description.
4. Any record sheet/format can be used. There is an attached observing log that can 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: alcor@raleighastro.org

In order to earn the Gold certificate for the program, the applicant must meet the qualifications for the Silver award along with 20 additional non-Messier observations and one challenge object.

Good Luck and Good Observing!!

Raleigh Astronomy Club
Globular Cluster Observing Club List
Ranked by Right Ascension

NO.	OBJECT:	OTHER ID:	RA	DEC	CON	SIZE	MAG v	SKY#
C	G1	Mayall II	00 32 48	+39 34 42	And	0.6	13.5	4
1	NGC 288	Herschel 400 (H400)	00 52 48	-26 35 00	Scl	13.8	8.1	18
2	NGC 1049	Hodge 3, in Fornax Dwarf Galaxy	02 39 48	-34 15 30	For	1.3	12.6	18
3	NGC 1851	Dunlop 508, Caldwell 73 (C73)	05 14 06	-40 02 48	Col	11.0	7.1	19
4	NGC 1904	M79	05 24 12	-24 31 30	Lep	7.8	7.7	19
5	NGC 2298	GCL 11, Dunlop 578	06 48 59	-36 00 18	Pup	9.3	6.8	19
6	NGC 2419	Intergalactic Wanderer, H400, C25	07 38 06	+38 55 54	Lyn	6.2	10.4	5
C	Pal 4	Palomar 4, Ursa Major Dwarf	11 29 16	+28 58 24	Uma	1.3	14.2	6
7	NGC 4590	M68	12 39 30	-26 44 36	Hya	9.8	7.3	21
8	NGC 5024	M53	13 12 54	+18 10 06	Com	14.4	7.7	14
C	NGC 5139	Omega Centauri, C80	13 26 48	-47 28 36	Cen	36.3	3.9	21
9	NGC 5272	M3	13 42 12	+28 22 42	Cvn	18.6	6.3	7
10	NGC 5466	GCL 27, H400	14 05 30	+28 32 06	Boo	9.2	9.1	7
11	NGC 5634	H400	14 29 37	-05 58 36	Vir	5.5	9.5	14
12	NGC 5694	GCL 29, H400, C66	14 39 36	-26 32 18	Hya	3.6	10.2	21
13	NGC 5824		15 03 59	-33 04 06	Lup	7.4	9.1	21
14	NGC 5897	GCL 33, H400	15 17 24	-21 00 36	Lib	8.7	8.4	21
15	NGC 5904	M5	15 18 36	+02 05 00	Ser	19.9	5.7	14
16	NGC 6093	M80	16 17 00	-22 58 30	Sco	5.1	7.3	22
17	NGC 6121	M4	16 23 36	-26 31 30	Sco	26.3	5.4	22
18	NGC 6171	M107	16 32 30	-13 03 12	Oph	3.3	7.8	15
19	NGC 6205	M13 - Great Cluster in Hercules	16 41 42	+36 27 36	Her	23.2	5.8	8
20	NGC 6218	M12	16 47 12	-01 56 48	Oph	14.5	6.1	15
21	NGC 6254	M10	16 57 06	-04 06 00	Oph	12.2	6.6	15
22	NGC 6266	M62	17 01 12	-30 06 48	Oph	14.1	6.4	22
23	NGC 6273	M19	17 02 36	-26 16 06	Oph	5.3	6.8	22
24	NGC 6304	GCL 56, H400	17 14 30	-29 27 42	Oph	3.8	8.4	22
25	NGC 6316	GCL 57, H400	17 16 36	-28 08 24	Oph	4.9	8.1	22
26	NGC 6341	M92	17 17 06	+43 08 48	Her	11.2	6.5	8
27	NGC 6333	M9	17 19 12	-18 31 00	Oph	5.5	7.9	15
28	NGC 6356	GCL 62, H400	17 23 36	-17 48 48	Oph	3.5	8.2	15

29	NGC 6355	GCL 63, H400	17 24 00	-26 21 12	Oph	6.1	8.6	22
30	NGC 6402	M14	17 37 36	-03 14 48	Oph	6.7	7.6	15
31	NGC 6401	GCL 73, H400	17 38 36	-23 54 36	Oph	1.0	7.4	22
32	NGC 6426	GCL 43, H400	17 44 54	+03 10 12	Oph	4.2	10.9	15
33	NGC 6441	GCL 78	17 50 12	-37 03 06	Sco	7.8	7.4	22
34	NGC 6539	GCL 85	18 04 48	-07 35 12	SerC	2.5	8.9	15
35	NGC 6544	GCL 87, H400	18 07 18	-24 59 54	Sgr	8.4	7.5	22
36	NGC 6553	GCL 88, H400	18 09 18	-25 54 30	Sgr	3.2	8.3	22
37	NGC 6558	Melotte 194	18 10 18	-31 45 48	Sgr	3.7	8.6	22
38	NGC 6569	GCL 91, H400	18 13 36	-31 49 36	Sgr	5.8	8.4	22
39	NGC 6624	GCL 93, H400	18 23 42	-30 21 30	Sgr	5.9	7.6	22
40	NGC 6626	M28	18 24 30	-24 52 12	Sgr	15.0	6.9	22
41	NGC 6637	M69	18 31 24	-32 20 54	Sgr	7.1	7.7	22
42	NGC 6638	H400	18 30 56	-25 29 54	Sgr	7.3	9.2	22
43	NGC 6656	M22	18 36 24	-23 54 12	Sgr	24.0	5.2	22
44	NGC 6681	M70	18 43 12	-32 17 30	Sgr	7.8	7.8	22
45	NGC 6712	GCL 103, H400	18 53 06	-08 42 18	Sct	4.3	8.2	16
46	NGC 6715	M54	18 55 06	-30 29 00	Sgr	9.1	7.7	22
47	NGC 6723	Dunlop 573	18 59 36	-36 38 42	Sgr	11.0	6.8	22
48	NGC 6749	Berkley 42	19 05 15	+01 54 06	Aql	6.3	12.4	16
49	NGC 6760	GCL 109	19 11 12	+01 01 54	Aql	2.4	9.1	16
50	NGC 6779	M56	19 16 36	-30 11 06	Lyr	5.0	8.3	8
51	NGC 6809	M55	19 40 00	-30 57 42	Sgr	19.0	6.3	22
52	NGC 6838	M71	19 53 48	+18 46 42	Sge	6.1	8.3	8
53	NGC 6864	M75	20 06 06	-21 55 18	Sgr	6.0	8.6	23
54	NGC 6934	GCL 117, H400	20 34 12	+07 24 18	Del	2.0	8.9	16
55	NGC 6981	M72	20 53 30	-12 32 12	Aqr	5.9	9.2	16
56	NGC 7006	H400	21 01 29	+16 11 12	Del	3.6	10.6	16
57	NGC 7078	M15	21 30 00	+12 10 00	Peg	12.3	6.4	17
58	NGC 7089	M2	21 33 30	+00 49 24	Aqr	11.7	6.5	17
59	NGC 7099	M30	21 40 24	-23 10 42	Cap	8.9	6.9	23

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Globular Cluster Observing Club List
Ranked by Constellation

NO.	OBJECT:	OTHER ID:	RA	DEC	CON	SIZE	MAG v	SKY#
C	G1	Mayall II	00 32 48	+39 34 42	And	0.6	13.5	4
48	NGC 6749	Berkley 42	19 05 15	+01 54 06	Aql	6.3	12.4	16
49	NGC 6760	GCL 109	19 11 12	+01 01 54	Aql	2.4	9.1	16
55	NGC 6981	M72	20 53 30	-12 32 12	Aqr	5.9	9.2	16
58	NGC 7089	M2	21 33 30	+00 49 24	Aqr	11.7	6.5	17
10	NGC 5466	GCL 27, H400	14 05 30	+28 32 06	Boo	9.2	9.1	7
59	NGC 7099	M30	21 40 24	-23 10 42	Cap	8.9	6.9	23
C	NGC 5139	Omega Centauri, C80	13 26 48	-47 28 36	Cen	36.3	3.9	21
3	NGC 1851	Dunlop 508, Caldwell 73 (C73)	05 14 06	-40 02 48	Col	11	7.1	19
8	NGC 5024	M53	13 12 54	+18 10 06	Com	14.4	7.7	14
9	NGC 5272	M3	13 42 12	+28 22 42	Cvn	18.6	6.3	7
54	NGC 6934	GCL 117, H400	20 34 12	+07 24 18	Del	2	8.9	16
56	NGC 7006	H400	21 01 29	+16 11 12	Del	3.6	10.6	16
2	NGC 1049	Hodge 3, in Fornax Dwarf Galaxy	02 39 48	-34 15 30	For	1.3	12.6	18
19	NGC 6205	M13 - Great Cluster in Hercules	16 41 42	+36 27 36	Her	23.2	5.8	8
26	NGC 6341	M92	17 17 06	+43 08 48	Her	11.2	6.5	8
7	NGC 4590	M68	12 39 30	-26 44 36	Hya	9.8	7.3	21
12	NGC 5694	GCL 29, H400, C66	14 39 36	-26 32 18	Hya	3.6	10.2	21
4	NGC 1904	M79	05 24 12	-24 31 30	Lep	7.8	7.7	19
14	NGC 5897	GCL 33, H400	15 17 24	-21 00 36	Lib	8.7	8.4	21
13	NGC 5824		15 03 59	-33 04 06	Lup	7.4	9.1	21
6	NGC 2419	Intergalactic Wanderer, H400, C25	07 38 06	+38 55 54	Lyn	6.2	10.4	5
50	NGC 6779	M56	19 16 36	-30 11 06	Lyr	5	8.3	8
18	NGC 6171	M107	16 32 30	-13 03 12	Oph	3.3	7.8	15
20	NGC 6218	M12	16 47 12	-01 56 48	Oph	14.5	6.1	15
21	NGC 6254	M10	16 57 06	-04 06 00	Oph	12.2	6.6	15
22	NGC 6266	M62	17 01 12	-30 06 48	Oph	14.1	6.4	22
23	NGC 6273	M19	17 02 36	-26 16 06	Oph	5.3	6.8	22
24	NGC 6304	GCL 56, H400	17 14 30	-29 27 42	Oph	3.8	8.4	22
25	NGC 6316	GCL 57, H400	17 16 36	-28 08 24	Oph	4.9	8.1	22
27	NGC 6333	M9	17 19 12	-18 31 00	Oph	5.5	7.9	15

28	NGC 6356	GCL 62, H400	17 23 36	-17 48 48	Oph	3.5	8.2	15
29	NGC 6355	GCL 63, H400	17 24 00	-26 21 12	Oph	6.1	8.6	22
30	NGC 6402	M14	17 37 36	-03 14 48	Oph	6.7	7.6	15
31	NGC 6401	GCL 73, H400	17 38 36	-23 54 36	Oph	1	7.4	22
32	NGC 6426	GCL 43, H400	17 44 54	+03 10 12	Oph	4.2	10.9	15
57	NGC 7078	M15	21 30 00	+12 10 00	Peg	12.3	6.4	17
5	NGC 2298	GCL 11, Dunlop 578	06 48 59	-36 00 18	Pup	9.3	6.8	19
1	NGC 288	Herschel 400 (H400)	00 52 48	-26 35 00	Scl	13.8	8.1	18
16	NGC 6093	M80	16 17 00	-22 58 30	Sco	5.1	7.3	22
17	NGC 6121	M4	16 23 36	-26 31 30	Sco	26.3	5.4	22
33	NGC 6441	GCL 78	17 50 12	-37 03 06	Sco	7.8	7.4	22
45	NGC 6712	GCL 103, H400	18 53 06	-08 42 18	Sct	4.3	8.2	16
15	NGC 5904	M5	15 18 36	+02 05 00	Ser	19.9	5.7	14
34	NGC 6539	GCL 85	18 04 48	-07 35 12	SerC	2.5	8.9	15
52	NGC 6838	M71	19 53 48	+18 46 42	Sge	6.1	8.3	8
35	NGC 6544	GCL 87, H400	18 07 18	-24 59 54	Sgr	8.4	7.5	22
36	NGC 6553	GCL 88, H400	18 09 18	-25 54 30	Sgr	3.2	8.3	22
37	NGC 6558	Melotte 194	18 10 18	-31 45 48	Sgr	3.7	8.6	22
38	NGC 6569	GCL 91, H400	18 13 36	-31 49 36	Sgr	5.8	8.4	22
39	NGC 6624	GCL 93, H400	18 23 42	-30 21 30	Sgr	5.9	7.6	22
40	NGC 6626	M28	18 24 30	-24 52 12	Sgr	15	6.9	22
41	NGC 6637	M69	18 31 24	-32 20 54	Sgr	7.1	7.7	22
42	NGC 6638	H400	18 30 56	-25 29 54	Sgr	7.3	9.2	22
43	NGC 6656	M22	18 36 24	-23 54 12	Sgr	24	5.2	22
44	NGC 6681	M70	18 43 12	-32 17 30	Sgr	7.8	7.8	22
46	NGC 6715	M54	18 55 06	-30 29 00	Sgr	9.1	7.7	22
47	NGC 6723	Dunlop 573	18 59 36	-36 38 42	Sgr	11	6.8	22
51	NGC 6809	M55	19 40 00	-30 57 42	Sgr	19	6.3	22
53	NGC 6864	M75	20 06 06	-21 55 18	Sgr	6	8.6	23
C	Pal 4	Palomar 4, Ursa Major Dwarf	11 29 16	+28 58 24	Uma	1.3	14.2	6
11	NGC 5634	H400	14 29 37	-05 58 36	Vir	5.5	9.5	14

Raleigh Astronomy Club
Globular Cluster Observing Club List

Observer: _____

Instruments Used: _____

OBJECT	Location	Date	Time	Sketch
1. [ ] NGC 288	_____	_____	_____	____
2. [ ] NGC 1049	_____	_____	_____	____
3. [ ] NGC 1851	_____	_____	_____	____
4. [ ] NGC 1904	_____	_____	_____	____
5. [ ] NGC 2298	_____	_____	_____	____
6. [ ] NGC 2419	_____	_____	_____	____
7. [ ] NGC 4590	_____	_____	_____	____
8. [ ] NGC 5024	_____	_____	_____	____
9. [ ] NGC 5272	_____	_____	_____	____
10. [ ] NGC 5466	_____	_____	_____	____
11. [ ] NGC 5634	_____	_____	_____	____
12. [ ] NGC 5694	_____	_____	_____	____
13. [ ] NGC 5824	_____	_____	_____	____
14. [ ] NGC 5897	_____	_____	_____	____
15. [ ] NGC 5904	_____	_____	_____	____
16. [ ] NGC 6093	_____	_____	_____	____
17. [ ] NGC 6121	_____	_____	_____	____
18. [ ] NGC 6171	_____	_____	_____	____
19. [ ] NGC 6205	_____	_____	_____	____
20. [ ] NGC 6218	_____	_____	_____	____
21. [ ] NGC 6254	_____	_____	_____	____
22. [ ] NGC 6266	_____	_____	_____	____
23. [ ] NGC 6273	_____	_____	_____	____
24. [ ] NGC 6304	_____	_____	_____	____
25. [ ] NGC 6316	_____	_____	_____	____
26. [ ] NGC 6341	_____	_____	_____	____
27. [ ] NGC 6333	_____	_____	_____	____
28. [ ] NGC 6356	_____	_____	_____	____

29. [ ] NGC 6355 _____ _____ _____ ____
30. [ ] NGC 6402 _____ _____ _____ ____
31. [ ] NGC 6401 _____ _____ _____ ____
32. [ ] NGC 6426 _____ _____ _____ ____
33. [ ] NGC 6441 _____ _____ _____ ____
34. [ ] NGC 6539 _____ _____ _____ ____
35. [ ] NGC 6544 _____ _____ _____ ____
36. [ ] NGC 6553 _____ _____ _____ ____
37. [ ] NGC 6558 _____ _____ _____ ____
38. [ ] NGC 6569 _____ _____ _____ ____
39. [ ] NGC 6624 _____ _____ _____ ____
40. [ ] NGC 6626 _____ _____ _____ ____
41. [ ] NGC 6637 _____ _____ _____ ____
42. [ ] NGC 6638 _____ _____ _____ ____
43. [ ] NGC 6656 _____ _____ _____ ____
44. [ ] NGC 6681 _____ _____ _____ ____
45. [ ] NGC 6712 _____ _____ _____ ____
46. [ ] NGC 6715 _____ _____ _____ ____
47. [ ] NGC 6723 _____ _____ _____ ____
48. [ ] NGC 6749 _____ _____ _____ ____
49. [ ] NGC 6760 _____ _____ _____ ____
50. [ ] NGC 6779 _____ _____ _____ ____
51. [ ] NGC 6809 _____ _____ _____ ____
52. [ ] NGC 6838 _____ _____ _____ ____
53. [ ] NGC 6864 _____ _____ _____ ____
54. [ ] NGC 6934 _____ _____ _____ ____
55. [ ] NGC 6981 _____ _____ _____ ____
56. [ ] NGC 7006 _____ _____ _____ ____
57. [ ] NGC 7078 _____ _____ _____ ____
58. [ ] NGC 7089 _____ _____ _____ ____
59. [ ] NGC 7099 _____ _____ _____ ____
C [ ] NGC 5139 _____ _____ _____ ____
C [ ] G1/Mayall II _____ _____ _____ ____
C [ ] Pal 4 _____ _____ _____ ____