

Deep Sky Explorer Atlas

Reference manual

Star charts for the southern skies

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Reference manual

The *Deep Sky Explorer's Atlas* consists of 30 wide-field star charts, from the south pole to declination +45°, showing all stars down to 8th magnitude and over 1 000 deep sky objects.

The design philosophy of the *Atlas* was to depict the night sky as it is seen, without the clutter of constellation boundary lines, RA/Dec fiducial markings, or other labels. However, constellations are identified by their standard three-letter abbreviations as a minimal aid to orientation. Those wishing to use charts showing an array of invisible lines, numbers and letters will find elsewhere a wide selection of star charts; these include the *Herald-Bobroff AstroAtlas*, the *Cambridge Star Atlas*, *Uranometria 2000.0*, and the *Millenium Star Atlas*. The *Deep Sky Explorer Atlas* is very much for the explorer.

Special mention should be made of the excellent charts by Toshimi Taki and Andrew L. Johnson. Both are free to download and make ideal complements to this *Atlas*.

Andrew Johnson's wide-field charts include constellation figures and stellar designations and are highly recommended for learning the constellations. They can be downloaded from http://www.cloudynights.com/item.php?item_id=1052

Toshimi Taki has produced the excellent "Taki's 8.5 Magnitude Star Atlas" which is a serious competitor for the commercial *Uranometria* atlas. His atlas has 149 charts and is available from http://www.asahi-net.or.jp/~zs3t-tk/atlas_85/atlas_85.htm

Suggestions on how to use the *Atlas*

Because the *Atlas* is distributed in digital format, its pages can be printed on a standard laser printer as needed. They have been designed for high-quality A3-sized reproduction, and remain legible in the smaller A4 format.

Observers are encouraged to scribble and make notes on the charts while at the eyepiece, and also during the planning of an observing session. Standard reference works can be consulted after the observing session to identify particular deep sky objects.

Contents of this reference manual

Much of the material in this reference manual is not needed while at the eyepiece.

Chart Index. The table on page 2 gives, for each chart, the co-ordinate of its centre point, the approximate range of RA and Dec the chart covers (there is generous overlap, though), the approximate time of year the chart is useful for evening viewing, and a list of the constellations shown on the chart.

Finder Chart. The all-sky map on page 3 shows the boundaries of the 30 charts, making it easy to select and orient a given chart. A larger version of the finder chart is given on the last page of the *Atlas*. Note that a similar all-sky map is available as a supplementary star disk for the *Southern Star Wheel* planisphere, available as a free download from <http://www.psychohistorian.org>.

Constellation Index. The table on pp. 4 & 5 lists, in alphabetical order, the constellations, the *Atlas* charts on which they appear, the constellation's English name and genitive form, followed by the approximate time of the year in which the constellation is readily visible from the southern hemisphere. The final column gives a subjective rating, from one to five, of how prominent the constellation is.

Object Index. Pages 6 to 48 contains tables, one per chart, listing the deep sky objects plotted on each chart. For each object the following data is given: designation (and cross-identification if available), RA & declination (J2000.0), constellation, object type, angular size in arcminutes, and the V and B magnitude.

Catalogue of Objects. A summary of the plotted deep sky objects appears on page 49, showing their distribution by constellation, and by object type. A guide to catalogue nomenclature follows. Pages 52 to 69 lists the objects by RA.

Future development

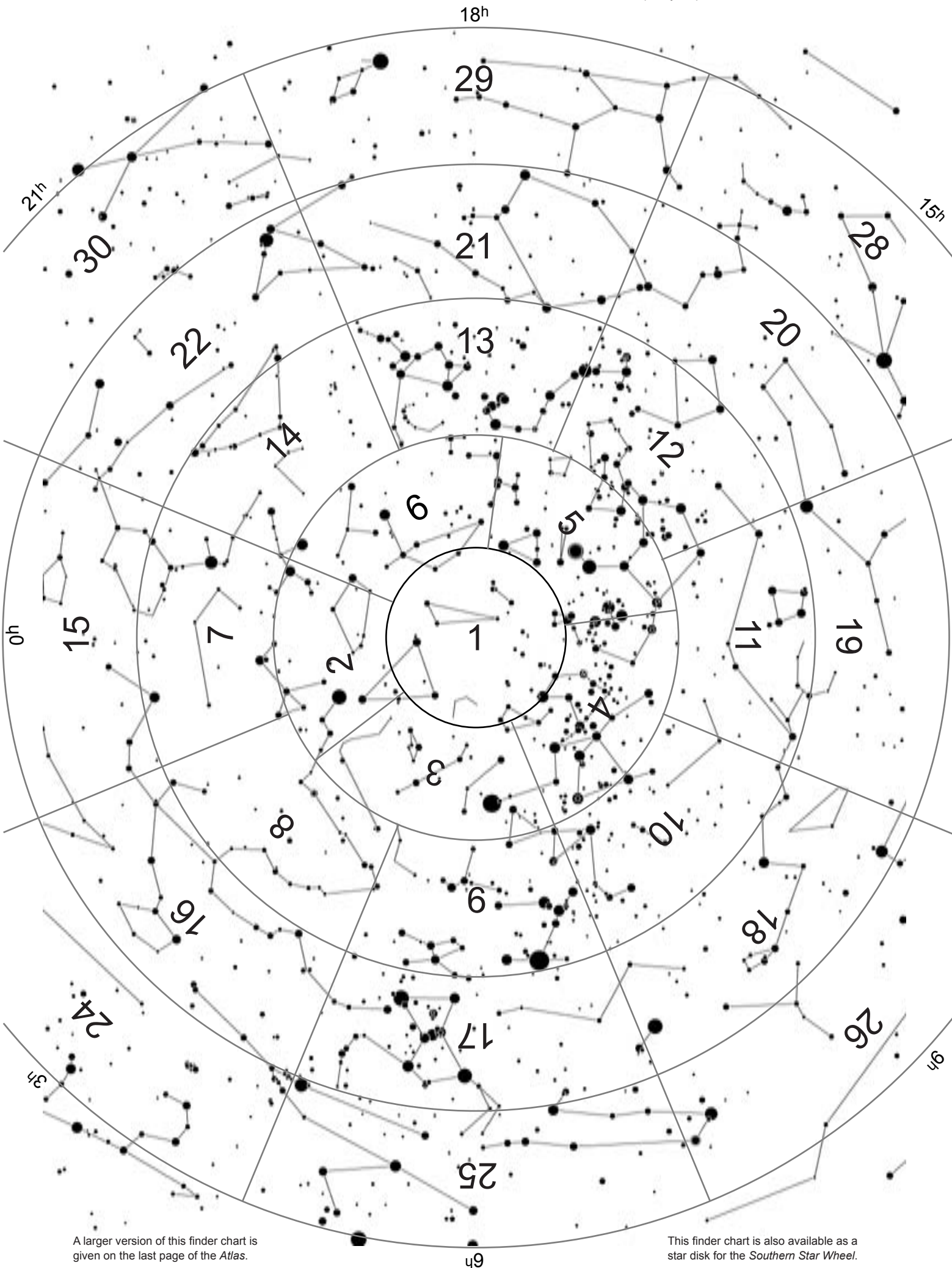
Selected Areas. Several particularly complex regions of sky will have their own detailed charts, showing stars down to about 11th magnitude. New Selected Areas will be added from time to time; suggestions for additions are welcome.

Special thanks

The helpful comments by Chris Stewart, Kos Coronaios, and Gary Lillis, have guided the development of the *Atlas*. Thanks, ya'll.

Chart index

Chart	RA, Dec	Range	Evening visibility	Constellations featured
1	00 ^h , -90°	00:00 to 24:00 -75° to -90°	All year	Apus, Ara, Carina, Chamaeleon, Circinus, Dorado, Hydrus, Mensa, Musca, Norma, Octans, Pavo, Pictor, Reticulum, Triangulum Australe, Tucana, Volans.
2	00 ^h , -60°	22:30 to 02:30 -70° to -45°	Sep – Jan	Eridanus, Grus, Horologium, Hydrus, Indus, Octans, Pavo, Phoenix, Reticulum, Tucana.
3	05 ^h , -60°	02:30 to 07:30 -70° to -45°	Nov – Mar	Caelum, Carina, Columba, Dorado, Eridanus, Fornax, Horologium, Hydrus, Mensa, Pictor, Puppis, Reticulum, Volans.
4	10 ^h , -60°	07:30 to 12:30 -70° to -45°	Mar – May	Carina, Centaurus, Chamaeleon, Circinus, Crux, Musca, Pictor, Puppis, Vela, Volans.
5	15 ^h , -60°	12:30 to 17:30 -70° to -45°	Mar – Jul	Apus, Ara, Carina, Centaurus, Circinus, Crux, Lupus, Musca, Norma, Pavo, Scorpius, Triangulum Australe.
6	20 ^h , -60°	17:30 to 22:30 -70° to -45°	Jul – Oct	Ara, Corona Australis, Grus, Indus, Norma, Pavo, Telescopium, Triangulum Australe, Tucana.
7	00 ^h , -30°	22:30 to 01:30 -15° to -45°	Oct – Nov	Aquarius, Cetus, Fornax, Grus, Phoenix, Piscis Austrinus, Sculptor.
8	03 ^h , -30°	01:30 to 04:30 -15° to -45°	Nov – Jan	Caelum, Cetus, Columba, Eridanus, Fornax, Horologium, Lepus, Phoenix, Sculptor.
9	06 ^h , -30°	04:30 to 07:30 -15° to -45°	Dec – Mar	Caelum, Canis Major, Columba, Eridanus, Horologium, Lepus, Pictor, Puppis.
10	09 ^h , -30°	07:30 to 10:30 -15° to -45°	Feb – Apr	Antlia, Canis Major, Centaurus, Crater, Hydra, Puppis, Pyxis, Vela.
11	12 ^h , -30°	10:30 to 13:30 -15° to -45°	Mar – Jun	Antlia, Centaurus, Corvus, Crater, Hydra, Vela, Virgo.
12	15 ^h , -30°	13:30 to 16:30 -15° to -45°	Apr – Jul	Centaurus, Hydra, Libra, Lupus, Norma, Ophiuchus, Scorpius, Virgo.
13	18 ^h , -30°	16:30 to 19:30 -15° to -45°	Jul – Aug	Ara, Corona Australis, Lupus, Norma, Ophiuchus, Sagittarius, Scorpius, Scutum, Serpens, Telescopium.
14	21 ^h , -30°	19:30 to 22:30 -15° to -45°	Aug – Oct	Aquarius, Capricornus, Corona Australis, Grus, Indus, Microscopium, Piscis Austrinus, Sagittarius.
15	00 ^h , 00°	22:30 to 01:30 -15° to +15°	Oct – Nov	Aquarius, Cetus, Pegasus, Pisces.
16	03 ^h , 00°	01:30 to 04:30 -15° to +15°	Nov – Jan	Aries, Cetus, Eridanus, Orion, Pisces, Taurus.
17	06 ^h , 00°	04:30 to 07:30 -15° to +15°	Jan – Feb	Canis Major, Canis Minor, Eridanus, Gemini, Lepus, Monoceros, Orion, Puppis, Taurus.
18	09 ^h , 00°	07:30 to 10:30 -15° to +15°	Feb – Apr	Cancer, Canis Major, Canis Minor, Gemini, Hydra, Leo, Monoceros, Puppis, Sextans.
19	12 ^h , 00°	10:30 to 13:30 -15° to +15°	Mar – May	Bootes, Coma Berenices, Corvus, Crater, Hydra, Leo, Sextans, Virgo.
20	15 ^h , 00°	13:30 to 16:30 -15° to +15°	Jun – Jul	Bootes, Hercules, Libra, Ophiuchus, Scorpius, Serpens, Virgo.
21	18 ^h , 00°	16:30 to 19:30 -15° to +15°	Jul – Aug	Aquila, Hercules, Ophiuchus, Sagittarius, Scorpius, Scutum, Serpens.
22	21 ^h , 00°	19:30 to 22:30 -15° to +15°	Aug – Oct	Aquarius, Aquila, Capricornus, Delphinus, Equuleus, Pegasus, Sagittarius.
23	00 ^h , +30°	22:30 to 01:30 +15° to +45°	Oct – Dec	Andromeda, Aries, Cygnus, Lacerta, Pegasus, Pisces, Triangulum.
24	03 ^h , +30°	01:30 to 04:30 +15° to +45°	Nov – Jan	Andromeda, Aries, Auriga, Perseus, Pisces, Taurus, Triangulum.
25	06 ^h , +30°	04:30 to 07:30 +15° to +45°	Jan – Feb	Auriga, Gemini, Lynx, Orion, Perseus, Taurus.
26	09 ^h , +30°	07:30 to 10:30 +15° to +45°	Feb – Apr	Auriga, Cancer, Gemini, Leo, Leo Minor, Lynx, Ursa Major.
27	12 ^h , +30°	10:30 to 13:30 +15° to +45°	Apr – Jun	Bootes, Canes Venatici, Coma Berenices, Leo, Leo Minor, Ursa Major.
28	15 ^h , +30°	13:30 to 16:30 +15° to +45°	May – Jul	Bootes, Canes Venatici, Coma Berenices, Corona Borealis, Hercules, Serpens.
29	18 ^h , +30°	16:30 to 19:30 +15° to +45°	Jul – Sep	Aquila, Corona Borealis, Cygnus, Hercules, Lyra, Ophiuchus, Sagitta, Vulpecula.
30	21 ^h , +30°	19:30 to 22:30 +15° to +45°	Aug – Oct	Andromeda, Aquila, Cygnus, Delphinus, Lacerta, Lyra, Pegasus, Sagitta, Vulpecula.



A larger version of this finder chart is given on the last page of the *Atlas*.

This finder chart is also available as a star disk for the *Southern Star Wheel*.

Constellation index

Constellation	Charts	Abb	English name	Genitive	Best visibility	Rating
Andromeda	23, 24, 30	And	Chained Maiden	Andromedae	December (1st half)	** *
Antlia	10, 11	Ant	Air Pump	Antliae	April (1st half)	*
Apus	1, 5	Aps	Bird of Paradise	Apodis	June (1st half)	**
Aquarius	7, 14, 15, 22	Aqr	Water Bearer	Aquarii	October (1st half)	** *
Aquila	21, 22, 29, 30	Aql	Eagle	Aquilae	August (2nd half)	*****
Ara	1, 5, 6, 13	Ara	Altar	Arae	July (2nd half)	** *
Aries	16, 23, 24	Ari	Ram	Arietis	December (1st half)	** *
Auriga	24, 25, 26	Aur	Charioteer	Aurigae	January (2nd half)	****
Boötes	19, 20, 27, 28	Boo	Herdsmen	Boötis	June (2nd half)	****
Caelum	3, 8, 9	Cae	Engraving Tool	Caeli	January (1st half)	*
Camelopardalis	(too far north)	Cam	Giraffe	Camelopardalis	<i>too far north</i>	--
Cancer	18, 26	Cnc	Crab	Cancri	March (1st half)	*
Canes Venatici	27, 28	CVn	Hunting Dogs	Canum Venaticorum	May (2nd half)	*
Canis Major	9, 10, 17, 18	CMa	Great Dog	Canis Majoris	February (2nd half)	*****
Canis Minor	17, 18	CMi	Lesser Dog	Canis Minoris	February (2nd half)	****
Capricornus	14, 22	Cap	Sea Goat	Capricorni	September (2nd half)	** *
Carina	1, 3, 4, 5	Car	Keel	Carinae	March (2nd half)	****
Cassiopeia	(too far north)	Cas	Seated Queen	Cassiopeiae	<i>too far north</i>	--
Centaurus	4, 5, 10, 11, 12	Cen	Centaur	Centauri	June (1st half)	*****
Cepheus	(too far north)	Cep	King	Cephei	<i>too far north</i>	--
Cetus	7, 8, 15, 16	Cet	Sea Monster	Ceti	November (2nd half)	**
Chamaeleon	1, 4	Cha	Chameleon	Chamaeleontis	May (1st half)	*
Circinus	1, 4, 5	Cir	Compass	Circini	June (1st half)	** *
Columba	3, 8, 9	Col	Dove	Columbae	February (1st half)	**
Coma Berenices	19, 27, 28	Com	Bernice's Hair	Comae Berenices	May (2nd half)	*
Corona Australis	6, 13, 14	CrA	Southern Crown	Coronae Australis	August (2nd half)	** *
Corona Borealis	28, 29	CrB	Northern Crown	Corona Borealis	June (2nd half)	** *
Corvus	11, 19	Crv	Crow	Corvi	April (1st half)	** *
Crater	10, 11, 19	Crt	Cup	Crateris	April (1st half)	**
Crux	4, 5	Cru	Southern Cross	Crucis	May (1st half)	*****
Cygnus	23, 29, 30	Cyg	Swan	Cygni	September (1st half)	** *
Delphinus	22, 30	Del	Dolphin	Delphini	September (2nd half)	****
Dorado	1, 3	Dor	Swordfish	Doradus	February (1st half)	**
Draco	(too far north)	Dra	Dragon	Draconis	<i>too far north</i>	--
Equuleus	22	Equ	Little Horse	Equulei	September (2nd half)	**
Eridanus	2, 3, 8, 9, 16, 17	Eri	River	Eridani	January (1st half)	** *
Fornax	3, 7, 8	For	Furnace	Fornacis	November (2nd half)	*
Gemini	17, 18, 25, 26	Gem	Twins	Geminorum	February (2nd half)	*****
Grus	2, 6, 7, 14	Gru	Crane	Gruis	October (1st half)	** *
Hercules	20, 21, 28, 29	Her	Hercules	Herculis	July (2nd half)	** *
Horologium	2, 3, 8, 9	Hor	Clock	Horologii	December (2nd half)	*
Hydra	10, 11, 12, 18, 19	Hya	Female Water Snake	Hydrae	March (2 nd h), April (1 st h)	** *
Hydrus	1, 2, 3	Hyi	Male Water Snake	Hydri	December (2nd half)	*
Indus	2, 6, 14	Ind	Indian	Indi	September (2nd half)	*
Lacerta	23, 30	Lac	Lizard	Lacertae	October (2nd half)	**

Constellation index, continued

Constellation	Charts	Abb	English name	Genitive	Best visibility	Rating
Leo	18, 19, 26, 27	Leo	Lion	Leonis	April (2nd half)	* * * * *
Leo Minor	26, 27	LMi	Lesser Lion	Leonis Minoris	April (2nd half)	* *
Lepus	8, 9, 17	Lep	Hare	Leporis	January (2nd half)	* * * * *
Libra	12, 20	Lib	Scales	Librae	June (2nd half)	* *
Lupus	5, 12, 13	Lup	Wolf	Lupi	July (1st half)	* * * * *
Lynx	25, 26	Lyn	Lynx	Lyncis	March (2nd half)	* *
Lyra	29, 30	Lyr	Lyre	Lyrae	August (1st half)	* * * * *
Mensa	1, 3	Men	Table Mountain	Mensae	December (2nd half)	*
Microscopium	14	Mic	Microscope	Microscopii	September (2nd half)	*
Monoceros	17, 18	Mon	Unicorn	Monocerotis	February (2nd half)	*
Musca	1, 4, 5	Mus	Fly	Muscae	May (1st half)	* * *
Norma	1, 5, 6, 12, 13	Nor	Carpenter's Square	Normae	July (1st half)	* *
Octans	1, 2	Oct	Octant	Octantis	September (1st half)	*
Ophiuchus	12, 13, 20, 21, 29	Oph	Serpent Bearer	Ophiuchi	July (2nd half)	* * * * *
Orion	16, 17, 25	Ori	Hunter	Orionis	January (2nd half)	* * * * *
Pavo	1, 2, 5, 6	Pav	Peacock	Pavonis	September (1st half)	* * *
Pegasus	15, 22, 23, 30	Peg	Winged Horse	Pegasi	October (2nd half)	* * * * *
Perseus	24, 25	Per	Hero	Persei	December (2nd half)	* * *
Phoenix	2, 7, 8	Phe	Phoenix	Phoenicis	November (2nd half)	* * *
Pictor	1, 3, 4, 9	Pic	Painter's Easel	Pictoris	February (1st half)	* * * * *
Pisces	15, 16, 23, 24	Psc	Fishes	Piscium	November (1st half)	* * * * *
Piscis Austrinus	7, 14	PsA	Southern Fish	Piscis Austrini	October (1st half)	* * *
Puppis	3, 4, 9, 10, 17, 18	Pup	Stern	Puppis	March (1st half)	* * * * *
Pyxis	10	Pyx	Compass	Pyxidis	March (1st half)	* *
Reticulum	1, 2, 3	Ret	Reticle	Reticuli	December (2nd half)	* *
Sagitta	29, 30	Sge	Arrow	Sagittae	September (1st half)	* * *
Sagittarius	13, 14, 21, 22	Sgr	Archer	Sagittarii	August (1st half)	* * * * *
Scorpius	5, 12, 13, 20, 21	Sco	Scorpion	Scorpii	July (2nd half)	* * * * *
Sculptor	7, 8	Scl	Sculptor	Sculptoris	November (1st half)	* *
Scutum	13, 21	Sct	Shield	Scuti	August (2nd half)	* *
Serpens	13, 20, 21, 28	Ser	Serpent	Serpentis	July (1 st h), August (1 st h)	* * *
Sextans	18, 19	Sex	Sextant	Sextantis	April (2nd half)	*
Taurus	16, 17, 24, 25	Tau	Bull	Tauri	January (1st half)	* * * * *
Telescopium	6, 13	Tel	Telescope	Telescopii	August (2nd half)	*
Triangulum	23, 24	Tri	Triangle	Trianguli	December (1st half)	* * *
Triangulum Australe	1, 5, 6	TrA	Southern Triangle	Trianguli Australis	June (1st half)	* * * * *
Tucana	1, 2, 6	Tuc	Toucan	Tucanae	October (2nd half)	* * *
Ursa Major	26, 27	UMa	Great Bear	Ursae Majoris	May (1st half)	*
Ursa Minor	(too far north)	UMi	Little Bear	Ursae Minoris	<i>too far north</i>	--
Vela	4, 10, 11	Vel	Sails	Velorum	March (1st half)	* * * * *
Virgo	11, 12, 19, 20	Vir	Maiden	Virginis	May (2nd half)	* * * * *
Volans	1, 3, 4	Vol	Flying Fish	Volantis	March (2nd half)	* * *
Vulpecula	29, 30	Vul	Fox	Vulpeculae	September (1st half)	*

Chart 1

Chart centre: 00h, -90° . **Range:** 00:00 to 24:00, -75° to -90° . **Evenings:** All year.

Deep South

Constellations featured: Apus, Ara, Carina, Chamaeleon, Circinus, Dorado, Hydrus, Mensa, Musca, Norma, Octans, Pavo, Pictor, Reticulum, Triangulum Australe, Tucana, Volans.

01

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 104, 47 Tucanae	00	24	06	-72	05	Tuc	globular cluster	30 x 30	4.0	
Small Magellanic Cloud, NGC 292, PGC 3085	00	52	36	-72	48	Tuc	galaxy	319 x 205	2.3	2.70
NGC 346, ESO 51-SC10	00	59	06	-72	11	Tuc	open cluster	5.2 x 5.2	10.3	
NGC 362, Dunlop 62	01	03	12	-70	51	Tuc	globular cluster	12.9 x 12.9	6.8	
NGC 419, ESO 29-SC33	01	08	18	-72	53	Tuc	globular cluster	2.6 x 2.6	10.0	
NGC 2018, ESO 56-SC141	05	30	48	-71	04	Men	bright nebula	25.0 x 18.0	10.9	
NGC 3059, ESO 37- 7	09	50	06	-73	55	Car	galaxy	3.8 x 3.6	11.0	
Be 142	11	09	30	-77	16	Cha	dark nebula	100 x 100		
Sa 149, Dark Doodad	12	25	00	-72	00	Mus	dark nebula	180 x 12		
NGC 4372, GCL 19	12	25	48	-72	40	Mus	globular cluster	18.6 x 18.6	7.2	
NGC 4833, Lac I-4	12	59	36	-70	52	Mus	globular cluster	13.5 x 13.5	8.4	
IC 4499, GCL 30	15	00	18	-82	13	Aps	globular cluster	7.6 x 7.6	10.1	
NGC 6101, GCL 40	16	25	48	-72	12	Aps	globular cluster	10.7 x 10.7	9.3	
Mel 227, Cr 411	20	15	18	-79	17	Oct	open cluster	50 x 50	5.3	

Chart 2

Chart centre: 00h, -60° . **Range:** 22:30 to 02:30, -70° to -45° . **Evenings:** Sep – Jan

Far South

Constellations featured: Eridanus, Grus, Horologium, Hydrus, Indus, Octans, Pavo, Phoenix, Reticulum, Tucana.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 104, 47 Tucanae	00	24	06	-72	05	Tuc	globular cluster	30 x 30	4.0	
Small Magellanic Cloud, NGC 292, PGC 3085	00	52	36	-72	48	Tuc	galaxy	319 x 205	2.3	2.70
NGC 346, ESO 51-SC10	00	59	06	-72	11	Tuc	open cluster	5.2 x 5.2	10.3	
NGC 362, Dunlop 62	01	03	12	-70	51	Tuc	globular cluster	12.9 x 12.9	6.8	
NGC 419, ESO 29-SC33	01	08	18	-72	53	Tuc	globular cluster	2.6 x 2.6	10.0	
NGC 685, ESO 152-24	01	47	42	-52	46	Eri	galaxy	3.6 x 3.1	11.0	
NGC 1261, GCL 5	03	12	18	-55	13	Hor	globular cluster	6.9 x 6.9	8.4	
NGC 1313, ESO 82-11, PGC 12286	03	18	18	-66	30	Ret	galaxy	9.1 x 6.9	8.7	9.20
NGC 7049, ESO 236- 1	21	19	00	-48	34	Ind	galaxy	4.5 x 3.0	10.7	
NGC 7090, ESO 188-12	21	36	30	-54	33	Ind	galaxy	7.3 x 1.2	10.7	
NGC 7144, ESO 237-11	21	52	42	-48	15	Gru	galaxy	3.7 x 3.6	10.8	
IC 5152, ESO 237-27	22	02	42	-51	18	Ind	galaxy	5.5 x 4.0	10.6	
NGC 7205, ESO 146- 9	22	08	36	-57	27	Ind	galaxy	4 x 2	10.9	
NGC 7213, ESO 288-43	22	09	18	-47	10	Gru	galaxy	3.7 x 3.4	10.1	
IC 5201, ESO 289-GO18	22	21	00	-46	02	Gru	galaxy	7.8 x 4.0	10.6	
IC 5267, ESO 290-G026	22	57	12	-43	24	Gru	galaxy	5.4 x 3.5	10.5	
NGC 7552, IC 5294	23	16	12	-42	35	Gru	galaxy	3.4 x 3.0	10.6	
NGC 7582, ESO 291-16	23	18	24	-42	22	Gru	galaxy	5.0 x 2.3	10.6	

02

Chart 3

Far South

Chart centre: 05h, -60° . **Range:** 02:30 to 07:30, -70° to -45° . **Evenings:** Nov – Mar**Constellations featured:** Caelum, Carina, Columba, Dorado, Eridanus, Fornax, Horologium, Hydrus, Mensa, Pictor, Puppis, Reticulum, Volans.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 685, ESO 152-24	01	47	42	-52	46	Eri	galaxy	3.6 x 3.1	11.0	
NGC 1261, GCL 5	03	12	18	-55	13	Hor	globular cluster	6.9 x 6.9	8.4	
NGC 1313, ESO 82-11, PGC 12286	03	18	16	-66	30	Ret	galaxy	9.1 x 6.9	8.7	9.20
NGC 1433, ESO 249-14, PGC 13586	03	42	00	-47	13	Hor	galaxy	6.5 x 5.9	9.9	10.70
NGC 1448, NGC 1457	03	44	30	-44	39	Hor	galaxy	7.5 x 2.0	10.7	
NGC 1512, ESO 250-4	04	03	54	-43	21	Hor	galaxy	9.7 x 5.3	10.3	
NGC 1527, ESO 201-20	04	08	24	-47	54	Hor	galaxy	3.9 x 1.5	10.8	
NGC 1533, ESO 157-3	04	09	54	-56	07	Dor	galaxy	2.5 x 2.1	10.7	
NGC 1543, ESO 118-10	04	12	42	-57	44	Ret	galaxy	4.7 x 3.0	10.5	
NGC 1546, ESO 157-12, PGC 14757	04	14	36	-56	04	Dor	galaxy	4.9 x 4.1	10.9	10.72
NGC 1549, ESO 157-16	04	15	48	-55	36	Dor	galaxy	4.4 x 3.6	9.8	
NGC 1553, ESO 157-17, PGC 14765	04	16	12	-55	47	Dor	galaxy	4.5 x 2.8	9.4	10.28
NGC 1559, ESO 84-10, PGC 14814	04	17	36	-62	47	Ret	galaxy	3.5 x 2.0	10.6	11.00
NGC 1566, ESO 157-20, PGC 14897	04	20	00	-54	56	Dor	galaxy	8.3 x 6.6	9.7	10.33
NGC 1574, ESO 157-22	04	22	00	-56	59	Ret	galaxy	4.0 x 3.6	10.4	
NGC 1617, ESO 157-41	04	31	42	-54	36	Dor	galaxy	4.8 x 2.4	10.4	
NGC 1672, ESO 118-43, PGC 15941	04	45	42	-59	15	Dor	galaxy	6.6 x 5.5	9.7	10.28
NGC 1731, ESO 85-SC12	04	53	30	-66	56	Dor	open cluster	8 x 8	9.9	
NGC 1755, ESO 56-SC28	04	55	12	-68	12	Dor	open cluster	2 x 2	9.9	
NGC 1747, ESO 85-SC16	04	55	12	-67	10	Dor	open cluster	12 x 10	9.4	
NGC 1787, ESO 85-SC31	05	01	42	-65	49	Dor	open cluster	23 x 23	10.9	
NGC 1816, ESO 85-SC37	05	03	48	-67	16	Dor	open cluster	16 x 16	9.0	
NGC 1818, ESO 85-SC40	05	04	12	-66	26	Dor	open cluster	2.5 x 2.5	9.8	
NGC 1850, ESO 56-SC70	05	08	42	-68	46	Dor	open cluster	3.4 x 3.4	9.3	
NGC 1866, ESO 85-SC52	05	13	42	-65	28	Dor	open cluster	5.1 x 5.1	9.9	
Large Magellanic Cloud, ESO 056-G115, PGC 17223	05	23	35	-69	45	Dor	galaxy	645.7 x 549.5	0.4	0.91
NGC 1962, ESO 56-SC122	05	26	18	-68	50	Dor	open cluster	13 x 12	8.5	
NGC 1947, ESO 85-87	05	26	48	-63	46	Dor	galaxy	2.4 x 2.0	10.6	
NGC 1966, ESO 56-SC125	05	26	48	-68	49	Dor	open cluster	13 x 13	8.5	
NGC 1968, ESO 56-SC130	05	27	24	-67	28	Dor	open cluster	20 x 20	9.0	
NGC 1974, NGC 1991	05	28	00	-67	25	Dor	open cluster	9 x 9	9.0	
NGC 1978, ESO 85-SC90	05	28	48	-66	14	Dor	globular cluster	42 x 19	9.9	
NGC 2018, ESO 56-SC141	05	30	48	-71	04	Men	bright nebula	25.0 x 18.0	10.9	
NGC 2070, ESO 57-EN6	05	38	36	-69	06	Dor	bright nebula	20 x 20	8.3	
NGC 2100, ESO 57-SC25	05	42	12	-69	13	Dor	open cluster	2.3 x 2.3	9.6	
Be 135	07	19	00	-44	35	Pup	dark nebula	13 x 5		
Mel 66, Cr 147	07	26	18	-47	41	Pup	open cluster	10 x 10	7.8	
NGC 2442, NGC 2443	07	36	18	-69	32	Vol	galaxy	5.4 x 4.9	10.4	
NGC 2516, OCL 776	07	58	06	-60	45	Car	open cluster	21 x 21	3.8	
NGC 2547, OCL 753	08	10	12	-49	12	Vel	open cluster	20 x 20	4.7	
IC 2391, Cr 191	08	39	36	-52	55	Vel	open cluster	60 x 60	2.5	

03

Chart 4**Chart centre:** 10h, -60° . **Range:** 07:30 to 12:30, -70° to -45° . **Evenings:** Mar – May

Far South

Constellations featured: Carina, Centaurus, Chamealeon, Circinus, Crux, Musca, Pictor, Puppis, Vela, Volans.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
Be 135	07	19	00	-44	35	Pup	dark nebula	13 x 5		
Mel 66, Cr 147	07	26	18	-47	41	Pup	open cluster	10 x 10	7.8	
NGC 2442, NGC 2443	07	36	18	-69	32	Vol	galaxy	5.4 x 4.9	10.4	
NGC 2516, OCL 776	07	58	06	-60	45	Car	open cluster	21 x 21	3.8	
NGC 2547, OCL 753	08	10	12	-49	12	Vel	open cluster	20 x 20	4.7	
Pismis 4	08	34	36	-44	22	Vel	open cluster	18 x 18	5.9	
IC 2391, Cr 191	08	39	36	-52	55	Vel	open cluster	60 x 60	2.5	
Waterloo 6	08	40	24	-46	09	Vel	open cluster	2.2 x 2.2	8.4	
Pismis 8	08	41	36	-46	17	Vel	open cluster	2 x 2	9.5	
Ru 67	08	41	48	-43	23	Vel	open cluster	6 x 6	9.1	
IC 2395, Cr 192	08	42	30	-48	08	Vel	open cluster	17 x 17	4.6	
NGC 2660, OCL 759	08	42	36	-47	12	Vel	open cluster	4 x 4	8.8	
NGC 2659, OCL 752	08	42	36	-45	00	Vel	open cluster	14 x 14	8.6	
Bochum 7	08	44	48	-45	58	Vel	open cluster	20 x 20	6.8	
NGC 2670, OCL 764	08	45	30	-48	48	Vel	open cluster	6 x 6	7.8	
NGC 2669, OCL 768	08	46	24	-52	57	Vel	open cluster	20 x 20	6.1	
Tr 10, Cr 203	08	47	48	-42	29	Vel	open cluster	15 x 15	4.6	
SL 4	08	53	36	-42	13	Vel	dark nebula	60 x 10		
Cr 205, Mrk 18	09	00	36	-48	59	Vel	open cluster	2 x 2	7.8	
NGC 2808, GCL 13	09	12	00	-64	52	Car	globular cluster	13.8 x 13.8	6.3	
NGC 2822, ESO 61- 4	09	13	48	-69	39	Car	galaxy	2.8 x 2.0	10.7	
Pismis 12	09	19	54	-45	08	Vel	open cluster	4.5 x 4.5	9.7	
Pismis 13	09	22	06	-51	06	Vel	open cluster	2 x 2	10.2	
Ru 76	09	24	18	-51	40	Vel	open cluster	6 x 6	10.8	
Ru 77	09	27	06	-55	07	Vel	open cluster	2 x 2	10.4	
IC 2488, Cr 208	09	27	24	-56	57	Vel	open cluster	15 x 15	7.4	
NGC 2910, OCL 781	09	30	30	-52	55	Vel	open cluster	5 x 5	7.2	
NGC 2925, OCL 783	09	33	12	-53	24	Vel	open cluster	12 x 12	8.3	
NGC 2972, NGC 2999	09	40	12	-50	19	Vel	open cluster	4 x 4	9.9	
Ru 79	09	41	00	-53	50	Vel	open cluster	11 x 11	9.2	
Ru 82	09	45	36	-53	59	Vel	open cluster	3.6 x 3.6	8.1	
NGC 3033, OCL 796	09	48	42	-56	25	Vel	open cluster	12 x 12	8.8	
Ru 83	09	49	18	-54	36	Vel	open cluster	3.4 x 3.4	9.8	
NGC 3059, ESO 37- 7	09	50	06	-73	55	Car	galaxy	3.8 x 3.6	11.0	
Cr 213	09	55	00	-50	57	Vel	open cluster	17 x 17	9.2	
NGC 3105, OCL 798	10	00	42	-54	47	Vel	open cluster	2 x 2	9.7	
NGC 3114, OCL 802	10	02	30	-60	08	Car	open cluster	35.0 x 35.0	4.2	
Tr 11, Cr 216	10	05	00	-61	36	Car	open cluster	6 x 6	8.1	
NGC 3136, ESO 92- 8	10	05	48	-67	23	Car	galaxy	3.3 x 2.4	10.7	
Tr 12, Cr 217	10	06	30	-60	18	Car	open cluster	4 x 4	8.8	
NGC 3201, Dunlop 445	10	17	36	-46	25	Vel	globular cluster	18.2 x 18.2	6.8	
NGC 3228, OCL 800	10	21	24	-51	43	Vel	open cluster	5 x 5	6.0	
NGC 3247, OCL 809	10	25	54	-57	56	Car	open cluster	7 x 7	7.6	
NGC 3255, OCL 817	10	26	30	-60	41	Car	open cluster	2 x 2	11.0	
IC 2581, Cr 222	10	27	24	-57	38	Car	open cluster	8 x 8	4.3	
Cr 223	10	30	24	-60	05	Car	open cluster	9 x 9	9.4	
Bochum 9	10	35	30	-60	07	Car	open cluster	16 x 16	6.3	
NGC 3293, OCL 816	10	35	48	-58	13	Car	open cluster	40 x 40	4.7	
NGC 3324, IC 2599	10	37	18	-58	40	Car	bright nebula	16 x 16	6.7	
NGC 3330, OCL 806	10	38	48	-54	07	Vel	open cluster	7 x 7	7.4	
Mel 101, Cr 101	10	42	06	-65	06	Car	open cluster	14 x 14	8.0	
Bochum 10	10	42	12	-59	09	Car	open cluster	20 x 20	6.2	
IC 2602, Cr 229	10	42	54	-64	24	Car	open cluster	100 x 100	1.9	
Tr 14, Cr 230	10	43	54	-59	33	Car	open cluster	5 x 5	5.5	
Cr 228	10	44	00	-60	05	Car	open cluster	15 x 15	4.4	
Tr 15, Cr 231	10	44	24	-59	21	Car	open cluster	15 x 15	7.0	
Cr 232	10	44	36	-59	34	Car	open cluster	4 x 4	6.8	
Cr 234	10	45	18	-59	45	Car	open cluster	4 x 4	7.5	

04

continued

Chart 4

Chart centre: 10h, -60° . **Range:** 07:30 to 12:30, -70° to -45° . **Evenings:** Mar – May

Far South

Constellations featured: Carina, Centaurus, Chamealeon, Circinus, Crux, Musca, Pictor, Puppis, Vela, Volans.

... *continued*

04

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 3372, Dunlop 309	10	45	06	-59	52	Car	bright nebula	120 x 120	3.0	
Tr 16, Cr 233	10	45	06	-59	43	Car	open cluster	10 x 10	5.0	
Bochum 11	10	47	18	-60	06	Car	open cluster	22 x 22	7.9	
Ru 92	10	53	48	-61	45	Car	open cluster	2.2 x 2.2	8.6	
Tr 17, Cr 235	10	56	24	-59	13	Car	open cluster	5 x 5	8.4	
Cr 236	10	57	00	-61	07	Car	open cluster	8 x 8	7.7	
Bochum 12	10	57	24	-61	44	Car	open cluster	10 x 10	9.7	
NGC 3496, OCL 836	10	59	36	-60	20	Car	open cluster	6 x 6	8.2	
NGC 3519, OCL 844	11	04	00	-61	22	Car	open cluster	4 x 4	7.7	
Ru 93	11	04	24	-61	22	Car	open cluster	4 x 4	7.7	
NGC 3532, OCL 839	11	05	12	-58	44	Car	open cluster	50 x 50	3.0	
Be 142	11	09	30	-77	16	Cha	dark nebula	100 x 100		
NGC 3572, OCL 846	11	10	18	-60	15	Car	open cluster	7 x 7	6.6	
Hogg 10	11	10	42	-60	23	Car	open cluster	3 x 3	6.9	
Tr 18, Cr 241	11	11	24	-60	39	Car	open cluster	12 x 12	6.9	
Cr 240	11	11	42	-60	19	Car	open cluster	25.0 x 25.0	3.9	
Hogg 12	11	12	18	-60	45	Car	open cluster	3 x 3	8.8	
NGC 3590, OCL 852	11	13	00	-60	47	Car	open cluster	4 x 4	8.2	
Stock 13	11	13	06	-58	55	Car	open cluster	3 x 3	7.0	
Tr 19, Cr 243	11	14	18	-57	35	Car	open cluster	10 x 10	9.6	
NGC 3603, OCL 854	11	15	06	-61	16	Car	open cluster	2.5 x 2.5	9.1	
IC 2714, Cr 245	11	17	18	-62	43	Car	open cluster	12 x 12	8.2	
Mel 105, Cr 246	11	19	36	-63	30	Car	open cluster	4 x 4	8.5	
NGC 3680, OCL 823	11	25	36	-43	15	Cen	open cluster	6 x 6	7.6	
NGC 3766, OCL 860	11	36	12	-61	37	Cen	open cluster	12 x 12	5.3	
IC 2944, Cr 249	11	37	54	-63	21	Cen	open cluster	60 x 35	4.5	
IC 2948, RCW 62	11	39	24	-63	28	Cen	bright nebula	75 x 50	7.0	
Stock 14	11	43	48	-62	32	Cen	open cluster	4 x 4	6.3	
NGC 3960, Mel 108	11	50	36	-55	41	Cen	open cluster	7 x 7	8.3	
Ru 97	11	57	24	-62	42	Cru	open cluster	3.5 x 3.5	9.1	
Ru 98	11	58	48	-64	34	Cru	open cluster	10 x 10	7.0	
NGC 4052, OCL 870	12	02	06	-63	13	Cru	open cluster	10 x 10	8.8	
NGC 4103, OCL 871	12	06	42	-61	15	Cru	open cluster	7 x 7	7.4	
NGC 4230, OCL 874	12	17	18	-55	05	Cen	open cluster	6 x 6	9.4	
NGC 4349, OCL 882	12	24	06	-61	52	Cru	open cluster	4 x 4	7.4	
NGC 4337, OCL 878	12	24	06	-58	07	Cru	open cluster	3.5 x 3.5	8.9	
Sa 149, Dark Doodad	12	25	00	-72	00	Mus	dark nebula	180 x 12		
NGC 4372, GCL 19	12	25	48	-72	40	Mus	globular cluster	18.6 x 18.6	7.2	
Harvard 5, Cr 257	12	27	18	-60	47	Cru	open cluster	6 x 6	7.1	
NGC 4439, OCL 884	12	28	24	-60	06	Cru	open cluster	4 x 4	8.4	
Hogg 14	12	28	36	-59	48	Cru	open cluster	3 x 3	9.5	
NGC 4463, OCL 885	12	29	54	-64	47	Mus	open cluster	5 x 5	7.2	
Harvard 6, Cr 261	12	37	54	-68	23	Mus	open cluster	5 x 5	10.7	
Ru 106	12	38	42	-51	09	Cen	globular cluster	2 x 2	10.9	
Tr 20, Harvard 7	12	39	30	-60	38	Cru	open cluster	7 x 7	10.1	
NGC 4609, OCL 890	12	42	18	-63	00	Cru	open cluster	5 x 5	6.9	
Hogg 15	12	43	36	-63	06	Cru	open cluster	2 x 2	10.3	
NGC 4755, OCL 892	12	53	36	-60	21	Cru	open cluster	10 x 10	4.2	
NGC 4815, OCL 893	12	58	00	-64	58	Mus	open cluster	3 x 3	8.6	
NGC 4833, Lac I-4	12	59	36	-70	52	Mus	globular cluster	13.5 x 13.5	8.4	
NGC 4852, Dunlop 311	13	00	06	-59	37	Cen	open cluster	11 x 11	8.9	
NGC 4945, Dunlop 411, PGC 45279	13	05	24	-49	28	Cen	galaxy	20.0 x 3.8	8.6	9.30
NGC 4976, ESO 219-29	13	08	36	-49	30	Cen	galaxy	5.1 x 2.6	10.0	
Harvard 8, Cr 268	13	18	12	-67	05	Mus	open cluster	4 x 4	9.5	
Stock 16	13	18	36	-62	31	Cen	open cluster	20 x 20	9.1	
Ru 107	13	19	48	-64	57	Mus	open cluster	5 x 5	9.7	
Cr 269	13	22	36	-66	07	Mus	open cluster	15 x 15	9.2	
Loden 807	13	24	54	-62	26	Cen	open cluster	20 x 20	7.9	

continued

Chart 4**Chart centre:** 10h, -60° . **Range:** 07:30 to 12:30, -70° to -45° . **Evenings:** Mar – MayFar South
... *continued***Constellations featured:** Carina, Centaurus, Chamealeon, Circinus, Crux, Musca, Pictor,
Puppis, Vela, Volans.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 5138, OCL 902	13	27	18	-59	02	Cen	open cluster	8 x 8	7.6	
Basel 18	13	27	48	-62	19	Cen	open cluster	4 x 4	8.2	
Hogg 16	13	29	18	-61	12	Cen	open cluster	4 x 4	8.4	
Cr 271	13	29	54	-64	11	Cen	open cluster	7 x 7	8.7	
Cr 272	13	30	36	-61	16	Cen	open cluster	9 x 9	7.7	
NGC 5168, OCL 905	13	31	06	-60	56	Cen	open cluster	4 x 4	9.1	
Tr 21, Cr 274	13	32	12	-62	47	Cen	open cluster	4 x 4	7.7	
Ru 108	13	32	12	-58	29	Cen	open cluster	12 x 12	7.5	
NGC 5189, PK 307-3.1, PNG 307.2-03.4	13	33	42	-65	58	Mus	planetary nebula	2.3 x 2.3	10.3	
Cr 275	13	35	24	-60	11	Cen	open cluster	7 x 7	10.2	
IC 4291, Pismis 18	13	36	54	-62	06	Cen	open cluster	4 x 4	9.7	
NGC 5281, OCL 911	13	46	36	-62	55	Cen	open cluster	7 x 7	5.9	
NGC 5284, ESO 133-?4	13	47	24	-59	09	Cen	open cluster	30 x 20	10.0	
Cr 277	13	48	24	-66	04	Mus	open cluster	16 x 16	9.2	
NGC 5316, OCL 913	13	54	00	-61	52	Cen	open cluster	14 x 14	6.0	

04

Chart 5

Far South

Chart centre: 15h, -60° . **Range:** 12:30 to 17:30, -70° to -45° . **Evenings:** Mar – Jul

Constellations featured: Apus, Ara, Carina, Centaurus, Circinus, Crux, Lupus, Musca, Norma, Pavo, Scorpius, Triangulum Australe.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 3519, OCL 844	11	04	00	-61	22	Car	open cluster	4 x 4	7.7	
Ru 93	11	04	24	-61	22	Car	open cluster	4 x 4	7.7	
NGC 3532, OCL 839	11	05	12	-58	44	Car	open cluster	50 x 50	3.0	
NGC 3572, OCL 846	11	10	18	-60	15	Car	open cluster	7 x 7	6.6	
Hogg 10	11	10	42	-60	23	Car	open cluster	3 x 3	6.9	
Tr 18, Cr 241	11	11	24	-60	39	Car	open cluster	12 x 12	6.9	
Cr 240	11	11	42	-60	19	Car	open cluster	25.0 x 25.0	3.9	
Hogg 12	11	12	18	-60	45	Car	open cluster	3 x 3	8.8	
NGC 3590, OCL 852	11	13	00	-60	47	Car	open cluster	4 x 4	8.2	
Stock 13	11	13	06	-58	55	Car	open cluster	3 x 3	7.0	
Tr 19, Cr 243	11	14	18	-57	35	Car	open cluster	10 x 10	9.6	
NGC 3603, OCL 854	11	15	06	-61	16	Car	open cluster	2.5 x 2.5	9.1	
IC 2714, Cr 245	11	17	18	-62	43	Car	open cluster	12 x 12	8.2	
Mel 105, Cr 246	11	19	36	-63	30	Car	open cluster	4 x 4	8.5	
NGC 3766, OCL 860	11	36	12	-61	37	Cen	open cluster	12 x 12	5.3	
IC 2944, Cr 249	11	37	54	-63	21	Cen	open cluster	60 x 35	4.5	
IC 2948, RCW 62	11	39	24	-63	28	Cen	bright nebula	75 x 50	7.0	
Stock 14	11	43	48	-62	32	Cen	open cluster	4 x 4	6.3	
NGC 3960, Mel 108	11	50	36	-55	41	Cen	open cluster	7 x 7	8.3	
Ru 97	11	57	24	-62	42	Cru	open cluster	3.5 x 3.5	9.1	
Ru 98	11	58	48	-64	34	Cru	open cluster	10 x 10	7.0	
NGC 4052, OCL 870	12	02	06	-63	13	Cru	open cluster	10 x 10	8.8	
NGC 4103, OCL 871	12	06	42	-61	15	Cru	open cluster	7 x 7	7.4	
NGC 4230, OCL 874	12	17	18	-55	05	Cen	open cluster	6 x 6	9.4	
NGC 4349, OCL 882	12	24	06	-61	52	Cru	open cluster	4 x 4	7.4	
NGC 4337, OCL 878	12	24	06	-58	07	Cru	open cluster	3.5 x 3.5	8.9	
Sa 149, Dark Doodad	12	25	00	-72	00	Mus	dark nebula	180 x 12		
NGC 4372, GCL 19	12	25	48	-72	40	Mus	globular cluster	18.6 x 18.6	7.2	
Harvard 5, Cr 257	12	27	18	-60	47	Cru	open cluster	6 x 6	7.1	
NGC 4439, OCL 884	12	28	24	-60	06	Cru	open cluster	4 x 4	8.4	
Hogg 14	12	28	36	-59	48	Cru	open cluster	3 x 3	9.5	
NGC 4463, OCL 885	12	29	54	-64	47	Mus	open cluster	5 x 5	7.2	
Harvard 6, Cr 261	12	37	54	-68	23	Mus	open cluster	5 x 5	10.7	
Ru 106	12	38	42	-51	09	Cen	globular cluster	2 x 2	10.9	
Tr 20, Harvard 7	12	39	30	-60	38	Cru	open cluster	7 x 7	10.1	
NGC 4609, OCL 890	12	42	18	-63	00	Cru	open cluster	5 x 5	6.9	
Hogg 15	12	43	36	-63	06	Cru	open cluster	2 x 2	10.3	
NGC 4755, OCL 892	12	53	36	-60	21	Cru	open cluster	10 x 10	4.2	
NGC 4815, OCL 893	12	58	00	-64	58	Mus	open cluster	3 x 3	8.6	
NGC 4833, Lac I-4	12	59	36	-70	52	Mus	globular cluster	13.5 x 13.5	8.4	
NGC 4852, Dunlop 311	13	00	06	-59	37	Cen	open cluster	11 x 11	8.9	
NGC 4945, Dunlop 411, PGC 45279	13	05	24	-49	28	Cen	galaxy	20.0 x 3.8	8.6	9.30
NGC 4976, ESO 219-29	13	08	36	-49	30	Cen	galaxy	5.1 x 2.6	10.0	
Harvard 8, Cr 268	13	18	12	-67	05	Mus	open cluster	4 x 4	9.5	
Stock 16	13	18	36	-62	31	Cen	open cluster	20 x 20	9.1	
Ru 107	13	19	48	-64	57	Mus	open cluster	5 x 5	9.7	
Cr 269	13	22	36	-66	07	Mus	open cluster	15 x 15	9.2	
Loden 807	13	24	54	-62	26	Cen	open cluster	20 x 20	7.9	
NGC 5128, Dunlop 482, PGC 46957	13	25	30	-43	01	Cen	galaxy	25.7 x 20.0	6.8	7.84
NGC 5139, Omega Centauri	13	26	48	-47	29	Cen	globular cluster	36.3 x 36.3	3.9	
NGC 5138, OCL 902	13	27	18	-59	02	Cen	open cluster	8 x 8	7.6	
Basel 18	13	27	48	-62	19	Cen	open cluster	4 x 4	8.2	
Hogg 16	13	29	18	-61	12	Cen	open cluster	4 x 4	8.4	
Cr 271	13	29	54	-64	11	Cen	open cluster	7 x 7	8.7	
Cr 272	13	30	36	-61	16	Cen	open cluster	9 x 9	7.7	
NGC 5168, OCL 905	13	31	06	-60	56	Cen	open cluster	4 x 4	9.1	
Tr 21, Cr 274	13	32	12	-62	47	Cen	open cluster	4 x 4	7.7	
Ru 108	13	32	12	-58	29	Cen	open cluster	12 x 12	7.5	

05

continued

Chart 5**Chart centre:** 15h, -60° . **Range:** 12:30 to 17:30, -70° to -45° . **Evenings:** Mar – JulFar South
... *continued***Constellations featured:** Apus, Ara, Carina, Centaurus, Circinus, Crux, Lupus, Musca, Norma, Pavo, Scorpius, Triangulum Australe.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 5189, PK 307-3.1, PNG 307.2-03.4	13	33	42	-65	58	Mus	planetary nebula	2.3 x 2.3	10.3	
NGC 5206, ESO 220-18	13	33	42	-48	09	Cen	galaxy	3.8 x 3.3	10.6	
Cr 275	13	35	24	-60	11	Cen	open cluster	7 x 7	10.2	
IC 4291, Pismis 18	13	36	54	-62	06	Cen	open cluster	4 x 4	9.7	
NGC 5286, Dunlop 388	13	46	24	-51	22	Cen	globular cluster	9.1 x 9.1	7.4	
NGC 5281, OCL 911	13	46	36	-62	55	Cen	open cluster	7 x 7	5.9	
NGC 5284, ESO 133-74	13	47	24	-59	09	Cen	open cluster	30 x 20	10.0	
Cr 277	13	48	24	-66	04	Mus	open cluster	16 x 16	9.2	
NGC 5316, OCL 913	13	54	00	-61	52	Cen	open cluster	14 x 14	6.0	
NGC 5460, OCL 925	14	07	30	-48	21	Cen	open cluster	25.0 x 25.0	5.6	
Circinus Dwarf, ESO 097-G013	14	13	12	-65	20	Cir	galaxy	3.2 x 1.2	10.6	
Lynga 2	14	24	24	-61	21	Cen	open cluster	12 x 12	6.4	
NGC 5606, OCL 922	14	27	48	-59	38	Cen	open cluster	3 x 3	7.7	
NGC 5617, OCL 919	14	29	42	-60	43	Cen	open cluster	10 x 10	6.3	
Tr 22, Cr 283	14	31	12	-61	10	Cen	open cluster	7 x 7	7.9	
NGC 5643, ESO 272-16, PGC 51969	14	32	42	-44	11	Lup	galaxy	4.6 x 4.0	10.0	10.74
Hogg 17	14	33	42	-61	22	Cen	open cluster	7 x 7	8.3	
NGC 5662, OCL 928	14	35	36	-56	37	Cen	open cluster	29 x 29	5.5	
NGC 5715, OCL 929	14	43	30	-57	35	Cir	open cluster	6 x 6	9.8	
Be 145	14	48	36	-65	15	Cir	dark nebula	12 x 5		
NGC 5749, OCL 930	14	48	54	-54	30	Lup	open cluster	10 x 10	8.8	
Hogg 18	14	50	42	-52	15	Lup	open cluster	3 x 3	8.0	
NGC 5822, OCL 937	15	04	24	-54	24	Lup	open cluster	40 x 40	6.5	
NGC 5823, OCL 936	15	05	30	-55	36	Cir	open cluster	10 x 10	7.9	
Pismis 20	15	15	24	-59	04	Cir	open cluster	4.5 x 4.5	7.8	
NGC 5925, OCL 938	15	27	24	-54	32	Nor	open cluster	20 x 20	8.4	
NGC 5927, GCL 35	15	28	00	-50	40	Lup	globular cluster	12 x 12	8.0	
NGC 5946, IC 4550	15	35	30	-50	40	Nor	globular cluster	7.1 x 7.1	8.4	
Cr 292	15	50	42	-57	40	Nor	open cluster	16 x 16	7.9	
NGC 5999, OCL 946	15	52	06	-56	28	Nor	open cluster	3 x 3	9.0	
NGC 6005, OCL 945	15	55	48	-57	26	Nor	open cluster	3 x 3	10.7	
NGC 6025, OCL 939	16	03	18	-60	26	TrA	open cluster	12 x 12	5.1	
Lynga 6	16	04	48	-51	57	Nor	open cluster	5 x 5	9.5	
NGC 6031, OCL 951	16	07	36	-54	01	Nor	open cluster	2 x 2	8.5	
NGC 6067, OCL 953	16	13	12	-54	13	Nor	open cluster	13 x 13	5.6	
SL 8	16	14	12	-44	04	Nor	dark nebula	25.0 x 5.0		
NGC 6087, OCL 948	16	18	48	-57	56	Nor	open cluster	12 x 12	5.4	
Cr 299, Harvard 10	16	19	54	-54	58	Nor	open cluster	25.0 x 25.0	6.9	
NGC 6115, Ru 118	16	24	24	-51	57	Nor	open cluster	3 x 3	11.0	
NGC 6101, GCL 40	16	25	48	-72	12	Aps	globular cluster	10.7 x 10.7	9.3	
NGC 6134, OCL 968	16	27	48	-49	09	Nor	open cluster	7 x 7	7.2	
Ru 119	16	28	18	-51	31	Nor	open cluster	8 x 8	8.8	
NGC 6152, OCL 961	16	32	48	-52	39	Nor	open cluster	25.0 x 25.0	8.1	
NGC 6169, OCL 984	16	34	06	-44	03	Nor	open cluster	12 x 12	6.6	
NGC 6167, Harvard 11	16	34	36	-49	46	Nor	open cluster	8 x 8	6.7	
Cr 307	16	35	18	-50	58	Ara	open cluster	6 x 6	9.2	
NGC 6178, OCL 980	16	35	48	-45	39	Sco	open cluster	4 x 4	7.2	
NGC 6192, OCL 988	16	40	24	-43	22	Sco	open cluster	9 x 9	8.5	
NGC 6193, OCL 975	16	41	18	-48	46	Ara	open cluster	15 x 15	5.2	
NGC 6200, OCL 978	16	44	06	-47	28	Ara	open cluster	12 x 12	7.4	
NGC 6204, OCL 982	16	46	12	-47	01	Ara	open cluster	5 x 5	8.2	
Barnard 235, SL 15	16	46	36	-44	30	Sco	dark nebula	7 x 3		
NGC 6216, NGC 6222	16	49	24	-44	44	Sco	open cluster	4 x 4	10.1	
NGC 6208, OCL 964	16	49	30	-53	44	Ara	open cluster	18 x 18	7.2	
NGC 6221, ESO 138- 3, PGC 59175	16	52	48	-59	13	Ara	galaxy	3.5 x 2.5	9.9	10.66
SL 17	16	53	00	-43	35	Sco	dark nebula	15 x 7		
Lynga 14	16	55	00	-45	15	Sco	open cluster	2 x 2	9.7	
NGC 6249, OCL 994	16	57	42	-44	49	Sco	open cluster	6 x 6	8.2	

05

continued

Chart 5

Far South

... *continued***Chart centre:** 15h, -60° . **Range:** 12:30 to 17:30, -70° to -45° . **Evenings:** Mar – Jul**Constellations featured:** Apus, Ara, Carina, Centaurus, Circinus, Crux, Lupus, Musca, Norma, Pavo, Scorpius, Triangulum Australe.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 6250, OCL 991	16	57	54	-45	56	Ara	open cluster	10 x 10	5.9	
NGC 6253, OCL 972	16	59	06	-52	43	Ara	open cluster	4 x 4	10.2	
NGC 6259, OCL 996	17	00	48	-44	39	Sco	open cluster	10 x 10	8.0	
NGC 6300, ESO 101-25, PGC 60001	17	17	00	-62	49	Ara	galaxy	4.5 x 3.0	10.2	10.98
NGC 6322, OCL 1000	17	18	24	-42	56	Sco	open cluster	10 x 10	6.0	
IC 4651, OCL 987	17	24	48	-49	56	Ara	open cluster	10 x 10	6.9	
NGC 6352, Dunlop 417	17	25	30	-48	25	Ara	globular cluster	7.1 x 7.1	7.8	
Barnard 263, SL 22	17	26	18	-42	38	Sco	dark nebula	30 x 30		
NGC 6362, Dunlop 225	17	31	54	-67	03	Ara	globular cluster	10.7 x 10.7	8.3	
NGC 6388, GCL 70	17	36	18	-44	44	Sco	globular cluster	8.7 x 8.7	6.8	
NGC 6397, Lac III-11	17	40	42	-53	40	Ara	globular cluster	25.7 x 25.7	5.3	
NGC 6584, Dunlop 376	18	18	36	-52	13	Tel	globular cluster	7.9 x 7.9	7.9	
NGC 6684, ESO 104-16	18	49	00	-65	10	Pav	galaxy	4.1 x 2.6	10.4	

05

Chart 6**Chart centre:** 20h, -60° . **Range:** 17:30 to 22:30, -70° to -45° . **Evenings:** Jul – Oct

Far South

Constellations featured: Ara, Corona Australis, Grus, Indus, Norma, Pavo, Telescopium, Triangulum Australe, Tucana.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 6025, OCL 939	16	03	18	-60	26	TrA	open cluster	12 x 12	5.1	
NGC 6067, OCL 953	16	13	12	-54	13	Nor	open cluster	13 x 13	5.6	
NGC 6087, OCL 948	16	18	48	-57	56	Nor	open cluster	12 x 12	5.4	
Cr 299, Harvard 10	16	19	54	-54	58	Nor	open cluster	25.0 x 25.0	6.9	
NGC 6115, Ru 118	16	24	24	-51	57	Nor	open cluster	3 x 3	11.0	
Ru 119	16	28	18	-51	31	Nor	open cluster	8 x 8	8.8	
NGC 6152, OCL 961	16	32	48	-52	39	Nor	open cluster	25.0 x 25.0	8.1	
Cr 307	16	35	18	-50	58	Ara	open cluster	6 x 6	9.2	
NGC 6208, OCL 964	16	49	30	-53	44	Ara	open cluster	18 x 18	7.2	
NGC 6221, ESO 138- 3, PGC 59175	16	52	48	-59	13	Ara	galaxy	3.5 x 2.5	9.9	10.66
NGC 6250, OCL 991	16	57	54	-45	56	Ara	open cluster	10 x 10	5.9	
NGC 6253, OCL 972	16	59	06	-52	43	Ara	open cluster	4 x 4	10.2	
NGC 6300, ESO 101-25, PGC 60001	17	17	00	-62	49	Ara	galaxy	4.5 x 3.0	10.2	10.98
NGC 6322, OCL 1000	17	18	24	-42	56	Sco	open cluster	10 x 10	6.0	
IC 4651, OCL 987	17	24	48	-49	56	Ara	open cluster	10 x 10	6.9	
NGC 6352, Dunlop 417	17	25	30	-48	25	Ara	globular cluster	7.1 x 7.1	7.8	
Barnard 263, SL 22	17	26	18	-42	38	Sco	dark nebula	30 x 30		
NGC 6362, Dunlop 225	17	31	54	-67	03	Ara	globular cluster	10.7 x 10.7	8.3	
NGC 6388, GCL 70	17	36	18	-44	44	Sco	globular cluster	8.7 x 8.7	6.8	
NGC 6397, Lac III-11	17	40	42	-53	40	Ara	globular cluster	25.7 x 25.7	5.3	
NGC 6496, GCL 80	17	59	00	-44	16	Sco	globular cluster	6.9 x 6.9	8.6	
NGC 6541, Dunlop 473	18	08	00	-43	42	CrA	globular cluster	13.1 x 13.1	6.3	
NGC 6584, Dunlop 376	18	18	36	-52	13	Tel	globular cluster	7.9 x 7.9	7.9	
NGC 6684, ESO 104-16	18	49	00	-65	10	Pav	galaxy	4.1 x 2.6	10.4	
NGC 6744, ESO 104-42, PGC 62836	19	09	48	-63	51	Pav	galaxy	20.0 x 12.9	8.3	9.14
NGC 6752, Dunlop 295	19	10	54	-59	59	Pav	globular cluster	20.4 x 20.4	5.4	
NGC 6868, ESO 233-39	20	09	54	-48	23	Tel	galaxy	3.6 x 2.8	10.6	
NGC 6902, IC 4948	20	24	30	-43	39	Sgr	galaxy	6.1 x 4.1	10.9	
NGC 7049, ESO 236- 1	21	19	00	-48	34	Ind	galaxy	4.5 x 3.0	10.7	
NGC 7090, ESO 188-12	21	36	30	-54	33	Ind	galaxy	7.3 x 1.2	10.7	
NGC 7144, ESO 237-11	21	52	42	-48	15	Gru	galaxy	3.7 x 3.6	10.8	
IC 5152, ESO 237-27	22	02	42	-51	18	Ind	galaxy	5.5 x 4.0	10.6	
NGC 7205, ESO 146- 9	22	08	36	-57	27	Ind	galaxy	4 x 2	10.9	
NGC 7213, ESO 288-43	22	09	18	-47	10	Gru	galaxy	3.7 x 3.4	10.1	
IC 5201, ESO 289-GO18	22	21	00	-46	02	Gru	galaxy	7.8 x 4.0	10.6	

06

Chart 7

Chart centre: 00h, -30° . **Range:** 22:30 to 01:30, -15° to -45° . **Evenings:** Oct – Nov

Mid-South

Constellations featured: Aquarius, Cetus, Fornax, Grus, Phoenix, Piscis Austrinus, Sculptor.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
MCG -03-01-015, UGCA 444; WLM	00	01	54	-15	27	Cet	galaxy	11 x 4	10.6	
Blanco 1	00	04	18	-29	56	Scl	open cluster	89 x 89	4.5	
NGC 45, A 4	00	14	06	-23	11	Cet	galaxy	7.6 x 5.4	10.6	
NGC 55, Dunlop 507, PGC 1014	00	14	54	-39	11	Scl	galaxy	32.4 x 5.6	7.9	8.42
NGC 134, ESO 350-23	00	30	24	-33	15	Scl	galaxy	8.4 x 1.8	10.4	
NGC 210, MCG - 2- 2- 81	00	40	36	-13	52	Cet	galaxy	4.6 x 3.2	10.9	
NGC 247, ESO 540-22, PGC 2758	00	47	06	-20	46	Cet	galaxy	21.4 x 6.9	9.1	9.67
NGC 253, ESO 474-29, PGC 2789	00	47	36	-25	18	Scl	galaxy	27.5 x 6.8	7.2	8.04
NGC 289, ESO 411-25	00	52	42	-31	12	Scl	galaxy	5.4 x 3.8	11.0	
NGC 288, ESO 474-SC37	00	52	48	-26	35	Scl	globular cluster	13.8 x 13.8	8.1	
NGC 300, ESO 295-20, PGC 3238	00	54	54	-37	41	Scl	galaxy	21.9 x 15.5	8.1	8.72
Sculptor Dwarf, MCG -06-03-015, PGC 3589	01	00	09	-33	43	Scl	galaxy	39.8 x 30.9	10.5	10.50
NGC 578, ESO 476-15	01	30	30	-22	40	Cet	galaxy	4.8 x 3.0	10.9	
NGC 613, ESO 413-11, PGC 5849	01	34	18	-29	25	Scl	galaxy	5.5 x 4.2	10.1	10.73
NGC 720, MCG - 2- 5- 68	01	53	00	-13	44	Cet	galaxy	4.4 x 2.2	10.2	
IC 5148, PK 2-52.1	21	59	36	-39	23	Gru	planetary nebula	2 x 2	11.0	
NGC 7184, ESO 601- 9	22	02	42	-20	49	Aqr	galaxy	5.9 x 1.3	10.9	
NGC 7293, PK 36-57.1	22	29	36	-20	50	Aqr	planetary nebula	16 x 12	6.3	
NGC 7314, ESO 533-53	22	35	48	-26	03	PsA	galaxy	4.6 x 2.0	11.0	
NGC 7410, ESO 346-12	22	55	00	-39	40	Gru	galaxy	5.5 x 1.5	10.3	
NGC 7418, ESO 406-25	22	56	36	-37	02	Gru	galaxy	3.8 x 2.7	10.9	
IC 1459, IC 5265, PGC 70090	22	57	11	-36	28	Gru	galaxy	5.2 x 3.8	10.0	10.97
IC 5267, ESO 290-G026	22	57	12	-43	24	Gru	galaxy	5.4 x 3.5	10.5	
NGC 7424, ESO 346-19, PGC 70096	22	57	18	-41	04	Gru	galaxy	10.0 x 8.2	10.5	10.96
NGC 7507, ESO 469-19	23	12	06	-28	32	Scl	galaxy	2.8 x 2.7	10.4	
NGC 7552, IC 5294	23	16	12	-42	35	Gru	galaxy	3.4 x 3.0	10.6	
NGC 7582, ESO 291-16	23	18	24	-42	22	Gru	galaxy	5.0 x 2.3	10.6	
IC 5332, ESO 408- 9	23	34	30	-36	06	Scl	galaxy	8.4 x 7.6	10.5	
NGC 7727, MCG - 2-60- 8	23	39	54	-12	18	Aqr	galaxy	4.7 x 4.1	10.6	
NGC 7793, ESO 349-12, PGC 73049	23	57	48	-32	35	Scl	galaxy	9.6 x 6.4	9.1	9.63

07

Chart 8**Chart centre:** 03h, -30° . **Range:** 01:30 to 04:30, -15° to -45° . **Evenings:** Nov – Jan

Mid-South

Constellations featured: Caelum, Cetus, Columba, Eridanus, Fornax, Horologium, Lepus, Phoenix, Sculptor.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 253, ESO 474-29, PGC 2789	00	47	36	-25	18	Scl	galaxy	27.5 x 6.8	7.2	8.04
NGC 289, ESO 411-25	00	52	42	-31	12	Scl	galaxy	5.4 x 3.8	11.0	
NGC 288, ESO 474-SC37	00	52	48	-26	35	Scl	globular cluster	13.8 x 13.8	8.1	
NGC 300, ESO 295-20, PGC 3238	00	54	54	-37	41	Scl	galaxy	21.9 x 15.5	8.1	8.72
Sculptor Dwarf, MCG -06-03-015, PGC 3589	01	00	09	-33	43	Scl	galaxy	39.8 x 30.9	10.5	10.50
NGC 578, ESO 476-15	01	30	30	-22	40	Cet	galaxy	4.8 x 3.0	10.9	
NGC 613, ESO 413-11, PGC 5849	01	34	18	-29	25	Scl	galaxy	5.5 x 4.2	10.1	10.73
NGC 720, MCG - 2- 5- 68	01	53	00	-13	44	Cet	galaxy	4.4 x 2.2	10.2	
NGC 908, ESO 545-11, PGC 9057	02	23	06	-21	14	Cet	galaxy	6.1 x 2.7	10.2	10.83
NGC 986, ESO 299- 7	02	33	36	-39	03	For	galaxy	4.0 x 3.2	10.9	
Fornax Dwarf, MCG -06-07-001, PGC 10093	02	39	59	-34	27	For	galaxy	17 x 12	8.9	9.04
NGC 1097, ESO 416-20, PGC 10488	02	46	18	-30	16	For	galaxy	9.3 x 6.3	9.5	10.23
NGC 1187, ESO 480-23	03	02	36	-22	52	Eri	galaxy	5.6 x 3.8	10.8	
NGC 1201, ESO 480-28	03	04	06	-26	04	For	galaxy	3.3 x 1.9	10.7	
NGC 1232, ESO 547-14, PGC 11819	03	09	48	-20	35	Eri	galaxy	7.4 x 6.5	9.9	10.52
NGC 1255, ESO 481-13	03	13	30	-25	44	For	galaxy	4.2 x 2.7	10.9	
NGC 1291, NGC 1269, PGC 12209	03	17	18	-41	06	Eri	galaxy	9.8 x 8.1	8.5	9.39
NGC 1300, ESO 547-31	03	19	42	-19	25	Eri	galaxy	5.9 x 4.1	10.4	
NGC 1302, ESO 481-20	03	19	54	-26	04	For	galaxy	4.1 x 3.7	10.7	
NGC 1317, NGC 1318	03	22	42	-37	06	For	galaxy	2.8 x 2.4	11.0	
NGC 1316, ESO 357-22, PGC 12651	03	22	42	-37	13	For	galaxy	12.0 x 8.5	8.5	9.42
NGC 1326, ESO 357-26	03	23	54	-36	28	For	galaxy	4.3 x 2.9	10.5	
NGC 1332, ESO 548-18	03	26	18	-21	20	Eri	galaxy	4.0 x 1.5	10.3	
NGC 1344, NGC 1340	03	28	18	-31	04	For	galaxy	6.1 x 3.8	10.4	
NGC 1350, ESO 358-13	03	31	06	-33	38	For	galaxy	5.4 x 2.9	10.3	
NGC 1360, PK 220-53.1	03	33	12	-25	52	For	planetary nebula	6.0 x 4.5	9.4	
NGC 1365, ESO 358-17, PGC 13179	03	33	36	-36	08	For	galaxy	11.2 x 6.2	9.6	10.32
NGC 1371, NGC 1367	03	35	00	-24	56	For	galaxy	5.9 x 3.8	10.7	
NGC 1379, ESO 358-27	03	36	06	-35	26	For	galaxy	2.4 x 2.3	10.9	
NGC 1380, ESO 358-28, PGC 13318	03	36	30	-34	59	For	galaxy	4.8 x 2.3	9.9	10.87
NGC 1387, ESO 358-36	03	37	00	-35	30	For	galaxy	3.2 x 3.1	10.7	
NGC 1385, ESO 482-16	03	37	30	-24	30	For	galaxy	3.6 x 2.2	10.9	
NGC 1395, ESO 482-19, PGC 13419	03	38	30	-23	02	Eri	galaxy	5.9 x 4.5	9.6	10.55
NGC 1399, ESO 358-45, PGC 13418	03	38	30	-35	27	For	galaxy	6.9 x 6.5	9.6	10.55
NGC 1398, ESO 482-22, PGC 13434	03	38	54	-26	20	For	galaxy	7.1 x 5.4	9.7	10.57
NGC 1404, ESO 358-46, PGC 13433	03	38	54	-35	36	For	galaxy	3.3 x 3.0	10.0	10.97
NGC 1400, ESO 548-62	03	39	30	-18	41	Eri	galaxy	2.5 x 2.1	11.0	
NGC 1407, ESO 548-67, PGC 13505	03	40	12	-18	35	Eri	galaxy	4.6 x 4.3	9.7	10.70
NGC 1433, ESO 249-14, PGC 13586	03	42	00	-47	13	Hor	galaxy	6.5 x 5.9	9.9	10.70
NGC 1425, ESO 419- 4	03	42	12	-29	54	For	galaxy	5.8 x 2.5	10.6	
NGC 1427, ESO 358-52	03	42	18	-35	24	For	galaxy	3.8 x 2.6	10.9	
NGC 1448, NGC 1457	03	44	30	-44	39	Hor	galaxy	7.5 x 2.0	10.7	
NGC 1512, ESO 250- 4	04	03	54	-43	21	Hor	galaxy	9.7 x 5.3	10.3	
NGC 1532, ESO 359-27, PGC 14638	04	12	06	-32	52	Eri	galaxy	12.6 x 3.3	9.9	10.65
NGC 1537, ESO 420-12	04	13	42	-31	39	Eri	galaxy	3.9 x 2.6	10.6	
NGC 1792, ESO 305- 6, PGC 16709	05	05	12	-37	59	Col	galaxy	5.2 x 2.6	10.2	10.87
NGC 1808, ESO 305- 8, PGC 16779	05	07	42	-37	31	Col	galaxy	6.5 x 3.9	9.9	10.74
NGC 1851, Dunlop 508	05	14	06	-40	03	Col	globular cluster	11 x 11	7.1	

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Chart 9

Chart centre: 06h, -30° . **Range:** 04:30 to 07:30, -15° to -45° . **Evenings:** Dec – Mar

Mid-South

Constellations featured: Caelum, Canis Major, Columba, Eridanus, Horologium, Lepus, Pictor, Puppis.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 1425, ESO 419- 4	03	42	12	-29	54	For	galaxy	5.8 x 2.5	10.6	
NGC 1427, ESO 358-52	03	42	18	-35	24	For	galaxy	3.8 x 2.6	10.9	
NGC 1512, ESO 250- 4	04	03	54	-43	21	Hor	galaxy	9.7 x 5.3	10.3	
NGC 1532, ESO 359-27, PGC 14638	04	12	06	-32	52	Eri	galaxy	12.6 x 3.3	9.9	10.65
NGC 1537, ESO 420-12	04	13	42	-31	39	Eri	galaxy	3.9 x 2.6	10.6	
NGC 1792, ESO 305- 6, PGC 16709	05	05	12	-37	59	Col	galaxy	5.2 x 2.6	10.2	10.87
NGC 1808, ESO 305- 8, PGC 16779	05	07	42	-37	31	Col	galaxy	6.5 x 3.9	9.9	10.74
NGC 1851, Dunlop 508	05	14	06	-40	03	Col	globular cluster	11 x 11	7.1	
NGC 1904, Messier 79	05	24	12	-24	31	Lep	globular cluster	7.8 x 7.8	7.7	
NGC 1964, ESO 554-10	05	33	24	-21	57	Lep	galaxy	5.5 x 2.1	10.8	
NGC 2196, ESO 556- 4	06	12	12	-21	48	Lep	galaxy	2.8 x 2.2	11.0	
NGC 2204, OCL 572	06	15	30	-18	40	CMa	open cluster	13 x 13	8.6	
NGC 2207, ESO 556- 8	06	16	24	-21	22	CMa	galaxy	4.2 x 2.6	10.8	
NGC 2217, ESO 489-42	06	21	42	-27	14	CMa	galaxy	4.7 x 4.3	10.7	
NGC 2243, OCL 644	06	29	36	-31	17	CMa	open cluster	5 x 5	9.4	
NGC 2280, ESO 427- 2, PGC 19531	06	44	48	-27	38	CMa	galaxy	6.3 x 3.1	10.3	10.90
NGC 2287, Messier 41	06	46	00	-20	45	CMa	open cluster	38.0 x 38.0	4.5	
NGC 2292, ESO 490-48	06	47	42	-26	45	CMa	galaxy	4.0 x 3.5	10.8	
NGC 2298, GCL 11	06	49	00	-36	00	Pup	globular cluster	6.8 x 6.8	9.4	
Cr 121	06	56	18	-24	44	CMa	open cluster	50 x 50	2.6	
Tombaugh 1, OCL 603	07	00	30	-20	34	CMa	open cluster	5 x 5	10.5	
NGC 2345, OCL 575	07	08	18	-13	12	CMa	open cluster	12 x 12	7.7	
NGC 2354, OCL 639	07	14	18	-25	42	CMa	open cluster	20 x 20	6.5	
Cr 132	07	15	24	-30	41	CMa	open cluster	80 x 80	3.6	
Basel 11A	07	17	06	-13	58	CMa	open cluster	9 x 9	8.2	
Cr 135	07	17	24	-36	50	Pup	open cluster	50 x 50	2.1	
NGC 2360, OCL 589	07	17	42	-15	38	CMa	open cluster	13 x 13	7.2	
NGC 2362, OCL 633	07	18	42	-24	57	CMa	open cluster	8 x 8	4.1	
Be 135	07	19	00	-44	35	Pup	dark nebula	13 x 5		
NGC 2367, OCL 621	07	20	06	-21	53	CMa	open cluster	3.5 x 3.5	7.9	
Haffner 6	07	20	06	-13	09	CMa	open cluster	4 x 4	9.2	
Haffner 8	07	23	24	-12	18	CMa	open cluster	4.2 x 4.2	9.1	
NGC 2374, OCL 585	07	23	54	-13	16	CMa	open cluster	19 x 19	8.0	
Cr 140	07	24	30	-31	51	CMa	open cluster	60 x 60	3.5	
NGC 2383, OCL 616	07	24	42	-20	57	CMa	open cluster	6 x 6	8.4	
Ru 18	07	24	42	-26	11	CMa	open cluster	4 x 4	9.4	
NGC 2384, OCL 618	07	25	12	-21	01	CMa	open cluster	2.5 x 2.5	7.4	
Tr 6, Cr 145	07	26	24	-24	13	CMa	open cluster	6 x 6	10.0	
Ru 20	07	26	42	-28	50	CMa	open cluster	10 x 10	9.5	
Tr 7, Cr 146	07	27	18	-24	00	Pup	open cluster	5 x 5	7.9	
Czernik 29	07	28	18	-15	24	Pup	open cluster	8 x 8	10.3	
Bochum 4	07	31	00	-16	57	Pup	open cluster	23 x 23	7.3	
NGC 2409	07	31	36	-17	11	Pup	open cluster	2.5 x 2.5	8.0	
Bochum 6	07	31	48	-19	27	Pup	open cluster	10 x 10	9.9	
Bochum 5	07	32	06	-16	57	Pup	open cluster	11 x 11	7.0	
NGC 2414, OCL 598	07	33	12	-15	27	Pup	open cluster	4 x 4	7.9	
NGC 2421, OCL 626	07	36	12	-20	37	Pup	open cluster	10 x 10	8.3	
NGC 2422, Messier 47, NGC 2478	07	36	36	-14	29	Pup	open cluster	30 x 30	4.4	
NGC 2423, OCL 592	07	37	06	-13	52	Pup	open cluster	19 x 19	6.7	
Bochum 15	07	40	12	-33	33	Pup	open cluster	3 x 3	6.3	
NGC 2439, OCL 688	07	40	48	-31	42	Pup	open cluster	10 x 10	6.9	
NGC 2432, OCL 620	07	40	54	-19	05	Pup	open cluster	8 x 8	10.2	
NGC 2437, Messier 46	07	41	48	-14	49	Pup	open cluster	27.0 x 27.0	6.1	
NGC 2447, Messier 93	07	44	30	-23	51	Pup	open cluster	22 x 22	6.2	
Ru 32	07	45	00	-25	31	Pup	open cluster	6 x 6	8.4	
NGC 2451, OCL 716	07	45	18	-37	58	Pup	open cluster	50 x 50	2.8	
Haffner 15	07	45	30	-32	51	Pup	open cluster	3.5 x 3.5	9.4	
Ru 34	07	45	54	-20	23	Pup	open cluster	4 x 4	9.5	

09

continued

Chart 9

Mid-South
... *continued***Chart centre:** 06h, -30° . **Range:** 04:30 to 07:30, -15° to -45° . **Evenings:** Dec – Mar**Constellations featured:** Caelum, Canis Major, Columba, Eridanus, Horologium, Lepus, Pictor, Puppis.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 2453, OCL 670	07	47	36	-27	12	Pup	open cluster	5 x 5	8.3	
Ru 36	07	48	30	-26	18	Pup	open cluster	4 x 4	9.6	
NGC 2455, OCL 636	07	49	00	-21	18	Pup	open cluster	8 x 8	10.2	
NGC 2477, OCL 720	07	52	12	-38	32	Pup	open cluster	27.0 x 27.0	5.8	
NGC 2467, OCL 668	07	52	30	-26	26	Pup	open cluster	15 x 15	7.1	
NGC 2479, OCL 623	07	55	06	-17	42	Pup	open cluster	7 x 7	9.6	
NGC 2482, OCL 653	07	55	12	-24	15	Pup	open cluster	12 x 12	7.3	
NGC 2483, ESO 430-SC2	07	55	36	-27	53	Pup	open cluster	10 x 10	7.6	
Tr 9, Cr 168; Harvard 2	07	55	42	-25	53	Pup	open cluster	6 x 6	8.7	
NGC 2489, OCL 690	07	56	18	-30	04	Pup	open cluster	8 x 8	7.9	
Ru 44	07	59	00	-28	35	Pup	open cluster	5 x 5	7.2	
NGC 2509, OCL 630	08	00	48	-19	03	Pup	open cluster	8 x 8	9.3	
Ru 46	08	02	06	-19	28	Pup	open cluster	2 x 2	9.1	
Ru 47	08	02	18	-31	06	Pup	open cluster	5 x 5	9.6	
Ru 49	08	03	18	-26	47	Pup	open cluster	2.5 x 2.5	9.6	
NGC 2520, NGC 2527	08	05	00	-28	09	Pup	open cluster	22 x 22	6.5	
NGC 2533, OCL 695	08	07	06	-29	53	Pup	open cluster	3.5 x 3.5	7.6	
Ru 55	08	12	18	-32	34	Pup	open cluster	17 x 17	7.8	
NGC 2546, OCL 726	08	12	18	-37	36	Pup	open cluster	41 x 41	6.3	
Pismis 1	08	17	48	-37	05	Pup	open cluster	4.6 x 4.6	10.7	
NGC 2568, OCL 727	08	18	18	-37	06	Pup	open cluster	2 x 2	10.0	
NGC 2567, OCL 708	08	18	30	-30	39	Pup	open cluster	10 x 10	7.4	

09

Chart 10

Chart centre: 09h, -30° . **Range:** 07:30 to 10:30, -15° to -45° . **Evenings:** Feb – Apr

Mid-South

Constellations featured: Antlia, Canis Major, Centaurus, Crater, Hydra, Puppis, Pyxis, Vela.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 2280, ESO 427- 2, PGC 19531	06	44	48	-27	38	CMa	galaxy	6.3 x 3.1	10.3	10.90
NGC 2292, ESO 490-48	06	47	42	-26	45	CMa	galaxy	4.0 x 3.5	10.8	
NGC 2298, GCL 11	06	49	00	-36	00	Pup	globular cluster	6.8 x 6.8	9.4	
Cr 121	06	56	18	-24	44	CMa	open cluster	50 x 50	2.6	
Tombaugh 1, OCL 603	07	00	30	-20	34	CMa	open cluster	5 x 5	10.5	
NGC 2345, OCL 575	07	08	18	-13	12	CMa	open cluster	12 x 12	7.7	
NGC 2354, OCL 639	07	14	18	-25	42	CMa	open cluster	20 x 20	6.5	
Cr 132	07	15	24	-30	41	CMa	open cluster	80 x 80	3.6	
Basel 11A	07	17	06	-13	58	CMa	open cluster	9 x 9	8.2	
Cr 135	07	17	24	-36	50	Pup	open cluster	50 x 50	2.1	
NGC 2360, OCL 589	07	17	42	-15	38	CMa	open cluster	13 x 13	7.2	
NGC 2362, OCL 633	07	18	42	-24	57	CMa	open cluster	8 x 8	4.1	
Be 135	07	19	00	-44	35	Pup	dark nebula	13 x 5		
NGC 2367, OCL 621	07	20	06	-21	53	CMa	open cluster	3.5 x 3.5	7.9	
Haffner 6	07	20	06	-13	09	CMa	open cluster	4 x 4	9.2	
Haffner 8	07	23	24	-12	18	CMa	open cluster	4.2 x 4.2	9.1	
NGC 2374, OCL 585	07	23	54	-13	16	CMa	open cluster	19 x 19	8.0	
Cr 140	07	24	30	-31	51	CMa	open cluster	60 x 60	3.5	
NGC 2383, OCL 616	07	24	42	-20	57	CMa	open cluster	6 x 6	8.4	
Ru 18	07	24	42	-26	11	CMa	open cluster	4 x 4	9.4	
NGC 2384, OCL 618	07	25	12	-21	01	CMa	open cluster	2.5 x 2.5	7.4	
Tr 6, Cr 145	07	26	24	-24	13	CMa	open cluster	6 x 6	10.0	
Ru 20	07	26	42	-28	50	CMa	open cluster	10 x 10	9.5	
Tr 7, Cr 146	07	27	18	-24	00	Pup	open cluster	5 x 5	7.9	
Czemnik 29	07	28	18	-15	24	Pup	open cluster	8 x 8	10.3	
Bochum 4	07	31	00	-16	57	Pup	open cluster	23 x 23	7.3	
NGC 2409	07	31	36	-17	11	Pup	open cluster	2.5 x 2.5	8.0	
Bochum 6	07	31	48	-19	27	Pup	open cluster	10 x 10	9.9	
Bochum 5	07	32	06	-16	57	Pup	open cluster	11 x 11	7.0	
NGC 2414, OCL 598	07	33	12	-15	27	Pup	open cluster	4 x 4	7.9	
NGC 2421, OCL 626	07	36	12	-20	37	Pup	open cluster	10 x 10	8.3	
NGC 2422, Messier 47, NGC 2478	07	36	36	-14	29	Pup	open cluster	30 x 30	4.4	
NGC 2423, OCL 592	07	37	06	-13	52	Pup	open cluster	19 x 19	6.7	
Bochum 15	07	40	12	-33	33	Pup	open cluster	3 x 3	6.3	
NGC 2439, OCL 688	07	40	48	-31	42	Pup	open cluster	10 x 10	6.9	
NGC 2432, OCL 620	07	40	54	-19	05	Pup	open cluster	8 x 8	10.2	
NGC 2437, Messier 46	07	41	48	-14	49	Pup	open cluster	27.0 x 27.0	6.1	
NGC 2447, Messier 93	07	44	30	-23	51	Pup	open cluster	22 x 22	6.2	
Ru 32	07	45	00	-25	31	Pup	open cluster	6 x 6	8.4	
NGC 2451, OCL 716	07	45	18	-37	58	Pup	open cluster	50 x 50	2.8	
Haffner 15	07	45	30	-32	51	Pup	open cluster	3.5 x 3.5	9.4	
Ru 34	07	45	54	-20	23	Pup	open cluster	4 x 4	9.5	
NGC 2453, OCL 670	07	47	36	-27	12	Pup	open cluster	5 x 5	8.3	
Ru 36	07	48	30	-26	18	Pup	open cluster	4 x 4	9.6	
NGC 2455, OCL 636	07	49	00	-21	18	Pup	open cluster	8 x 8	10.2	
NGC 2477, OCL 720	07	52	12	-38	32	Pup	open cluster	27.0 x 27.0	5.8	
NGC 2467, OCL 668	07	52	30	-26	26	Pup	open cluster	15 x 15	7.1	
NGC 2479, OCL 623	07	55	06	-17	42	Pup	open cluster	7 x 7	9.6	
NGC 2482, OCL 653	07	55	12	-24	15	Pup	open cluster	12 x 12	7.3	
NGC 2483, ESO 430-SC2	07	55	36	-27	53	Pup	open cluster	10 x 10	7.6	
Tr 9, Cr 168; Harvard 2	07	55	42	-25	53	Pup	open cluster	6 x 6	8.7	
NGC 2489, OCL 690	07	56	18	-30	04	Pup	open cluster	8 x 8	7.9	
Ru 44	07	59	00	-28	35	Pup	open cluster	5 x 5	7.2	
NGC 2509, OCL 630	08	00	48	-19	03	Pup	open cluster	8 x 8	9.3	
Ru 46	08	02	06	-19	28	Pup	open cluster	2 x 2	9.1	
Ru 47	08	02	18	-31	06	Pup	open cluster	5 x 5	9.6	
Ru 49	08	03	18	-26	47	Pup	open cluster	2.5 x 2.5	9.6	
NGC 2520, NGC 2527	08	05	00	-28	09	Pup	open cluster	22 x 22	6.5	

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continued

Chart 10**Chart centre:** 09h, -30° . **Range:** 07:30 to 10:30, -15° to -45° . **Evenings:** Feb – AprMid-South
... *continued***Constellations featured:** Antlia, Canis Major, Centaurus, Crater, Hydra, Puppis, Pyxis, Vela.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 2533, OCL 695	08	07	06	-29	53	Pup	open cluster	3.5 x 3.5	7.6	
NGC 2539, OCL 611	08	10	36	-12	49	Pup	open cluster	22 x 22	6.5	
Ru 55	08	12	18	-32	34	Pup	open cluster	17 x 17	7.8	
NGC 2546, OCL 726	08	12	18	-37	36	Pup	open cluster	41 x 41	6.3	
NGC 2559, ESO 494-41	08	17	06	-27	27	Pup	galaxy	3.7 x 1.7	10.9	
Pismis 1	08	17	48	-37	05	Pup	open cluster	4.6 x 4.6	10.7	
NGC 2568, OCL 727	08	18	18	-37	06	Pup	open cluster	2 x 2	10.0	
NGC 2567, OCL 708	08	18	30	-30	39	Pup	open cluster	10 x 10	7.4	
NGC 2566, ESO 495-3	08	18	48	-25	30	Pup	galaxy	3.4 x 2.3	11.0	
NGC 2571, OCL 701	08	18	54	-29	45	Pup	open cluster	13 x 13	7.0	
Ru 59	08	19	24	-34	29	Pup	open cluster	5 x 5	9.0	
NGC 2579, OCL 724	08	20	54	-36	13	Pup	open cluster	10 x 10	7.5	
NGC 2580, OCL 709	08	21	30	-30	19	Pup	open cluster	8 x 8	9.7	
Cr 185	08	23	18	-36	20	Pup	open cluster	9 x 9	7.8	
NGC 2587, OCL 706	08	23	24	-29	31	Pup	open cluster	9 x 9	9.2	
Cr 187	08	24	12	-29	10	Pup	open cluster	7 x 7	9.6	
NGC 2613, ESO 495-18	08	33	24	-22	58	Pyx	galaxy	7.1 x 1.6	10.3	
Pismis 4	08	34	36	-44	22	Vel	open cluster	18 x 18	5.9	
NGC 2627, OCL 714	08	37	12	-29	57	Pyx	open cluster	11 x 11	8.4	
Pismis 5	08	37	36	-39	34	Vel	open cluster	2 x 2	9.9	
Waterloo 6	08	40	24	-46	09	Vel	open cluster	2.2 x 2.2	8.4	
Pismis 8	08	41	36	-46	17	Vel	open cluster	2 x 2	9.5	
Ru 67	08	41	48	-43	23	Vel	open cluster	6 x 6	9.1	
NGC 2660, OCL 759	08	42	36	-47	12	Vel	open cluster	4 x 4	8.8	
NGC 2659, OCL 752	08	42	36	-45	00	Vel	open cluster	14 x 14	8.6	
NGC 2658, OCL 723	08	43	30	-32	39	Pyx	open cluster	10 x 10	9.2	
Cr 197	08	44	42	-41	17	Vel	open cluster	17 x 17	6.7	
Bochum 7	08	44	48	-45	58	Vel	open cluster	20 x 20	6.8	
NGC 2663, ESO 371-14	08	45	06	-33	48	Pyx	galaxy	3.5 x 2.4	10.9	
Cr 196	08	45	06	-31	38	Pyx	open cluster	5 x 5	10.5	
Tr 10, Cr 203	08	47	48	-42	29	Vel	open cluster	15 x 15	4.6	
SL 4	08	53	36	-42	13	Vel	dark nebula	60 x 10		
NGC 2784, ESO 497-23	09	12	18	-24	10	Hya	galaxy	5.7 x 2.5	10.2	
NGC 2835, ESO 564-35	09	17	54	-22	21	Hya	galaxy	6.3 x 4.2	10.5	
Pismis 12	09	19	54	-45	08	Vel	open cluster	4.5 x 4.5	9.7	
NGC 2986, ESO 566-5	09	44	18	-21	17	Hya	galaxy	3.5 x 3.0	10.8	
NGC 2997, ESO 434-35, PGC 27978	09	45	36	-31	11	Ant	galaxy	8.9 x 6.8	9.4	10.06
NGC 3109, ESO 499-36, PGC 29128	10	03	06	-26	10	Hya	galaxy	19.1 x 3.7	9.9	10.39
NGC 3201, Dunlop 445	10	17	36	-46	25	Vel	globular cluster	18.2 x 18.2	6.8	
NGC 3223, IC 2571	10	21	36	-34	16	Ant	galaxy	4.1 x 2.7	11.0	
NGC 3511, ESO 502-13	11	03	24	-23	05	Crt	galaxy	6.0 x 2.1	11.0	
NGC 3557, ESO 377-16	11	10	00	-37	32	Cen	galaxy	4.0 x 3.0	10.4	
NGC 3585, ESO 502-25, PGC 34160	11	13	18	-26	45	Hya	galaxy	4.7 x 2.6	9.9	10.88
NGC 3621, ESO 377-37, PGC 34554	11	18	18	-32	49	Hya	galaxy	12.3 x 7.1	9.7	10.28

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Chart 11

Chart centre: 12h, -30° . **Range:** 10:30 to 13:30, -15° to -45° . **Evenings:** Mar – Jun
Mid-South **Constellations featured:** Antlia, Centaurus, Corvus, Crater, Hydra, Vela, Virgo.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 2997, ESO 434-35, PGC 27978	09	45	36	-31	11	Ant	galaxy	8.9 x 6.8	9.4	10.06
NGC 3109, ESO 499-36, PGC 29128	10	03	06	-26	10	Hya	galaxy	19.1 x 3.7	9.9	10.39
NGC 3223, IC 2571	10	21	36	-34	16	Ant	galaxy	4.1 x 2.7	11.0	
NGC 3511, ESO 502-13	11	03	24	-23	05	Crt	galaxy	6.0 x 2.1	11.0	
NGC 3557, ESO 377-16	11	10	00	-37	32	Cen	galaxy	4.0 x 3.0	10.4	
NGC 3585, ESO 502-25, PGC 34160	11	13	18	-26	45	Hya	galaxy	4.7 x 2.6	9.9	10.88
NGC 3621, ESO 377-37, PGC 34554	11	18	18	-32	49	Hya	galaxy	12.3 x 7.1	9.7	10.28
NGC 3680, OCL 823	11	25	36	-43	15	Cen	open cluster	6 x 6	7.6	
NGC 3887, MCG - 3-30- 12	11	47	06	-16	51	Crt	galaxy	3.5 x 2.7	10.6	
NGC 3904, ESO 440-13	11	49	12	-29	17	Hya	galaxy	2.7 x 2.0	10.9	
NGC 3923, ESO 440-17, PGC 37061	11	51	00	-28	48	Hya	galaxy	5.9 x 3.9	9.8	10.80
NGC 3962, MCG - 2-30- 40	11	54	42	-13	59	Crt	galaxy	3.4 x 2.8	10.7	
NGC 4039, ESO 572-48	12	01	54	-18	53	Crv	galaxy	3.3 x 1.7	10.6	
NGC 4038, ESO 572-47, PGC 37967	12	01	54	-18	52	Crv	galaxy	5.2 x 3.1	10.3	10.91
NGC 4105, ESO 440-54	12	06	42	-29	46	Hya	galaxy	2.8 x 2.1	10.6	
NGC 4373, ESO 322- 6	12	25	18	-39	46	Cen	galaxy	3.6 x 2.6	10.9	
NGC 4590, Messier 68	12	39	30	-26	45	Hya	globular cluster	9.8 x 9.8	7.3	
NGC 4696, ESO 322-91	12	48	48	-41	19	Cen	galaxy	4.7 x 3.3	10.4	
NGC 4709, ESO 323- 3	12	50	06	-41	23	Cen	galaxy	2.3 x 2.0	10.9	
NGC 4856, MCG - 2-33- 78	12	59	24	-15	03	Vir	galaxy	3.9 x 1.4	10.5	
NGC 4902, MCG - 2-33- 92	13	01	00	-14	31	Vir	galaxy	2.9 x 2.6	10.9	
NGC 4936, ESO 443-47	13	04	18	-30	32	Cen	galaxy	3.2 x 2.6	10.8	
NGC 5018, ESO 576-10	13	13	00	-19	31	Vir	galaxy	3.4 x 2.6	10.8	
NGC 5044, MCG - 3-34- 34	13	15	24	-16	23	Vir	galaxy	2.6 x 2.6	10.8	
NGC 5054, MCG - 3-34- 39	13	17	00	-16	38	Vir	galaxy	5.1 x 2.8	10.9	
NGC 5061, ESO 508-38	13	18	06	-26	50	Hya	galaxy	3.5 x 2.9	10.4	
NGC 5068, ESO 576-29, PGC 46400	13	18	54	-21	02	Vir	galaxy	7.2 x 6.3	10.0	10.70
NGC 5078, ESO 508-48	13	19	48	-27	25	Hya	galaxy	19.5 x 5.8	11.0	
NGC 5084, ESO 576-33	13	20	18	-21	50	Vir	galaxy	10.6 x 1.8	10.5	
NGC 5101, ESO 508-58	13	21	48	-27	26	Hya	galaxy	5.7 x 4.7	10.6	
NGC 5102, ESO 382-50, PGC 46674	13	22	00	-36	38	Cen	galaxy	8.7 x 2.8	9.6	10.35
NGC 5128, Dunlop 482, PGC 46957	13	25	30	-43	01	Cen	galaxy	25.7 x 20.0	6.8	7.84
NGC 5236, Messier 83, PGC 48082	13	37	00	-29	52	Hya	galaxy	12.9 x 11.5	7.5	8.20
NGC 5247, ESO 577-14, PGC 48171	13	38	00	-17	53	Vir	galaxy	5.6 x 4.9	10.0	10.50
NGC 5253, ESO 445- 4, PGC 48334	13	39	54	-31	39	Cen	galaxy	5.0 x 1.9	10.4	10.87
Be 146	13	57	36	-40	00	Cen	dark nebula	20 x 8		
NGC 5419, ESO 384-39	14	03	36	-33	59	Cen	galaxy	4.1 x 3.3	10.9	

Chart 12**Chart centre:** 15h, -30° . **Range:** 13:30 to 16:30, -15° to -45° . **Evenings:** Apr – Jul

Mid-South

Constellations featured: Centaurus, Hydra, Libra, Lupus, Norma, Ophiuchus, Scorpius, Virgo.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 4696, ESO 322-91	12	48	48	-41	19	Cen	galaxy	4.7 x 3.3	10.4	
NGC 4709, ESO 323- 3	12	50	06	-41	23	Cen	galaxy	2.3 x 2.0	10.9	
NGC 4856, MCG - 2-33- 78	12	59	24	-15	03	Vir	galaxy	3.9 x 1.4	10.5	
NGC 4902, MCG - 2-33- 92	13	01	00	-14	31	Vir	galaxy	2.9 x 2.6	10.9	
NGC 4936, ESO 443-47	13	04	18	-30	32	Cen	galaxy	3.2 x 2.6	10.8	
NGC 5018, ESO 576-10	13	13	00	-19	31	Vir	galaxy	3.4 x 2.6	10.8	
NGC 5044, MCG - 3-34- 34	13	15	24	-16	23	Vir	galaxy	2.6 x 2.6	10.8	
NGC 5054, MCG - 3-34- 39	13	17	00	-16	38	Vir	galaxy	5.1 x 2.8	10.9	
NGC 5061, ESO 508-38	13	18	06	-26	50	Hya	galaxy	3.5 x 2.9	10.4	
NGC 5068, ESO 576-29, PGC 46400	13	18	54	-21	02	Vir	galaxy	7.2 x 6.3	10.0	10.70
NGC 5078, ESO 508-48	13	19	48	-27	25	Hya	galaxy	19.5 x 5.8	11.0	
NGC 5084, ESO 576-33	13	20	18	-21	50	Vir	galaxy	10.6 x 1.8	10.5	
NGC 5101, ESO 508-58	13	21	48	-27	26	Hya	galaxy	5.7 x 4.7	10.6	
NGC 5102, ESO 382-50, PGC 46674	13	22	00	-36	38	Cen	galaxy	8.7 x 2.8	9.6	10.35
NGC 5128, Dunlop 482, PGC 46957	13	25	30	-43	01	Cen	galaxy	25.7 x 20.0	6.8	7.84
NGC 5236, Messier 83, PGC 48082	13	37	00	-29	52	Hya	galaxy	12.9 x 11.5	7.5	8.20
NGC 5247, ESO 577-14, PGC 48171	13	38	00	-17	53	Vir	galaxy	5.6 x 4.9	10.0	10.50
NGC 5253, ESO 445- 4, PGC 48334	13	39	54	-31	39	Cen	galaxy	5.0 x 1.9	10.4	10.87
Be 146	13	57	36	-40	00	Cen	dark nebula	20 x 8		
NGC 5419, ESO 384-39	14	03	36	-33	59	Cen	galaxy	4.1 x 3.3	10.9	
NGC 5643, ESO 272-16, PGC 51969	14	32	42	-44	11	Lup	galaxy	4.6 x 4.0	10.0	10.74
NGC 5694, GCL 29	14	39	36	-26	32	Hya	globular cluster	3.6 x 3.6	10.2	
NGC 5824, NGC 5834, ESO 387-SC001	15	04	00	-33	04	Lup	globular cluster	6.2 x 6.2	9.1	
NGC 5897, GCL 33	15	17	24	-21	01	Lib	globular cluster	8.7 x 8.7	8.4	
NGC 5986, Dunlop 552	15	46	06	-37	47	Lup	globular cluster	9.8 x 9.8	7.6	
SL 11	15	57	00	-37	48	Lup	dark nebula	150 x 40		
SL 7	16	01	48	-41	52	Lup	dark nebula	60 x 10		
Be 149	16	09	24	-39	08	Sco	dark nebula	60 x 12		
SL 8	16	14	12	-44	04	Nor	dark nebula	25.0 x 5.0		
Barnard 40, LDN 1721	16	14	42	-18	58	Sco	dark nebula	15 x 15		
NGC 6093, Messier 80	16	17	00	-22	59	Sco	globular cluster	5.1 x 5.1	7.3	
Barnard 41, LDN 1717	16	22	18	-19	38	Sco	dark nebula	40 x 40		
NGC 6121, Messier 4	16	23	36	-26	32	Sco	globular cluster	26.3 x 26.3	5.4	
NGC 6124, Dunlop 514	16	25	18	-40	39	Sco	open cluster	29 x 29	5.8	
Barnard 42, LDN 1696	16	25	30	-23	26	Oph	dark nebula	20 x 6		
NGC 6144, GCL 42	16	27	12	-26	01	Sco	globular cluster	6.2 x 6.2	9.1	
NGC 6139, GCL 43	16	27	42	-38	51	Sco	globular cluster	5.5 x 5.5	9.2	
Barnard 43, LDN 1752	16	30	18	-19	47	Oph	dark nebula	120 x 40		
NGC 6171, Messier 107	16	32	30	-13	03	Oph	globular cluster	3.3 x 3.3	7.8	
NGC 6169, OCL 984	16	34	06	-44	03	Nor	open cluster	12 x 12	6.6	
NGC 6178, OCL 980	16	35	48	-45	39	Sco	open cluster	4 x 4	7.2	
Barnard 231, SL 24	16	37	30	-35	12	Sco	dark nebula	50 x 40		
NGC 6192, OCL 988	16	40	24	-43	22	Sco	open cluster	9 x 9	8.5	
Barnard 233, SL 25	16	44	06	-35	21	Sco	dark nebula	55 x 20		
Barnard 44a, SL 18	16	44	48	-40	23	Sco	dark nebula	5 x 5		
Barnard 45, LDN 1744	16	46	30	-21	36	Oph	dark nebula	120 x 20		
Barnard 235, SL 15	16	46	36	-44	30	Sco	dark nebula	7 x 3		
NGC 6216, NGC 6222	16	49	24	-44	44	Sco	open cluster	4 x 4	10.1	
NGC 6227, ESO 332-**5	16	51	36	-41	13	Sco	open cluster	18 x 18	5.0	
SL 17	16	53	00	-43	35	Sco	dark nebula	15 x 7		
NGC 6231, Dunlop 520	16	54	12	-41	49	Sco	open cluster	15 x 15	2.6	
Cr 316	16	55	30	-40	50	Sco	open cluster	105 x 105	3.4	
NGC 6242, OCL 1001	16	55	36	-39	28	Sco	open cluster	9 x 9	6.4	
Tr 24, Harvard 12	16	57	00	-40	38	Sco	open cluster	60 x 60	8.6	
Barnard 46, LDN 1775	16	57	12	-22	44	Oph	dark nebula	12 x 12		
Barnard 47, LDN 1792	16	59	42	-22	39	Oph	dark nebula	15 x 15		
Barnard 48, SL 20	17	01	00	-40	47	Sco	dark nebula	40 x 15		
NGC 6266, Messier 62	17	01	12	-30	07	Oph	globular cluster	14.1 x 14.1	6.4	

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continued

Chart 12**Chart centre:** 15h, -30° . **Range:** 13:30 to 16:30, -15° to -45° . **Evenings:** Apr – Jul

Mid-South

... *continued***Constellations featured:** Centaurus, Hydra, Libra, Lupus, Norma, Ophiuchus, Scorpius, Virgo.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 6268, OCL 1002	17	02	12	-39	44	Sco	open cluster	6 x 6	9.5	
NGC 6273, Messier 19	17	02	36	-26	16	Oph	globular cluster	5.3 x 5.3	6.8	
Barnard 50, SL 30	17	03	00	-34	24	Sco	dark nebula	15 x 15		
NGC 6284, GCL 53	17	04	30	-24	46	Oph	globular cluster	2.7 x 2.7	9.0	
Barnard 51, LDN 0015	17	04	48	-22	16	Oph	dark nebula	20 x 20		
NGC 6287, GCL 54	17	05	12	-22	42	Oph	globular cluster	2.7 x 2.7	9.2	
Barnard 53, SL 32	17	06	06	-33	15	Sco	dark nebula	30 x 10		
Barnard 55, LDN 1682	17	07	30	-32	00	Sco	dark nebula	16 x 16		
Barnard 57, LDN 11	17	08	18	-23	40	Oph	dark nebula	5 x 5		
Barnard 56, LDN 1685	17	08	42	-32	06	Sco	dark nebula	3 x 3		
Barnard 244, LDN 1736	17	10	06	-28	24	Oph	dark nebula	20 x 30		
NGC 6293, GCL 55	17	10	12	-26	35	Oph	globular cluster	3.5 x 3.5	8.2	
Barnard 58, SL 23	17	11	12	-40	25	Sco	dark nebula	30 x 30		
Barnard 59, LDN 1746	17	11	24	-27	30	Oph	dark nebula	60 x 60		
NGC 6304, GCL 56	17	14	30	-29	28	Oph	globular cluster	3.8 x 3.8	8.4	
Barnard 252, LDN 1698	17	15	12	-32	13	Sco	dark nebula	20 x 5		
NGC 6316, GCL 57	17	16	36	-28	08	Oph	globular cluster	4.9 x 4.9	8.1	
Bochum 13	17	17	18	-35	33	Sco	open cluster	15 x 15	7.2	
NGC 6322, OCL 1000	17	18	24	-42	56	Sco	open cluster	10 x 10	6.0	

Chart 13**Chart centre:** 18h, -30° . **Range:** 16:30 to 19:30, -15° to -45° . **Evenings:** Jul – Aug

Mid-South

Constellations featured: Ara, Corona Australis, Lupus, Norma, Ophiuchus, Sagittarius, Scorpius, Scutum, Serpens, Telescopium.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 5986, Dunlop 552	15	46	06	-37	47	Lup	globular cluster	9.8 x 9.8	7.6	
SL 11	15	57	00	-37	48	Lup	dark nebula	150 x 40		
SL 7	16	01	48	-41	52	Lup	dark nebula	60 x 10		
Be 149	16	09	24	-39	08	Sco	dark nebula	60 x 12		
SL 8	16	14	12	-44	04	Nor	dark nebula	25.0 x 5.0		
Barnard 40, LDN 1721	16	14	42	-18	58	Sco	dark nebula	15 x 15		
NGC 6093, Messier 80	16	17	00	-22	59	Sco	globular cluster	5.1 x 5.1	7.3	
Barnard 41, LDN 1717	16	22	18	-19	38	Sco	dark nebula	40 x 40		
NGC 6121, Messier 4	16	23	36	-26	32	Sco	globular cluster	26.3 x 26.3	5.4	
NGC 6124, Dunlop 514	16	25	18	-40	39	Sco	open cluster	29 x 29	5.8	
Barnard 42, LDN 1696	16	25	30	-23	26	Oph	dark nebula	20 x 6		
NGC 6144, GCL 42	16	27	12	-26	01	Sco	globular cluster	6.2 x 6.2	9.1	
NGC 6139, GCL 43	16	27	42	-38	51	Sco	globular cluster	5.5 x 5.5	9.2	
Barnard 43, LDN 1752	16	30	18	-19	47	Oph	dark nebula	120 x 40		
NGC 6171, Messier 107	16	32	30	-13	03	Oph	globular cluster	3.3 x 3.3	7.8	
NGC 6169, OCL 984	16	34	06	-44	03	Nor	open cluster	12 x 12	6.6	
NGC 6178, OCL 980	16	35	48	-45	39	Sco	open cluster	4 x 4	7.2	
Barnard 231, SL 24	16	37	30	-35	12	Sco	dark nebula	50 x 40		
NGC 6192, OCL 988	16	40	24	-43	22	Sco	open cluster	9 x 9	8.5	
Barnard 233, SL 25	16	44	06	-35	21	Sco	dark nebula	55 x 20		
Barnard 44a, SL 18	16	44	48	-40	23	Sco	dark nebula	5 x 5		
Barnard 45, LDN 1744	16	46	30	-21	36	Oph	dark nebula	120 x 20		
Barnard 235, SL 15	16	46	36	-44	30	Sco	dark nebula	7 x 3		
NGC 6216, NGC 6222	16	49	24	-44	44	Sco	open cluster	4 x 4	10.1	
NGC 6227, ESO 332-**5	16	51	36	-41	13	Sco	open cluster	18 x 18	5.0	
SL 17	16	53	00	-43	35	Sco	dark nebula	15 x 7		
NGC 6231, Dunlop 520	16	54	12	-41	49	Sco	open cluster	15 x 15	2.6	
Lynga 14	16	55	00	-45	15	Sco	open cluster	2 x 2	9.7	
Cr 316	16	55	30	-40	50	Sco	open cluster	105 x 105	3.4	
NGC 6242, OCL 1001	16	55	36	-39	28	Sco	open cluster	9 x 9	6.4	
Tr 24, Harvard 12	16	57	00	-40	38	Sco	open cluster	60 x 60	8.6	
Barnard 46, LDN 1775	16	57	12	-22	44	Oph	dark nebula	12 x 12		
NGC 6249, OCL 994	16	57	42	-44	49	Sco	open cluster	6 x 6	8.2	
NGC 6250, OCL 991	16	57	54	-45	56	Ara	open cluster	10 x 10	5.9	
Barnard 47, LDN 1792	16	59	42	-22	39	Oph	dark nebula	15 x 15		
NGC 6259, OCL 996	17	00	48	-44	39	Sco	open cluster	10 x 10	8.0	
Barnard 48, SL 20	17	01	00	-40	47	Sco	dark nebula	40 x 15		
NGC 6266, Messier 62	17	01	12	-30	07	Oph	globular cluster	14.1 x 14.1	6.4	
NGC 6268, OCL 1002	17	02	12	-39	44	Sco	open cluster	6 x 6	9.5	
NGC 6273, Messier 19	17	02	36	-26	16	Oph	globular cluster	5.3 x 5.3	6.8	
Barnard 50, SL 30	17	03	00	-34	24	Sco	dark nebula	15 x 15		
NGC 6284, GCL 53	17	04	30	-24	46	Oph	globular cluster	2.7 x 2.7	9.0	
Barnard 51, LDN 0015	17	04	48	-22	16	Oph	dark nebula	20 x 20		
NGC 6287, GCL 54	17	05	12	-22	42	Oph	globular cluster	2.7 x 2.7	9.2	
Barnard 53, SL 32	17	06	06	-33	15	Sco	dark nebula	30 x 10		
Barnard 55, LDN 1682	17	07	30	-32	00	Sco	dark nebula	16 x 16		
Barnard 57, LDN 11	17	08	18	-23	40	Oph	dark nebula	5 x 5		
Barnard 56, LDN 1685	17	08	42	-32	06	Sco	dark nebula	3 x 3		
Barnard 244, LDN 1736	17	10	06	-28	24	Oph	dark nebula	20 x 30		
NGC 6293, GCL 55	17	10	12	-26	35	Oph	globular cluster	3.5 x 3.5	8.2	
Barnard 58, SL 23	17	11	12	-40	25	Sco	dark nebula	30 x 30		
Barnard 59, LDN 1746	17	11	24	-27	30	Oph	dark nebula	60 x 60		
Barnard 60;246, LDN 17	17	11	48	-22	27	Oph	dark nebula	30 x 20		
NGC 6304, GCL 56	17	14	30	-29	28	Oph	globular cluster	3.8 x 3.8	8.4	
Barnard 61, LDN 0111	17	15	12	-20	29	Oph	dark nebula	10 x 4		
Barnard 252, LDN 1698	17	15	12	-32	13	Sco	dark nebula	20 x 5		
Barnard 62, LDN 100	17	16	12	-20	53	Oph	dark nebula	19 x 19		
Barnard 63, LDN 99	17	16	30	-21	29	Oph	dark nebula	100 x 20		

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continued

Chart 13**Chart centre:** 18h, -30° . **Range:** 16:30 to 19:30, -15° to -45° . **Evenings:** Jul – Aug

Mid-South

Constellations featured: Ara, Corona Australis, Lupus, Norma, Ophiuchus, Sagittarius, Scorpius, Scutum, Serpens, Telescopium.... *continued*

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 6316, GCL 57	17	16	36	-28	08	Oph	globular cluster	4.9 x 4.9	8.1	
Barnard 64, LDN 173	17	17	12	-18	29	Oph	dark nebula	20 x 20		
Bochum 13	17	17	18	-35	33	Sco	open cluster	15 x 15	7.2	
NGC 6322, OCL 1000	17	18	24	-42	56	Sco	open cluster	10 x 10	6.0	
NGC 6333, Messier 9	17	19	12	-18	31	Oph	globular cluster	5.5 x 5.5	7.9	
Barnard 65-67, LDN 1772-3;1768	17	19	36	-26	42	Oph	dark nebula	12 x 12		
LDN 1710	17	20	42	-31	57	Sco	dark nebula	60 x 10		
NGC 6342, GCL 61	17	21	12	-19	35	Oph	globular cluster	3 x 3	9.5	
Barnard 257	17	22	00	-35	35	Sco	dark nebula	10 x 7		
Barnard 259, LDN 177	17	22	00	-19	19	Oph	dark nebula	30 x 30		
Barnard 256, LDN 1749	17	22	18	-28	51	Oph	dark nebula	50 x 10		
Barnard 67a, LDN 102	17	22	30	-21	53	Oph	dark nebula	13 x 13		
Barnard 68, LDN 57	17	22	36	-23	47	Oph	dark nebula	4 x 4		
Barnard 69, LDN 55	17	22	54	-23	55	Oph	dark nebula	4 x 4		
Barnard 70, LDN 54	17	23	30	-24	02	Oph	dark nebula	4 x 4		
Barnard 72, LDN 66	17	23	30	-23	38	Oph	dark nebula	4 x 4		
NGC 6356, GCL 62	17	23	36	-17	49	Oph	globular cluster	3.5 x 3.5	8.2	
NGC 6355, GCL 63	17	24	00	-26	21	Oph	globular cluster	6.1 x 6.1	8.6	
Pismis 24	17	24	42	-34	12	Sco	open cluster	4 x 4	9.6	
Barnard 74, LDN 081	17	25	12	-24	12	Oph	dark nebula	15 x 10		
Barnard 75;261-2, LDN 0112;85;91	17	25	18	-22	28	Oph	dark nebula	110 x 5		
Barnard 263, SL 22	17	26	18	-42	38	Sco	dark nebula	30 x 30		
Barnard 77;269, LDN 69	17	28	00	-23	22	Oph	dark nebula	100 x 60		
Tr 26, Cr 331	17	28	30	-29	30	Oph	open cluster	7 x 7	9.5	
Antalova 2	17	29	42	-32	30	Sco	open cluster	3 x 3	8.8	
Cr 332	17	30	48	-37	05	Sco	open cluster	2 x 2	8.9	
Cr 333	17	31	18	-34	05	Sco	open cluster	8 x 8	9.8	
Barnard 268;270, LDN 178;185	17	32	00	-20	32	Oph	dark nebula	120 x 120		
SL 26	17	34	12	-40	25	Sco	dark nebula	10 x 5		
NGC 6374, NGC 6383	17	34	42	-32	35	Sco	open cluster	20 x 20	9.0	
SL 28	17	35	18	-39	14	Sco	dark nebula	30 x 15		
Tr 27, Cr 336	17	36	12	-33	29	Sco	open cluster	7 x 7	6.7	
NGC 6388, GCL 70	17	36	18	-44	44	Sco	globular cluster	8.7 x 8.7	6.8	
Tr 28, Cr 337	17	36	54	-32	28	Sco	open cluster	8 x 8	7.7	
NGC 6396, OCL 1018	17	37	36	-35	02	Sco	open cluster	3 x 3	8.5	
Ru 127	17	37	48	-36	18	Sco	open cluster	8 x 8	8.8	
Cr 338	17	38	12	-37	34	Sco	open cluster	25.0 x 25.0	8.0	
Barnard 79;276, LDN 216; 219	17	39	30	-19	47	Oph	dark nebula	50 x 30		
NGC 6404, OCL 1024	17	39	36	-33	15	Sco	open cluster	5 x 5	10.6	
NGC 6400, OCL 1014	17	40	12	-36	57	Sco	open cluster	12 x 12	8.8	
NGC 6405, Messier 6	17	40	18	-32	15	Sco	open cluster	20 x 20	4.2	
Tr 29, Cr 343	17	41	36	-40	07	Sco	open cluster	9 x 9	7.5	
NGC 6416, OCL 1031	17	44	18	-32	22	Sco	open cluster	14 x 14	5.7	
Cr 345	17	44	36	-33	52	Sco	open cluster	6 x 6	10.9	
Barnard 83a, LDN 233	17	45	18	-20	00	Sgr	dark nebula	4 x 4		
Cr 347	17	46	18	-29	20	Sgr	open cluster	10 x 10	8.8	
Barnard 84, LDN 235	17	46	30	-20	11	Sgr	dark nebula	30 x 15		
NGC 6425, OCL 1033	17	47	00	-31	32	Sco	open cluster	10 x 10	7.2	
Cr 351	17	49	54	-28	46	Sgr	open cluster	9 x 9	9.3	
NGC 6441, GCL 78	17	50	12	-37	03	Sco	globular cluster	7.8 x 7.8	7.4	
NGC 6451, OCL 1035	17	50	42	-30	13	Sco	open cluster	8 x 8	8.2	
NGC 6453, GCL 79	17	50	54	-34	36	Sco	globular cluster	3.5 x 3.5	10.2	
Barnard 283	17	51	18	-33	53	Sco	dark nebula	90 x 60		
NGC 6469, OCL 21	17	53	12	-22	17	Sgr	open cluster	12 x 12	8.2	
NGC 6475, Messier 7	17	53	54	-34	48	Sco	open cluster	80 x 80	3.3	
Barnard 287	17	54	24	-35	12	Sco	dark nebula	25.0 x 15.0		
Tr 30, Harvard 18	17	56	30	-35	19	Sco	open cluster	10 x 10	8.8	
NGC 6494, Messier 23	17	57	06	-18	59	Sgr	open cluster	27.0 x 27.0	5.5	

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continued

Chart 13**Chart centre:** 18h, -30° . **Range:** 16:30 to 19:30, -15° to -45° . **Evenings:** Jul – Aug

Mid-South

Constellations featured: Ara, Corona Australis, Lupus, Norma, Ophiuchus, Sagittarius, Scorpius, Scutum, Serpens, Telescopium.... *continued*

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
Barnard 84a, LDN 302	17	57	30	-17	40	Sgr	dark nebula	16 x 16		
NGC 6496, GCL 80	17	59	00	-44	16	Sco	globular cluster	6.9 x 6.9	8.6	
NGC 6507, OCL32	17	59	48	-17	27	Sgr	open cluster	7 x 7	9.6	
Tr 31, Cr 357	17	59	54	-28	11	Sgr	open cluster	8 x 8	9.8	
Djorgovski 2, ESO 456-SC38	18	01	48	-27	50	Sgr	globular cluster	9.9 x 9.9	9.9	
Bochum 14	18	02	00	-23	42	Sgr	open cluster	2 x 2	9.3	
Barnard 86, LDN 93	18	02	42	-27	50	Sgr	dark nebula	4.0 x 3.5		
NGC 6514, Messier 20	18	02	42	-22	58	Sgr	bright nebula	28 x 28	6.3	
NGC 6520, OCL 10	18	03	24	-27	53	Sgr	open cluster	6 x 6	7.6	
NGC 6522, GCL 82	18	03	36	-30	02	Sgr	globular cluster	5.6 x 5.6	9.9	
NGC 6523, Messier 8	18	03	42	-24	23	Sgr	bright nebula	45 x 30	5.0	
Barnard 88-9;286	18	03	48	-24	23	Sgr	dark nebula	2.0 x 0.5		
NGC 6531, Messier 21	18	04	12	-22	29	Sgr	open cluster	13 x 13	5.9	
Barnard 87, LDN 1771	18	04	18	-32	30	Sgr	dark nebula	12 x 12		
NGC 6530, OCL 19	18	04	30	-24	21	Sgr	open cluster	15 x 15	4.6	
NGC 6528, GCL 84	18	04	48	-30	03	Sgr	globular cluster	3.7 x 3.7	9.5	
NGC 6544, GCL 87	18	07	18	-25	00	Sgr	globular cluster	8.4 x 8.4	7.5	
NGC 6546, OCL 24	18	07	24	-23	18	Sgr	open cluster	13 x 13	8.0	
NGC 6541, Dunlop 473	18	08	00	-43	42	CrA	globular cluster	13.1 x 13.1	6.3	
NGC 6553, GCL 88	18	09	18	-25	54	Sgr	globular cluster	3.2 x 3.2	8.3	
Cr 367	18	09	48	-23	50	Sgr	open cluster	37.0 x 37.0	6.4	
Barnard 91	18	10	00	-23	39	Sgr	dark nebula	5 x 2		
Barnard 90, LDN 227	18	10	12	-28	19	Sgr	dark nebula	3 x 1		
NGC 6558, GCL 89	18	10	18	-31	46	Sgr	globular cluster	3.7 x 3.7	8.6	
NGC 6568, OCL28	18	12	48	-21	35	Sgr	open cluster	13 x 13	8.6	
NGC 6569, GCL 91	18	13	36	-31	50	Sgr	globular cluster	5.8 x 5.8	8.4	
Barnard 92, LDN 323	18	15	30	-18	14	Sgr	dark nebula	15 x 9		
NGC 6583, OCL27	18	15	48	-22	08	Sgr	open cluster	2.8 x 2.8	10.0	
Cr 469	18	16	30	-18	19	Sgr	open cluster	5 x 5	9.1	
Barnard 93, LDN 327	18	16	54	-18	04	Sgr	dark nebula	12 x 2		
NGC 6595, IC 4700	18	17	06	-19	52	Sgr	open cluster	11 x 11	7.0	
NGC 6604, OCL 56	18	18	06	-12	14	Ser	open cluster	2 x 2	6.5	
NGC 6611, Messier 16	18	18	48	-13	47	Ser	bright nebula	7 x 7	6.0	
NGC 6613, Messier 18	18	19	54	-17	08	Sgr	open cluster	9 x 9	6.9	
NGC 6618, Messier 17	18	20	48	-16	11	Sgr	bright nebula	11 x 11	6.0	
NGC 6624, GCL 93	18	23	42	-30	22	Sgr	globular cluster	5.9 x 5.9	7.6	
NGC 6626, Messier 28	18	24	30	-24	52	Sgr	globular cluster	15 x 15	6.9	
Tr 33, Cr 378	18	24	36	-19	44	Sgr	open cluster	7 x 7	7.8	
IC 4715, Messier 24	18	26	36	-18	23	Sgr	open cluster	95 x 35	3.1	
Barnard 312, LDN 379	18	30	54	-15	08	Sct	dark nebula	100 x 100		
NGC 6638, GCL 95	18	30	54	-25	30	Sgr	globular cluster	2.2 x 2.2	9.2	
NGC 6637, Messier 69	18	31	24	-32	21	Sgr	globular cluster	7.1 x 7.1	7.7	
IC 4725, Messier 25	18	31	48	-19	07	Sgr	open cluster	29 x 29	4.6	
NGC 6645, OCL48	18	32	00	-16	53	Sgr	open cluster	10 x 10	8.5	
NGC 6652, GCL 98	18	35	48	-32	59	Sgr	globular cluster	3.5 x 3.5	8.5	
NGC 6656, Messier 22	18	36	24	-23	54	Sgr	globular cluster	24.0 x 24.0	5.2	
Pal 8	18	41	30	-19	49	Sgr	globular cluster	5.2 x 5.2	10.9	
NGC 6681, Messier 70	18	43	12	-32	18	Sgr	globular cluster	7.8 x 7.8	7.8	
Cr 394	18	52	18	-20	12	Sgr	open cluster	22 x 22	6.3	
NGC 6716, OCL 46	18	54	36	-19	54	Sgr	open cluster	7 x 7	7.5	
NGC 6715, Messier 54	18	55	06	-30	29	Sgr	globular cluster	9.1 x 9.1	7.7	
NGC 6717, Pal 9	18	55	06	-22	42	Sgr	globular cluster	3.9 x 3.9	8.4	
NGC 6723, Dunlop 573	18	59	36	-36	38	Sgr	globular cluster	11 x 11	6.8	
Be 157	19	02	54	-37	08	CrA	dark nebula	110 x 28		
SL 42	19	10	18	-37	08	CrA	dark nebula	12 x 8		
NGC 6809, Messier 55	19	40	00	-30	58	Sgr	globular cluster	19 x 19	6.3	
NGC 6822, IC 4895, PGC 63616	19	44	54	-14	48	Sgr	galaxy	15.5 x 13.5	8.8	9.31
NGC 6864, Messier 75	20	06	06	-21	55	Sgr	globular cluster	6 x 6	8.6	

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Chart 14 Chart centre: 21h, -30° . Range: 19:30 to 22:30, -15° to -45° . Evenings: Aug – Oct
 Mid-South Constellations featured: Aquarius, Capricornus, Corona Australis, Grus, Indus, Microscopium, Piscis Austrinus, Sagittarius.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 6681, Messier 70	18	43	12	-32	18	Sgr	globular cluster	7.8 x 7.8	7.8	
Cr 394	18	52	18	-20	12	Sgr	open cluster	22 x 22	6.3	
NGC 6716, OCL 46	18	54	36	-19	54	Sgr	open cluster	7 x 7	7.5	
NGC 6715, Messier 54	18	55	06	-30	29	Sgr	globular cluster	9.1 x 9.1	7.7	
NGC 6717, Pal 9	18	55	06	-22	42	Sgr	globular cluster	3.9 x 3.9	8.4	
NGC 6723, Dunlop 573	18	59	36	-36	38	Sgr	globular cluster	11 x 11	6.8	
Be 157	19	02	54	-37	08	CrA	dark nebula	110 x 28		
SL 42	19	10	18	-37	08	CrA	dark nebula	12 x 8		
NGC 6809, Messier 55	19	40	00	-30	58	Sgr	globular cluster	19 x 19	6.3	
NGC 6822, IC 4895, PGC 63616	19	44	54	-14	48	Sgr	galaxy	15.5 x 13.5	8.8	9.31
NGC 6864, Messier 75	20	06	06	-21	55	Sgr	globular cluster	6 x 6	8.6	
NGC 6902, IC 4948	20	24	30	-43	39	Sgr	galaxy	6.1 x 4.1	10.9	
NGC 6981, Messier 72	20	53	30	-12	32	Aqr	globular cluster	5.9 x 5.9	9.2	
NGC 6994, Messier 73	20	59	00	-12	38	Aqr	open cluster	2.8 x 2.8	9.7	
NGC 7099, Messier 30	21	40	24	-23	11	Cap	globular cluster	8.9 x 8.9	6.9	
IC 5148, PK 2-52.1	21	59	36	-39	23	Gru	planetary nebula	2 x 2	11.0	
NGC 7184, ESO 601-9	22	02	42	-20	49	Aqr	galaxy	5.9 x 1.3	10.9	
IC 5201, ESO 289-GO18	22	21	00	-46	02	Gru	galaxy	7.8 x 4.0	10.6	
NGC 7293, PK 36-57.1	22	29	36	-20	50	Aqr	planetary nebula	16 x 12	6.3	
NGC 7314, ESO 533-53	22	35	48	-26	03	PsA	galaxy	4.6 x 2.0	11.0	
NGC 7410, ESO 346-12	22	55	00	-39	40	Gru	galaxy	5.5 x 1.5	10.3	
NGC 7418, ESO 406-25	22	56	36	-37	02	Gru	galaxy	3.8 x 2.7	10.9	
IC 1459, IC 5265, PGC 70090	22	57	11	-36	28	Gru	galaxy	5.2 x 3.8	10.0	10.97
IC 5267, ESO 290-G026	22	57	12	-43	24	Gru	galaxy	5.4 x 3.5	10.5	
NGC 7424, ESO 346-19, PGC 70096	22	57	18	-41	04	Gru	galaxy	10.0 x 8.2	10.5	10.96
NGC 7507, ESO 469-19	23	12	06	-28	32	Scl	galaxy	2.8 x 2.7	10.4	
NGC 7552, IC 5294	23	16	12	-42	35	Gru	galaxy	3.4 x 3.0	10.6	
NGC 7582, ESO 291-16	23	18	24	-42	22	Gru	galaxy	5.0 x 2.3	10.6	

Chart 15 Chart centre: 00h, 00°. Range: 22:30 to 01:30, -15° to $+15^{\circ}$. Evenings: Oct – Nov
 Equatorial Constellations featured: Aquarius, Cetus, Pegasus, Pisces.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
MCG -03-01-015, UGCA 444; WLM	00	01	54	-15	27	Cet	galaxy	11 x 4	10.6	
NGC 7814, UGC8	00	03	12	+16	09	Peg	galaxy	4.7 x 2.4	10.6	
NGC 157, MCG - 2- 2- 56, PGC 2081	00	34	48	-08	24	Cet	galaxy	4.1 x 2.7	10.4	11.00
NGC 210, MCG - 2- 2- 81	00	40	36	-13	52	Cet	galaxy	4.6 x 3.2	10.9	
NGC 246, PK 118-74.1, PNG 118.8-74.7	00	47	06	-11	52	Cet	planetary nebula	4.0 x 3.5	10.4	
IC 1613, UGC668, PGC 3844	01	04	49	+02	07	Cet	galaxy	16.2 x 14.5	9.2	9.88
NGC 488, UGC907	01	21	48	+05	15	Psc	galaxy	5.4 x 3.9	10.3	
NGC 524, UGC 968	01	24	48	+09	32	Psc	galaxy	3.2 x 3.2	10.3	
NGC 584, IC 1712; H I 100	01	31	18	-06	52	Cet	galaxy	3.3 x 1.9	10.5	
NGC 596, MCG - 1- 5- 5	01	32	54	-07	02	Cet	galaxy	2.8 x 2.1	10.9	
NGC 628, Messier 74, PGC 5974	01	36	42	+15	47	Psc	galaxy	10.5 x 9.5	9.4	9.95
NGC 676, UGC 1270	01	49	00	+05	54	Psc	galaxy	4.2 x 1.6	10.5	
NGC 720, MCG - 2- 5- 68	01	53	00	-13	44	Cet	galaxy	4.4 x 2.2	10.2	
NGC 7479, UGC 12343	23	04	54	+12	19	Peg	galaxy	4.0 x 3.1	10.9	
NGC 7606, MCG - 2-59- 12	23	19	06	-08	29	Aqr	galaxy	4.2 x 2.3	10.8	
NGC 7727, MCG - 2-60- 8	23	39	54	-12	18	Aqr	galaxy	4.7 x 4.1	10.6	

Chart 16

Chart centre: 03h, 00°. **Range:** 01:30 to 04:30, –15° to +15°. **Evenings:** Nov – Jan
Equatorial **Constellations featured:** Aries, Cetus, Eridanus, Orion, Pisces, Taurus.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
IC 1613, UGC668, PGC 3844	01	04	49	+ 02	07	Cet	galaxy	16.2 x 14.5	9.2	9.88
NGC 488, UGC907	01	21	48	+ 05	15	Psc	galaxy	5.4 x 3.9	10.3	
NGC 524, UGC968	01	24	48	+ 09	32	Psc	galaxy	3.2 x 3.2	10.3	
NGC 584, IC 1712; H I 100	01	31	18	– 06	52	Cet	galaxy	3.3 x 1.9	10.5	
NGC 596, MCG - 1- 5- 5	01	32	54	– 07	02	Cet	galaxy	2.8 x 2.1	10.9	
NGC 628, Messier 74, PGC 5974	01	36	42	+ 15	47	Psc	galaxy	10.5 x 9.5	9.4	9.95
NGC 676, UGC 1270	01	49	00	+ 05	54	Psc	galaxy	4.2 x 1.6	10.5	
NGC 720, MCG - 2- 5- 68	01	53	00	– 13	44	Cet	galaxy	4.4 x 2.2	10.2	
NGC 821, UGC 1631	02	08	24	+ 11	00	Ari	galaxy	2.4 x 1.7	10.7	
NGC 864, UGC 1736	02	15	30	+ 06	00	Cet	galaxy	4.7 x 3.2	10.9	
NGC 936, UGC 1929	02	27	36	– 01	09	Cet	galaxy	4.3 x 3.8	10.1	
NGC 988, MCG - 2- 7- 37	02	35	30	– 09	21	Cet	galaxy	4.6 x 2.5	11.0	
NGC 1042, MCG - 2- 7- 54	02	40	24	– 08	26	Cet	galaxy	4.9 x 4.0	11.0	
NGC 1052, MCG - 1- 7- 34	02	41	06	– 08	15	Cet	galaxy	2.8 x 2.0	10.5	
NGC 1055, UGC 2173	02	41	48	+ 00	27	Cet	galaxy	7.6 x 3.0	10.6	
NGC 1068, Messier 77, PGC 10266	02	42	40	– 00	01	Cet	galaxy	7.1 x 6.0	8.9	9.61
NGC 1073, UGC 2210	02	43	42	+ 01	23	Cet	galaxy	4.9 x 4.3	11.0	
NGC 1084, MCG - 1- 8- 7	02	46	00	– 07	35	Eri	galaxy	3.5 x 2.1	10.7	
NGC 1087, UGC 2245	02	46	24	– 00	30	Cet	galaxy	3.9 x 2.3	10.9	
NGC 1600, MCG - 1-12- 17	04	31	42	– 05	05	Eri	galaxy	3.1 x 2.2	10.9	
NGC 1637, MCG0-12- 68	04	41	30	– 02	52	Eri	galaxy	3.9 x 3.3	10.8	
NGC 1662, OCL 470	04	48	24	+ 10	57	Ori	open cluster	20 x 20	6.4	

Chart 17**Chart centre:** 06h, 00°. **Range:** 04:30 to 07:30, -15° to $+15^{\circ}$. **Evenings:** Jan – Feb

Equatorial

Constellations featured: Canis Major, Canis Minor, Eridanus, Gemini, Lepus, Monoceros, Orion, Puppis, Taurus.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 1600, MCG - 1-12- 17	04	31	42	-05	05	Eri	galaxy	3.1 x 2.2	10.9	
NGC 1637, MCG0-12- 68	04	41	30	-02	52	Eri	galaxy	3.9 x 3.3	10.8	
NGC 1662, OCL 470	04	48	24	+10	57	Ori	open cluster	20 x 20	6.4	
LDN 1616	05	06	30	-03	26	Ori	dark nebula	10 x 8		
NGC 1807, OCL 462	05	10	42	+16	32	Tau	open cluster	17 x 17	7.0	
NGC 1817, OCL 463	05	12	24	+16	41	Tau	open cluster	16 x 16	7.7	
Barnard 225, LDN 1583	05	29	00	+11	36	Ori	dark nebula	35.0 x 5.0		
Barnard 31-2, LDN 1582;1583	05	29	48	+12	46	Ori	dark nebula	80 x 55		
Barnard 30, LDN 1577	05	30	12	+12	46	Ori	dark nebula	67 x 67		
NGC 1973, CED 55B	05	35	06	-04	44	Ori	bright nebula	5 x 5	7.0	
Cr 69	05	35	06	+09	56	Ori	open cluster	65 x 65	2.8	
NGC 1981, OCL 525	05	35	12	-04	26	Ori	open cluster	25.0 x 25.0	4.2	
NGC 1975, CED 55C	05	35	18	-04	41	Ori	bright nebula	10 x 5	7.0	
NGC 1976, Messier 42	05	35	18	-05	23	Ori	bright nebula	90 x 60	4.0	
NGC 1977, OCL 525	05	35	18	-04	51	Ori	open cluster	20 x 10	7.0	
NGC 1980, OCL 529	05	35	24	-05	55	Ori	open cluster	14 x 14	2.5	
NGC 1982, Messier 43	05	35	30	-05	16	Ori	bright nebula	20 x 15	7.0	
Cr 70	05	36	00	-01	00	Ori	open cluster	150 x 150	0.4	
Sh2-264	05	36	18	+10	00	Ori	bright nebula	70 x 70	5.0	
Barnard 33, LDN 1630	05	40	54	-02	28	Ori	dark nebula	6 x 4		
IC 434, LBN 954	05	41	00	-02	27	Ori	bright nebula	90 x 30	11.0	
Barnard 35, LDN 1594	05	45	30	+09	03	Ori	dark nebula	20 x 10		
Barnard 36, LDN 1599	05	45	42	+07	31	Ori	dark nebula	120 x 120		
NGC 2068, Messier 78	05	46	48	+00	05	Ori	bright nebula	8 x 6	8.0	
NGC 2071, LBN 938	05	47	06	+00	18	Ori	bright nebula	7 x 5	8.0	
NGC 2112, OCL 509	05	53	48	+00	25	Ori	open cluster	11 x 11	9.1	
LDN 1622	05	54	36	+02	00	Ori	dark nebula	15 x 15		
NGC 2141, OCL 487	06	02	54	+10	27	Ori	open cluster	10 x 10	9.4	
NGC 2169, OCL 481	06	08	24	+13	58	Ori	open cluster	7 x 7	5.9	
NGC 2186, OCL 498	06	12	06	+05	28	Ori	open cluster	4 x 4	8.7	
NGC 2194, OCL 495	06	13	48	+12	48	Ori	open cluster	10 x 10	8.5	
NGC 2215, OCL 550	06	20	48	-07	17	Mon	open cluster	11 x 11	8.4	
Cr 91	06	21	30	+02	20	Mon	open cluster	17 x 17	6.4	
Cr 92	06	22	54	+05	07	Mon	open cluster	11 x 11	8.5	
NGC 2232, OCL 545	06	28	00	-04	51	Mon	open cluster	30 x 30	3.9	
NGC 2236, OCL 501	06	29	42	+06	50	Mon	open cluster	7 x 7	8.5	
Cr 96	06	30	18	+02	52	Mon	open cluster	8 x 8	7.3	
NGC 2238, LBN 948	06	30	42	+05	01	Mon	bright nebula	80 x 60	6.0	
NGC 2237, OCL 511	06	30	54	+05	03	Mon	open cluster	80 x 60	5.5	
Cr 97	06	31	00	+05	50	Mon	open cluster	21 x 21	5.4	
NGC 2239, NGC 2244	06	31	54	+04	57	Mon	open cluster	24.0 x 24.0	4.8	
Barnard 37-9, LDN 1605;1610	06	32	48	+10	38	Mon	dark nebula	180 x 180		
NGC 2250, OCL 547	06	33	48	-05	05	Mon	open cluster	8 x 8	8.9	
NGC 2251, OCL 499	06	34	36	+08	22	Mon	open cluster	10 x 10	7.3	
NGC 2252, OCL 514	06	34	42	+05	22	Mon	open cluster	20 x 20	7.7	
NGC 2254, OCL 500	06	35	48	+07	40	Mon	open cluster	4 x 4	9.1	
Basel 7	06	36	18	+08	21	Mon	open cluster	5 x 5	8.5	
Tr 5, Cr 105	06	36	30	+09	29	Mon	open cluster	8 x 8	10.9	
Cr 104	06	36	30	+04	49	Mon	open cluster	22 x 22	9.6	
Cr 106	06	37	06	+05	57	Mon	open cluster	45 x 45	4.6	
Cr 107	06	37	42	+04	44	Mon	open cluster	35.0 x 35.0	5.1	
NGC 2259, OCL 492	06	38	24	+10	53	Mon	open cluster	4.5 x 4.5	10.8	
Cr 110	06	38	42	+02	03	Mon	open cluster	12 x 12	10.5	
Cr 111	06	38	42	+06	54	Mon	open cluster	3.2 x 3.2	7.0	
NGC 2264, OCL 495	06	41	00	+09	54	Mon	open cluster	20 x 20	3.9	
NGC 2269, OCL 524	06	43	18	+04	37	Mon	open cluster	4 x 4	10.0	
Do 25	06	45	00	+00	18	Mon	open cluster	24.0 x 24.0	7.6	
Cr 115	06	46	30	+01	47	Mon	open cluster	7 x 7	9.1	

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continued

Chart 17

Chart centre: 06h, 00°. **Range:** 04:30 to 07:30, -15° to +15°. **Evenings:** Jan – Feb

... continued

Constellations featured: Canis Major, Canis Minor, Eridanus, Gemini, Lepus, Monoceros, Orion, Puppis, Taurus.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 2286, OCL 548	06	47	42	-03	09	Mon	open cluster	15 x 15	7.5	
NGC 2301, OCL 540	06	51	48	+00	28	Mon	open cluster	12 x 12	6.0	
NGC 2299, NGC 2302	06	51	54	-07	05	Mon	open cluster	2.5 x 2.5	8.9	
Biur 10, Berk 28	06	52	12	+02	56	Mon	open cluster	4 x 4	10.4	
NGC 2309, OCL 557	06	56	06	-07	10	Mon	open cluster	3 x 3	10.5	
NGC 2311, OCL 553	06	57	48	-04	37	Mon	open cluster	7 x 7	9.6	
NGC 2323, Messier 50	07	02	30	-08	23	Mon	open cluster	16 x 16	5.9	
Bochum 3	07	03	30	-05	00	Mon	open cluster	4 x 4	9.9	
NGC 2324, OCL 542	07	04	06	+01	03	Mon	open cluster	8 x 8	8.4	
NGC 2335, OCL 562	07	06	48	-10	02	Mon	open cluster	12 x 12	7.2	
Cr 465	07	07	00	-10	32	Mon	open cluster	9 x 9	10.1	
NGC 2343, OCL 565	07	08	06	-10	37	Mon	open cluster	7 x 7	6.7	
NGC 2345, OCL 575	07	08	18	-13	12	CMa	open cluster	12 x 12	7.7	
NGC 2353, OCL 567	07	14	30	-10	16	Mon	open cluster	20 x 20	7.1	
NGC 2355, NGC 2356	07	17	00	+13	45	Gem	open cluster	9 x 9	9.7	
Basel 11A	07	17	06	-13	58	CMa	open cluster	9 x 9	8.2	
NGC 2360, OCL 589	07	17	42	-15	38	CMa	open cluster	13 x 13	7.2	
Haffner 6	07	20	06	-13	09	CMa	open cluster	4 x 4	9.2	
Haffner 8	07	23	24	-12	18	CMa	open cluster	4.2 x 4.2	9.1	
NGC 2374, OCL 585	07	23	54	-13	16	CMa	open cluster	19 x 19	8.0	
NGC 2395, OCL 502	07	27	12	+13	37	Gem	open cluster	12 x 12	8.0	
NGC 2396, OCL 579	07	27	30	-11	43	Pup	open cluster	10 x 10	7.4	
Czemnik 29	07	28	18	-15	24	Pup	open cluster	8 x 8	10.3	
Bochum 4	07	31	00	-16	57	Pup	open cluster	23 x 23	7.3	
NGC 2409	07	31	36	-17	11	Pup	open cluster	2.5 x 2.5	8.0	
Bochum 5	07	32	06	-16	57	Pup	open cluster	11 x 11	7.0	
NGC 2414, OCL 598	07	33	12	-15	27	Pup	open cluster	4 x 4	7.9	
NGC 2422, Messier 47, NGC 2478	07	36	36	-14	29	Pup	open cluster	30 x 30	4.4	
NGC 2423, OCL 592	07	37	06	-13	52	Pup	open cluster	19 x 19	6.7	
Mel 71, Cr 155	07	37	30	-12	04	Pup	open cluster	9 x 9	7.1	
Mel 72, Cr 467	07	38	30	-10	42	Mon	open cluster	9 x 9	10.1	
NGC 2437, Messier 46	07	41	48	-14	49	Pup	open cluster	27.0 x 27.0	6.1	
NGC 2506, OCL 593	08	00	00	-10	46	Mon	open cluster	7 x 7	7.6	

Chart 18

Chart centre: 09h, 00°. **Range:** 07:30 to 10:30, –15°. **Evenings:** Feb – Apr

Equatorial

Constellations featured: Cancer, Canis Major, Canis Minor, Gemini, Hydra, Leo, Monoceros, Puppis, Sextans.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 2323, Messier 50	07	02	30	–08	23	Mon	open cluster	16 x 16	5.9	
Bochum 3	07	03	30	–05	00	Mon	open cluster	4 x 4	9.9	
NGC 2324, OCL 542	07	04	06	+01	03	Mon	open cluster	8 x 8	8.4	
NGC 2335, OCL 562	07	06	48	–10	02	Mon	open cluster	12 x 12	7.2	
Cr 465	07	07	00	–10	32	Mon	open cluster	9 x 9	10.1	
NGC 2343, OCL 565	07	08	06	–10	37	Mon	open cluster	7 x 7	6.7	
NGC 2345, OCL 575	07	08	18	–13	12	CMa	open cluster	12 x 12	7.7	
NGC 2353, OCL 567	07	14	30	–10	16	Mon	open cluster	20 x 20	7.1	
NGC 2355, NGC 2356	07	17	00	+13	45	Gem	open cluster	9 x 9	9.7	
Basel 11A	07	17	06	–13	58	CMa	open cluster	9 x 9	8.2	
NGC 2360, OCL 589	07	17	42	–15	38	CMa	open cluster	13 x 13	7.2	
Haffner 6	07	20	06	–13	09	CMa	open cluster	4 x 4	9.2	
Haffner 8	07	23	24	–12	18	CMa	open cluster	4.2 x 4.2	9.1	
NGC 2374, OCL 585	07	23	54	–13	16	CMa	open cluster	19 x 19	8.0	
NGC 2395, OCL 502	07	27	12	+13	37	Gem	open cluster	12 x 12	8.0	
NGC 2396, OCL 579	07	27	30	–11	43	Pup	open cluster	10 x 10	7.4	
Czernik 29	07	28	18	–15	24	Pup	open cluster	8 x 8	10.3	
Bochum 4	07	31	00	–16	57	Pup	open cluster	23 x 23	7.3	
NGC 2409	07	31	36	–17	11	Pup	open cluster	2.5 x 2.5	8.0	
Bochum 5	07	32	06	–16	57	Pup	open cluster	11 x 11	7.0	
NGC 2414, OCL 598	07	33	12	–15	27	Pup	open cluster	4 x 4	7.9	
NGC 2422, Messier 47, NGC 2478	07	36	36	–14	29	Pup	open cluster	30 x 30	4.4	
NGC 2423, OCL 592	07	37	06	–13	52	Pup	open cluster	19 x 19	6.7	
Mel 71, Cr 155	07	37	30	–12	04	Pup	open cluster	9 x 9	7.1	
Mel 72, Cr 467	07	38	30	–10	42	Mon	open cluster	9 x 9	10.1	
NGC 2437, Messier 46	07	41	48	–14	49	Pup	open cluster	27.0 x 27.0	6.1	
NGC 2506, OCL 593	08	00	00	–10	46	Mon	open cluster	7 x 7	7.6	
NGC 2539, OCL 611	08	10	36	–12	49	Pup	open cluster	22 x 22	6.5	
NGC 2548, Messier 48	08	13	42	–05	45	Hya	open cluster	54 x 54	5.8	
NGC 2682, Messier 67	08	50	48	+11	49	Cnc	open cluster	30 x 30	6.9	
NGC 2775, UGC 4820	09	10	18	+07	02	Cnc	galaxy	4.5 x 3.6	10.1	
MCG -01-25-011	09	38	54	–04	49	Hya	galaxy	2.0 x 1.5	11.0	
NGC 2974, MCG0-25- 8	09	42	36	–03	42	Sex	galaxy	3.4 x 2.1	10.9	
NGC 3115, MCG - 1-26- 18, PGC 29265	10	05	12	–07	43	Sex	galaxy	7.2 x 2.5	8.9	9.87
UGC 5470, Leo I	10	08	24	+12	18	Leo	galaxy	10.7 x 8.3	10.2	
NGC 3166, UGC 5516	10	13	48	+03	26	Sex	galaxy	4.8 x 1.9	10.4	
NGC 3169, UGC 5525	10	14	12	+03	28	Sex	galaxy	4.2 x 2.9	10.2	
NGC 3351, Messier 95, PGC 32007	10	44	00	+11	42	Leo	galaxy	7.4 x 5.0	9.7	10.53
NGC 3368, Messier 96, PGC 32192	10	46	48	+11	49	Leo	galaxy	7.6 x 5.2	9.3	10.11
NGC 3377, UGC 5899	10	47	42	+13	59	Leo	galaxy	4.3 x 2.6	10.4	
NGC 3379, Messier 105, PGC 32256	10	47	48	+12	35	Leo	galaxy	5.4 x 4.8	9.3	10.24
NGC 3384, NGC 3371, PGC 32292	10	48	18	+12	38	Leo	galaxy	5.5 x 2.5	9.9	10.85
NGC 3412, UGC 5952	10	50	54	+13	25	Leo	galaxy	3.7 x 2.2	10.5	

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Chart 19

Chart centre: 12h, 00°. **Range:** 10:30 to 13:30, –15° to +15°. **Evenings:** Mar – May

Equatorial

Constellations featured: Bootes, Coma Berenices, Corvus, Crater, Hydra, Leo, Sextans, Virgo.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 3115, MCG - 1-26- 18, PGC 29265	10	05	12	– 07	43	Sex	galaxy	7.2 x 2.5	8.9	9.87
UGC 5470, Leo I	10	08	24	+ 12	18	Leo	galaxy	10.7 x 8.3	10.2	
NGC 3166, UGC 5516	10	13	48	+ 03	26	Sex	galaxy	4.8 x 1.9	10.4	
NGC 3169, UGC 5525	10	14	12	+ 03	28	Sex	galaxy	4.2 x 2.9	10.2	
NGC 3351, Messier 95, PGC 32007	10	44	00	+ 11	42	Leo	galaxy	7.4 x 5.0	9.7	10.53
NGC 3368, Messier 96, PGC 32192	10	46	48	+ 11	49	Leo	galaxy	7.6 x 5.2	9.3	10.11
NGC 3377, UGC 5899	10	47	42	+ 13	59	Leo	galaxy	4.3 x 2.6	10.4	
NGC 3379, Messier 105, PGC 32256	10	47	48	+ 12	35	Leo	galaxy	5.4 x 4.8	9.3	10.24
NGC 3384, NGC 3371, PGC 32292	10	48	18	+ 12	38	Leo	galaxy	5.5 x 2.5	9.9	10.85
NGC 3412, UGC 5952	10	50	54	+ 13	25	Leo	galaxy	3.7 x 2.2	10.5	
NGC 3489, UGC 6082	11	00	18	+ 13	54	Leo	galaxy	3.6 x 2.2	10.3	
NGC 3521, UGC 6150, PGC 33550	11	05	48	– 00	02	Leo	galaxy	11.0 x 5.1	9.0	9.83
NGC 3593, UGC 6272	11	14	36	+ 12	49	Leo	galaxy	4.9 x 2.1	10.9	
NGC 3623, Messier 65, PGC 34612	11	18	54	+ 13	05	Leo	galaxy	9.8 x 2.9	9.3	10.25
NGC 3627, Messier 66, PGC 34695	11	20	12	+ 13	00	Leo	galaxy	9.1 x 4.2	8.9	9.65
NGC 3628, UGC 6350, PGC 34697	11	20	18	+ 13	35	Leo	galaxy	14.8 x 3.0	9.5	10.28
NGC 3640, UGC 6368	11	21	06	+ 03	14	Leo	galaxy	4.5 x 4.0	10.4	
NGC 3810, UGC 6644	11	41	00	+ 11	28	Leo	galaxy	4.1 x 2.7	10.8	
NGC 3887, MCG - 3-30- 12	11	47	06	– 16	51	Crt	galaxy	3.5 x 2.7	10.6	
NGC 3962, MCG - 2-30- 40	11	54	42	– 13	59	Crt	galaxy	3.4 x 2.8	10.7	
NGC 4030, UGC 6993	12	00	24	– 01	06	Vir	galaxy	4.2 x 3.2	10.6	
NGC 4179, UGC 7214	12	12	54	+ 01	18	Vir	galaxy	4.2 x 1.3	11.0	
NGC 4192, Messier 98, PGC 39028	12	13	48	+ 14	54	Com	galaxy	9.8 x 2.8	10.1	10.95
NGC 4216, UGC 7284	12	15	54	+ 13	09	Vir	galaxy	7.8 x 1.8	10.0	
NGC 4254, Messier 99, PGC 39578	12	18	48	+ 14	25	Com	galaxy	5.4 x 4.7	9.9	10.44
NGC 4261, UGC 7360	12	19	24	+ 05	49	Vir	galaxy	3.8 x 3.5	10.4	
NGC 4267, UGC 7373	12	19	48	+ 12	48	Vir	galaxy	3.0 x 2.8	10.9	
NGC 4303, Messier 61, PGC 40001	12	21	54	+ 04	28	Vir	galaxy	6.5 x 5.8	9.6	10.18
NGC 4321, Messier 100, PGC 40153	12	22	54	+ 15	49	Com	galaxy	7.4 x 6.3	9.4	10.05
NGC 4350, UGC 7473	12	24	00	+ 16	42	Com	galaxy	2.9 x 1.6	11.0	
NGC 4365, UGC 7488, PGC 40375	12	24	30	+ 07	19	Vir	galaxy	6.9 x 5.0	9.6	10.52
NGC 4371, UGC 7493	12	24	54	+ 11	42	Vir	galaxy	4.0 x 2.3	10.8	
NGC 4374, Messier 84, PGC 40455	12	25	06	+ 12	53	Vir	galaxy	6.5 x 5.6	9.1	10.09
NGC 4388, UGC 7520	12	25	48	+ 12	40	Vir	galaxy	5.6 x 1.5	11.0	
NGC 4406, Messier 86, PGC 40653	12	26	12	+ 12	57	Vir	galaxy	8.9 x 5.8	8.9	9.83
NGC 4429, UGC 7568	12	27	24	+ 11	06	Vir	galaxy	5.8 x 2.8	10.0	
NGC 4435, UGC 7575	12	27	42	+ 13	05	Vir	galaxy	3.0 x 2.2	10.8	
NGC 4438, UGC 7574	12	27	48	+ 13	00	Vir	galaxy	8.5 x 3.0	10.2	
NGC 4442, UGC 7583	12	28	06	+ 09	48	Vir	galaxy	4.5 x 1.8	10.4	
NGC 4450, UGC 7594, PGC 41024	12	28	30	+ 17	05	Com	galaxy	5.2 x 3.9	10.1	10.90
NGC 4457, UGC 7609	12	29	00	+ 03	34	Vir	galaxy	2.6 x 2.3	10.9	
NGC 4459, UGC 7614	12	29	00	+ 13	59	Com	galaxy	4.0 x 3.1	10.4	
NGC 4473, UGC 7631	12	29	48	+ 13	26	Com	galaxy	4.2 x 2.6	10.2	
NGC 4472, Messier 49, PGC 41220	12	29	48	+ 08	00	Vir	galaxy	10.2 x 8.3	8.4	9.37
NGC 4477, UGC 7638	12	30	00	+ 13	38	Com	galaxy	3.7 x 3.3	10.4	
NGC 4486, Messier 87, PGC 41361	12	30	48	+ 12	23	Vir	galaxy	8.3 x 6.6	8.6	9.59
NGC 4487, MCG - 1-32- 21	12	31	06	– 08	03	Vir	galaxy	4.0 x 2.8	10.9	
NGC 4501, Messier 88, PGC 41517	12	32	00	+ 14	25	Com	galaxy	6.9 x 3.7	9.6	10.36
NGC 4517, NGC 4437	12	32	48	+ 00	07	Vir	galaxy	10.2 x 1.7	10.4	
NGC 4526, NGC 4560, PGC 41772	12	34	00	+ 07	42	Vir	galaxy	7.2 x 2.4	9.7	10.66
NGC 4527, UGC 7721	12	34	06	+ 02	39	Vir	galaxy	5.9 x 2.3	10.5	
NGC 4535, UGC 7727, PGC 41812	12	34	18	+ 08	12	Vir	galaxy	7.1 x 5.0	10.0	10.59
NGC 4536, UGC 7732	12	34	24	+ 02	11	Vir	galaxy	7.1 x 3.1	10.6	
NGC 4548, Messier 91, PGC 41934	12	35	24	+ 14	30	Com	galaxy	5.4 x 4.3	10.1	10.96
NGC 4546, MCG - 1-32- 27	12	35	30	– 03	48	Vir	galaxy	3.3 x 1.6	10.3	
NGC 4552, Messier 89, PGC 41968	12	35	42	+ 12	33	Vir	galaxy	5.1 x 4.7	9.8	10.73
NGC 4568, UGC 7776	12	36	36	+ 11	14	Vir	galaxy	4.6 x 2.2	10.8	
NGC 4569, Messier 90, PGC 42089	12	36	48	+ 13	10	Vir	galaxy	9.5 x 4.4	9.5	10.26

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continued

Chart 19**Chart centre:** 12h, 00°. **Range:** 10:30 to 13:30, –15° to +15°. **Evenings:** Mar – May

... continued

Constellations featured: Bootes, Coma Berenices, Corvus, Crater, Hydra, Leo, Sextans, Virgo.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 4570, UGC 7785	12	36	54	+07	15	Vir	galaxy	3.7 x 1.2	10.9	
NGC 4579, Messier 58, PGC 42168	12	37	42	+11	49	Vir	galaxy	5.9 x 4.7	9.7	10.48
NGC 4593, MCG - 1-32- 32	12	39	42	–05	21	Vir	galaxy	3.7 x 2.6	10.9	
NGC 4596, UGC 7828	12	39	54	+10	11	Vir	galaxy	4.0 x 3.4	10.4	
NGC 4594, Messier 104, PGC 42407	12	40	00	–11	37	Vir	galaxy	8.7 x 3.5	8.0	8.98
NGC 4608, UGC 7842	12	41	12	+10	09	Vir	galaxy	3.3 x 2.9	11.0	
NGC 4612, UGC 7850	12	41	30	+07	19	Vir	galaxy	2.7 x 2.0	10.9	
NGC 4621, Messier 59, PGC 42628	12	42	00	+11	39	Vir	galaxy	5.4 x 3.7	9.6	10.57
NGC 4636, PGC 42734, NGC 4624?	12	42	48	+02	41	Vir	galaxy	6.0 x 4.7	9.5	10.43
NGC 4643, UGC 7895	12	43	18	+01	59	Vir	galaxy	3.1 x 2.5	10.8	
NGC 4651, UGC 7901	12	43	42	+16	24	Com	galaxy	4.0 x 2.7	10.8	
NGC 4649, Messier 60, PGC 42831	12	43	42	+11	33	Vir	galaxy	7.4 x 6.0	8.8	9.81
NGC 4654, IC 3708	12	43	54	+13	08	Vir	galaxy	5.0 x 3.1	10.5	
NGC 4666, UGC 7926	12	45	06	–00	28	Vir	galaxy	4.5 x 1.4	10.7	
NGC 4665, NGC 4624, PGC 42970	12	45	06	+03	03	Vir	galaxy	3.8 x 3.2	10.5	10.50
NGC 4689, UGC 7965	12	47	48	+13	46	Com	galaxy	4.7 x 4.0	10.9	
NGC 4698, UGC 7970	12	48	24	+08	29	Vir	galaxy	4.0 x 2.9	10.6	
NGC 4697, MCG - 1-33- 10, PGC 43276	12	48	36	–05	48	Vir	galaxy	7.2 x 4.7	9.2	10.14
NGC 4699, MCG - 1-33- 13, PGC 43321	12	49	00	–08	40	Vir	galaxy	3.8 x 2.6	9.5	10.41
NGC 4710, UGC 7980	12	49	36	+15	10	Com	galaxy	4.9 x 1.6	11.0	
NGC 4754, UGC 8010	12	52	18	+11	19	Vir	galaxy	4.4 x 2.4	10.6	
NGC 4753, UGC 8009, PGC 43671	12	52	24	–01	12	Vir	galaxy	6.0 x 2.8	9.9	10.85
NGC 4762, UGC 8016	12	52	54	+11	14	Vir	galaxy	8.6 x 2.0	10.3	
NGC 4772, UGC 8021	12	53	30	+02	10	Vir	galaxy	3.1 x 1.8	11.0	
NGC 4856, MCG - 2-33- 78	12	59	24	–15	03	Vir	galaxy	3.9 x 1.4	10.5	
NGC 4902, MCG - 2-33- 92	13	01	00	–14	31	Vir	galaxy	2.9 x 2.6	10.9	
NGC 4958, MCG - 1-33- 84	13	05	48	–08	01	Vir	galaxy	3.9 x 1.4	10.7	
NGC 5044, MCG - 3-34- 34	13	15	24	–16	23	Vir	galaxy	2.6 x 2.6	10.8	
NGC 5054, MCG - 3-34- 39	13	17	00	–16	38	Vir	galaxy	5.1 x 2.8	10.9	
NGC 5248, UGC 8616, PGC 48130	13	37	30	+08	53	Boo	galaxy	6.2 x 4.5	10.3	10.97
NGC 5363, UGC 8847	13	56	06	+05	15	Vir	galaxy	4.6 x 3.1	10.1	
NGC 5364, NGC 5317	13	56	12	+05	01	Vir	galaxy	6.1 x 4.2	10.5	

Chart 20

Chart centre: 15h, 00°. **Range:** 13:30 to 16:30, –15° to +15°. **Evenings:** Jun – Jul

Equatorial

Constellations featured: Bootes, Hercules, Libra, Ophiuchus, Scorpius, Serpens, Virgo.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 4902, MCG - 2-33- 92	13	01	00	– 14	31	Vir	galaxy	2.9 x 2.6	10.9	
NGC 4958, MCG - 1-33- 84	13	05	48	– 08	01	Vir	galaxy	3.9 x 1.4	10.7	
NGC 5044, MCG - 3-34- 34	13	15	24	– 16	23	Vir	galaxy	2.6 x 2.6	10.8	
NGC 5054, MCG - 3-34- 39	13	17	00	– 16	38	Vir	galaxy	5.1 x 2.8	10.9	
NGC 5248, UGC 8616, PGC 48130	13	37	30	+ 08	53	Boo	galaxy	6.2 x 4.5	10.3	10.97
NGC 5363, UGC 8847	13	56	06	+ 05	15	Vir	galaxy	4.6 x 3.1	10.1	
NGC 5364, NGC 5317	13	56	12	+ 05	01	Vir	galaxy	6.1 x 4.2	10.5	
NGC 5566, UGC 9175	14	20	18	+ 03	56	Vir	galaxy	6.6 x 2.3	10.6	
NGC 5576, UGC 9183	14	21	06	+ 03	16	Vir	galaxy	3.0 x 2.3	11.0	
NGC 5634, GCL 28	14	29	36	– 05	59	Vir	globular cluster	4.9 x 4.9	9.5	
NGC 5701, UGC 9436	14	39	12	+ 05	22	Vir	galaxy	4.7 x 4.6	10.9	
NGC 5746, UGC 9499	14	44	54	+ 01	57	Vir	galaxy	6.9 x 1.2	10.3	
NGC 5813, UGC 9655	15	01	12	+ 01	42	Vir	galaxy	4.0 x 2.8	10.5	
NGC 5838, UGC 9692	15	05	24	+ 02	06	Vir	galaxy	3.7 x 1.6	10.9	
NGC 5846, UGC 9706	15	06	30	+ 01	36	Vir	galaxy	4.0 x 3.7	10.0	
NGC 5850, UGC 9715	15	07	06	+ 01	33	Vir	galaxy	4.5 x 3.9	10.8	
NGC 5904, Messier 5	15	18	36	+ 02	05	Ser	globular cluster	19.9 x 19.9	5.7	
NGC 5921, UGC 9824	15	21	54	+ 05	04	Ser	galaxy	4.8 x 4.0	10.8	
LDN 134	15	53	36	– 04	39	Lib	dark nebula	22 x 12		
NGC 6171, Messier 107	16	32	30	– 13	03	Oph	globular cluster	3.3 x 3.3	7.8	
NGC 6218, Messier 12	16	47	12	– 01	57	Oph	globular cluster	14.5 x 14.5	6.1	
NGC 6254, Messier 10	16	57	06	– 04	06	Oph	globular cluster	12.2 x 12.2	6.6	

Chart 21

Chart centre: 18h, 00°. **Range:** 16:30 to 19:30, –15° to +15°. **Evenings:** Jul – Aug

Equatorial

Constellations featured: Aquila, Hercules, Ophiuchus, Sagittarius, Scorpius, Scutum, Serpens.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 6171, Messier 107	16	32	30	–	13 03	Oph	globular cluster	3.3 x 3.3	7.8	
NGC 6218, Messier 12	16	47	12	–	01 57	Oph	globular cluster	14.5 x 14.5	6.1	
NGC 6254, Messier 10	16	57	06	–	04 06	Oph	globular cluster	12.2 x 12.2	6.6	
NGC 6366, GCL 65	17	27	42	–	05 05	Oph	globular cluster	5.8 x 5.8	9.5	
NGC 6384, UGC 10891	17	32	24	+	07 04	Oph	galaxy	5.8 x 3.8	10.4	
NGC 6402, Messier 14	17	37	36	–	03 15	Oph	globular cluster	6.7 x 6.7	7.6	
NGC 6426, GCL 76	17	44	54	+	03 10	Oph	globular cluster	3.2 x 3.2	10.9	
IC 4665, OCL 85	17	46	18	+	05 43	Oph	open cluster	41 x 41	4.2	
Cr 350	17	48	06	+	01 18	Oph	open cluster	45 x 45	6.1	
Barnard 84a, LDN 302	17	57	30	–	17 40	Sgr	dark nebula	16 x 16		
NGC 6507, OCL32	17	59	48	–	17 27	Sgr	open cluster	7 x 7	9.6	
NGC 6539, GCL 85	18	04	48	–	07 35	Ser	globular cluster	2.5 x 2.5	8.9	
IC 1276, Pal 7	18	10	48	–	07 13	Ser	globular cluster	7.1 x 7.1	10.3	
NGC 6604, OCL 56	18	18	06	–	12 14	Ser	open cluster	2 x 2	6.5	
NGC 6611, Messier 16	18	18	48	–	13 47	Ser	bright nebula	7 x 7	6.0	
NGC 6613, Messier 18	18	19	54	–	17 08	Sgr	open cluster	9 x 9	6.9	
NGC 6618, Messier 17	18	20	48	–	16 11	Sgr	bright nebula	11 x 11	6.0	
NGC 6625, OCL58	18	23	12	–	12 03	Sct	open cluster	39.0 x 39.0	9.0	
Barnard 95, LDN 406	18	25	36	–	11 45	Sct	dark nebula	30 x 30		
Barnard 97, LDN 435	18	26	24	–	10 18	Sct	dark nebula	50 x 50		
NGC 6633, OCL 90	18	27	18	+	06 31	Oph	open cluster	27.0 x 27.0	4.6	
Barnard 312, LDN 379	18	30	54	–	15 08	Sct	dark nebula	100 x 100		
NGC 6645, OCL48	18	32	00	–	16 53	Sgr	open cluster	10 x 10	8.5	
Barnard 100-1, LDN 443	18	32	42	–	09 08	Sct	dark nebula	40 x 15		
NGC 6649, OCL66	18	33	30	–	10 24	Sct	open cluster	6 x 6	8.9	
NGC 6664, OCL 68	18	36	36	–	07 49	Sct	open cluster	16 x 16	7.8	
LDN 564	18	37	36	–	01 12	Ser	dark nebula	45 x 15		
Barnard 314, LDN 445	18	37	42	–	09 37	Sct	dark nebula	35.0 x 25.0		
LDN 557	18	38	36	–	01 47	Ser	dark nebula	60 x 10		
IC 4756, Cr 386	18	39	00	+	05 27	Ser	open cluster	39.0 x 39.0	4.6	
Barnard 103, LDN 497	18	39	12	–	06 40	Sct	dark nebula	4 x 4		
Tr 34, Cr 387	18	39	48	–	08 29	Sct	open cluster	8 x 8	8.6	
NGC 6683, OCL74	18	42	12	–	06 17	Sct	open cluster	11 x 11	9.4	
Tr 35, Cr 398	18	42	54	–	04 14	Sct	open cluster	9 x 9	9.2	
NGC 6694, Messier 26	18	45	12	–	09 24	Sct	open cluster	15 x 15	8.0	
Barnard 104, LDN 532	18	47	18	–	04 32	Sct	dark nebula	16 x 1		
Basel 1, Apriamasvili 1	18	48	06	–	05 51	Sct	open cluster	9 x 9	8.9	
Barnard 108, LDN 534	18	49	36	–	06 19	Sct	dark nebula	3 x 3		
Barnard 318	18	49	42	–	06 24	Sct	dark nebula	90 x 2		
Barnard 110, LDN 530	18	50	12	–	04 46	Sct	dark nebula	9 x 11		
NGC 6704, OCL82	18	50	54	–	05 12	Sct	open cluster	6 x 6	9.2	
Barnard 111;119a, LDN 534	18	51	00	–	05 00	Sct	dark nebula	120 x 120		
NGC 6705, Messier 11	18	51	06	–	06 16	Sct	open cluster	14 x 14	5.8	
Barnard 112	18	51	12	–	06 40	Sct	dark nebula	20 x 20		
Barnard 113, LDN 548	18	51	24	–	04 19	Sct	dark nebula	11 x 11		
NGC 6709, OCL 100	18	51	30	+	10 21	Aql	open cluster	13 x 13	6.7	
LDN 582	18	52	36	–	01 56	Aql	dark nebula	60 x 10		
NGC 6712, GCL 103	18	53	06	–	08 42	Sct	globular cluster	4.3 x 4.3	8.2	
Barnard 114-7, LDN 514	18	53	12	–	07 06	Sct	dark nebula	50 x 5		
Barnard 118, LDN 509	18	53	54	–	07 27	Sct	dark nebula	2 x 2		
LDN 617	18	57	30	+	01 04	Aql	dark nebula	180 x 180		
NGC 6738, OCL 101	19	01	24	+	11 36	Aql	open cluster	15 x 15	8.3	
Barnard 127;129-30, LDN 544	19	01	36	–	05 26	Aql	dark nebula	20 x 5		
Barnard 132;328, LDN 567	19	04	06	–	04 28	Aql	dark nebula	16 x 8		
Barnard 133, LDN 531	19	06	06	–	06 50	Aql	dark nebula	10 x 3		
Barnard 134, LDN 543	19	06	54	–	06 14	Aql	dark nebula	6 x 6		
Barnard 135-6, LDN 581	19	07	24	–	03 55	Aql	dark nebula	50 x 30		
NGC 6755, OCL 96	19	07	48	+	04 16	Aql	open cluster	15 x 15	7.5	

21

continued

Chart 21 Chart centre: 18h, 00°. Range: 16:30 to 19:30, –15° to +15°. Evenings: Jul – Aug

Equatorial

... continued

Constellations featured: Aquila, Hercules, Ophiuchus, Sagittarius, Scorpius, Scutum, Serpens.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 6756, OCL99	19	08	42	+04	42	Aql	open cluster	4 x 4	10.6	
NGC 6760, GCL 109	19	11	12	+01	02	Aql	globular cluster	2.4 x 2.4	9.1	
Barnard 137-8, LDN 618;627	19	15	36	+00	13	Aql	dark nebula	180 x 10		
Barnard 139, LDN 619	19	18	06	–01	28	Aql	dark nebula	10 x 2		
LDN 673	19	20	54	+11	16	Aql	dark nebula	55 x 15		
LDN 684	19	21	48	+12	26	Aql	dark nebula	50 x 10		
Barnard 334;336-7, LDN 701;702;705	19	36	48	+12	27	Aql	dark nebula	40 x 5		
Barnard 335, LDN 663	19	36	54	+07	34	Aql	dark nebula	4 x 4		
Barnard 142-3, LDN 688;694	19	40	42	+10	57	Aql	dark nebula	80 x 50		
NGC 6822, IC 4895, PGC 63616	19	44	54	–14	48	Sgr	galaxy	15.5 x 13.5	8.8	9.31
Pal 11	19	45	18	–08	01	Aql	globular cluster	10 x 10	9.8	

Chart 22 Chart centre: 21h, 00°. Range: 19:30 to 22:30, –15° to +15°. Evenings: Aug – Oct

Equatorial

Constellations featured: Aquarius, Aquila, Capricornus, Delphinus, Equuleus, Pegasus, Sagittarius.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 6738, OCL 101	19	01	24	+ 11	36	Aql	open cluster	15 x 15	8.3	
Barnard 127;129-30, LDN 544	19	01	36	– 05	26	Aql	dark nebula	20 x 5		
Barnard 132;328, LDN 567	19	04	06	– 04	28	Aql	dark nebula	16 x 8		
Barnard 133, LDN 531	19	06	06	– 06	50	Aql	dark nebula	10 x 3		
Barnard 134, LDN 543	19	06	54	– 06	14	Aql	dark nebula	6 x 6		
Barnard 135-6, LDN 581	19	07	24	– 03	55	Aql	dark nebula	50 x 30		
NGC 6755, OCL 96	19	07	48	+ 04	16	Aql	open cluster	15 x 15	7.5	
NGC 6756, OCL99	19	08	42	+ 04	42	Aql	open cluster	4 x 4	10.6	
NGC 6760, GCL 109	19	11	12	+ 01	02	Aql	globular cluster	2.4 x 2.4	9.1	
Barnard 137-8, LDN 618;627	19	15	36	+ 00	13	Aql	dark nebula	180 x 10		
Barnard 139, LDN 619	19	18	06	– 01	28	Aql	dark nebula	10 x 2		
LDN 673	19	20	54	+ 11	16	Aql	dark nebula	55 x 15		
LDN 684	19	21	48	+ 12	26	Aql	dark nebula	50 x 10		
Barnard 334;336-7, LDN 701;702;705	19	36	48	+ 12	27	Aql	dark nebula	40 x 5		
Barnard 335, LDN 663	19	36	54	+ 07	34	Aql	dark nebula	4 x 4		
Barnard 142-3, LDN 688;694	19	40	42	+ 10	57	Aql	dark nebula	80 x 50		
NGC 6822, IC 4895, PGC 63616	19	44	54	– 14	48	Sgr	galaxy	15.5 x 13.5	8.8	9.31
Pal 11	19	45	18	– 08	01	Aql	globular cluster	10 x 10	9.8	
NGC 6934, GCL 117	20	34	12	+ 07	24	Del	globular cluster	7 x 7	8.9	
NGC 6981, Messier 72	20	53	30	– 12	32	Aqr	globular cluster	5.9 x 5.9	9.2	
NGC 6994, Messier 73	20	59	00	– 12	38	Aqr	open cluster	2.8 x 2.8	9.7	
NGC 7006, GCL 119	21	01	30	+ 16	11	Del	globular cluster	2.8 x 2.8	10.6	
NGC 7078, Messier 15	21	30	00	+ 12	10	Peg	globular cluster	12.3 x 12.3	6.4	
NGC 7089, Messier 2	21	33	30	– 00	49	Aqr	globular cluster	11.7 x 11.7	6.5	

Chart 23 Chart centre: 00h, +30°. Range: 22:30 to 01:30, +15° to +45°. Evenings: Oct – Dec
 Mid-North Constellations featured: Andromeda, Aries, Cygnus, Lacerta, Pegasus, Pisces, Triangulum.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 7814, UGC8	00	03	12	+ 16	09	Peg	galaxy	4.7 x 2.4	10.6	
NGC 205, Messier 110, PGC 2429	00	40	24	+ 41	41	And	galaxy	21.9 x 11.0	8.1	8.92
NGC 224, Messier 31, PGC 2557	00	42	42	+ 41	16	And	galaxy	190.5 x 61.7	3.4	4.36
NGC 221, Messier 32, PGC 2555	00	42	42	+ 40	52	And	galaxy	8.7 x 6.5	8.1	9.03
NGC 404, UGC718	01	09	24	+ 35	43	And	galaxy	4.3 x 3.9	10.3	
NGC 598, Messier 33, PGC 5818	01	33	54	+ 30	39	Tri	galaxy	70.8 x 41.7	5.7	6.27
NGC 628, Messier 74, PGC 5974	01	36	42	+ 15	47	Psc	galaxy	10.5 x 9.5	9.4	9.95
NGC 672, UGC 1256	01	47	54	+ 27	26	Tri	galaxy	7.5 x 2.6	10.9	
Cr 21	01	50	06	+ 27	05	Tri	open cluster	6 x 6	8.2	
NGC 752, OCL 363	01	57	42	+ 37	40	And	open cluster	50 x 50	5.7	
NGC 772, UGC 1466	01	59	18	+ 19	00	Ari	galaxy	7.5 x 4.3	10.3	
NGC 7217, UGC 11914	22	07	54	+ 31	22	Peg	galaxy	4.0 x 3.4	10.1	
NGC 7331, UGC 12113, PGC 69327	22	37	06	+ 34	25	Peg	galaxy	10.5 x 3.7	9.5	10.35
NGC 7479, UGC 12343	23	04	54	+ 12	19	Peg	galaxy	4.0 x 3.1	10.9	

Chart 24 Chart centre: 03h, +30°. Range: 01:30 to 04:30, +15° to +45°. Evenings: Nov – Jan

Mid-North

Constellations featured: Andromeda, Aries, Auriga, Perseus, Pisces, Taurus, Triangulum.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 224, Messier 31, PGC 2557	00	42	42	+41	16	And	galaxy	190.5 x 61.7	3.4	4.36
NGC 221, Messier 32, PGC 2555	00	42	42	+40	52	And	galaxy	8.7 x 6.5	8.1	9.03
NGC 404, UGC718	01	09	24	+35	43	And	galaxy	4.3 x 3.9	10.3	
NGC 598, Messier 33, PGC 5818	01	33	54	+30	39	Tri	galaxy	70.8 x 41.7	5.7	6.27
NGC 628, Messier 74, PGC 5974	01	36	42	+15	47	Psc	galaxy	10.5 x 9.5	9.4	9.95
NGC 672, UGC 1256	01	47	54	+27	26	Tri	galaxy	7.5 x 2.6	10.9	
Cr 21	01	50	06	+27	05	Tri	open cluster	6 x 6	8.2	
NGC 752, OCL 363	01	57	42	+37	40	And	open cluster	50 x 50	5.7	
NGC 772, UGC 1466	01	59	18	+19	00	Ari	galaxy	7.5 x 4.3	10.3	
NGC 891, UGC 1831, PGC 9031	02	22	36	+42	21	And	galaxy	13.1 x 2.8	9.9	10.81
NGC 925, UGC 1913, PGC 9332	02	27	18	+33	35	Tri	galaxy	10.9 x 6.2	10.1	10.69
NGC 956, OCL 377	02	32	30	+44	36	And	open cluster	8 x 8	8.9	
NGC 1023, UGC 2154, PGC 10123	02	40	24	+39	04	Per	galaxy	8.7 x 3.0	9.4	10.35
NGC 1039, Messier 34	02	42	06	+42	47	Per	open cluster	35.0 x 35.0	5.2	
NGC 1161, UGC 2474	03	01	12	+44	54	Per	galaxy	2.8 x 2.0	11.0	
NGC 1245, OCL 389	03	14	42	+47	14	Per	open cluster	10 x 10	8.4	
Barnard 202, LDN 1451	03	25	36	+30	17	Ari	dark nebula	33 x 12		
Barnard 203, LDN 1448	03	25	48	+30	47	Ari	dark nebula	10 x 5		
Barnard 205, LDN 1450	03	28	00	+31	06	Per	dark nebula	15 x 2		
Barnard 204, LDN 1455	03	28	30	+30	11	Ari	dark nebula	14 x 14		
Barnard 206, LDN 1450	03	29	06	+30	11	Ari	dark nebula	5 x 5		
NGC 1342, OCL 401	03	31	42	+37	22	Per	open cluster	14 x 14	6.7	
Barnard 1, LDN 1472	03	32	54	+31	10	Per	dark nebula	30 x 30		
Barnard 2, LDN 1472	03	33	30	+32	19	Per	dark nebula	20 x 20		
Barnard 3, LDN 1470	03	40	00	+31	59	Per	dark nebula	20 x 20		
Barnard 4, LDN 1470	03	44	00	+31	48	Per	dark nebula	30 x 30		
IC 348, IC 1985	03	44	36	+32	10	Per	bright nebula	10 x 10	7.3	
Pleiades, Messier 45, Mel 22	03	47	00	+24	07	Tau	open cluster	100 x 100	1.2	
Barnard 5, LDN 1471	03	48	00	+32	53	Per	dark nebula	60 x 60		
NGC 1499, LBN 756	04	03	12	+36	22	Per	bright nebula	160 x 40	5.0	
NGC 1514, PK 165-15.1, PNG 165.5-15.2	04	09	18	+30	47	Tau	planetary nebula	2.0 x 1.5	10.8	
Berk 11	04	20	30	+44	55	Per	open cluster	6 x 6	10.4	
Be 84	04	22	06	+19	30	Tau	dark nebula	20 x 10		
LDN 1543	04	27	24	+18	52	Tau	dark nebula	35.0 x 25.0		
NGC 1582, OCL 407	04	31	48	+43	47	Per	open cluster	37.0 x 37.0	7.0	
NGC 1605, OCL 406	04	34	54	+45	16	Per	open cluster	5 x 5	10.7	
Berk 68	04	44	30	+42	04	Per	open cluster	12 x 12	9.8	
NGC 1647, OCL 457	04	45	54	+19	06	Tau	open cluster	45 x 45	6.4	
Ru 148	04	46	30	+44	43	Per	open cluster	3 x 3	9.5	
NGC 1664, OCL 411	04	51	06	+43	41	Aur	open cluster	18 x 18	7.6	
Barnard 26-8, LDN 1517	04	55	12	+30	35	Aur	dark nebula	20 x 20		
NGC 1746, OCL 452	05	03	48	+23	46	Tau	open cluster	42 x 42	6.1	
Barnard 29, LDN 1523	05	06	12	+31	44	Aur	dark nebula	10 x 10		
NGC 1778, OCL 429	05	08	06	+37	01	Aur	open cluster	7 x 7	7.7	
IC 405, LBN 795	05	16	30	+34	21	Aur	bright nebula	50 x 30	10.0	

Chart 25**Chart centre:** 06h, +30°. **Range:** 04:30 to 07:30, +15° to +45°. **Evenings:** Jan – Feb

Mid-North

Constellations featured: Auriga, Gemini, Lynx, Orion, Perseus, Taurus.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
Barnard 4, LDN 1470	03	44	00	+31	48	Per	dark nebula	30 x 30		
IC 348, IC 1985	03	44	36	+32	10	Per	bright nebula	10 x 10	7.3	
Barnard 5, LDN 1471	03	48	00	+32	53	Per	dark nebula	60 x 60		
NGC 1499, LBN 756	04	03	12	+36	22	Per	bright nebula	160 x 40	5.0	
NGC 1514, PK 165-15.1, PNG 165.5-15.2	04	09	18	+30	47	Tau	planetary nebula	2.0 x 1.5	10.8	
Berk 11	04	20	30	+44	55	Per	open cluster	6 x 6	10.4	
Be 84	04	22	06	+19	30	Tau	dark nebula	20 x 10		
LDN 1543	04	27	24	+18	52	Tau	dark nebula	35.0 x 25.0		
NGC 1582, OCL 407	04	31	48	+43	47	Per	open cluster	37.0 x 37.0	7.0	
NGC 1605, OCL 406	04	34	54	+45	16	Per	open cluster	5 x 5	10.7	
Berk 68	04	44	30	+42	04	Per	open cluster	12 x 12	9.8	
NGC 1647, OCL 457	04	45	54	+19	06	Tau	open cluster	45 x 45	6.4	
Ru 148	04	46	30	+44	43	Per	open cluster	3 x 3	9.5	
NGC 1664, OCL 411	04	51	06	+43	41	Aur	open cluster	18 x 18	7.6	
Barnard 26-8, LDN 1517	04	55	12	+30	35	Aur	dark nebula	20 x 20		
NGC 1746, OCL 452	05	03	48	+23	46	Tau	open cluster	42 x 42	6.1	
Barnard 29, LDN 1523	05	06	12	+31	44	Aur	dark nebula	10 x 10		
NGC 1778, OCL 429	05	08	06	+37	01	Aur	open cluster	7 x 7	7.7	
NGC 1807, OCL 462	05	10	42	+16	32	Tau	open cluster	17 x 17	7.0	
NGC 1817, OCL 463	05	12	24	+16	41	Tau	open cluster	16 x 16	7.7	
IC 405, LBN 795	05	16	30	+34	21	Aur	bright nebula	50 x 30	10.0	
NGC 1857, Cr 61	05	20	06	+39	21	Aur	open cluster	6 x 6	7.0	
Cr 62	05	22	30	+41	00	Aur	open cluster	28 x 28	4.2	
NGC 1893, IC 410	05	22	42	+33	25	Aur	open cluster	11 x 11	7.5	
NGC 1907, OCL 434	05	28	06	+35	20	Aur	open cluster	7 x 7	8.2	
NGC 1912, Messier 38	05	28	42	+35	51	Aur	open cluster	21 x 21	6.4	
Barnard 31-2, LDN 1582;1583	05	29	48	+12	46	Ori	dark nebula	80 x 55		
Barnard 30, LDN 1577	05	30	12	+12	46	Ori	dark nebula	67 x 67		
NGC 1931, OCL 441	05	31	24	+34	15	Aur	open cluster	3 x 3	10.1	
NGC 1952, Messier 1	05	34	30	+22	01	Tau	bright nebula	8 x 4	8.4	
NGC 1960, Messier 36	05	36	18	+34	08	Aur	open cluster	12 x 12	6.0	
Barnard 34	05	43	30	+32	39	Aur	dark nebula	20 x 20		
Basel 4	05	48	54	+30	11	Aur	open cluster	8 x 8	9.1	
NGC 2099, Messier 37	05	52	18	+32	33	Aur	open cluster	24.0 x 24.0	5.6	
Basel 11B	05	58	12	+21	58	Ori	open cluster	9 x 9	8.9	
NGC 2129, OCL 467	06	00	42	+23	19	Gem	open cluster	7 x 7	6.7	
IC 2157, Cr 80	06	04	48	+24	04	Gem	open cluster	7 x 7	8.4	
NGC 2158, OCL 468	06	07	24	+24	06	Gem	open cluster	5 x 5	8.6	
NGC 2169, OCL 481	06	08	24	+13	58	Ori	open cluster	7 x 7	5.9	
NGC 2168, Messier 35	06	08	54	+24	21	Gem	open cluster	28 x 28	5.1	
NGC 2175, OCL 476	06	09	36	+20	29	Ori	open cluster	18 x 18	6.8	
NGC 2194, OCL 495	06	13	48	+12	48	Ori	open cluster	10 x 10	8.5	
NGC 2192, OCL 437	06	15	18	+39	51	Aur	open cluster	6 x 6	10.9	
Cr 89	06	18	00	+23	38	Gem	open cluster	35.0 x 35.0	5.7	
Bochum 1	06	25	30	+19	46	Gem	open cluster	26.0 x 26.0	7.9	
NGC 2266, OCL 471	06	43	18	+26	58	Gem	open cluster	7 x 7	9.5	
NGC 2281, OCL 446	06	48	18	+41	05	Aur	open cluster	15 x 15	5.4	
NGC 2304, OCL 484	06	55	12	+17	59	Gem	open cluster	5 x 5	10.0	
NGC 2331, OCL 475	07	07	00	+27	16	Gem	open cluster	18 x 18	8.5	
NGC 2356, NGC 2355	07	17	00	+13	45	Gem	open cluster	9 x 9	9.7	
NGC 2395, OCL 502	07	27	12	+13	37	Gem	open cluster	12 x 12	8.0	
NGC 2419, GCL 12	07	38	06	+38	53	Lyn	globular cluster	6.2 x 6.2	10.4	
NGC 2420, OCL 488	07	38	24	+21	34	Gem	open cluster	10 x 10	8.3	

Chart 26**Chart centre:** 09h, +30°. **Range:** 07:30 to 10:30, +15° to +45°. **Evenings:** Feb – Apr

Mid-North

Constellations featured: Auriga, Cancer, Gemini, Leo, Leo Minor, Lynx, Ursa Major.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 2281, OCL 446	06	48	18	+41	05	Aur	open cluster	15 x 15	5.4	
NGC 2304, OCL 484	06	55	12	+17	59	Gem	open cluster	5 x 5	10.0	
NGC 2331, OCL 475	07	07	00	+27	16	Gem	open cluster	18 x 18	8.5	
NGC 2355, NGC 2356	07	17	00	+13	45	Gem	open cluster	9 x 9	9.7	
NGC 2395, OCL 502	07	27	12	+13	37	Gem	open cluster	12 x 12	8.0	
NGC 2419, GCL 12	07	38	06	+38	53	Lyn	globular cluster	6.2 x 6.2	10.4	
NGC 2420, OCL 488	07	38	24	+21	34	Gem	open cluster	10 x 10	8.3	
NGC 2632, Messier 44	08	40	00	+19	40	Cnc	open cluster	95 x 95	3.1	
NGC 2683, UGC 4641, PGC 24930	08	52	42	+33	25	Lyn	galaxy	9.3 x 2.2	9.8	10.64
NGC 2859, UGC 5001	09	24	18	+34	31	LMi	galaxy	4.0 x 3.6	10.9	
NGC 2903, UGC 5079, PGC 27077	09	32	12	+21	30	Leo	galaxy	12.6 x 6.0	9.0	9.68
UGC 5470, Leo I	10	08	24	+12	18	Leo	galaxy	10.7 x 8.3	10.2	
NGC 3184, UGC 5557, PGC 30087	10	18	18	+41	25	UMa	galaxy	7.4 x 6.9	9.8	10.36
NGC 3193, UGC 5562	10	18	24	+21	54	Leo	galaxy	2.9 x 2.8	10.9	
NGC 3198, UGC 5572, PGC 30197	10	19	54	+45	33	UMa	galaxy	8.5 x 3.3	10.3	10.87
NGC 3227, UGC 5620	10	23	30	+19	52	Leo	galaxy	6.6 x 5.0	10.3	
NGC 3245, UGC 5663	10	27	18	+28	30	LMi	galaxy	3.5 x 2.4	10.8	
NGC 3344, UGC 5840, PGC 31968	10	43	30	+24	55	LMi	galaxy	7.1 x 6.5	9.9	10.45
NGC 3377, UGC 5899	10	47	42	+13	59	Leo	galaxy	4.3 x 2.6	10.4	
NGC 3379, Messier 105, PGC 32256	10	47	48	+12	35	Leo	galaxy	5.4 x 4.8	9.3	10.24
NGC 3384, NGC 3371, PGC 32292	10	48	18	+12	38	Leo	galaxy	5.5 x 2.5	9.9	10.85
NGC 3412, UGC 5952	10	50	54	+13	25	Leo	galaxy	3.7 x 2.2	10.5	
NGC 3414, UGC 5959	10	51	18	+27	58	Lmi	galaxy	3.6 x 3.1	11.0	
NGC 3489, UGC 6082	11	00	18	+13	54	Leo	galaxy	3.6 x 2.2	10.3	
NGC 3486, UGC 6079	11	00	24	+28	59	Lmi	galaxy	6.8 x 4.8	10.5	
NGC 3504, UGC 6118	11	03	12	+27	58	LMi	galaxy	2.7 x 2.5	11.0	
NGC 3507, UGC 6123	11	03	24	+18	08	Leo	galaxy	3.4 x 2.9	10.9	

Chart 27

Chart centre: 12h, +30°. **Range:** 10:30 to 13:30, +15° to +45°. **Evenings:** Apr – Jun

Mid-North

Constellations featured: Bootes, Canes Venatici, Coma Berenices, Leo, Leo Minor, Ursa Major.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
UGC 5470, Leo I	10	08	24	+12	18	Leo	galaxy	10.7 x 8.3	10.2	
NGC 3184, UGC 5557, PGC 30087	10	18	18	+41	25	UMa	galaxy	7.4 x 6.9	9.8	10.36
NGC 3193, UGC 5562	10	18	24	+21	54	Leo	galaxy	2.9 x 2.8	10.9	
NGC 3198, UGC 5572, PGC 30197	10	19	54	+45	33	UMa	galaxy	8.5 x 3.3	10.3	10.87
NGC 3227, UGC 5620	10	23	30	+19	52	Leo	galaxy	6.6 x 5.0	10.3	
NGC 3245, UGC 5663	10	27	18	+28	30	LMi	galaxy	3.5 x 2.4	10.8	
NGC 3344, UGC 5840, PGC 31968	10	43	30	+24	55	LMi	galaxy	7.1 x 6.5	9.9	10.45
NGC 3377, UGC 5899	10	47	42	+13	59	Leo	galaxy	4.3 x 2.6	10.4	
NGC 3379, Messier 105, PGC 32256	10	47	48	+12	35	Leo	galaxy	5.4 x 4.8	9.3	10.24
NGC 3384, NGC 3371, PGC 32292	10	48	18	+12	38	Leo	galaxy	5.5 x 2.5	9.9	10.85
NGC 3412, UGC 5952	10	50	54	+13	25	Leo	galaxy	3.7 x 2.2	10.5	
NGC 3414, UGC 5959	10	51	18	+27	58	Lmi	galaxy	3.6 x 3.1	11.0	
NGC 3489, UGC 6082	11	00	18	+13	54	Leo	galaxy	3.6 x 2.2	10.3	
NGC 3486, UGC 6079	11	00	24	+28	59	Lmi	galaxy	6.8 x 4.8	10.5	
NGC 3504, UGC 6118	11	03	12	+27	58	LMi	galaxy	2.7 x 2.5	11.0	
NGC 3507, UGC 6123	11	03	24	+18	08	Leo	galaxy	3.4 x 2.9	10.9	
NGC 3593, UGC 6272	11	14	36	+12	49	Leo	galaxy	4.9 x 2.1	10.9	
NGC 3607, UGC 6297, PGC 34426	11	16	54	+18	03	Leo	galaxy	4.9 x 2.5	9.9	10.82
NGC 3608, UGC 6299	11	17	00	+18	09	Leo	galaxy	3.5 x 3.0	10.8	
NGC 3623, Messier 65, PGC 34612	11	18	54	+13	05	Leo	galaxy	9.8 x 2.9	9.3	10.25
NGC 3626, NGC 3632	11	20	06	+18	21	Leo	galaxy	3.2 x 2.4	11.0	
NGC 3627, Messier 66, PGC 34695	11	20	12	+13	00	Leo	galaxy	9.1 x 4.2	8.9	9.65
NGC 3628, UGC 6350, PGC 34697	11	20	18	+13	35	Leo	galaxy	14.8 x 3.0	9.5	10.28
NGC 3665, UGC 6426	11	24	42	+38	46	Uma	galaxy	3.5 x 3.0	10.8	
NGC 3675, UGC 6439, PGC 35164	11	26	06	+43	35	UMa	galaxy	5.9 x 3.1	10.2	11.00
NGC 3726, UGC 6537, PGC 35676	11	33	18	+47	02	UMa	galaxy	6.2 x 4.3	10.4	10.91
NGC 3877, UGC 6745	11	46	06	+47	30	UMa	galaxy	5.3 x 1.2	11.0	
NGC 3938, UGC 6856, PGC 37229	11	52	48	+44	07	Uma	galaxy	5.4 x 4.9	10.4	10.90
NGC 3941, UGC 6857	11	52	54	+36	59	Uma	galaxy	3.5 x 2.5	10.3	
NGC 4051, UGC 7030, PGC 38068	12	03	12	+44	32	Uma	galaxy	5.2 x 3.9	10.2	10.83
NGC 4096, UGC 7090	12	06	00	+47	29	Uma	galaxy	6.5 x 1.8	10.9	
NGC 4111, UGC 7103	12	07	00	+43	04	CVn	galaxy	4.6 x 1.0	10.7	
NGC 4136, UGC 7134	12	09	18	+29	56	Com	galaxy	3.9 x 3.6	11.0	
NGC 4143, UGC 7142	12	09	36	+42	32	CVn	galaxy	2.9 x 1.9	10.6	
NGC 4147, NGC 4153	12	10	06	+18	33	Com	globular cluster	4 x 4	10.3	
NGC 4151, UGC 7166	12	10	30	+39	24	CVn	galaxy	6.8 x 5.3	10.8	
NGC 4192, Messier 98, PGC 39028	12	13	48	+14	54	Com	galaxy	9.8 x 2.8	10.1	10.95
NGC 4203, UGC 7256	12	15	06	+33	12	Com	galaxy	3.5 x 3.2	10.9	
NGC 4214, NGC 4228, PGC 39225	12	15	36	+36	20	CVn	galaxy	8.5 x 6.6	9.8	10.24
NGC 4216, UGC 7284, PGC 39246	12	15	54	+13	09	Vir	galaxy	8.1 x 1.8	10.0	10.99
NGC 4244, UGC 7322, PGC 39422	12	17	30	+37	48	CVn	galaxy	16.6 x 1.9	10.4	10.88
NGC 4251, UGC 7338	12	18	06	+28	10	Com	galaxy	3.6 x 2.5	10.7	
NGC 4254, Messier 99, PGC 39578	12	18	48	+14	25	Com	galaxy	5.4 x 4.7	9.9	10.44
NGC 4258, Messier 106, PGC 39600	12	19	00	+47	18	CVn	galaxy	18.6 x 7.2	8.4	9.10
NGC 4267, UGC 7373	12	19	48	+12	48	Vir	galaxy	3.0 x 2.8	10.9	
NGC 4274, UGC 7377	12	19	48	+29	37	Com	galaxy	6.8 x 2.4	10.4	
NGC 4278, UGC 7386	12	20	06	+29	17	Com	galaxy	4.0 x 3.9	10.2	
NGC 4293, UGC 7405	12	21	12	+18	23	Com	galaxy	5.5 x 2.9	10.4	
NGC 4314, UGC 7443	12	22	30	+29	54	Com	galaxy	3.9 x 3.7	10.6	
NGC 4321, Messier 100, PGC 40153	12	22	54	+15	49	Com	galaxy	7.4 x 6.3	9.4	10.05
NGC 4350, UGC 7473	12	24	00	+16	42	Com	galaxy	2.9 x 1.6	11.0	
NGC 4374, Messier 84, PGC 40455	12	25	06	+12	53	Vir	galaxy	6.5 x 5.6	9.1	10.09
NGC 4382, Messier 85, PGC 40515	12	25	24	+18	11	Com	galaxy	7.1 x 5.5	9.1	10.00
NGC 4388, UGC 7520	12	25	48	+12	40	Vir	galaxy	5.6 x 1.5	11.0	
NGC 4395, UGC 7524, PGC 40596	12	25	48	+33	33	CVn	galaxy	13.2 x 11.0	10.2	10.64
NGC 4394, UGC 7523	12	25	54	+18	13	Com	galaxy	3.4 x 3.2	10.9	
NGC 4406, Messier 86, PGC 40653	12	26	12	+12	57	Vir	galaxy	8.9 x 5.8	8.9	9.83
NGC 4414, UGC 7539, PGC 40692	12	26	30	+31	13	Com	galaxy	3.6 x 2.0	10.1	10.96

27

continued

Chart 27**Chart centre:** 12h, +30°. **Range:** 10:30 to 13:30, +15° to +45°. **Evenings:** Apr – Jun

Mid-North

Constellations featured: Bootes, Canes Venatici, Coma Berenices, Leo, Leo Minor, Ursa... *continued*

Major.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 4435, UGC 7575	12	27	42	+13	05	Vir	galaxy	3.0 x 2.2	10.8	
NGC 4438, UGC 7574	12	27	48	+13	00	Vir	galaxy	8.5 x 3.0	10.2	
NGC 4449, UGC 7592, PGC 40973	12	28	12	+44	06	CVn	galaxy	6.2 x 4.4	9.6	9.99
NGC 4450, UGC 7594, PGC 41024	12	28	30	+17	05	Com	galaxy	5.2 x 3.9	10.1	10.90
NGC 4459, UGC 7614	12	29	00	+13	59	Com	galaxy	4.0 x 3.1	10.4	
NGC 4473, UGC 7631	12	29	48	+13	26	Com	galaxy	4.2 x 2.6	10.2	
NGC 4477, UGC 7638	12	30	00	+13	38	Com	galaxy	3.7 x 3.3	10.4	
NGC 4490, UGC 7651, PGC 41333	12	30	36	+41	39	CVn	galaxy	6.3 x 3.1	9.8	10.22
NGC 4486, Messier 87, PGC 41361	12	30	48	+12	23	Vir	galaxy	8.3 x 6.6	8.6	9.59
NGC 4494, UGC 7662, PGC 41441	12	31	24	+25	46	Com	galaxy	4.8 x 3.5	9.8	10.71
NGC 4501, Messier 88, PGC 41517	12	32	00	+14	25	Com	galaxy	6.9 x 3.7	9.6	10.36
NGC 4548, Messier 91, PGC 41934	12	35	24	+14	30	Com	galaxy	5.4 x 4.3	10.1	10.96
NGC 4552, Messier 89, PGC 41968	12	35	42	+12	33	Vir	galaxy	5.1 x 4.7	9.8	10.73
NGC 4559, UGC 7766, PGC 42002	12	36	00	+27	58	Com	galaxy	10.7 x 4.4	10.0	10.46
NGC 4565, UGC 7772, PGC 42038	12	36	18	+25	59	Com	galaxy	15.8 x 2.1	9.6	10.42
NGC 4569, Messier 90, PGC 42089	12	36	48	+13	10	Vir	galaxy	9.5 x 4.4	9.5	10.26
NGC 4618, IC 3667	12	41	36	+41	09	CVn	galaxy	4.2 x 3.4	10.8	
NGC 4631, UGC 7865, PGC 42637	12	42	06	+32	32	CVn	galaxy	15.5 x 2.7	9.2	9.75
NGC 4651, UGC 7901	12	43	42	+16	24	Com	galaxy	4.0 x 2.7	10.8	
NGC 4654, IC 3708	12	43	54	+13	08	Vir	galaxy	5.0 x 3.1	10.5	
NGC 4656, UGC 7907, PGC 42863	12	44	00	+32	10	CVn	galaxy	15.1 x 3.0	10.5	10.96
NGC 4689, UGC 7965	12	47	48	+13	46	Com	galaxy	4.7 x 4.0	10.9	
NGC 4710, UGC 7980	12	49	36	+15	10	Com	galaxy	4.9 x 1.6	11.0	
NGC 4725, UGC 7989, PGC 43451	12	50	24	+25	30	Com	galaxy	10.7 x 7.6	9.4	10.11
NGC 4736, Messier 94, PGC 43495	12	50	54	+41	07	CVn	galaxy	11.2 x 9.1	8.2	8.99
NGC 4826, Messier 64, PGC 44182	12	56	42	+21	41	Com	galaxy	10.0 x 5.4	8.5	9.36
NGC 5005, UGC 8256, PGC 45749	13	10	54	+37	03	CVn	galaxy	5.8 x 2.8	9.8	10.61
NGC 5024, Messier 53	13	12	54	+18	10	Com	globular cluster	14.4 x 14.4	7.7	
NGC 5033, UGC 8307, PGC 45948	13	13	30	+36	36	CVn	galaxy	10.7 x 5.0	10.2	10.75
NGC 5055, Messier 63, PGC 46153	13	15	48	+42	02	CVn	galaxy	12.6 x 7.2	8.6	9.31
NGC 5053, GCL 23	13	16	30	+17	42	Com	globular cluster	8.9 x 8.9	9.8	
NGC 5272, Messier 3	13	42	12	+28	23	CVn	globular cluster	18.6 x 18.6	6.3	
NGC 5353, UGC 8813	13	53	24	+40	17	CVn	galaxy	2.8 x 1.9	11.0	
NGC 5371, NGC 5390	13	55	42	+40	28	CVn	galaxy	4.2 x 3.4	10.6	
NGC 5466, GCL 27	14	05	30	+28	32	Boo	globular cluster	9.2 x 9.2	9.1	
NGC 5557, UGC 9161	14	18	24	+36	30	Boo	galaxy	2.4 x 1.9	11.0	

Chart 28**Chart centre:** 15h, +30°. **Range:** 13:30 to 16:30, +15° to +45°. **Evenings:** May – Jul

Mid-North

Constellations featured: Bootes, Canes Venatici, Coma Berenices, Corona Borealis, Hercules, Serpens.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 4618, IC 3667	12	41	36	+41	09	CVn	galaxy	4.2 x 3.4	10.8	
NGC 4631, UGC 7865, PGC 42637	12	42	06	+32	32	CVn	galaxy	15.5 x 2.7	9.2	9.75
NGC 4656, UGC 7907, PGC 42863	12	44	00	+32	10	CVn	galaxy	15.1 x 3.0	10.5	10.96
NGC 4725, UGC 7989, PGC 43451	12	50	24	+25	30	Com	galaxy	10.7 x 7.6	9.4	10.11
NGC 4736, Messier 94, PGC 43495	12	50	54	+41	07	CVn	galaxy	11.2 x 9.1	8.2	8.99
NGC 4826, Messier 64, PGC 44182	12	56	42	+21	41	Com	galaxy	10.0 x 5.4	8.5	9.36
NGC 5005, UGC 8256, PGC 45749	13	10	54	+37	03	CVn	galaxy	5.8 x 2.8	9.8	10.61
NGC 5024, Messier 53	13	12	54	+18	10	Com	globular cluster	14.4 x 14.4	7.7	
NGC 5033, UGC 8307, PGC 45948	13	13	30	+36	36	CVn	galaxy	10.7 x 5.0	10.2	10.75
NGC 5055, Messier 63, PGC 46153	13	15	48	+42	02	CVn	galaxy	12.6 x 7.2	8.6	9.31
NGC 5053, GCL 23	13	16	30	+17	42	Com	globular cluster	8.9 x 8.9	9.8	
NGC 5272, Messier 3	13	42	12	+28	23	CVn	globular cluster	18.6 x 18.6	6.3	
NGC 5353, UGC 8813	13	53	24	+40	17	CVn	galaxy	2.8 x 1.9	11.0	
NGC 5371, NGC 5390	13	55	42	+40	28	CVn	galaxy	4.2 x 3.4	10.6	
NGC 5466, GCL 27	14	05	30	+28	32	Boo	globular cluster	9.2 x 9.2	9.1	
NGC 5557, UGC 9161	14	18	24	+36	30	Boo	galaxy	2.4 x 1.9	11.0	
NGC 6205, Messier 13	16	41	42	+36	28	Her	globular cluster	23.2 x 23.2	5.8	
NGC 6341, Messier 92	17	17	06	+43	08	Her	globular cluster	11.2 x 11.2	6.5	

Chart 29**Chart centre:** 18h, +30°. **Range:** 16:30 to 19:30, +15° to +45°. **Evenings:** Jul – Sep

Mid-North

Constellations featured: Aquila, Corona Borealis, Cygnus, Hercules, Lyra, Ophiuchus, Sagitta, Vulpecula.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
NGC 6205, Messier 13	16	41	42	+36	28	Her	globular cluster	23.2 x 23.2	5.8	
NGC 6341, Messier 92	17	17	06	+43	08	Her	globular cluster	11.2 x 11.2	6.5	
DoDz 8	17	26	12	+24	12	Her	open cluster	13 x 13	6.8	
Steph 1	18	54	30	+36	54	Lyr	open cluster	20 x 20	3.8	
NGC 6779, Messier 56	19	16	36	+30	11	Lyr	globular cluster	5 x 5	8.3	
NGC 6791, OCL 142	19	20	42	+37	51	Lyr	open cluster	16 x 16	9.5	
LDN 684	19	21	48	+12	26	Aql	dark nebula	50 x 10		
Cr 399	19	26	12	+20	06	Vul	open cluster	60 x 60	3.6	
NGC 6802, OCL 114	19	30	36	+20	16	Vul	open cluster	3.2 x 3.2	8.8	
Stock 1	19	35	48	+25	11	Vul	open cluster	60 x 60	5.3	
Barnard 334;336-7, LDN 701;702;705	19	36	48	+12	27	Aql	dark nebula	40 x 5		
NGC 6819, OCL 155	19	41	18	+40	11	Cyg	open cluster	5 x 5	7.3	
NGC 6823, OCL 124	19	43	12	+23	18	Vul	open cluster	12 x 12	7.1	
NGC 6830, OCL 125	19	51	00	+23	06	Vul	open cluster	12 x 12	7.9	
NGC 6834, OCL 134	19	52	12	+29	24	Cyg	open cluster	5 x 5	7.8	
Harvard 20	19	53	06	+18	21	Sge	open cluster	7 x 7	7.7	
NGC 6838, Messier 71	19	53	48	+18	47	Sge	globular cluster	6.1 x 6.1	8.3	
Barnard 144, LDN 857	19	59	00	+35	00	Cyg	dark nebula	30 x 30		
NGC 6853, Messier 27, PNG 060.8-03.6	19	59	36	+22	43	Vul	planetary nebula	8.0 x 5.7	7.3	
Barnard 145, LDN 865	20	02	48	+37	40	Cyg	dark nebula	35.0 x 6.0		
NGC 6866, OCL 183	20	03	54	+44	10	Cyg	open cluster	7 x 7	7.6	
Roslund 4	20	04	54	+29	13	Vul	open cluster	6 x 6	10.0	
NGC 6871, OCL 148	20	05	54	+35	47	Cyg	open cluster	20 x 20	5.2	
Basel 6	20	06	48	+38	21	Cyg	open cluster	14 x 14	7.7	
Biur 2	20	09	12	+35	29	Cyg	open cluster	13 x 13	6.3	
NGC 6883, OCL 148	20	11	18	+35	51	Cyg	open cluster	15 x 15	8.0	
NGC 6885, OCL 152	20	11	54	+26	29	Vul	open cluster	7 x 7	8.1	
NGC 6882	20	11	54	+26	40	Vul	asterism	18 x 18	8.1	
NGC 6888, LBN 203	20	12	48	+38	19	Cyg	bright nebula	20 x 10	10.0	
Barnard 343, LDN 880	20	13	30	+40	16	Cyg	dark nebula	10 x 5		
IC 4996, Cr 418	20	16	30	+37	38	Cyg	open cluster	6 x 6	7.3	
Cr 419	20	18	06	+40	44	Cyg	open cluster	4.5 x 4.5	5.4	

Chart 30**Chart centre:** 21h, +30°. **Range:** 19:30 to 22:30, +15° to +45°. **Evenings:** Aug – Oct

Mid-North

Constellations featured: Andromeda, Aquila, Cygnus, Delphinus, Lacerta, Lyra, Pegasus, Sagitta, Vulpecula.

Object designation	h	m	s	°	'	Con	Type of object	Size (arcmin)	V	B
Steph 1	18	54	30	+36	54	Lyr	open cluster	20 x 20	3.8	
NGC 6779, Messier 56	19	16	36	+30	11	Lyr	globular cluster	5 x 5	8.3	
NGC 6791, OCL 142	19	20	42	+37	51	Lyr	open cluster	16 x 16	9.5	
LDN 684	19	21	48	+12	26	Aql	dark nebula	50 x 10		
Cr 399	19	26	12	+20	06	Vul	open cluster	60 x 60	3.6	
NGC 6802, OCL 114	19	30	36	+20	16	Vul	open cluster	3.2 x 3.2	8.8	
Stock 1	19	35	48	+25	11	Vul	open cluster	60 x 60	5.3	
Barnard 334;336-7, LDN 701;702;705	19	36	48	+12	27	Aql	dark nebula	40 x 5		
NGC 6819, OCL 155	19	41	18	+40	11	Cyg	open cluster	5 x 5	7.3	
NGC 6823, OCL 124	19	43	12	+23	18	Vul	open cluster	12 x 12	7.1	
NGC 6830, OCL 125	19	51	00	+23	06	Vul	open cluster	12 x 12	7.9	
NGC 6834, OCL 134	19	52	12	+29	24	Cyg	open cluster	5 x 5	7.8	
Harvard 20	19	53	06	+18	21	Sge	open cluster	7 x 7	7.7	
NGC 6838, Messier 71	19	53	48	+18	47	Sge	globular cluster	6.1 x 6.1	8.3	
Barnard 144, LDN 857	19	59	00	+35	00	Cyg	dark nebula	30 x 30		
NGC 6853, Messier 27, PNG 060.8-03.6	19	59	36	+22	43	Vul	planetary nebula	8.0 x 5.7	7.3	
Barnard 145, LDN 865	20	02	48	+37	40	Cyg	dark nebula	35.0 x 6.0		
NGC 6866, OCL 183	20	03	54	+44	10	Cyg	open cluster	7 x 7	7.6	
Roslund 4	20	04	54	+29	13	Vul	open cluster	6 x 6	10.0	
NGC 6871, OCL 148	20	05	54	+35	47	Cyg	open cluster	20 x 20	5.2	
Basel 6	20	06	48	+38	21	Cyg	open cluster	14 x 14	7.7	
Biur 2	20	09	12	+35	29	Cyg	open cluster	13 x 13	6.3	
NGC 6883, OCL 148	20	11	18	+35	51	Cyg	open cluster	15 x 15	8.0	
NGC 6885, OCL 152	20	11	54	+26	29	Vul	open cluster	7 x 7	8.1	
NGC 6882	20	11	54	+26	40	Vul	asterism	18 x 18	8.1	
NGC 6888, LBN 203	20	12	48	+38	19	Cyg	bright nebula	20 x 10	10.0	
Barnard 343, LDN 880	20	13	30	+40	16	Cyg	dark nebula	10 x 5		
IC 4996, Cr 418	20	16	30	+37	38	Cyg	open cluster	6 x 6	7.3	
Cr 419	20	18	06	+40	44	Cyg	open cluster	4.5 x 4.5	5.4	
Berk 86	20	20	24	+38	42	Cyg	open cluster	8 x 8	7.9	
NGC 6910, OCL 181	20	23	12	+40	47	Cyg	open cluster	8 x 8	7.4	
Cr 421	20	23	18	+41	42	Cyg	open cluster	6 x 6	10.1	
NGC 6913, Messier 29	20	23	54	+38	32	Cyg	open cluster	7 x 7	6.6	
LDN 889	20	24	48	+40	10	Cyg	dark nebula	90 x 20		
Barnard 346, LDN 906	20	26	42	+43	45	Cyg	dark nebula	10 x 4		
Barnard 347, LDN 889	20	28	24	+39	55	Cyg	dark nebula	10 x 1		
NGC 6940, OCL 141	20	34	24	+28	17	Vul	open cluster	31 x 31	6.3	
Barnard 350	20	49	06	+45	53	Cyg	dark nebula	3 x 3		
IC 5067, IC 5070; LBN 350	20	50	48	+44	21	Cyg	bright nebula	60 x 50	8.0	
NGC 6992, CED 182B	20	56	24	+31	43	Cyg	bright nebula	60 x 8	7.0	
NGC 6996	20	56	30	+45	29	Cyg	open cluster	7 x 7	10.0	
NGC 6997, OCL 197	20	56	48	+44	39	Cyg	open cluster	7 x 7	10.0	
LDN 935	20	56	48	+43	52	Cyg	dark nebula	150 x 150		
Barnard 352	20	57	06	+45	22	Cyg	dark nebula	20 x 10		
NGC 6995, CED 182C	20	57	06	+31	13	Cyg	bright nebula	12 x 12	7.0	
NGC 7006, GCL 119	21	01	30	+16	11	Del	globular cluster	2.8 x 2.8	10.6	
NGC 7000, LBN 373	21	01	48	+44	12	Cyg	bright nebula	120 x 30	4.0	
Cr 428	21	03	12	+44	35	Cyg	open cluster	14 x 14	8.7	
NGC 7039, OCL 203	21	11	12	+45	39	Cyg	open cluster	25.0 x 25.0	7.6	
IC 1369, Cr 432	21	12	06	+47	44	Cyg	open cluster	4 x 4	8.8	
Barnard 361, LDN 970	21	12	54	+47	22	Cyg	dark nebula	17 x 17		
NGC 7062, OCL 205	21	23	30	+46	23	Cyg	open cluster	7 x 7	8.3	
NGC 7063, OCL 192	21	24	24	+36	30	Cyg	open cluster	8 x 8	7.0	
NGC 7082, OCL 209	21	29	24	+47	05	Cyg	open cluster	25.0 x 25.0	7.2	
NGC 7078, Messier 15	21	30	00	+12	10	Peg	globular cluster	12.3 x 12.3	6.4	
Barnard 168, LDN 1055	21	53	12	+47	12	Cyg	dark nebula	100 x 100		
NGC 7209, OCL 215	22	05	06	+46	29	Lac	open cluster	25.0 x 25.0	7.7	
NGC 7217, UGC 11914	22	07	54	+31	22	Peg	galaxy	4.0 x 3.4	10.1	
NGC 7331, UGC 12113, PGC 69327	22	37	06	+34	25	Peg	galaxy	10.5 x 3.7	9.5	10.35

Catalogue of deep sky objects

On the following 18 pages appears a catalogue of deep sky objects plotted in this *Atlas*. The catalogue has 1 068 entries and lists all the brighter objects and several famous (but faint!) ones.

Roughly two-dozen objects are visible to the naked eye. Over 300 objects are brighter than 8th magnitude and will be visible in binoculars. In addition, many dark nebulae are readily visible, raising the count of potential binocular targets even further.

Object type	N
asterism	1
bright nebula	34
dark nebula	137
galaxy	343
globular cluster	99
open cluster	454

Con	N	Con	N	Con	N	Con	N
And	7	Crt	3	Lup	9	Sct	26
Ant	2	Cru	13	Lyn	2	Ser	9
Aps	2	Crv	2	Lyr	3	Sex	4
Aql	20	CVn	20	Men	1	Sge	2
Aqr	7	Cyg	37	Mon	42	Sgr	58
Ara	13	Del	2	Mus	11	Tau	9
Ari	6	Dor	24	Nor	17	Tel	2
Aur	17	Eri	14	Oct	1	TrA	1
Boo	3	For	23	Oph	49	Tri	4
Cap	1	Gem	12	Ori	29	Tuc	5
Car	45	Gru	11	Pav	3	UMa	10
Cen	46	Her	3	Peg	5	Vel	35
Cet	21	Hor	5	Per	18	Vir	69
Cha	1	Hya	17	PsA	1	Vol	1
Cir	5	Ind	4	Psc	4	Vul	10
CMa	25	Lac	1	Pup	57		
Cnc	3	Leo	22	Pyx	5		
Col	3	Lep	3	Ret	4		
Com	31	Lib	2	Scl	12		
CrA	3	LMi	6	Sco	65		

Note: Column "N" lists the number of objects within the corresponding category.

Deep sky nomenclature

Designation	Expanded designation	Type	N	Source/Reference
Antalova	Antalova	open cluster	1	Archinal, B.A. & Hynes, S.J. (2003) Star clusters. Willmann-Bell.
Apriamasvili	Apriamasvili/ Apriamasvili	open cluster	1	Archinal, B.A. & Hynes, S.J. (2003) Star clusters. Willmann-Bell.
Barnard	Barnard	dark nebula	122	[1919ApJ....49....1B] Barnard, E. E. (1919) On the dark markings of the sky, with a catalogue of 182 such objects. Ap.J., 49, 1-24.; [1927cdos.book.....B] Barnard, E. E. (1927) Catalogue of 349 Dark Objects in the Sky. Carnegie Institution of Washington.
Basel	Basel	open cluster	7	Grubbisich, C. (1965) Dreifarben-Photometrie von zwei offenen Sternhaufen in Richtung der Scutum-Wolke. Zeitschr. Astrophys., 60, 249-255. [1965ZA.....60..249G]
Be	Bernes	dark nebula	7	Bernes, C. (1977) A catalogue of bright nebulosities in opaque dust clouds. A&AS, 29, 65-70. [1977A&AS...29..65B]
Berk	Berkeley	open cluster	4	Alter, G. (1958) Catalogue of Star Clusters & Associations. First edition. [1958QB851.C413.....]
Biur	Biurakan/ Bjurakan/ Byurakan	open cluster	2	Alter, G. et al. (1970) Catalogue of Star Clusters & Associations. 2nd edition. (private communication from Iscudarjan)
Blanco	Blanco	open cluster	1	Blanco, V.M. (1949) A new galactic star cluster in Sculptor. Publ. Astron. Soc. Pac., 61, 183-184. [1949PASP...61..183B]
Bochum	Bochum	open cluster	13	[1975A&AS...20...85M], [1975A&AS...20..125M], [1975A&AS...20..155M], [1976A&A....46..287F]
Ced	Cederblad	bright nebula	4	Cederblad, S. (1946) Studies of bright diffuse galactic nebulae with special regard to their spatial distribution. Lund Medd. Astron. Obs. Ser. II, 119, 1-166. [1946MeLu2.119....1C]
Cr	Collinder	open cluster	99	Collinder, P. (1931) On structured properties of open galactic clusters and their spatial distribution. Ann. Obs. Lund, 2, 1. [1931AnLun...2....1C]
Czernik	Czernik	open cluster	1	Czernik, M. (1966) New open star clusters. Acta Astron., 16, 93-94. [1966AcA....16...93C]

Designation	Expanded designation	Type	N	Source/Reference
Djorgovski	Djorgovski	globular cluster	1	Djorgovski, S. (1987) Discovery of three obscured globular clusters. <i>Astrophys. J.</i> , 317, L13-L14. [1987ApJ...317L..13D]
Do	Dolidze	open cluster	1	Dolidze, M.V. (1961) On the star cluster near gamma Cyg. <i>Astron. Cir.</i> , 223, 11-12 [1961ACiCh.223...11D]
DoDz	DoDz	open cluster	1	Dolidze, M.V. & Jimsheleishvili, G.N. (1966) New emission object in Hercules. <i>Astron. Tsirk.</i> , 385, 7-8. [1966ATsir.385....7D]
Dunlop	Dunlop	various	18	Dunlop, J. (1827?) A catalogue of nebulae and clusters of stars in the southern hemisphere, observed at Paramatta in New South Wales. <i>Unknown journal</i> , vol xx, p 113.
ESO	European Southern Observatory	various	144	Lauberts, A. (1982) The ESO/Uppsala Survey of the ESO(B) Atlas. [1982ESO...C.....0L]
GCL	GCL	globular cluster	43	Alter, G., Ruprecht, J. & Vanysek, V. (1970) Catalogue of star clusters and associations + supplements. Akad. Kiado, Budapest, Hungary. [1970CSCA..C.....0A]
Haffner	Haffner	open cluster	3	Haffner, H. (1957) Neue galaktische Sternhaufen in der sudlichen Milchstrasse. <i>Zeit. Astrophys.</i> , 43, 89-94. [1957ZA.....43...89H]
Harvard	Harvard	open cluster	10	Shapley, H. (1930) Star clusters. <i>Harvard Obs. Mon. No.2</i> . New York: McGraw-Hill. [1930HarOM...2....0S]
Hogg	Hogg	open cluster	7	Hogg, A. R. (1965) Catalogue of open clusters south of -45deg declination. <i>Mem. Mount Stromlo Obs.</i> , 17, 1-17. [1965MmMRS..17....1H]
IC	Index Catalogue	various	44	[1895MmRAS..51..185D], [1908MmRAS..59..105D]
Lac	Lacaille	various	2	Lacaille, de, N-L. (1755) Sur les etoiles nebuleuses du ciel austral. <i>Mem.Acad.R.Sci.</i> , 194-199. [1755MmARS.....194L]
LBN	Lynds Bright Nebulae	bright nebula	8	Lynds, B.T. (1965) Catalogue of bright nebulae. <i>Ap.J.S.S.</i> , 12, 163-185. [1965ApJS...12..163L]
LDN	Lynds Dark Nebulae	dark nebula	114	Lynds, B.T. (1962) Catalogue of dark nebulae. <i>Ap.J.S.S.</i> , 7, 1-52. [1962ApJS....7....1L]
Loden	Loden	open cluster	1	Loden, L.O. (1980) Concluding observations of loose stellar clusterings in the Southern Milky Way. <i>A&AS</i> , 41, 173-181.
Lynga	Lynga	open cluster	3	Lynga, G. (1964) Studies of the Milky Way from Centaurus to Norma. II. Open clusters. <i>Lund Medd. Astron. Obs. Ser. II</i> , 140, 1.
MCG	MCG	galaxy	30	Morphological Catalogue of Galaxies [1974TrSht.46....1V]
Mel	Melotte	open cluster	8	Melotte, P.J. (1915) A catalogue of star clusters shown on the Franklin-Adams chart plates. <i>Mem.R.A.S.</i> , 60, 175-186.
Messier	Messier	various	96	Messier, C. (1850) Catalogue des nebuleuses et des amas d'etoiles. <i>Conn. des Temps</i> , 1784, 227-269.
Mrk	Markarian	open cluster	1	Markarian, B.E. (1951) On the classification of open (galactic) stellar clusters. II. Preliminary list of open O-type star clusters. <i>Soobshch. Byurakan Obs.</i> , 9, 1-40. [1951SoByu...9....1M]
NGC	New General Catalogue	various	735	[1888MmRAS..49....1D]
OCL	OCL	open cluster	205	Alter, G., Ruprecht, J. & Vanysek, V. (1970) Catalogue of star clusters and associations + supplements. Akad. Kiado, Budapest, Hungary. [1970CSCA..C.....0A]
Pal	Palomar	globular cluster	4	Abell, G.O. (1955) Globular clusters & planetary nebulae discovered on the National Geographic Society-Palomar Observatory Sky Survey. <i>PASP</i> , 67, 258-261.
PGC	Principal Galaxy Catalogue / LEDA	galaxy	130	Patrel, G. et al. (2003) HYPERLEDA. I. Identification and designation of galaxies. <i>A&A</i> , 412, 45-55. [2003A&A...412...45P]
Pismis	Pismis	open cluster	9	Pismis, P. (1959) Nuevos cumulos estelares en regiones del sur. <i>Bol. Obs. Tonantz. Tacub.</i> , 2, part no 18, 37-38.
PK	Perek-Kohoutek	planetary nebula	6	Perek, L. & Kohoutek, L. (1967) Catalogue of galactic planetary nebulae. <i>Acad. Publ. House of the Czech. Acad. Sci.</i> , 1-276.
PNG	PN G	planetary nebula	4	Acker, A. et al. (1992) Strasbourg-ESO Catalogue of Galactic Planetary Nebulae. [1992ESOPN...1....1A]

Designation	Expanded designation	Type	N	Source/Reference
RCW	Rodgers-Campbell-Whiteoak	bright nebula	1	Rodgers, A.W., Campbell, C.T. & Whiteoak, J.B. (1960) A catalogue of H-alpha emission regions in the Southern Milky Way MNRAS, 121, 103-110. [1960MNRAS.121..103R]
Roslund	Roslund	open cluster	1	Roslund, C. (1960) Remarks on some new and some known galactic clusters. PASP, 72, 205-207. [1960PASP...72..205R]
Ru	Ruprecht	open cluster	28	Ruprecht, J. (1966) Classification of open star clusters. Bull. Astron. Inst. Czech., 17, 33-44 (1966) [1966BAICz..17...33R]
Sa	Sandqvist	dark nebula	1	Sandqvist, A. & Lindroos, K.P. (1976) Interstellar formaldehyde in southern dark dust clouds. Astron. Astrophys., 53, 179-189. [1976A&A....53..179S], [1977A&A....57..467S]
Sh2	Sharpless-2	bright nebula	1	Sharpless, S. (1959) A catalogue of HII regions. ApJSS, 4, 257-279. [1959ApJS...4..257S]
SL	Shapley-Lindsay	star cluster	17	Shapley, H. & Lindsay, E.M. (1963) A catalogue of clusters in the Large Magellanic Cloud. IAJ, 6, 74-91. [1963IAJ....6...74S], [1997AJ....114.1920G], [1999AJ....117..238B]
Steph	Stephenson	open cluster	1	http://www.astro.iag.usp.br/~wilton/
Stock	Stock	open cluster	4	Stock, J. (1956) Magnitudes and colors for stars in two new galactic clusters. ApJ, 123, 258-266. [1956ApJ...123..258S]
Tombaugh	Tombaugh	open cluster	1	Tombaugh, C.W. (1938) Two new faint galactic star clusters. PASP, 50, 171-171. [1938PASP..50..171T]
Tr	Trumpler	open cluster	26	Trumpler, R.J. (1930) Preliminary results on the distances, dimensions and space distribution of open star clusters. Lick Obs. Bull., 14, 154-188. [1930LicOB..14..154T]
UGC	Uppsala General Catalogue	galaxy	131	Nilson, P. (1973) Uppsala General Catalogue of Galaxies. Nova Acta Regiae Soc. Sci. Upsaliensis, Ser. V:A. [1973UGC...C.....0N], [1999ApJS..125..409C]
UGCA	Uppsala General Catalogue - A	galaxy	444	Nilson, P. (1974) Catalogue of selected non-UGC galaxies. Upps. Astron. Obs. Rep., 5. [1974UppOR...5...0N]
Waterloo	Waterloo	open cluster	1	[1979A&AS...38..197M], [1979A&AS...37..351F]

Unique designation	Object type	Unique designation	Object type
47 Tucanae	globular cluster	Large Magellanic Cloud	galaxy
Omega Centauri	globular cluster	Small Magellanic Cloud	galaxy
Pleiades	open cluster	Leo I	galaxy
Dark Doodad	dark nebula	Sculptor Dwarf	galaxy
Circinus Dwarf	galaxy	WLM	galaxy
Fornax Dwarf	galaxy		

Note: References given in square brackets, e.g. [1999ApJS..125..409C], are in the BibCode format used by internet-based SAO/NASA Astrophysics Data System (ADS). To retrieve the original article, use the URL pattern

<http://adsabs.harvard.edu/abs/1999ApJS..125..409C>

Catalogue of objects (arranged by RA)

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
00	01	54	-15	27	MCG -03-01-015, UGCA 444; WLM	7, 15	Cet	galaxy	11 x 4	10.6	
00	03	12	+16	09	NGC 7814, UGC 8	15, 23	Peg	galaxy	4.7 x 2.4	10.6	
00	04	18	-29	56	Blanco 1	7	Scl	open cluster	89 x 89	4.5	
00	14	06	-23	11	NGC 45, ESO 473-1	7	Cet	galaxy	7.6 x 5.4	10.6	
00	14	54	-39	11	NGC 55, Dunlop 507, PGC 1014	7	Scl	galaxy	32.4 x 5.6	7.9	8.42
00	24	06	-72	05	NGC 104, 47 Tucanae	1, 2	Tuc	globular cluster	30 x 30	4.0	
00	30	24	-33	15	NGC 134, ESO 350-23	7	Scl	galaxy	8.4 x 1.8	10.4	
00	34	48	-08	24	NGC 157, MCG -2-2-56, PGC 2081	15	Cet	galaxy	4.1 x 2.7	10.4	11.00
00	40	24	+41	41	NGC 205, Messier 110, PGC 2429	23	And	galaxy	21.9 x 11.0	8.1	8.92
00	40	36	-13	52	NGC 210, MCG -2-2-81	7, 15	Cet	galaxy	4.6 x 3.2	10.9	
00	42	42	+40	52	NGC 221, Messier 32, PGC 2555	23, 24	And	galaxy	8.7 x 6.5	8.1	9.03
00	42	42	+41	16	NGC 224, Messier 31, PGC 2557	23, 24	And	galaxy	190.5 x 61.7	3.4	4.36
00	47	06	-20	46	NGC 247, ESO 540-22, PGC 2758	7	Cet	galaxy	21.4 x 6.9	9.1	9.67
00	47	06	-11	52	NGC 246, PK 118-74.1, PNG 118.8-74.7	15	Cet	planetary nebula	4.0 x 3.5	10.4	
00	47	36	-25	18	NGC 253, ESO 474-29, PGC 2789	7, 8	Scl	galaxy	27.5 x 6.8	7.2	8.04
00	52	36	-72	48	Small Magellanic Cloud, NGC 292, PGC 3085	1, 2	Tuc	galaxy	319 x 205	2.3	2.70
00	52	42	-31	12	NGC 289, ESO 411-25	7, 8	Scl	galaxy	5.4 x 3.8	11.0	
00	52	48	-26	35	NGC 288, ESO 474-SC37	7, 8	Scl	globular cluster	13.8 x 13.8	8.1	
00	54	54	-37	41	NGC 300, ESO 295-20, PGC 3238	7, 8	Scl	galaxy	21.9 x 15.5	8.1	8.72
00	59	06	-72	11	NGC 346, ESO 51-SC10	1, 2	Tuc	open cluster	5.2 x 5.2	10.3	
01	00	09	-33	43	Sculptor Dwarf, MCG -06-03-015, PGC 3589	7, 8	Scl	galaxy	39.8 x 30.9	10.5	10.50
01	03	12	-70	51	NGC 362, Dunlop 62	1, 2	Tuc	globular cluster	12.9 x 12.9	6.8	
01	04	49	+02	07	IC 1613, UGC 668, PGC 3844	15, 16	Cet	galaxy	16.2 x 14.5	9.2	9.88
01	08	18	-72	53	NGC 419, ESO 29-SC33	1, 2	Tuc	globular cluster	2.6 x 2.6	10.0	
01	09	24	+35	43	NGC 404, UGC 718	23, 24	And	galaxy	4.3 x 3.9	10.3	
01	21	48	+05	15	NGC 488, UGC 907	15, 16	Psc	galaxy	5.4 x 3.9	10.3	
01	24	48	+09	32	NGC 524, UGC 968	15, 16	Psc	galaxy	3.2 x 3.2	10.3	
01	30	30	-22	40	NGC 578, ESO 476-15	7, 8	Cet	galaxy	4.8 x 3.0	10.9	
01	31	18	-06	52	NGC 584, IC 1712; H I 100	15, 16	Cet	galaxy	3.3 x 1.9	10.5	
01	32	54	-07	02	NGC 596, MCG -1-5-5	15, 16	Cet	galaxy	2.8 x 2.1	10.9	
01	33	54	+30	39	NGC 598, Messier 33, PGC 5818	23, 24	Tri	galaxy	70.8 x 41.7	5.7	6.27
01	34	18	-29	25	NGC 613, ESO 413-11, PGC 5849	7, 8	Scl	galaxy	5.5 x 4.2	10.1	10.73
01	36	42	+15	47	NGC 628, Messier 74, PGC 5974	15, 16, 23, 24	Psc	galaxy	10.5 x 9.5	9.4	9.95
01	47	42	-52	46	NGC 685, ESO 152-24	2, 3	Eri	galaxy	3.6 x 3.1	11.0	
01	47	54	+27	26	NGC 672, UGC 1256	23, 24	Tri	galaxy	7.5 x 2.6	10.9	
01	49	00	+05	54	NGC 676, UGC 1270	15, 16	Psc	galaxy	4.2 x 1.6	10.5	
01	50	06	+27	05	Cr 21	23, 24	Tri	open cluster	6 x 6	8.2	
01	53	00	-13	44	NGC 720, MCG -2-5-68	7, 8, 15, 16	Cet	galaxy	4.4 x 2.2	10.2	
01	57	42	+37	40	NGC 752, OCL 363	23, 24	And	open cluster	50 x 50	5.7	
01	59	18	+19	00	NGC 772, UGC 1466	23, 24	Ari	galaxy	7.5 x 4.3	10.3	
02	08	24	+11	00	NGC 821, UGC 1631	16	Ari	galaxy	2.4 x 1.7	10.7	
02	15	30	+06	00	NGC 864, UGC 1736	16	Cet	galaxy	4.7 x 3.2	10.9	
02	22	36	+42	21	NGC 891, UGC 1831, PGC 9031	24	And	galaxy	13.1 x 2.8	9.9	10.81
02	23	06	-21	14	NGC 908, ESO 545-11, PGC 9057	8	Cet	galaxy	6.1 x 2.7	10.2	10.83
02	27	18	+33	35	NGC 925, UGC 1913, PGC 9332	24	Tri	galaxy	10.9 x 6.2	10.1	10.69
02	27	36	-01	09	NGC 936, UGC 1929	16	Cet	galaxy	4.3 x 3.8	10.1	
02	32	30	+44	36	NGC 956, OCL 377	24	And	open cluster	8 x 8	8.9	
02	33	36	-39	03	NGC 986, ESO 299-7	8	For	galaxy	4.0 x 3.2	10.9	
02	35	30	-09	21	NGC 988, MCG -2-7-37	16	Cet	galaxy	4.6 x 2.5	11.0	
02	39	59	-34	27	Formax Dwarf, MCG -06-07-001, PGC 10093	8	For	galaxy	17 x 12	8.9	9.04
02	40	24	-08	26	NGC 1042, MCG -2-7-54	16	Cet	galaxy	4.9 x 4.0	11.0	
02	40	24	+39	04	NGC 1023, UGC 2154, PGC 10123	24	Per	galaxy	8.7 x 3.0	9.4	10.35
02	41	06	-08	15	NGC 1052, MCG -1-7-34	16	Cet	galaxy	2.8 x 2.0	10.5	
02	41	48	+00	27	NGC 1055, UGC 2173	16	Cet	galaxy	7.6 x 3.0	10.6	
02	42	06	+42	47	NGC 1039, Messier 34	24	Per	open cluster	35.0 x 35.0	5.2	
02	42	40	-00	01	NGC 1068, Messier 77, PGC 10266	16	Cet	galaxy	7.1 x 6.0	8.9	9.61
02	43	42	+01	23	NGC 1073, UGC 2210	16	Cet	galaxy	4.9 x 4.3	11.0	
02	46	00	-07	35	NGC 1084, MCG -1-8-7	16	Eri	galaxy	3.5 x 2.1	10.7	
02	46	18	-30	16	NGC 1097, ESO 416-20, PGC 10488	8	For	galaxy	9.3 x 6.3	9.5	10.23
02	46	24	-00	30	NGC 1087, UGC 2245	16	Cet	galaxy	3.9 x 2.3	10.9	

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
03	01	12	+44	54	NGC 1161, UGC 2474	24	Per	galaxy	2.8 x 2.0	11.0	
03	02	36	-22	52	NGC 1187, ESO 480-23	8	Eri	galaxy	5.6 x 3.8	10.8	
03	04	06	-26	04	NGC 1201, ESO 480-28	8	For	galaxy	3.3 x 1.9	10.7	
03	09	48	-20	35	NGC 1232, ESO 547-14, PGC 11819	8	Eri	galaxy	7.4 x 6.5	9.9	10.52
03	12	18	-55	13	NGC 1261, GCL 5	2, 3	Hor	globular cluster	6.9 x 6.9	8.4	
03	13	30	-25	44	NGC 1255, ESO 481-13	8	For	galaxy	4.2 x 2.7	10.9	
03	14	42	+47	14	NGC 1245, OCL 389	24	Per	open cluster	10 x 10	8.4	
03	17	18	-41	06	NGC 1291, NGC 1269, PGC 12209	8	Eri	galaxy	9.8 x 8.1	8.5	9.39
03	18	16	-66	30	NGC 1313, ESO 82-11, PGC 12286	2, 3	Ret	galaxy	9.1 x 6.9	8.7	9.20
03	19	42	-19	25	NGC 1300, ESO 547-31	8	Eri	galaxy	5.9 x 4.1	10.4	
03	19	54	-26	04	NGC 1302, ESO 481-20	8	For	galaxy	4.1 x 3.7	10.7	
03	22	42	-37	13	NGC 1316, ESO 357-22, PGC 12651	8	For	galaxy	12.0 x 8.5	8.5	9.42
03	22	42	-37	06	NGC 1317, NGC 1318	8	For	galaxy	2.8 x 2.4	11.0	
03	23	54	-36	28	NGC 1326, ESO 357-26	8	For	galaxy	4.3 x 2.9	10.5	
03	25	36	+30	17	Barnard 202, LDN 1451	24	Ari	dark nebula	33 x 12		
03	25	48	+30	47	Barnard 203, LDN 1448	24	Ari	dark nebula	10 x 5		
03	26	18	-21	20	NGC 1332, ESO 548-18	8	Eri	galaxy	4.0 x 1.5	10.3	
03	28	00	+31	06	Barnard 205, LDN 1450	24	Per	dark nebula	15 x 2		
03	28	18	-31	04	NGC 1344, NGC 1340	8	For	galaxy	6.1 x 3.8	10.4	
03	28	30	+30	11	Barnard 204, LDN 1455	24	Ari	dark nebula	14 x 14		
03	29	06	+30	11	Barnard 206, LDN 1450	24	Ari	dark nebula	5 x 5		
03	31	06	-33	38	NGC 1350, ESO 358-13	8	For	galaxy	5.4 x 2.9	10.3	
03	31	42	+37	22	NGC 1342, OCL 401	24	Per	open cluster	14 x 14	6.7	
03	32	54	+31	10	Barnard 1, LDN 1472	24	Per	dark nebula	30 x 30		
03	33	12	-25	52	NGC 1360, PK 220-53.1	8	For	planetary nebula	6.0 x 4.5	9.4	
03	33	30	+32	19	Barnard 2, LDN 1472	24	Per	dark nebula	20 x 20		
03	33	36	-36	08	NGC 1365, ESO 358-17, PGC 13179	8	For	galaxy	11.2 x 6.2	9.6	10.32
03	35	00	-24	56	NGC 1371, NGC 1367	8	For	galaxy	5.9 x 3.8	10.7	
03	36	06	-35	26	NGC 1379, ESO 358-27	8	For	galaxy	2.4 x 2.3	10.9	
03	36	30	-34	59	NGC 1380, ESO 358-28, PGC 13318	8	For	galaxy	4.8 x 2.3	9.9	10.87
03	37	00	-35	30	NGC 1387, ESO 358-36	8	For	galaxy	3.2 x 3.1	10.7	
03	37	30	-24	30	NGC 1385, ESO 482-16	8	For	galaxy	3.6 x 2.2	10.9	
03	38	30	-23	02	NGC 1395, ESO 482-19, PGC 13419	8	Eri	galaxy	5.9 x 4.5	9.6	10.55
03	38	30	-35	27	NGC 1399, ESO 358-45, PGC 13418	8	For	galaxy	6.9 x 6.5	9.6	10.55
03	38	54	-26	20	NGC 1398, ESO 482-22, PGC 13434	8	For	galaxy	7.1 x 5.4	9.7	10.57
03	38	54	-35	36	NGC 1404, ESO 358-46, PGC 13433	8	For	galaxy	3.3 x 3.0	10.0	10.97
03	39	30	-18	41	NGC 1400, ESO 548-62	8	Eri	galaxy	2.5 x 2.1	11.0	
03	40	00	+31	59	Barnard 3, LDN 1470	24	Per	dark nebula	20 x 20		
03	40	12	-18	35	NGC 1407, ESO 548-67, PGC 13505	8	Eri	galaxy	4.6 x 4.3	9.7	10.70
03	42	00	-47	13	NGC 1433, ESO 249-14, PGC 13586	3, 8	Hor	galaxy	6.5 x 5.9	9.9	10.70
03	42	12	-29	54	NGC 1425, ESO 419-4	8, 9	For	galaxy	5.8 x 2.5	10.6	
03	42	18	-35	24	NGC 1427, ESO 358-52	8, 9	For	galaxy	3.8 x 2.6	10.9	
03	44	00	+31	48	Barnard 4, LDN 1470	24, 25	Per	dark nebula	30 x 30		
03	44	30	-44	39	NGC 1448, NGC 1457	3, 8	Hor	galaxy	7.5 x 2.0	10.7	
03	44	36	+32	10	IC 348, IC 1985	24, 25	Per	bright nebula	10 x 10	7.3	
03	47	00	+24	07	Pleiades, Messier 45, Mel 22	24	Tau	open cluster	100 x 100	1.2	
03	48	00	+32	53	Barnard 5, LDN 1471	24, 25	Per	dark nebula	60 x 60		
04	03	12	+36	22	NGC 1499, LBN 756	24, 25	Per	bright nebula	160 x 40	5.0	
04	03	54	-43	21	NGC 1512, ESO 250-4	3, 8, 9	Hor	galaxy	9.7 x 5.3	10.3	
04	08	24	-47	54	NGC 1527, ESO 201-20	3	Hor	galaxy	3.9 x 1.5	10.8	
04	09	18	+30	47	NGC 1514, PK 165-15.1, PNG 165.5-15.2	24, 25	Tau	planetary nebula	2.0 x 1.5	10.8	
04	09	54	-56	07	NGC 1533, ESO 157-3	3	Dor	galaxy	2.5 x 2.1	10.7	
04	12	06	-32	52	NGC 1532, ESO 359-27, PGC 14638	8, 9	Eri	galaxy	12.6 x 3.3	9.9	10.65
04	12	42	-57	44	NGC 1543, ESO 118-10	3	Ret	galaxy	4.7 x 3.0	10.5	
04	13	42	-31	39	NGC 1537, ESO 420-12	8, 9	Eri	galaxy	3.9 x 2.6	10.6	
04	14	36	-56	04	NGC 1546, ESO 157-12, PGC 14757	3	Dor	galaxy	4.9 x 4.1	10.9	10.72
04	15	48	-55	36	NGC 1549, ESO 157-16	3	Dor	galaxy	4.4 x 3.6	9.8	
04	16	12	-55	47	NGC 1553, ESO 157-17, PGC 14765	3	Dor	galaxy	4.5 x 2.8	9.4	10.28
04	17	36	-62	47	NGC 1559, ESO 84-10, PGC 14814	3	Ret	galaxy	3.5 x 2.0	10.6	11.00
04	20	00	-54	56	NGC 1566, ESO 157-20, PGC 14897	3	Dor	galaxy	8.3 x 6.6	9.7	10.33

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
04	20	30	+44	55	Berk 11	24, 25	Per	open cluster	6 x 6	10.4	
04	22	00	-56	59	NGC 1574, ESO 157-22	3	Ret	galaxy	4.0 x 3.6	10.4	
04	22	06	+19	30	Be 84	24, 25	Tau	dark nebula	20 x 10		
04	27	24	+18	52	LDN 1543	24, 25	Tau	dark nebula	35.0 x 25.0		
04	31	42	-54	36	NGC 1617, ESO 157-41	3	Dor	galaxy	4.8 x 2.4	10.4	
04	31	42	-05	05	NGC 1600, MCG - 1-12- 17	16, 17	Eri	galaxy	3.1 x 2.2	10.9	
04	31	48	+43	47	NGC 1582, OCL 407	24, 25	Per	open cluster	37.0 x 37.0	7.0	
04	34	54	+45	16	NGC 1605, OCL 406	24, 25	Per	open cluster	5 x 5	10.7	
04	41	30	-02	52	NGC 1637, MCG 0-12- 68	16, 17	Eri	galaxy	3.9 x 3.3	10.8	
04	44	30	+42	04	Berk 68	24, 25	Per	open cluster	12 x 12	9.8	
04	45	42	-59	15	NGC 1672, ESO 118-43, PGC 15941	3	Dor	galaxy	6.6 x 5.5	9.7	10.28
04	45	54	+19	06	NGC 1647, OCL 457	24, 25	Tau	open cluster	45 x 45	6.4	
04	46	30	+44	43	Ru 148	24, 25	Per	open cluster	3 x 3	9.5	
04	48	24	+10	57	NGC 1662, OCL 470	16, 17	Ori	open cluster	20 x 20	6.4	
04	51	06	+43	41	NGC 1664, OCL 411	24, 25	Aur	open cluster	18 x 18	7.6	
04	53	30	-66	56	NGC 1731, ESO 85-SC12	3	Dor	open cluster	8 x 8	9.9	
04	55	12	-67	10	NGC 1747, ESO 85-SC16	3	Dor	open cluster	12 x 10	9.4	
04	55	12	-68	12	NGC 1755, ESO 56-SC28	3	Dor	open cluster	2 x 2	9.9	
04	55	12	+30	35	Barnard 26-8, LDN 1517	24, 25	Aur	dark nebula	20 x 20		
05	01	42	-65	49	NGC 1787, ESO 85-SC31	3	Dor	open cluster	23 x 23	10.9	
05	03	48	-67	16	NGC 1816, ESO 85-SC37	3	Dor	open cluster	16 x 16	9.0	
05	03	48	+23	46	NGC 1746, OCL 452	24, 25	Tau	open cluster	42 x 42	6.1	
05	04	12	-66	26	NGC 1818, ESO 85-SC40	3	Dor	open cluster	2.5 x 2.5	9.8	
05	05	12	-37	59	NGC 1792, ESO 305- 6, PGC 16709	8, 9	Col	galaxy	5.2 x 2.6	10.2	10.87
05	06	12	+31	44	Barnard 29, LDN 1523	24, 25	Aur	dark nebula	10 x 10		
05	06	30	-03	26	LDN 1616	17	Ori	dark nebula	10 x 8		
05	07	42	-37	31	NGC 1808, ESO 305- 8, PGC 16779	8, 9	Col	galaxy	6.5 x 3.9	9.9	10.74
05	08	06	+37	01	NGC 1778, OCL 429	24, 25	Aur	open cluster	7 x 7	7.7	
05	08	42	-68	46	NGC 1850, ESO 56-SC70	3	Dor	open cluster	3.4 x 3.4	9.3	
05	10	42	+16	32	NGC 1807, OCL 462	17, 25	Tau	open cluster	17 x 17	7.0	
05	12	24	+16	41	NGC 1817, OCL 463	17, 25	Tau	open cluster	16 x 16	7.7	
05	13	42	-65	28	NGC 1866, ESO 85-SC52	3	Dor	open cluster	5.1 x 5.1	9.9	
05	14	06	-40	03	NGC 1851, Dunlop 508	8, 9	Col	globular cluster	11 x 11	7.1	
05	16	30	+34	21	IC 405, LBN 795	24, 25	Aur	bright nebula	50 x 30	10.0	
05	20	06	+39	21	NGC 1857, Cr 61	25	Aur	open cluster	6 x 6	7.0	
05	22	30	+41	00	Cr 62	25	Aur	open cluster	28 x 28	4.2	
05	22	42	+33	25	NGC 1893, IC 410	25	Aur	open cluster	11 x 11	7.5	
05	23	35	-69	45	Large Magellanic Cloud, ESO 056-G115, PGC 17223	3	Dor	galaxy	645.7 x 549.5	0.4	0.91
05	24	12	-24	31	NGC 1904, Messier 79	9	Lep	globular cluster	7.8 x 7.8	7.7	
05	26	18	-68	50	NGC 1962, ESO 56-SC122	3	Dor	open cluster	13 x 12	8.5	
05	26	48	-63	46	NGC 1947, ESO 85-87	3	Dor	galaxy	2.4 x 2.0	10.6	
05	26	48	-68	49	NGC 1966, ESO 56-SC125	3	Dor	open cluster	13 x 13	8.5	
05	27	24	-67	28	NGC 1968, ESO 56-SC130	3	Dor	open cluster	20 x 20	9.0	
05	28	00	-67	25	NGC 1974, NGC 1991	3	Dor	open cluster	9 x 9	9.0	
05	28	06	+35	20	NGC 1907, OCL 434	25	Aur	open cluster	7 x 7	8.2	
05	28	42	+35	51	NGC 1912, Messier 38	25	Aur	open cluster	21 x 21	6.4	
05	28	48	-66	14	NGC 1978, ESO 85-SC90	3	Dor	globular cluster	42 x 19	9.9	
05	29	00	+11	36	Barnard 225, LDN 1583	17	Ori	dark nebula	35.0 x 5.0		
05	29	48	+12	46	Barnard 31-2, LDN 1582;1583	17, 25	Ori	dark nebula	80 x 55		
05	30	12	+12	46	Barnard 30, LDN 1577	17, 25	Ori	dark nebula	67 x 67		
05	30	48	-71	04	NGC 2018, ESO 56-SC141	1, 3	Men	bright nebula	25.0 x 18.0	10.9	
05	31	24	+34	15	NGC 1931, OCL 441	25	Aur	open cluster	3 x 3	10.1	
05	33	24	-21	57	NGC 1964, ESO 554-10	9	Lep	galaxy	5.5 x 2.1	10.8	
05	34	30	+22	01	NGC 1952, Messier 1	25	Tau	bright nebula	8 x 4	8.4	
05	35	06	+09	56	Cr 69	17	Ori	open cluster	65 x 65	2.8	
05	35	06	-04	44	NGC 1973, Ced 55B	17	Ori	bright nebula	5 x 5	7.0	
05	35	12	-04	26	NGC 1981, OCL 525	17	Ori	open cluster	25.0 x 25.0	4.2	
05	35	18	-04	41	NGC 1975, Ced 55C	17	Ori	bright nebula	10 x 5	7.0	
05	35	18	-05	23	NGC 1976, Messier 42	17	Ori	bright nebula	90 x 60	4.0	
05	35	18	-04	51	NGC 1977, OCL 525	17	Ori	open cluster	20 x 10	7.0	

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
05	35	24	-05	55	NGC 1980, OCL 529	17	Ori	open cluster	14 x 14	2.5	
05	35	30	-05	16	NGC 1982, Messier 43	17	Ori	bright nebula	20 x 15	7.0	
05	36	00	-01	00	Cr 70	17	Ori	open cluster	150 x 150	0.4	
05	36	18	+10	00	Sh2-264	17	Ori	bright nebula	70 x 70	5.0	
05	36	18	+34	08	NGC 1960, Messier 36	25	Aur	open cluster	12 x 12	6.0	
05	38	36	-69	06	NGC 2070, ESO 57-EN6	3	Dor	bright nebula	20 x 20	8.3	
05	40	54	-02	28	Barnard 33, LDN 1630	17	Ori	dark nebula	6 x 4		
05	41	00	-02	27	IC 434, LBN 954	17	Ori	bright nebula	90 x 30	11.0	
05	42	12	-69	13	NGC 2100, ESO 57-SC25	3	Dor	open cluster	2.3 x 2.3	9.6	
05	43	30	+32	39	Barnard 34	25	Aur	dark nebula	20 x 20		
05	45	30	+09	03	Barnard 35, LDN 1594	17	Ori	dark nebula	20 x 10		
05	45	42	+07	31	Barnard 36, LDN 1599	17	Ori	dark nebula	120 x 120		
05	46	48	+00	05	NGC 2068, Messier 78	17	Ori	bright nebula	8 x 6	8.0	
05	47	06	+00	18	NGC 2071, LBN 938	17	Ori	bright nebula	7 x 5	8.0	
05	48	54	+30	11	Basel 4	25	Aur	open cluster	8 x 8	9.1	
05	52	18	+32	33	NGC 2099, Messier 37	25	Aur	open cluster	24.0 x 24.0	5.6	
05	53	48	+00	25	NGC 2112, OCL 509	17	Ori	open cluster	11 x 11	9.1	
05	54	36	+02	00	LDN 1622	17	Ori	dark nebula	15 x 15		
05	58	12	+21	58	Basel 11B	25	Ori	open cluster	9 x 9	8.9	
06	00	42	+23	19	NGC 2129, OCL 467	25	Gem	open cluster	7 x 7	6.7	
06	02	54	+10	27	NGC 2141, OCL 487	17	Ori	open cluster	10 x 10	9.4	
06	04	48	+24	04	IC 2157, Cr 80	25	Gem	open cluster	7 x 7	8.4	
06	07	24	+24	06	NGC 2158, OCL 468	25	Gem	open cluster	5 x 5	8.6	
06	08	24	+13	58	NGC 2169, OCL 481	17, 25	Ori	open cluster	7 x 7	5.9	
06	08	54	+24	21	NGC 2168, Messier 35	25	Gem	open cluster	28 x 28	5.1	
06	09	36	+20	29	NGC 2175, OCL 476	25	Ori	open cluster	18 x 18	6.8	
06	12	06	+05	28	NGC 2186, OCL 498	17	Ori	open cluster	4 x 4	8.7	
06	12	12	-21	48	NGC 2196, ESO 556- 4	9	Lep	galaxy	2.8 x 2.2	11.0	
06	13	48	+12	48	NGC 2194, OCL 495	17, 25	Ori	open cluster	10 x 10	8.5	
06	15	18	+39	51	NGC 2192, OCL 437	25	Aur	open cluster	6 x 6	10.9	
06	15	30	-18	40	NGC 2204, OCL 572	9	CMa	open cluster	13 x 13	8.6	
06	16	24	-21	22	NGC 2207, ESO 556- 8	9	CMa	galaxy	4.2 x 2.6	10.8	
06	18	00	+23	38	Cr 89	25	Gem	open cluster	35.0 x 35.0	5.7	
06	20	48	-07	17	NGC 2215, OCL 550	17	Mon	open cluster	11 x 11	8.4	
06	21	30	+02	20	Cr 91	17	Mon	open cluster	17 x 17	6.4	
06	21	42	-27	14	NGC 2217, ESO 489-42	9	CMa	galaxy	4.7 x 4.3	10.7	
06	22	54	+05	07	Cr 92	17	Mon	open cluster	11 x 11	8.5	
06	25	30	+19	46	Bochum 1	25	Gem	open cluster	26.0 x 26.0	7.9	
06	28	00	-04	51	NGC 2232, OCL 545	17	Mon	open cluster	30 x 30	3.9	
06	29	36	-31	17	NGC 2243, OCL 644	9	CMa	open cluster	5 x 5	9.4	
06	29	42	+06	50	NGC 2236, OCL 501	17	Mon	open cluster	7 x 7	8.5	
06	30	18	+02	52	Cr 96	17	Mon	open cluster	8 x 8	7.3	
06	30	42	+05	01	NGC 2238, LBN 948	17	Mon	bright nebula	80 x 60	6.0	
06	30	54	+05	03	NGC 2237, OCL 511	17	Mon	open cluster	80 x 60	5.5	
06	31	00	+05	50	Cr 97	17	Mon	open cluster	21 x 21	5.4	
06	31	54	+04	57	NGC 2239, NGC 2244	17	Mon	open cluster	24.0 x 24.0	4.8	
06	32	48	+10	38	Barnard 37-9, LDN 1605;1610	17	Mon	dark nebula	180 x 180		
06	33	48	-05	05	NGC 2250, OCL 547	17	Mon	open cluster	8 x 8	8.9	
06	34	36	+08	22	NGC 2251, OCL 499	17	Mon	open cluster	10 x 10	7.3	
06	34	42	+05	22	NGC 2252, OCL 514	17	Mon	open cluster	20 x 20	7.7	
06	35	48	+07	40	NGC 2254, OCL 500	17	Mon	open cluster	4 x 4	9.1	
06	36	18	+08	21	Basel 7	17	Mon	open cluster	5 x 5	8.5	
06	36	30	+04	49	Cr 104	17	Mon	open cluster	22 x 22	9.6	
06	36	30	+09	29	Tr 5, Cr 105	17	Mon	open cluster	8 x 8	10.9	
06	37	06	+05	57	Cr 106	17	Mon	open cluster	45 x 45	4.6	
06	37	42	+04	44	Cr 107	17	Mon	open cluster	35.0 x 35.0	5.1	
06	38	24	+10	53	NGC 2259, OCL 492	17	Mon	open cluster	4.5 x 4.5	10.8	
06	38	42	+02	03	Cr 110	17	Mon	open cluster	12 x 12	10.5	
06	38	42	+06	54	Cr 111	17	Mon	open cluster	3.2 x 3.2	7.0	
06	41	00	+09	54	NGC 2264, OCL 495	17	Mon	open cluster	20 x 20	3.9	

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
06	43	18	+04	37	NGC 2269, OCL 524	17	Mon	open cluster	4 x 4	10.0	
06	43	18	+26	58	NGC 2266, OCL 471	25	Gem	open cluster	7 x 7	9.5	
06	44	48	-27	38	NGC 2280, ESO 427- 2, PGC 19531	9, 10	CMa	galaxy	6.3 x 3.1	10.3	10.90
06	45	00	+00	18	Do 25	17	Mon	open cluster	24.0 x 24.0	7.6	
06	46	00	-20	45	NGC 2287, Messier 41	9	CMa	open cluster	38.0 x 38.0	4.5	
06	46	30	+01	47	Cr 115	17	Mon	open cluster	7 x 7	9.1	
06	47	42	-03	09	NGC 2286, OCL 548	17	Mon	open cluster	15 x 15	7.5	
06	47	42	-26	45	NGC 2292, ESO 490-48	9, 10	CMa	galaxy	4.0 x 3.5	10.8	
06	48	18	+41	05	NGC 2281, OCL 446	25, 26	Aur	open cluster	15 x 15	5.4	
06	49	00	-36	00	NGC 2298, GCL 11	9, 10	Pup	globular cluster	6.8 x 6.8	9.4	
06	51	48	+00	28	NGC 2301, OCL 540	17	Mon	open cluster	12 x 12	6.0	
06	51	54	-07	05	NGC 2299, NGC 2302	17	Mon	open cluster	2.5 x 2.5	8.9	
06	52	12	+02	56	Biur 10, Berk 28	17	Mon	open cluster	4 x 4	10.4	
06	55	12	+17	59	NGC 2304, OCL 484	25, 26	Gem	open cluster	5 x 5	10.0	
06	56	06	-07	10	NGC 2309, OCL 557	17	Mon	open cluster	3 x 3	10.5	
06	56	18	-24	44	Cr 121	9, 10	CMa	open cluster	50 x 50	2.6	
06	57	48	-04	37	NGC 2311, OCL 553	17	Mon	open cluster	7 x 7	9.6	
07	00	30	-20	34	Tombaugh 1, OCL 603	9, 10	CMa	open cluster	5 x 5	10.5	
07	02	30	-08	23	NGC 2323, Messier 50	17, 18	Mon	open cluster	16 x 16	5.9	
07	03	30	-05	00	Bochum 3	17, 18	Mon	open cluster	4 x 4	9.9	
07	04	06	+01	03	NGC 2324, OCL 542	17, 18	Mon	open cluster	8 x 8	8.4	
07	06	48	-10	02	NGC 2335, OCL 562	17, 18	Mon	open cluster	12 x 12	7.2	
07	07	00	-10	32	Cr 465	17, 18	Mon	open cluster	9 x 9	10.1	
07	07	00	+27	16	NGC 2331, OCL 475	25, 26	Gem	open cluster	18 x 18	8.5	
07	08	06	-10	37	NGC 2343, OCL 565	17, 18	Mon	open cluster	7 x 7	6.7	
07	08	18	-13	12	NGC 2345, OCL 575	9, 10, 17, 18	CMa	open cluster	12 x 12	7.7	
07	14	18	-25	42	NGC 2354, OCL 639	9, 10	CMa	open cluster	20 x 20	6.5	
07	14	30	-10	16	NGC 2353, OCL 567	17, 18	Mon	open cluster	20 x 20	7.1	
07	15	24	-30	41	Cr 132	9, 10	CMa	open cluster	80 x 80	3.6	
07	17	00	+13	45	NGC 2355, NGC 2356	17, 18, 25, 26	Gem	open cluster	9 x 9	9.7	
07	17	06	-13	58	Basel 11A	9, 10, 17, 18	CMa	open cluster	9 x 9	8.2	
07	17	24	-36	50	Cr 135	9, 10	Pup	open cluster	50 x 50	2.1	
07	17	42	-15	38	NGC 2360, OCL 589	9, 10, 17, 18	CMa	open cluster	13 x 13	7.2	
07	18	42	-24	57	NGC 2362, OCL 633	9, 10	CMa	open cluster	8 x 8	4.1	
07	19	00	-44	35	Be 135	3, 4, 9, 10	Pup	dark nebula	13 x 5		
07	20	06	-21	53	NGC 2367, OCL 621	9, 10	CMa	open cluster	3.5 x 3.5	7.9	
07	20	06	-13	09	Haffner 6	9, 10, 17, 18	CMa	open cluster	4 x 4	9.2	
07	23	24	-12	18	Haffner 8	9, 10, 17, 18	CMa	open cluster	4.2 x 4.2	9.1	
07	23	54	-13	16	NGC 2374, OCL 585	9, 10, 17, 18	CMa	open cluster	19 x 19	8.0	
07	24	30	-31	51	Cr 140	9, 10	CMa	open cluster	60 x 60	3.5	
07	24	42	-20	57	NGC 2383, OCL 616	9, 10	CMa	open cluster	6 x 6	8.4	
07	24	42	-26	11	Ru 18	9, 10	CMa	open cluster	4 x 4	9.4	
07	25	12	-21	01	NGC 2384, OCL 618	9, 10	CMa	open cluster	2.5 x 2.5	7.4	
07	26	18	-47	41	Mel 66, Cr 147	3, 4	Pup	open cluster	10 x 10	7.8	
07	26	24	-24	13	Tr 6, Cr 145	9, 10	CMa	open cluster	6 x 6	10.0	
07	26	42	-28	50	Ru 20	9, 10	CMa	open cluster	10 x 10	9.5	
07	27	12	+13	37	NGC 2395, OCL 502	17, 18, 25, 26	Gem	open cluster	12 x 12	8.0	
07	27	18	-24	00	Tr 7, Cr 146	9, 10	Pup	open cluster	5 x 5	7.9	
07	27	30	-11	43	NGC 2396, OCL 579	17, 18	Pup	open cluster	10 x 10	7.4	
07	28	18	-15	24	Czernik 29	9, 10, 17, 18	Pup	open cluster	8 x 8	10.3	
07	31	00	-16	57	Bochum 4	9, 10, 17, 18	Pup	open cluster	23 x 23	7.3	
07	31	36	-17	11	NGC 2409	9, 10, 17, 18	Pup	open cluster	2.5 x 2.5	8.0	
07	31	48	-19	27	Bochum 6	9, 10	Pup	open cluster	10 x 10	9.9	
07	32	06	-16	57	Bochum 5	9, 10, 17, 18	Pup	open cluster	11 x 11	7.0	
07	33	12	-15	27	NGC 2414, OCL 598	9, 10, 17, 18	Pup	open cluster	4 x 4	7.9	
07	36	12	-20	37	NGC 2421, OCL 626	9, 10	Pup	open cluster	10 x 10	8.3	
07	36	18	-69	32	NGC 2442, NGC 2443	3, 4	Vol	galaxy	5.4 x 4.9	10.4	
07	36	36	-14	29	NGC 2422, Messier 47, NGC 2478	9, 10, 17, 18	Pup	open cluster	30 x 30	4.4	
07	37	06	-13	52	NGC 2423, OCL 592	9, 10, 17, 18	Pup	open cluster	19 x 19	6.7	
07	37	30	-12	04	Mel 71, Cr 155	17, 18	Pup	open cluster	9 x 9	7.1	

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
07	38	06	+38	53	NGC 2419, GCL 12	25, 26	Lyn	globular cluster	6.2 x 6.2	10.4	
07	38	24	+21	34	NGC 2420, OCL 488	25, 26	Gem	open cluster	10 x 10	8.3	
07	38	30	-10	42	Mel 72, Cr 467	17, 18	Mon	open cluster	9 x 9	10.1	
07	40	12	-33	33	Bochum 15	9, 10	Pup	open cluster	3 x 3	6.3	
07	40	48	-31	42	NGC 2439, OCL 688	9, 10	Pup	open cluster	10 x 10	6.9	
07	40	54	-19	05	NGC 2432, OCL 620	9, 10	Pup	open cluster	8 x 8	10.2	
07	41	48	-14	49	NGC 2437, Messier 46	9, 10, 17, 18	Pup	open cluster	27.0 x 27.0	6.1	
07	44	30	-23	51	NGC 2447, Messier 93	9, 10	Pup	open cluster	22 x 22	6.2	
07	45	00	-25	31	Ru 32	9, 10	Pup	open cluster	6 x 6	8.4	
07	45	18	-37	58	NGC 2451, OCL 716	9, 10	Pup	open cluster	50 x 50	2.8	
07	45	30	-32	51	Haffner 15	9, 10	Pup	open cluster	3.5 x 3.5	9.4	
07	45	54	-20	23	Ru 34	9, 10	Pup	open cluster	4 x 4	9.5	
07	47	36	-27	12	NGC 2453, OCL 670	9, 10	Pup	open cluster	5 x 5	8.3	
07	48	30	-26	18	Ru 36	9, 10	Pup	open cluster	4 x 4	9.6	
07	49	00	-21	18	NGC 2455, OCL 636	9, 10	Pup	open cluster	8 x 8	10.2	
07	52	12	-38	32	NGC 2477, OCL 720	9, 10	Pup	open cluster	27.0 x 27.0	5.8	
07	52	30	-26	26	NGC 2467, OCL 668	9, 10	Pup	open cluster	15 x 15	7.1	
07	55	06	-17	42	NGC 2479, OCL 623	9, 10	Pup	open cluster	7 x 7	9.6	
07	55	12	-24	15	NGC 2482, OCL 653	9, 10	Pup	open cluster	12 x 12	7.3	
07	55	36	-27	53	NGC 2483, ESO 430-SC2	9, 10	Pup	open cluster	10 x 10	7.6	
07	55	42	-25	53	Tr 9, Cr 168; Harvard 2	9, 10	Pup	open cluster	6 x 6	8.7	
07	56	18	-30	04	NGC 2489, OCL 690	9, 10	Pup	open cluster	8 x 8	7.9	
07	58	06	-60	45	NGC 2516, OCL 776	3, 4	Car	open cluster	21 x 21	3.8	
07	59	00	-28	35	Ru 44	9, 10	Pup	open cluster	5 x 5	7.2	
08	00	00	-10	46	NGC 2506, OCL 593	17, 18	Mon	open cluster	7 x 7	7.6	
08	00	48	-19	03	NGC 2509, OCL 630	9, 10	Pup	open cluster	8 x 8	9.3	
08	02	06	-19	28	Ru 46	9, 10	Pup	open cluster	2 x 2	9.1	
08	02	18	-31	06	Ru 47	9, 10	Pup	open cluster	5 x 5	9.6	
08	03	18	-26	47	Ru 49	9, 10	Pup	open cluster	2.5 x 2.5	9.6	
08	05	00	-28	09	NGC 2520, NGC 2527	9, 10	Pup	open cluster	22 x 22	6.5	
08	07	06	-29	53	NGC 2533, OCL 695	9, 10	Pup	open cluster	3.5 x 3.5	7.6	
08	10	12	-49	12	NGC 2547, OCL 753	3, 4	Vel	open cluster	20 x 20	4.7	
08	10	36	-12	49	NGC 2539, OCL 611	10, 18	Pup	open cluster	22 x 22	6.5	
08	12	18	-37	36	NGC 2546, OCL 726	9, 10	Pup	open cluster	41 x 41	6.3	
08	12	18	-32	34	Ru 55	9, 10	Pup	open cluster	17 x 17	7.8	
08	13	42	-05	45	NGC 2548, Messier 48	18	Hya	open cluster	54 x 54	5.8	
08	17	06	-27	27	NGC 2559, ESO 494-41	10	Pup	galaxy	3.7 x 1.7	10.9	
08	17	48	-37	05	Pismis 1	9, 10	Pup	open cluster	4.6 x 4.6	10.7	
08	18	18	-37	06	NGC 2568, OCL 727	9, 10	Pup	open cluster	2 x 2	10.0	
08	18	30	-30	39	NGC 2567, OCL 708	9, 10	Pup	open cluster	10 x 10	7.4	
08	18	48	-25	30	NGC 2566, ESO 495-3	10	Pup	galaxy	3.4 x 2.3	11.0	
08	18	54	-29	45	NGC 2571, OCL 701	10	Pup	open cluster	13 x 13	7.0	
08	19	24	-34	29	Ru 59	10	Pup	open cluster	5 x 5	9.0	
08	20	54	-36	13	NGC 2579, OCL 724	10	Pup	open cluster	10 x 10	7.5	
08	21	30	-30	19	NGC 2580, OCL 709	10	Pup	open cluster	8 x 8	9.7	
08	23	18	-36	20	Cr 185	10	Pup	open cluster	9 x 9	7.8	
08	23	24	-29	31	NGC 2587, OCL 706	10	Pup	open cluster	9 x 9	9.2	
08	24	12	-29	10	Cr 187	10	Pup	open cluster	7 x 7	9.6	
08	33	24	-22	58	NGC 2613, ESO 495-18	10	Pyx	galaxy	7.1 x 1.6	10.3	
08	34	36	-44	22	Pismis 4	4, 10	Vel	open cluster	18 x 18	5.9	
08	37	12	-29	57	NGC 2627, OCL 714	10	Pyx	open cluster	11 x 11	8.4	
08	37	36	-39	34	Pismis 5	10	Vel	open cluster	2 x 2	9.9	
08	39	36	-52	55	IC 2391, Cr 191	3, 4	Vel	open cluster	60 x 60	2.5	
08	40	00	+19	40	NGC 2632, Messier 44	26	Cnc	open cluster	95 x 95	3.1	
08	40	24	-46	09	Waterloo 6	4, 10	Vel	open cluster	2.2 x 2.2	8.4	
08	41	36	-46	17	Pismis 8	4, 10	Vel	open cluster	2 x 2	9.5	
08	41	48	-43	23	Ru 67	4, 10	Vel	open cluster	6 x 6	9.1	
08	42	30	-48	08	IC 2395, Cr 192	4	Vel	open cluster	17 x 17	4.6	
08	42	36	-45	00	NGC 2659, OCL 752	4, 10	Vel	open cluster	14 x 14	8.6	
08	42	36	-47	12	NGC 2660, OCL 759	4, 10	Vel	open cluster	4 x 4	8.8	

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
08	43	30	-32	39	NGC 2658, OCL 723	10	Pyx	open cluster	10 x 10	9.2	
08	44	42	-41	17	Cr 197	10	Vel	open cluster	17 x 17	6.7	
08	44	48	-45	58	Bochum 7	4, 10	Vel	open cluster	20 x 20	6.8	
08	45	06	-31	38	Cr 196	10	Pyx	open cluster	5 x 5	10.5	
08	45	06	-33	48	NGC 2663, ESO 371-14	10	Pyx	galaxy	3.5 x 2.4	10.9	
08	45	30	-48	48	NGC 2670, OCL 764	4	Vel	open cluster	6 x 6	7.8	
08	46	24	-52	57	NGC 2669, OCL 768	4	Vel	open cluster	20 x 20	6.1	
08	47	48	-42	29	Tr 10, Cr 203	4, 10	Vel	open cluster	15 x 15	4.6	
08	50	48	+11	49	NGC 2682, Messier 67	18	Cnc	open cluster	30 x 30	6.9	
08	52	42	+33	25	NGC 2683, UGC 4641, PGC 24930	26	Lyn	galaxy	9.3 x 2.2	9.8	10.64
08	53	36	-42	13	SL 4	4, 10	Vel	dark nebula	60 x 10		
09	00	36	-48	59	Cr 205	4	Vel	open cluster	2 x 2	7.8	
09	00	36	-48	59	Mrk 18	4	Vel	open cluster	2 x 2	7.8	
09	10	18	+07	02	NGC 2775, UGC 4820	18	Cnc	galaxy	4.5 x 3.6	10.1	
09	12	00	-64	52	NGC 2808, GCL 13	4	Car	globular cluster	13.8 x 13.8	6.3	
09	12	18	-24	10	NGC 2784, ESO 497-23	10	Hya	galaxy	5.7 x 2.5	10.2	
09	13	48	-69	39	NGC 2822, ESO 61- 4	4	Car	galaxy	2.8 x 2.0	10.7	
09	17	54	-22	21	NGC 2835, ESO 564-35	10	Hya	galaxy	6.3 x 4.2	10.5	
09	19	54	-45	08	Pismis 12	4, 10	Vel	open cluster	4.5 x 4.5	9.7	
09	22	06	-51	06	Pismis 13	4	Vel	open cluster	2 x 2	10.2	
09	24	18	-51	40	Ru 76	4	Vel	open cluster	6 x 6	10.8	
09	24	18	+34	31	NGC 2859, UGC 5001	26	LMi	galaxy	4.0 x 3.6	10.9	
09	27	06	-55	07	Ru 77	4	Vel	open cluster	2 x 2	10.4	
09	27	24	-56	57	IC 2488, Cr 208	4	Vel	open cluster	15 x 15	7.4	
09	30	30	-52	55	NGC 2910, OCL 781	4	Vel	open cluster	5 x 5	7.2	
09	32	12	+21	30	NGC 2903, UGC 5079, PGC 27077	26	Leo	galaxy	12.6 x 6.0	9.0	9.68
09	33	12	-53	24	NGC 2925, OCL 783	4	Vel	open cluster	12 x 12	8.3	
09	38	54	-04	49	MCG -01-25-011	18	Hya	galaxy	2.0 x 1.5	11.0	
09	40	12	-50	19	NGC 2972, NGC 2999	4	Vel	open cluster	4 x 4	9.9	
09	41	00	-53	50	Ru 79	4	Vel	open cluster	11 x 11	9.2	
09	42	36	-03	42	NGC 2974, MCG 0-25- 8	18	Sex	galaxy	3.4 x 2.1	10.9	
09	44	18	-21	17	NGC 2986, ESO 566- 5	10	Hya	galaxy	3.5 x 3.0	10.8	
09	45	36	-53	59	Ru 82	4	Vel	open cluster	3.6 x 3.6	8.1	
09	45	36	-31	11	NGC 2997, ESO 434-35, PGC 27978	10, 11	Ant	galaxy	8.9 x 6.8	9.4	10.06
09	48	42	-56	25	NGC 3033, OCL 796	4	Vel	open cluster	12 x 12	8.8	
09	49	18	-54	36	Ru 83	4	Vel	open cluster	3.4 x 3.4	9.8	
09	50	06	-73	55	NGC 3059, ESO 37- 7	1, 4	Car	galaxy	3.8 x 3.6	11.0	
09	55	00	-50	57	Cr 213	4	Vel	open cluster	17 x 17	9.2	
10	00	42	-54	47	NGC 3105, OCL 798	4	Vel	open cluster	2 x 2	9.7	
10	02	30	-60	08	NGC 3114, OCL 802	4	Car	open cluster	35.0 x 35.0	4.2	
10	03	06	-26	10	NGC 3109, ESO 499-36, PGC 29128	10, 11	Hya	galaxy	19.1 x 3.7	9.9	10.39
10	05	00	-61	36	Tr 11, Cr 216	4	Car	open cluster	6 x 6	8.1	
10	05	12	-07	43	NGC 3115, MCG - 1-26- 18, PGC 29265	18, 19	Sex	galaxy	7.2 x 2.5	8.9	9.87
10	05	48	-67	23	NGC 3136, ESO 92- 8	4	Car	galaxy	3.3 x 2.4	10.7	
10	06	30	-60	18	Tr 12, Cr 217	4	Car	open cluster	4 x 4	8.8	
10	08	24	+12	18	UGC 5470, Leo I	18, 19, 26, 27	Leo	galaxy	10.7 x 8.3	10.2	
10	13	48	+03	26	NGC 3166, UGC 5516	18, 19	Sex	galaxy	4.8 x 1.9	10.4	
10	14	12	+03	28	NGC 3169, UGC 5525	18, 19	Sex	galaxy	4.2 x 2.9	10.2	
10	17	36	-46	25	NGC 3201, Dunlop 445	4, 10	Vel	globular cluster	18.2 x 18.2	6.8	
10	18	18	+41	25	NGC 3184, UGC 5557, PGC 30087	26, 27	UMa	galaxy	7.4 x 6.9	9.8	10.36
10	18	24	+21	54	NGC 3193, UGC 5562	26, 27	Leo	galaxy	2.9 x 2.8	10.9	
10	19	54	+45	33	NGC 3198, UGC 5572, PGC 30197	26, 27	UMa	galaxy	8.5 x 3.3	10.3	10.87
10	21	24	-51	43	NGC 3228, OCL 800	4	Vel	open cluster	5 x 5	6.0	
10	21	36	-34	16	NGC 3223, IC 2571	10, 11	Ant	galaxy	4.1 x 2.7	11.0	
10	23	30	+19	52	NGC 3227, UGC 5620	26, 27	Leo	galaxy	6.6 x 5.0	10.3	
10	25	54	-57	56	NGC 3247, OCL 809	4	Car	open cluster	7 x 7	7.6	
10	26	30	-60	41	NGC 3255, OCL 817	4	Car	open cluster	2 x 2	11.0	
10	27	18	+28	30	NGC 3245, UGC 5663	26, 27	LMi	galaxy	3.5 x 2.4	10.8	
10	27	24	-57	38	IC 2581, Cr 222	4	Car	open cluster	8 x 8	4.3	
10	30	24	-60	05	Cr 223	4	Car	open cluster	9 x 9	9.4	

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
10	35	30	-60	07	Bochum 9	4	Car	open cluster	16 x 16	6.3	
10	35	48	-58	13	NGC 3293, OCL 816	4	Car	open cluster	40 x 40	4.7	
10	37	18	-58	40	NGC 3324, IC 2599	4	Car	bright nebula	16 x 16	6.7	
10	38	48	-54	07	NGC 3330, OCL 806	4	Vel	open cluster	7 x 7	7.4	
10	42	06	-65	06	Mel 101, Cr 101	4	Car	open cluster	14 x 14	8.0	
10	42	12	-59	09	Bochum 10	4	Car	open cluster	20 x 20	6.2	
10	42	54	-64	24	IC 2602, Cr 229	4	Car	open cluster	100 x 100	1.9	
10	43	30	+24	55	NGC 3344, UGC 5840, PGC 31968	26, 27	LMi	galaxy	7.1 x 6.5	9.9	10.45
10	43	54	-59	33	Tr 14, Cr 230	4	Car	open cluster	5 x 5	5.5	
10	44	00	-60	05	Cr 228	4	Car	open cluster	15 x 15	4.4	
10	44	00	+11	42	NGC 3351, Messier 95, PGC 32007	18, 19	Leo	galaxy	7.4 x 5.0	9.7	10.53
10	44	24	-59	21	Tr 15, Cr 231	4	Car	open cluster	15 x 15	7.0	
10	44	36	-59	34	Cr 232	4	Car	open cluster	4 x 4	6.8	
10	45	06	-59	52	NGC 3372, Dunlop 309	4	Car	bright nebula	120 x 120	3.0	
10	45	06	-59	43	Tr 16, Cr 233	4	Car	open cluster	10 x 10	5.0	
10	45	18	-59	45	Cr 234	4	Car	open cluster	4 x 4	7.5	
10	46	48	+11	49	NGC 3368, Messier 96, PGC 32192	18, 19	Leo	galaxy	7.6 x 5.2	9.3	10.11
10	47	18	-60	06	Bochum 11	4	Car	open cluster	22 x 22	7.9	
10	47	42	+13	59	NGC 3377, UGC 5899	18, 19, 26, 27	Leo	galaxy	4.3 x 2.6	10.4	
10	47	48	+12	35	NGC 3379, Messier 105, PGC 32256	18, 19, 26, 27	Leo	galaxy	5.4 x 4.8	9.3	10.24
10	48	18	+12	38	NGC 3384, NGC 3371, PGC 32292	18, 19, 26, 27	Leo	galaxy	5.5 x 2.5	9.9	10.85
10	50	54	+13	25	NGC 3412, UGC 5952	18, 19, 26, 27	Leo	galaxy	3.7 x 2.2	10.5	
10	51	18	+27	58	NGC 3414, UGC 5959	26, 27	LMi	galaxy	3.6 x 3.1	11.0	
10	53	48	-61	45	Ru 92	4	Car	open cluster	2.2 x 2.2	8.6	
10	56	24	-59	13	Tr 17, Cr 235	4	Car	open cluster	5 x 5	8.4	
10	57	00	-61	07	Cr 236	4	Car	open cluster	8 x 8	7.7	
10	57	24	-61	44	Bochum 12	4	Car	open cluster	10 x 10	9.7	
10	59	36	-60	20	NGC 3496, OCL 836	4	Car	open cluster	6 x 6	8.2	
11	00	18	+13	54	NGC 3489, UGC 6082	19, 26, 27	Leo	galaxy	3.6 x 2.2	10.3	
11	00	24	+28	59	NGC 3486, UGC 6079	26, 27	LMi	galaxy	6.8 x 4.8	10.5	
11	03	12	+27	58	NGC 3504, UGC 6118	26, 27	LMi	galaxy	2.7 x 2.5	11.0	
11	03	24	-23	05	NGC 3511, ESO 502-13	10, 11	Crt	galaxy	6.0 x 2.1	11.0	
11	03	24	+18	08	NGC 3507, UGC 6123	26, 27	Leo	galaxy	3.4 x 2.9	10.9	
11	04	00	-61	22	NGC 3519, OCL 844	4, 5	Car	open cluster	4 x 4	7.7	
11	04	24	-61	22	Ru 93	4, 5	Car	open cluster	4 x 4	7.7	
11	05	12	-58	44	NGC 3532, OCL 839	4, 5	Car	open cluster	50 x 50	3.0	
11	05	48	-00	02	NGC 3521, UGC 6150, PGC 33550	19	Leo	galaxy	11.0 x 5.1	9.0	9.83
11	09	30	-77	16	Be 142	1, 4	Cha	dark nebula	100 x 100		
11	10	00	-37	32	NGC 3557, ESO 377-16	10, 11	Cen	galaxy	4.0 x 3.0	10.4	
11	10	18	-60	15	NGC 3572, OCL 846	4, 5	Car	open cluster	7 x 7	6.6	
11	10	42	-60	23	Hogg 10	4, 5	Car	open cluster	3 x 3	6.9	
11	11	24	-60	39	Tr 18, Cr 241	4, 5	Car	open cluster	12 x 12	6.9	
11	11	42	-60	19	Cr 240	4, 5	Car	open cluster	25.0 x 25.0	3.9	
11	12	18	-60	45	Hogg 12	4, 5	Car	open cluster	3 x 3	8.8	
11	13	00	-60	47	NGC 3590, OCL 852	4, 5	Car	open cluster	4 x 4	8.2	
11	13	06	-58	55	Stock 13	4, 5	Car	open cluster	3 x 3	7.0	
11	13	18	-26	45	NGC 3585, ESO 502-25, PGC 34160	10, 11	Hya	galaxy	4.7 x 2.6	9.9	10.88
11	14	18	-57	35	Tr 19, Cr 243	4, 5	Car	open cluster	10 x 10	9.6	
11	14	36	+12	49	NGC 3593, UGC 6272	19, 27	Leo	galaxy	4.9 x 2.1	10.9	
11	15	06	-61	16	NGC 3603, OCL 854	4, 5	Car	open cluster	2.5 x 2.5	9.1	
11	16	54	+18	03	NGC 3607, UGC 6297, PGC 34426	27	Leo	galaxy	4.9 x 2.5	9.9	10.82
11	17	00	+18	09	NGC 3608, UGC 6299	27	Leo	galaxy	3.5 x 3.0	10.8	
11	17	18	-62	43	IC 2714, Cr 245	4, 5	Car	open cluster	12 x 12	8.2	
11	18	18	-32	49	NGC 3621, ESO 377-37, PGC 34554	10, 11	Hya	galaxy	12.3 x 7.1	9.7	10.28
11	18	54	+13	05	NGC 3623, Messier 65, PGC 34612	19, 27	Leo	galaxy	9.8 x 2.9	9.3	10.25
11	19	36	-63	30	Mel 105, Cr 246	4, 5	Car	open cluster	4 x 4	8.5	
11	20	06	+18	21	NGC 3626, NGC 3632	27	Leo	galaxy	3.2 x 2.4	11.0	
11	20	12	+13	00	NGC 3627, Messier 66, PGC 34695	19, 27	Leo	galaxy	9.1 x 4.2	8.9	9.65
11	20	18	+13	35	NGC 3628, UGC 6350, PGC 34697	19, 27	Leo	galaxy	14.8 x 3.0	9.5	10.28
11	21	06	+03	14	NGC 3640, UGC 6368	19	Leo	galaxy	4.5 x 4.0	10.4	

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
11	24	42	+38	46	NGC 3665, UGC 6426	27	UMa	galaxy	3.5 x 3.0	10.8	
11	25	36	-43	15	NGC 3680, OCL 823	4, 11	Cen	open cluster	6 x 6	7.6	
11	26	06	+43	35	NGC 3675, UGC 6439, PGC 35164	27	UMa	galaxy	5.9 x 3.1	10.2	11.00
11	33	18	+47	02	NGC 3726, UGC 6537, PGC 35676	27	UMa	galaxy	6.2 x 4.3	10.4	10.91
11	36	12	-61	37	NGC 3766, OCL 860	4, 5	Cen	open cluster	12 x 12	5.3	
11	37	54	-63	21	IC 2944, Cr 249	4, 5	Cen	open cluster	60 x 35	4.5	
11	39	24	-63	28	IC 2948, RCW 62	4, 5	Cen	bright nebula	75 x 50	7.0	
11	41	00	+11	28	NGC 3810, UGC 6644	19	Leo	galaxy	4.1 x 2.7	10.8	
11	43	48	-62	32	Stock 14	4, 5	Cen	open cluster	4 x 4	6.3	
11	46	06	+47	30	NGC 3877, UGC 6745	27	UMa	galaxy	5.3 x 1.2	11.0	
11	47	06	-16	51	NGC 3887, MCG - 3-30- 12	11, 19	Crt	galaxy	3.5 x 2.7	10.6	
11	49	12	-29	17	NGC 3904, ESO 440-13	11	Hya	galaxy	2.7 x 2.0	10.9	
11	50	36	-55	41	NGC 3960, Mel 108	4, 5	Cen	open cluster	7 x 7	8.3	
11	51	00	-28	48	NGC 3923, ESO 440-17, PGC 37061	11	Hya	galaxy	5.9 x 3.9	9.8	10.80
11	52	48	+44	07	NGC 3938, UGC 6856, PGC 37229	27	UMa	galaxy	5.4 x 4.9	10.4	10.90
11	52	54	+36	59	NGC 3941, UGC 6857	27	UMa	galaxy	3.5 x 2.5	10.3	
11	54	42	-13	59	NGC 3962, MCG - 2-30- 40	11, 19	Crt	galaxy	3.4 x 2.8	10.7	
11	57	24	-62	42	Ru 97	4, 5	Cru	open cluster	3.5 x 3.5	9.1	
11	58	48	-64	34	Ru 98	4, 5	Cru	open cluster	10 x 10	7.0	
12	00	24	-01	06	NGC 4030, UGC 6993	19	Vir	galaxy	4.2 x 3.2	10.6	
12	01	54	-18	52	NGC 4038, ESO 572-47, PGC 37967	11	Crv	galaxy	5.2 x 3.1	10.3	10.91
12	01	54	-18	53	NGC 4039, ESO 572-48	11	Crv	galaxy	3.3 x 1.7	10.6	
12	02	06	-63	13	NGC 4052, OCL 870	4, 5	Cru	open cluster	10 x 10	8.8	
12	03	12	+44	32	NGC 4051, UGC 7030, PGC 38068	27	UMa	galaxy	5.2 x 3.9	10.2	10.83
12	06	00	+47	29	NGC 4096, UGC 7090	27	UMa	galaxy	6.5 x 1.8	10.9	
12	06	42	-61	15	NGC 4103, OCL 871	4, 5	Cru	open cluster	7 x 7	7.4	
12	06	42	-29	46	NGC 4105, ESO 440-54	11	Hya	galaxy	2.8 x 2.1	10.6	
12	07	00	+43	04	NGC 4111, UGC 7103	27	CVn	galaxy	4.6 x 1.0	10.7	
12	09	18	+29	56	NGC 4136, UGC 7134	27	Com	galaxy	3.9 x 3.6	11.0	
12	09	36	+42	32	NGC 4143, UGC 7142	27	CVn	galaxy	2.9 x 1.9	10.6	
12	10	06	+18	33	NGC 4153, NGC 4147	27	Com	globular cluster	4.1 x 4.1	10.3	
12	10	30	+39	24	NGC 4151, UGC 7166	27	CVn	galaxy	6.8 x 5.3	10.8	
12	12	54	+01	18	NGC 4179, UGC 7214	19	Vir	galaxy	4.2 x 1.3	11.0	
12	13	48	+14	54	NGC 4192, Messier 98, PGC 39028	19, 27	Com	galaxy	9.8 x 2.8	10.1	10.95
12	15	06	+33	12	NGC 4203, UGC 7256	27	Com	galaxy	3.5 x 3.2	10.9	
12	15	36	+36	20	NGC 4214, NGC 4228, PGC 39225	27	CVn	galaxy	8.5 x 6.6	9.8	10.24
12	15	54	+13	09	NGC 4216, UGC 7284, PGC 39246	27	Vir	galaxy	8.1 x 1.8	10.0	10.99
12	17	18	-55	05	NGC 4230, OCL 874	4, 5	Cen	open cluster	6 x 6	9.4	
12	17	30	+45	37	NGC 4242, UGC 7323	27	CVn	galaxy	5.2 x 4.0	10.8	
12	17	30	+37	48	NGC 4244, UGC 7322, PGC 39422	27	CVn	galaxy	16.6 x 1.9	10.4	10.88
12	18	06	+28	10	NGC 4251, UGC 7338	27	Com	galaxy	3.6 x 2.5	10.7	
12	18	48	+14	25	NGC 4254, Messier 99, PGC 39578	19, 27	Com	galaxy	5.4 x 4.7	9.9	10.44
12	19	00	+47	18	NGC 4258, Messier 106, PGC 39600	27	CVn	galaxy	18.6 x 7.2	8.4	9.10
12	19	24	+05	49	NGC 4261, UGC 7360	19	Vir	galaxy	3.8 x 3.5	10.4	
12	19	48	+29	37	NGC 4274, UGC 7377	27	Com	galaxy	6.8 x 2.4	10.4	
12	19	48	+12	48	NGC 4267, UGC 7373	19, 27	Vir	galaxy	3.0 x 2.8	10.9	
12	20	06	+29	17	NGC 4278, UGC 7386	27	Com	galaxy	4.0 x 3.9	10.2	
12	21	12	+18	23	NGC 4293, UGC 7405	27	Com	galaxy	5.5 x 2.9	10.4	
12	21	54	+04	28	NGC 4303, Messier 61, PGC 40001	19	Vir	galaxy	6.5 x 5.8	9.6	10.18
12	22	30	+29	54	NGC 4314, UGC 7443	27	Com	galaxy	3.9 x 3.7	10.6	
12	22	54	+15	49	NGC 4321, Messier 100, PGC 40153	19, 27	Com	galaxy	7.4 x 6.3	9.4	10.05
12	24	00	+16	42	NGC 4350, UGC 7473	19, 27	Com	galaxy	2.9 x 1.6	11.0	
12	24	06	-58	07	NGC 4337, OCL 878	4, 5	Cru	open cluster	3.5 x 3.5	8.9	
12	24	06	-61	52	NGC 4349, OCL 882	4, 5	Cru	open cluster	4 x 4	7.4	
12	24	30	+07	19	NGC 4365, UGC 7488, PGC 40375	19	Vir	galaxy	6.9 x 5.0	9.6	10.52
12	24	54	+11	42	NGC 4371, UGC 7493	19	Vir	galaxy	4.0 x 2.3	10.8	
12	25	00	-72	00	Sa 149, Dark Doodad	1, 4, 5	Mus	dark nebula	180 x 12		
12	25	06	+12	53	NGC 4374, Messier 84, PGC 40455	19, 27	Vir	galaxy	6.5 x 5.6	9.1	10.09
12	25	18	-39	46	NGC 4373, ESO 322- 6	11	Cen	galaxy	3.6 x 2.6	10.9	
12	25	24	+18	11	NGC 4382, Messier 85, PGC 40515	27	Com	galaxy	7.1 x 5.5	9.1	10.00

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
12	25	48	-72	40	NGC 4372, GCL 19	1, 4, 5	Mus	globular cluster	18.6 x 18.6	7.2	
12	25	48	+33	33	NGC 4395, UGC 7524, PGC 40596	27	CVn	galaxy	13.2 x 11.0	10.2	10.64
12	25	48	+12	40	NGC 4388, UGC 7520	19, 27	Vir	galaxy	5.6 x 1.5	11.0	
12	25	54	+18	13	NGC 4394, UGC 7523	27	Com	galaxy	3.4 x 3.2	10.9	
12	26	12	+12	57	NGC 4406, Messier 86, PGC 40653	19, 27	Vir	galaxy	8.9 x 5.8	8.9	9.83
12	26	30	+31	13	NGC 4414, UGC 7539, PGC 40692	27	Com	galaxy	3.6 x 2.0	10.1	10.96
12	27	18	-60	47	Harvard 5, Cr 257	4, 5	Cru	open cluster	6 x 6	7.1	
12	27	24	+11	06	NGC 4429, UGC 7568	19	Vir	galaxy	5.8 x 2.8	10.0	
12	27	42	+13	05	NGC 4435, UGC 7575	19, 27	Vir	galaxy	3.0 x 2.2	10.8	
12	27	48	+13	00	NGC 4438, UGC 7574	19, 27	Vir	galaxy	8.5 x 3.0	10.2	
12	28	06	+09	48	NGC 4442, UGC 7583	19	Vir	galaxy	4.5 x 1.8	10.4	
12	28	12	+44	06	NGC 4449, UGC 7592, PGC 40973	27	CVn	galaxy	6.2 x 4.4	9.6	9.99
12	28	24	-60	06	NGC 4439, OCL 884	4, 5	Cru	open cluster	4 x 4	8.4	
12	28	30	+17	05	NGC 4450, UGC 7594, PGC 41024	19, 27	Com	galaxy	5.2 x 3.9	10.1	10.90
12	28	36	-59	48	Hogg 14	4, 5	Cru	open cluster	3 x 3	9.5	
12	29	00	+03	34	NGC 4457, UGC 7609	19	Vir	galaxy	2.6 x 2.3	10.9	
12	29	00	+13	59	NGC 4459, UGC 7614	19, 27	Com	galaxy	4.0 x 3.1	10.4	
12	29	48	+08	00	NGC 4472, Messier 49, PGC 41220	19	Vir	galaxy	10.2 x 8.3	8.4	9.37
12	29	48	+13	26	NGC 4473, UGC 7631	19, 27	Com	galaxy	4.2 x 2.6	10.2	
12	29	54	-64	47	NGC 4463, OCL 885	4, 5	Mus	open cluster	5 x 5	7.2	
12	30	00	+13	38	NGC 4477, UGC 7638	19, 27	Com	galaxy	3.7 x 3.3	10.4	
12	30	36	+41	39	NGC 4490, UGC 7651, PGC 41333	27	CVn	galaxy	6.3 x 3.1	9.8	10.22
12	30	48	+12	23	NGC 4486, Messier 87, PGC 41361	19, 27	Vir	galaxy	8.3 x 6.6	8.6	9.59
12	31	06	-08	03	NGC 4487, MCG - 1-32- 21	19	Vir	galaxy	4.0 x 2.8	10.9	
12	31	24	+25	46	NGC 4494, UGC 7662, PGC 41441	27	Com	galaxy	4.8 x 3.5	9.8	10.71
12	32	00	+14	25	NGC 4501, Messier 88, PGC 41517	19, 27	Com	galaxy	6.9 x 3.7	9.6	10.36
12	32	48	+00	07	NGC 4517, NGC 4437	19	Vir	galaxy	10.2 x 1.7	10.4	
12	34	00	+07	42	NGC 4526, NGC 4560, PGC 41772	19	Vir	galaxy	7.2 x 2.4	9.7	10.66
12	34	06	+02	39	NGC 4527, UGC 7721	19	Vir	galaxy	5.9 x 2.3	10.5	
12	34	18	+08	12	NGC 4535, UGC 7727, PGC 41812	19	Vir	galaxy	7.1 x 5.0	10.0	10.59
12	34	24	+02	11	NGC 4536, UGC 7732	19	Vir	galaxy	7.1 x 3.1	10.6	
12	35	24	+14	30	NGC 4548, Messier 91, PGC 41934	19, 27	Com	galaxy	5.4 x 4.3	10.1	10.96
12	35	30	-03	48	NGC 4546, MCG - 1-32- 27	19	Vir	galaxy	3.3 x 1.6	10.3	
12	35	42	+12	33	NGC 4552, Messier 89, PGC 41968	19, 27	Vir	galaxy	5.1 x 4.7	9.8	10.73
12	36	00	+27	58	NGC 4559, UGC 7766, PGC 42002	27	Com	galaxy	10.7 x 4.4	10.0	10.46
12	36	18	+25	59	NGC 4565, UGC 7772, PGC 42038	27	Com	galaxy	15.8 x 2.1	9.6	10.42
12	36	36	+11	14	NGC 4568, UGC 7776	19	Vir	galaxy	4.6 x 2.2	10.8	
12	36	48	+13	10	NGC 4569, Messier 90, PGC 42089	19, 27	Vir	galaxy	9.5 x 4.4	9.5	10.26
12	36	54	+07	15	NGC 4570, UGC 7785	19	Vir	galaxy	3.7 x 1.2	10.9	
12	37	42	+11	49	NGC 4579, Messier 58, PGC 42168	19	Vir	galaxy	5.9 x 4.7	9.7	10.48
12	37	54	-68	23	Harvard 6, Cr 261	4, 5	Mus	open cluster	5 x 5	10.7	
12	38	42	-51	09	Ru 106	4, 5	Cen	globular cluster	2 x 2	10.9	
12	39	30	-60	38	Tr 20, Harvard 7	4, 5	Cru	open cluster	7 x 7	10.1	
12	39	30	-26	45	NGC 4590, Messier 68	11	Hya	globular cluster	9.8 x 9.8	7.3	
12	39	42	-05	21	NGC 4593, MCG - 1-32- 32	19	Vir	galaxy	3.7 x 2.6	10.9	
12	39	54	+10	11	NGC 4596, UGC 7828	19	Vir	galaxy	4.0 x 3.4	10.4	
12	40	00	-11	37	NGC 4594, Messier 104, PGC 42407	19	Vir	galaxy	8.7 x 3.5	8.0	8.98
12	41	12	+10	09	NGC 4608, UGC 7842	19	Vir	galaxy	3.3 x 2.9	11.0	
12	41	30	+07	19	NGC 4612, UGC 7850	19	Vir	galaxy	2.7 x 2.0	10.9	
12	41	36	+41	09	NGC 4618, IC 3667	27, 28	CVn	galaxy	4.2 x 3.4	10.8	
12	42	00	+11	39	NGC 4621, Messier 59, PGC 42628	19	Vir	galaxy	5.4 x 3.7	9.6	10.57
12	42	06	+32	32	NGC 4631, UGC 7865, PGC 42637	27, 28	CVn	galaxy	15.5 x 2.7	9.2	9.75
12	42	18	-63	00	NGC 4609, OCL 890	4, 5	Cru	open cluster	5 x 5	6.9	
12	42	48	+02	41	NGC 4636, PGC 42734, NGC 4624?	19	Vir	galaxy	6.0 x 4.7	9.5	10.43
12	43	18	+01	59	NGC 4643, UGC 7895	19	Vir	galaxy	3.1 x 2.5	10.8	
12	43	36	-63	06	Hogg 15	4, 5	Cru	open cluster	2 x 2	10.3	
12	43	42	+11	33	NGC 4649, Messier 60, PGC 42831	19	Vir	galaxy	7.4 x 6.0	8.8	9.81
12	43	42	+16	24	NGC 4651, UGC 7901	19, 27	Com	galaxy	4.0 x 2.7	10.8	
12	43	54	+13	08	NGC 4654, IC 3708	19, 27	Vir	galaxy	5.0 x 3.1	10.5	
12	44	00	+32	10	NGC 4656, UGC 7907, PGC 42863	27, 28	CVn	galaxy	15.1 x 3.0	10.5	10.96

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
12	45	06	+03	03	NGC 4665, NGC 4624, PGC 42970	19	Vir	galaxy	3.8 x 3.2	10.5	10.50
12	45	06	-00	28	NGC 4666, UGC 7926	19	Vir	galaxy	4.5 x 1.4	10.7	
12	47	48	+13	46	NGC 4689, UGC 7965	19, 27	Com	galaxy	4.7 x 4.0	10.9	
12	48	24	+08	29	NGC 4698, UGC 7970	19	Vir	galaxy	4.0 x 2.9	10.6	
12	48	36	-05	48	NGC 4697, MCG - 1-33- 10, PGC 43276	19	Vir	galaxy	7.2 x 4.7	9.2	10.14
12	48	48	-41	19	NGC 4696, ESO 322-91	11, 12	Cen	galaxy	4.7 x 3.3	10.4	
12	49	00	-08	40	NGC 4699, MCG - 1-33- 13, PGC 43321	19	Vir	galaxy	3.8 x 2.6	9.5	10.41
12	49	36	+15	10	NGC 4710, UGC 7980	19, 27	Com	galaxy	4.9 x 1.6	11.0	
12	50	06	-41	23	NGC 4709, ESO 323- 3	11, 12	Cen	galaxy	2.3 x 2.0	10.9	
12	50	24	+25	30	NGC 4725, UGC 7989, PGC 43451	27, 28	Com	galaxy	10.7 x 7.6	9.4	10.11
12	50	54	+41	07	NGC 4736, Messier 94, PGC 43495	27, 28	CVn	galaxy	11.2 x 9.1	8.2	8.99
12	52	18	+11	19	NGC 4754, UGC 8010	19	Vir	galaxy	4.4 x 2.4	10.6	
12	52	24	-01	12	NGC 4753, UGC 8009, PGC 43671	19	Vir	galaxy	6.0 x 2.8	9.9	10.85
12	52	54	+11	14	NGC 4762, UGC 8016	19	Vir	galaxy	8.6 x 2.0	10.3	
12	53	30	+02	10	NGC 4772, UGC 8021	19	Vir	galaxy	3.1 x 1.8	11.0	
12	53	36	-60	21	NGC 4755, OCL 892	4, 5	Cru	open cluster	10 x 10	4.2	
12	56	42	+21	41	NGC 4826, Messier 64, PGC 44182	27, 28	Com	galaxy	10.0 x 5.4	8.5	9.36
12	58	00	-64	58	NGC 4815, OCL 893	4, 5	Mus	open cluster	3 x 3	8.6	
12	59	24	-15	03	NGC 4856, MCG - 2-33- 78	11, 12, 19	Vir	galaxy	3.9 x 1.4	10.5	
12	59	36	-70	52	NGC 4833, Lac I-4	1, 4, 5	Mus	globular cluster	13.5 x 13.5	8.4	
13	00	06	-59	37	NGC 4852, Dunlop 311	4, 5	Cen	open cluster	11 x 11	8.9	
13	01	00	-14	31	NGC 4902, MCG - 2-33- 92	11, 12, 19, 20	Vir	galaxy	2.9 x 2.6	10.9	
13	04	18	-30	32	NGC 4936, ESO 443-47	11, 12	Cen	galaxy	3.2 x 2.6	10.8	
13	05	24	-49	28	NGC 4945, Dunlop 411, PGC 45279	4, 5	Cen	galaxy	20.0 x 3.8	8.6	9.30
13	05	48	-08	01	NGC 4958, MCG - 1-33- 84	19, 20	Vir	galaxy	3.9 x 1.4	10.7	
13	08	36	-49	30	NGC 4976, ESO 219-29	4, 5	Cen	galaxy	5.1 x 2.6	10.0	
13	10	54	+37	03	NGC 5005, UGC 8256, PGC 45749	27, 28	CVn	galaxy	5.8 x 2.8	9.8	10.61
13	12	54	+18	10	NGC 5024, Messier 53	27, 28	Com	globular cluster	14.4 x 14.4	7.7	
13	13	00	-19	31	NGC 5018, ESO 576-10	11, 12	Vir	galaxy	3.4 x 2.6	10.8	
13	13	30	+36	36	NGC 5033, UGC 8307, PGC 45948	27, 28	CVn	galaxy	10.7 x 5.0	10.2	10.75
13	15	24	-16	23	NGC 5044, MCG - 3-34- 34	11, 12, 19, 20	Vir	galaxy	2.6 x 2.6	10.8	
13	15	48	+42	02	NGC 5055, Messier 63, PGC 46153	27, 28	CVn	galaxy	12.6 x 7.2	8.6	9.31
13	16	30	+17	42	NGC 5053, GCL 23	27, 28	Com	globular cluster	8.9 x 8.9	9.8	
13	17	00	-16	38	NGC 5054, MCG - 3-34- 39	11, 12, 19, 20	Vir	galaxy	5.1 x 2.8	10.9	
13	18	06	-26	50	NGC 5061, ESO 508-38	11, 12	Hya	galaxy	3.5 x 2.9	10.4	
13	18	12	-67	05	Harvard 8, Cr 268	4, 5	Mus	open cluster	4 x 4	9.5	
13	18	36	-62	31	Stock 16	4, 5	Cen	open cluster	20 x 20	9.1	
13	18	54	-21	02	NGC 5068, ESO 576-29, PGC 46400	11, 12	Vir	galaxy	7.2 x 6.3	10.0	10.70
13	19	48	-64	57	Ru 107	4, 5	Mus	open cluster	5 x 5	9.7	
13	19	48	-27	25	NGC 5078, ESO 508-48	11, 12	Hya	galaxy	19.5 x 5.8	11.0	
13	20	18	-21	50	NGC 5084, ESO 576-33	11, 12	Vir	galaxy	10.6 x 1.8	10.5	
13	21	48	-27	26	NGC 5101, ESO 508-58	11, 12	Hya	galaxy	5.7 x 4.7	10.6	
13	22	00	-36	38	NGC 5102, ESO 382-50, PGC 46674	11, 12	Cen	galaxy	8.7 x 2.8	9.6	10.35
13	22	36	-66	07	Cr 269	4, 5	Mus	open cluster	15 x 15	9.2	
13	24	54	-62	26	Loden 807	4, 5	Cen	open cluster	20 x 20	7.9	
13	25	30	-43	01	NGC 5128, Dunlop 482, PGC 46957	5, 11, 12	Cen	galaxy	25.7 x 20.0	6.8	7.84
13	26	48	-47	29	NGC 5139, Omega Centauri	5	Cen	globular cluster	36.3 x 36.3	3.9	
13	27	18	-59	02	NGC 5138, OCL 902	4, 5	Cen	open cluster	8 x 8	7.6	
13	27	48	-62	19	Basel 18	4, 5	Cen	open cluster	4 x 4	8.2	
13	29	18	-61	12	Hogg 16	4, 5	Cen	open cluster	4 x 4	8.4	
13	29	54	-64	11	Cr 271	4, 5	Cen	open cluster	7 x 7	8.7	
13	30	36	-61	16	Cr 272	4, 5	Cen	open cluster	9 x 9	7.7	
13	31	06	-60	56	NGC 5168, OCL 905	4, 5	Cen	open cluster	4 x 4	9.1	
13	32	12	-58	29	Ru 108	4, 5	Cen	open cluster	12 x 12	7.5	
13	32	12	-62	47	Tr 21, Cr 274	4, 5	Cen	open cluster	4 x 4	7.7	
13	33	42	-48	09	NGC 5206, ESO 220-18	5	Cen	galaxy	3.8 x 3.3	10.6	
13	33	42	-65	58	NGC 5189, PK 307-3.1, PNG 307.2-03.4	4, 5	Mus	planetary nebula	2.3 x 2.3	10.3	
13	35	24	-60	11	Cr 275	4, 5	Cen	open cluster	7 x 7	10.2	
13	36	54	-62	06	IC 4291, Pismis 18	4, 5	Cen	open cluster	4 x 4	9.7	
13	37	00	-29	52	NGC 5236, Messier 83, PGC 48082	11, 12	Hya	galaxy	12.9 x 11.5	7.5	8.20

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
13	37	30	+08	53	NGC 5248, UGC 8616, PGC 48130	19, 20	Boo	galaxy	6.2 x 4.5	10.3	10.97
13	38	00	-17	53	NGC 5247, ESO 577-14, PGC 48171	11, 12	Vir	galaxy	5.6 x 4.9	10.0	10.50
13	39	54	-31	39	NGC 5253, ESO 445- 4, PGC 48334	11, 12	Cen	galaxy	5.0 x 1.9	10.4	10.87
13	42	12	+28	23	NGC 5272, Messier 3	27, 28	CVn	globular cluster	18.6 x 18.6	6.3	
13	46	24	-51	22	NGC 5286, Dunlop 388	5	Cen	globular cluster	9.1 x 9.1	7.4	
13	46	36	-62	55	NGC 5281, OCL 911	4, 5	Cen	open cluster	7 x 7	5.9	
13	47	24	-59	09	NGC 5284, ESO 133-74	4, 5	Cen	open cluster	30 x 20	10.0	
13	48	24	-66	04	Cr 277	4, 5	Mus	open cluster	16 x 16	9.2	
13	53	24	+40	17	NGC 5353, UGC 8813	27, 28	CVn	galaxy	2.8 x 1.9	11.0	
13	54	00	-61	52	NGC 5316, OCL 913	4, 5	Cen	open cluster	14 x 14	6.0	
13	55	42	+40	28	NGC 5371, NGC 5390	27, 28	CVn	galaxy	4.2 x 3.4	10.6	
13	56	06	+05	15	NGC 5363, UGC 8847	19, 20	Vir	galaxy	4.6 x 3.1	10.1	
13	56	12	+05	01	NGC 5364, NGC 5317	19, 20	Vir	galaxy	6.1 x 4.2	10.5	
13	57	36	-40	00	Be 146	11, 12	Cen	dark nebula	20 x 8		
14	03	36	-33	59	NGC 5419, ESO 384-39	11, 12	Cen	galaxy	4.1 x 3.3	10.9	
14	05	30	+28	32	NGC 5466, GCL 27	27, 28	Boo	globular cluster	9.2 x 9.2	9.1	
14	07	30	-48	21	NGC 5460, OCL 925	5	Cen	open cluster	25.0 x 25.0	5.6	
14	13	12	-65	20	Circinus Dwarf, ESO 097-G013	5	Cir	galaxy	3.2 x 1.2	10.6	
14	18	24	+36	30	NGC 5557, UGC 9161	27, 28	Boo	galaxy	2.4 x 1.9	11.0	
14	20	18	+03	56	NGC 5566, UGC 9175	20	Vir	galaxy	6.6 x 2.3	10.6	
14	21	06	+03	16	NGC 5576, UGC 9183	20	Vir	galaxy	3.0 x 2.3	11.0	
14	24	24	-61	21	Lynga 2	5	Cen	open cluster	12 x 12	6.4	
14	27	48	-59	38	NGC 5606, OCL 922	5	Cen	open cluster	3 x 3	7.7	
14	29	36	-05	59	NGC 5634, GCL 28	20	Vir	globular cluster	4.9 x 4.9	9.5	
14	29	42	-60	43	NGC 5617, OCL 919	5	Cen	open cluster	10 x 10	6.3	
14	31	12	-61	10	Tr 22, Cr 283	5	Cen	open cluster	7 x 7	7.9	
14	32	42	-44	11	NGC 5643, ESO 272-16, PGC 51969	5, 12	Lup	galaxy	4.6 x 4.0	10.0	10.74
14	33	42	-61	22	Hogg 17	5	Cen	open cluster	7 x 7	8.3	
14	35	36	-56	37	NGC 5662, OCL 928	5	Cen	open cluster	29 x 29	5.5	
14	39	12	+05	22	NGC 5701, UGC 9436	20	Vir	galaxy	4.7 x 4.6	10.9	
14	39	36	-26	32	NGC 5694, GCL 29	12	Hya	globular cluster	3.6 x 3.6	10.2	
14	43	30	-57	35	NGC 5715, OCL 929	5	Cir	open cluster	6 x 6	9.8	
14	44	54	+01	57	NGC 5746, UGC 9499	20	Vir	galaxy	6.9 x 1.2	10.3	
14	48	36	-65	15	Be 145	5	Cir	dark nebula	12 x 5		
14	48	54	-54	30	NGC 5749, OCL 930	5	Lup	open cluster	10 x 10	8.8	
14	50	42	-52	15	Hogg 18	5	Lup	open cluster	3 x 3	8.0	
15	00	18	-82	13	IC 4499, GCL 30	1	Aps	globular cluster	7.6 x 7.6	10.1	
15	01	12	+01	42	NGC 5813, UGC 9655	20	Vir	galaxy	4.0 x 2.8	10.5	
15	04	00	-33	04	NGC 5834, ESO 387-SC001	12	Lup	globular cluster	6.2 x 6.2	9.1	
15	04	24	-54	24	NGC 5822, OCL 937	5	Lup	open cluster	40 x 40	6.5	
15	05	24	+02	06	NGC 5838, UGC 9692	20	Vir	galaxy	3.7 x 1.6	10.9	
15	05	30	-55	36	NGC 5823, OCL 936	5	Cir	open cluster	10 x 10	7.9	
15	06	30	+01	36	NGC 5846, UGC 9706	20	Vir	galaxy	4.0 x 3.7	10.0	
15	07	06	+01	33	NGC 5850, UGC 9715	20	Vir	galaxy	4.5 x 3.9	10.8	
15	15	24	-59	04	Pismis 20	5	Cir	open cluster	4.5 x 4.5	7.8	
15	17	24	-21	01	NGC 5897, GCL 33	12	Lib	globular cluster	8.7 x 8.7	8.4	
15	18	36	+02	05	NGC 5904, Messier 5	20	Ser	globular cluster	19.9 x 19.9	5.7	
15	21	54	+05	04	NGC 5921, UGC 9824	20	Ser	galaxy	4.8 x 4.0	10.8	
15	27	24	-54	32	NGC 5925, OCL 938	5	Nor	open cluster	20 x 20	8.4	
15	28	00	-50	40	NGC 5927, GCL 35	5	Lup	globular cluster	12 x 12	8.0	
15	35	30	-50	40	NGC 5946, IC 4550	5	Nor	globular cluster	7.1 x 7.1	8.4	
15	46	06	-37	47	NGC 5986, Dunlop 552	12, 13	Lup	globular cluster	9.8 x 9.8	7.6	
15	50	42	-57	40	Cr 292	5	Nor	open cluster	16 x 16	7.9	
15	52	06	-56	28	NGC 5999, OCL 946	5	Nor	open cluster	3 x 3	9.0	
15	53	36	-04	39	LDN 134	20	Lib	dark nebula	22 x 12		
15	55	48	-57	26	NGC 6005, OCL 945	5	Nor	open cluster	3 x 3	10.7	
15	57	00	-37	48	SL 11	12, 13	Lup	dark nebula	150 x 40		
16	01	48	-41	52	SL 7	12, 13	Lup	dark nebula	60 x 10		
16	03	18	-60	26	NGC 6025, OCL 939	5, 6	TrA	open cluster	12 x 12	5.1	
16	04	48	-51	57	Lynga 6	5	Nor	open cluster	5 x 5	9.5	

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
16	07	36	-54	01	NGC 6031, OCL 951	5	Nor	open cluster	2 x 2	8.5	
16	09	24	-39	08	Be 149	12, 13	Sco	dark nebula	60 x 12		
16	13	12	-54	13	NGC 6067, OCL 953	5, 6	Nor	open cluster	13 x 13	5.6	
16	14	12	-44	04	SL 8	5, 12, 13	Nor	dark nebula	25.0 x 5.0		
16	14	42	-18	58	Barnard 40, LDN 1721	12, 13	Sco	dark nebula	15 x 15		
16	17	00	-22	59	NGC 6093, Messier 80	12, 13	Sco	globular cluster	5.1 x 5.1	7.3	
16	18	48	-57	56	NGC 6087, OCL 948	5, 6	Nor	open cluster	12 x 12	5.4	
16	19	54	-54	58	Cr 299, Harvard 10	5, 6	Nor	open cluster	25.0 x 25.0	6.9	
16	22	18	-19	38	Barnard 41, LDN 1717	12, 13	Sco	dark nebula	40 x 40		
16	23	36	-26	32	NGC 6121, Messier 4	12, 13	Sco	globular cluster	26.3 x 26.3	5.4	
16	24	24	-51	57	NGC 6115, Ru 118	5, 6	Nor	open cluster	3 x 3	11.0	
16	25	18	-40	39	NGC 6124, Dunlop 514	12, 13	Sco	open cluster	29 x 29	5.8	
16	25	30	-23	26	Barnard 42, LDN 1696	12, 13	Oph	dark nebula	20 x 6		
16	25	48	-72	12	NGC 6101, GCL 40	1, 5	Aps	globular cluster	10.7 x 10.7	9.3	
16	27	12	-26	01	NGC 6144, GCL 42	12, 13	Sco	globular cluster	6.2 x 6.2	9.1	
16	27	42	-38	51	NGC 6139, GCL 43	12, 13	Sco	globular cluster	5.5 x 5.5	9.2	
16	27	48	-49	09	NGC 6134, OCL 968	5	Nor	open cluster	7 x 7	7.2	
16	28	18	-51	31	Ru 119	5, 6	Nor	open cluster	8 x 8	8.8	
16	30	18	-19	47	Barnard 43, LDN 1752	12, 13	Oph	dark nebula	120 x 40		
16	32	30	-13	03	NGC 6171, Messier 107	12, 13, 20, 21	Oph	globular cluster	3.3 x 3.3	7.8	
16	32	48	-52	39	NGC 6152, OCL 961	5, 6	Nor	open cluster	25.0 x 25.0	8.1	
16	34	06	-44	03	NGC 6169, OCL 984	5, 12, 13	Nor	open cluster	12 x 12	6.6	
16	34	36	-49	46	NGC 6167, Harvard 11	5	Nor	open cluster	8 x 8	6.7	
16	35	18	-50	58	Cr 307	5, 6	Ara	open cluster	6 x 6	9.2	
16	35	48	-45	39	NGC 6178, OCL 980	5, 12, 13	Sco	open cluster	4 x 4	7.2	
16	37	30	-35	12	Barnard 231, SL 24	12, 13	Sco	dark nebula	50 x 40		
16	40	24	-43	22	NGC 6192, OCL 988	5, 12, 13	Sco	open cluster	9 x 9	8.5	
16	41	18	-48	46	NGC 6193, OCL 975	5	Ara	open cluster	15 x 15	5.2	
16	41	42	+36	28	NGC 6205, Messier 13	28, 29	Her	globular cluster	23.2 x 23.2	5.8	
16	44	06	-47	28	NGC 6200, OCL 978	5	Ara	open cluster	12 x 12	7.4	
16	44	06	-35	21	Barnard 233, SL 25	12, 13	Sco	dark nebula	55 x 20		
16	44	48	-40	23	Barnard 44a, SL 18	12, 13	Sco	dark nebula	5 x 5		
16	46	12	-47	01	NGC 6204, OCL 982	5	Ara	open cluster	5 x 5	8.2	
16	46	30	-21	36	Barnard 45, LDN 1744	12, 13	Oph	dark nebula	120 x 20		
16	46	36	-44	30	Barnard 235, SL 15	5, 12, 13	Sco	dark nebula	7 x 3		
16	47	12	-01	57	NGC 6218, Messier 12	20, 21	Oph	globular cluster	14.5 x 14.5	6.1	
16	49	24	-44	44	NGC 6216, NGC 6222	5, 12, 13	Sco	open cluster	4 x 4	10.1	
16	49	30	-53	44	NGC 6208, OCL 964	5, 6	Ara	open cluster	18 x 18	7.2	
16	51	36	-41	13	NGC 6227, ESO 332-**5	12, 13	Sco	open cluster	18 x 18	5.0	
16	52	48	-59	13	NGC 6221, ESO 138- 3, PGC 59175	5, 6	Ara	galaxy	3.5 x 2.5	9.9	10.66
16	53	00	-43	35	SL 17	5, 12, 13	Sco	dark nebula	15 x 7		
16	54	12	-41	49	NGC 6231, Dunlop 520	12, 13	Sco	open cluster	15 x 15	2.6	
16	55	00	-45	15	Lynga 14	5, 13	Sco	open cluster	2 x 2	9.7	
16	55	30	-40	50	Cr 316	12, 13	Sco	open cluster	105 x 105	3.4	
16	55	36	-39	28	NGC 6242, OCL 1001	12, 13	Sco	open cluster	9 x 9	6.4	
16	57	00	-40	38	Tr 24, Harvard 12	12, 13	Sco	open cluster	60 x 60	8.6	
16	57	06	-04	06	NGC 6254, Messier 10	20, 21	Oph	globular cluster	12.2 x 12.2	6.6	
16	57	12	-22	44	Barnard 46, LDN 1775	12, 13	Oph	dark nebula	12 x 12		
16	57	42	-44	49	NGC 6249, OCL 994	5, 13	Sco	open cluster	6 x 6	8.2	
16	57	54	-45	56	NGC 6250, OCL 991	5, 6, 13	Ara	open cluster	10 x 10	5.9	
16	59	06	-52	43	NGC 6253, OCL 972	5, 6	Ara	open cluster	4 x 4	10.2	
16	59	42	-22	39	Barnard 47, LDN 1792	12, 13	Oph	dark nebula	15 x 15		
17	00	48	-44	39	NGC 6259, OCL 996	5, 13	Sco	open cluster	10 x 10	8.0	
17	01	00	-40	47	Barnard 48, SL 20	12, 13	Sco	dark nebula	40 x 15		
17	01	12	-30	07	NGC 6266, Messier 62	12, 13	Oph	globular cluster	14.1 x 14.1	6.4	
17	02	12	-39	44	NGC 6268, OCL 1002	12, 13	Sco	open cluster	6 x 6	9.5	
17	02	36	-26	16	NGC 6273, Messier 19	12, 13	Oph	globular cluster	5.3 x 5.3	6.8	
17	03	00	-34	24	Barnard 50, SL 30	12, 13	Sco	dark nebula	15 x 15		
17	04	30	-24	46	NGC 6284, GCL 53	12, 13	Oph	globular cluster	2.7 x 2.7	9.0	
17	04	48	-22	16	Barnard 51, LDN 0015	12, 13	Oph	dark nebula	20 x 20		

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
17	05	12	-22	42	NGC 6287, GCL 54	12, 13	Oph	globular cluster	2.7 x 2.7	9.2	
17	06	06	-33	15	Barnard 53, SL 32	12, 13	Sco	dark nebula	30 x 10		
17	07	30	-32	00	Barnard 55, LDN 1682	12, 13	Sco	dark nebula	16 x 16		
17	08	18	-23	40	Barnard 57, LDN 11	12, 13	Oph	dark nebula	5 x 5		
17	08	42	-32	06	Barnard 56, LDN 1685	12, 13	Sco	dark nebula	3 x 3		
17	10	06	-28	24	Barnard 244, LDN 1736	12, 13	Oph	dark nebula	20 x 30		
17	10	12	-26	35	NGC 6293, GCL 55	12, 13	Oph	globular cluster	3.5 x 3.5	8.2	
17	11	12	-40	25	Barnard 58, SL 23	12, 13	Sco	dark nebula	30 x 30		
17	11	24	-27	30	Barnard 59, LDN 1746	12, 13	Oph	dark nebula	60 x 60		
17	11	48	-22	27	Barnard 60;246, LDN 17	13	Oph	dark nebula	30 x 20		
17	14	30	-29	28	NGC 6304, GCL 56	12, 13	Oph	globular cluster	3.8 x 3.8	8.4	
17	15	12	-20	29	Barnard 61, LDN 0111	13	Oph	dark nebula	10 x 4		
17	15	12	-32	13	Barnard 252, LDN 1698	12, 13	Sco	dark nebula	20 x 5		
17	16	12	-20	53	Barnard 62, LDN 100	13	Oph	dark nebula	19 x 19		
17	16	30	-21	29	Barnard 63, LDN 99	13	Oph	dark nebula	100 x 20		
17	16	36	-28	08	NGC 6316, GCL 57	12, 13	Oph	globular cluster	4.9 x 4.9	8.1	
17	17	00	-62	49	NGC 6300, ESO 101-25, PGC 60001	5, 6	Ara	galaxy	4.5 x 3.0	10.2	10.98
17	17	06	+43	08	NGC 6341, Messier 92	28, 29	Her	globular cluster	11.2 x 11.2	6.5	
17	17	12	-18	29	Barnard 64, LDN 173	13	Oph	dark nebula	20 x 20		
17	17	18	-35	33	Bochum 13	12, 13	Sco	open cluster	15 x 15	7.2	
17	18	24	-42	56	NGC 6322, OCL 1000	5, 6, 12, 13	Sco	open cluster	10 x 10	6.0	
17	19	12	-18	31	NGC 6333, Messier 9	13	Oph	globular cluster	5.5 x 5.5	7.9	
17	19	36	-26	42	Barnard 65-67, LDN 1772-3;1768	13	Oph	dark nebula	12 x 12		
17	20	42	-31	57	LDN 1710	13	Sco	dark nebula	60 x 10		
17	21	12	-19	35	NGC 6342, GCL 61	13	Oph	globular cluster	3 x 3	9.5	
17	22	00	-35	35	Barnard 257	13	Sco	dark nebula	10 x 7		
17	22	00	-19	19	Barnard 259, LDN 177	13	Oph	dark nebula	30 x 30		
17	22	18	-28	51	Barnard 256, LDN 1749	13	Oph	dark nebula	50 x 10		
17	22	30	-21	53	Barnard 67a, LDN 102	13	Oph	dark nebula	13 x 13		
17	22	36	-23	47	Barnard 68, LDN 57	13	Oph	dark nebula	4 x 4		
17	22	54	-23	55	Barnard 69, LDN 55	13	Oph	dark nebula	4 x 4		
17	23	30	-24	02	Barnard 70, LDN 54	13	Oph	dark nebula	4 x 4		
17	23	30	-23	38	Barnard 72, LDN 66	13	Oph	dark nebula	4 x 4		
17	23	36	-17	49	NGC 6356, GCL 62	13	Oph	globular cluster	3.5 x 3.5	8.2	
17	24	00	-26	21	NGC 6355, GCL 63	13	Oph	globular cluster	6.1 x 6.1	8.6	
17	24	42	-34	12	Pismis 24	13	Sco	open cluster	4 x 4	9.6	
17	24	48	-49	56	IC 4651, OCL 987	5, 6	Ara	open cluster	10 x 10	6.9	
17	25	12	-24	12	Barnard 74, LDN 081	13	Oph	dark nebula	15 x 10		
17	25	18	-22	28	Barnard 75;261-2, LDN 0112;85;91	13	Oph	dark nebula	110 x 5		
17	25	30	-48	25	NGC 6352, Dunlop 417	5, 6	Ara	globular cluster	7.1 x 7.1	7.8	
17	26	12	+24	12	DoDz 8	29	Her	open cluster	13 x 13	6.8	
17	26	18	-42	38	Barnard 263, SL 22	5, 6, 13	Sco	dark nebula	30 x 30		
17	27	42	-05	05	NGC 6366, GCL 65	21	Oph	globular cluster	5.8 x 5.8	9.5	
17	28	00	-23	22	Barnard 77;269, LDN 69	13	Oph	dark nebula	100 x 60		
17	28	30	-29	30	Tr 26, Cr 331	13	Oph	open cluster	7 x 7	9.5	
17	29	42	-32	30	Antalova 2	13	Sco	open cluster	3 x 3	8.8	
17	30	48	-37	05	Cr 332	13	Sco	open cluster	2 x 2	8.9	
17	31	18	-34	05	Cr 333	13	Sco	open cluster	8 x 8	9.8	
17	31	54	-67	03	NGC 6362, Dunlop 225	5, 6	Ara	globular cluster	10.7 x 10.7	8.3	
17	32	00	-20	32	Barnard 268;270, LDN 178;185	13	Oph	dark nebula	120 x 120		
17	32	24	+07	04	NGC 6384, UGC 10891	21	Oph	galaxy	5.8 x 3.8	10.4	
17	34	12	-40	25	SL 26	13	Sco	dark nebula	10 x 5		
17	34	42	-32	35	NGC 6374, NGC 6383	13	Sco	open cluster	20 x 20	9.0	
17	35	18	-39	14	SL 28	13	Sco	dark nebula	30 x 15		
17	36	12	-33	29	Tr 27, Cr 336	13	Sco	open cluster	7 x 7	6.7	
17	36	18	-44	44	NGC 6388, GCL 70	5, 6, 13	Sco	globular cluster	8.7 x 8.7	6.8	
17	36	54	-32	28	Tr 28, Cr 337	13	Sco	open cluster	8 x 8	7.7	
17	37	36	-35	02	NGC 6396, OCL 1018	13	Sco	open cluster	3 x 3	8.5	
17	37	36	-03	15	NGC 6402, Messier 14	21	Oph	globular cluster	6.7 x 6.7	7.6	
17	37	48	-36	18	Ru 127	13	Sco	open cluster	8 x 8	8.8	

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
17	38	12	-37	34	Cr 338	13	Sco	open cluster	25.0 x 25.0	8.0	
17	39	30	-19	47	Barnard 79;276, LDN 216; 219	13	Oph	dark nebula	50 x 30		
17	39	36	-33	15	NGC 6404, OCL 1024	13	Sco	open cluster	5 x 5	10.6	
17	40	12	-36	57	NGC 6400, OCL 1014	13	Sco	open cluster	12 x 12	8.8	
17	40	18	-32	15	NGC 6405, Messier 6	13	Sco	open cluster	20 x 20	4.2	
17	40	42	-53	40	NGC 6397, Lac III-11	5, 6	Ara	globular cluster	25.7 x 25.7	5.3	
17	41	36	-40	07	Tr 29, Cr 343	13	Sco	open cluster	9 x 9	7.5	
17	44	18	-32	22	NGC 6416, OCL 1031	13	Sco	open cluster	14 x 14	5.7	
17	44	36	-33	52	Cr 345	13	Sco	open cluster	6 x 6	10.9	
17	44	54	+03	10	NGC 6426, GCL 76	21	Oph	globular cluster	3.2 x 3.2	10.9	
17	45	18	-20	00	Barnard 83a, LDN 233	13	Sgr	dark nebula	4 x 4		
17	46	18	-29	20	Cr 347	13	Sgr	open cluster	10 x 10	8.8	
17	46	18	+05	43	IC 4665, OCL 85	21	Oph	open cluster	41 x 41	4.2	
17	46	30	-20	11	Barnard 84, LDN 235	13	Sgr	dark nebula	30 x 15		
17	47	00	-31	32	NGC 6425, OCL 1033	13	Sco	open cluster	10 x 10	7.2	
17	48	06	+01	18	Cr 350	21	Oph	open cluster	45 x 45	6.1	
17	49	54	-28	46	Cr 351	13	Sgr	open cluster	9 x 9	9.3	
17	50	12	-37	03	NGC 6441, GCL 78	13	Sco	globular cluster	7.8 x 7.8	7.4	
17	50	42	-30	13	NGC 6451, OCL 1035	13	Sco	open cluster	8 x 8	8.2	
17	50	54	-34	36	NGC 6453, GCL 79	13	Sco	globular cluster	3.5 x 3.5	10.2	
17	51	18	-33	53	Barnard 283	13	Sco	dark nebula	90 x 60		
17	53	12	-22	17	NGC 6469, OCL 21	13	Sgr	open cluster	12 x 12	8.2	
17	53	54	-34	48	NGC 6475, Messier 7	13	Sco	open cluster	80 x 80	3.3	
17	54	24	-35	12	Barnard 287	13	Sco	dark nebula	25.0 x 15.0		
17	56	30	-35	19	Tr 30, Harvard 18	13	Sco	open cluster	10 x 10	8.8	
17	57	06	-18	59	NGC 6494, Messier 23	13	Sgr	open cluster	27.0 x 27.0	5.5	
17	57	30	-17	40	Barnard 84a, LDN 302	13, 21	Sgr	dark nebula	16 x 16		
17	59	00	-44	16	NGC 6496, GCL 80	6, 13	Sco	globular cluster	6.9 x 6.9	8.6	
17	59	48	-17	27	NGC 6507, OCL 32	13, 21	Sgr	open cluster	7 x 7	9.6	
17	59	54	-28	11	Tr 31, Cr 357	13	Sgr	open cluster	8 x 8	9.8	
18	01	48	-27	50	Djorgovski 2, ESO 456-SC38	13	Sgr	globular cluster	9.9 x 9.9	9.9	
18	02	00	-23	42	Bochum 14	13	Sgr	open cluster	2 x 2	9.3	
18	02	42	-27	50	Barnard 86, LDN 93	13	Sgr	dark nebula	4.0 x 3.5		
18	02	42	-22	58	NGC 6514, Messier 20	13	Sgr	bright nebula	28 x 28	6.3	
18	03	24	-27	53	NGC 6520, OCL 10	13	Sgr	open cluster	6 x 6	7.6	
18	03	36	-30	02	NGC 6522, GCL 82	13	Sgr	globular cluster	5.6 x 5.6	9.9	
18	03	42	-24	23	NGC 6523, Messier 8	13	Sgr	bright nebula	45 x 30	5.0	
18	03	48	-24	23	Barnard 88-9;286	13	Sgr	dark nebula	2.0 x 0.5		
18	04	12	-22	29	NGC 6531, Messier 21	13	Sgr	open cluster	13 x 13	5.9	
18	04	18	-32	30	Barnard 87, LDN 1771	13	Sgr	dark nebula	12 x 12		
18	04	30	-24	21	NGC 6530, OCL 19	13	Sgr	open cluster	15 x 15	4.6	
18	04	48	-30	03	NGC 6528, GCL 84	13	Sgr	globular cluster	3.7 x 3.7	9.5	
18	04	48	-07	35	NGC 6539, GCL 85	21	Ser	globular cluster	2.5 x 2.5	8.9	
18	07	18	-25	00	NGC 6544, GCL 87	13	Sgr	globular cluster	8.4 x 8.4	7.5	
18	07	24	-23	18	NGC 6546, OCL 24	13	Sgr	open cluster	13 x 13	8.0	
18	08	00	-43	42	NGC 6541, Dunlop 473	6, 13	CrA	globular cluster	13.1 x 13.1	6.3	
18	09	18	-25	54	NGC 6553, GCL 88	13	Sgr	globular cluster	3.2 x 3.2	8.3	
18	09	48	-23	50	Cr 367	13	Sgr	open cluster	37.0 x 37.0	6.4	
18	10	00	-23	39	Barnard 91	13	Sgr	dark nebula	5 x 2		
18	10	12	-28	19	Barnard 90, LDN 227	13	Sgr	dark nebula	3 x 1		
18	10	18	-31	46	NGC 6558, GCL 89	13	Sgr	globular cluster	3.7 x 3.7	8.6	
18	10	48	-07	13	IC 1276, Pal 7	21	Ser	globular cluster	7.1 x 7.1	10.3	
18	12	48	-21	35	NGC 6568, OCL 28	13	Sgr	open cluster	13 x 13	8.6	
18	13	36	-31	50	NGC 6569, GCL 91	13	Sgr	globular cluster	5.8 x 5.8	8.4	
18	15	30	-18	14	Barnard 92, LDN 323	13	Sgr	dark nebula	15 x 9		
18	15	48	-22	08	NGC 6583, OCL 27	13	Sgr	open cluster	2.8 x 2.8	10.0	
18	16	30	-18	19	Cr 469	13	Sgr	open cluster	5 x 5	9.1	
18	16	54	-18	04	Barnard 93, LDN 327	13	Sgr	dark nebula	12 x 2		
18	17	06	-19	52	NGC 6595, IC 4700	13	Sgr	open cluster	11 x 11	7.0	
18	18	06	-12	14	NGC 6604, OCL 56	13, 21	Ser	open cluster	2 x 2	6.5	

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
18	18	36	-52	13	NGC 6584, Dunlop 376	5, 6	Tel	globular cluster	7.9 x 7.9	7.9	
18	18	48	-13	47	NGC 6611, Messier 16	13, 21	Ser	bright nebula	7 x 7	6.0	
18	19	54	-17	08	NGC 6613, Messier 18	13, 21	Sgr	open cluster	9 x 9	6.9	
18	20	48	-16	11	NGC 6618, Messier 17	13, 21	Sgr	bright nebula	11 x 11	6.0	
18	23	12	-12	03	NGC 6625, OCL 58	21	Sct	open cluster	39.0 x 39.0	9.0	
18	23	42	-30	22	NGC 6624, GCL 93	13	Sgr	globular cluster	5.9 x 5.9	7.6	
18	24	30	-24	52	NGC 6626, Messier 28	13	Sgr	globular cluster	15 x 15	6.9	
18	24	36	-19	44	Tr 33, Cr 378	13	Sgr	open cluster	7 x 7	7.8	
18	25	36	-11	45	Barnard 95, LDN 406	21	Sct	dark nebula	30 x 30		
18	26	24	-10	18	Barnard 97, LDN 435	21	Sct	dark nebula	50 x 50		
18	26	36	-18	23	IC 4715, Messier 24	13	Sgr	open cluster	95 x 35	3.1	
18	27	18	+06	31	NGC 6633, OCL 90	21	Oph	open cluster	27.0 x 27.0	4.6	
18	30	54	-25	30	NGC 6638, GCL 95	13	Sgr	globular cluster	2.2 x 2.2	9.2	
18	30	54	-15	08	Barnard 312, LDN 379	13, 21	Sct	dark nebula	100 x 100		
18	31	24	-32	21	NGC 6637, Messier 69	13	Sgr	globular cluster	7.1 x 7.1	7.7	
18	31	48	-19	07	IC 4725, Messier 25	13	Sgr	open cluster	29 x 29	4.6	
18	32	00	-16	53	NGC 6645, OCL 48	13, 21	Sgr	open cluster	10 x 10	8.5	
18	32	42	-09	08	Barnard 100-1, LDN 443	21	Sct	dark nebula	40 x 15		
18	33	30	-10	24	NGC 6649, OCL 66	21	Sct	open cluster	6 x 6	8.9	
18	35	48	-32	59	NGC 6652, GCL 98	13	Sgr	globular cluster	3.5 x 3.5	8.5	
18	36	24	-23	54	NGC 6656, Messier 22	13	Sgr	globular cluster	24.0 x 24.0	5.2	
18	36	36	-07	49	NGC 6664, OCL 68	21	Sct	open cluster	16 x 16	7.8	
18	37	36	-01	12	LDN 564	21	Ser	dark nebula	45 x 15		
18	37	42	-09	37	Barnard 314, LDN 445	21	Sct	dark nebula	35.0 x 25.0		
18	38	36	-01	47	LDN 557	21	Ser	dark nebula	60 x 10		
18	39	00	+05	27	IC 4756, Cr 386	21	Ser	open cluster	39.0 x 39.0	4.6	
18	39	12	-06	40	Barnard 103, LDN 497	21	Sct	dark nebula	4 x 4		
18	39	48	-08	29	Tr 34, Cr 387	21	Sct	open cluster	8 x 8	8.6	
18	41	30	-19	49	Pal 8	13	Sgr	globular cluster	5.2 x 5.2	10.9	
18	42	12	-06	17	NGC 6683, OCL 74	21	Sct	open cluster	11 x 11	9.4	
18	42	54	-04	14	Tr 35, Cr 398	21	Sct	open cluster	9 x 9	9.2	
18	43	12	-32	18	NGC 6681, Messier 70	13, 14	Sgr	globular cluster	7.8 x 7.8	7.8	
18	45	12	-09	24	NGC 6694, Messier 26	21	Sct	open cluster	15 x 15	8.0	
18	47	18	-04	32	Barnard 104, LDN 532	21	Sct	dark nebula	16 x 1		
18	48	06	-05	51	Basel 1, Apriamavili 1	21	Sct	open cluster	9 x 9	8.9	
18	49	00	-65	10	NGC 6684, ESO 104-16	5, 6	Pav	galaxy	4.1 x 2.6	10.4	
18	49	36	-06	19	Barnard 108, LDN 534	21	Sct	dark nebula	3 x 3		
18	49	42	-06	24	Barnard 318	21	Sct	dark nebula	90 x 2		
18	50	12	-04	46	Barnard 110, LDN 530	21	Sct	dark nebula	9 x 11		
18	50	54	-05	12	NGC 6704, OCL 82	21	Sct	open cluster	6 x 6	9.2	
18	51	00	-05	00	Barnard 111;119a, LDN 534	21	Sct	dark nebula	120 x 120		
18	51	06	-06	16	NGC 6705, Messier 11	21	Sct	open cluster	14 x 14	5.8	
18	51	12	-06	40	Barnard 112	21	Sct	dark nebula	20 x 20		
18	51	24	-04	19	Barnard 113, LDN 548	21	Sct	dark nebula	11 x 11		
18	51	30	+10	21	NGC 6709, OCL 100	21	Aql	open cluster	13 x 13	6.7	
18	52	18	-20	12	Cr 394	13, 14	Sgr	open cluster	22 x 22	6.3	
18	52	36	-01	56	LDN 582	21	Aql	dark nebula	60 x 10		
18	53	06	-08	42	NGC 6712, GCL 103	21	Sct	globular cluster	4.3 x 4.3	8.2	
18	53	12	-07	06	Barnard 114-7, LDN 514	21	Sct	dark nebula	50 x 5		
18	53	54	-07	27	Barnard 118, LDN 509	21	Sct	dark nebula	2 x 2		
18	54	30	+36	54	Steph 1	29, 30	Lyr	open cluster	20 x 20	3.8	
18	54	36	-19	54	NGC 6716, OCL 46	13, 14	Sgr	open cluster	7 x 7	7.5	
18	55	06	-30	29	NGC 6715, Messier 54	13, 14	Sgr	globular cluster	9.1 x 9.1	7.7	
18	55	06	-22	42	NGC 6717, Pal 9	13, 14	Sgr	globular cluster	3.9 x 3.9	8.4	
18	57	30	+01	04	LDN 617	21	Aql	dark nebula	180 x 180		
18	59	36	-36	38	NGC 6723, Dunlop 573	13, 14	Sgr	globular cluster	11 x 11	6.8	
19	01	24	+11	36	NGC 6738, OCL 101	21, 22	Aql	open cluster	15 x 15	8.3	
19	01	36	-05	26	Barnard 127;129-30, LDN 544	21, 22	Aql	dark nebula	20 x 5		
19	02	54	-37	08	Be 157	13, 14	CrA	dark nebula	110 x 28		
19	04	06	-04	28	Barnard 132;328, LDN 567	21, 22	Aql	dark nebula	16 x 8		

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
19	06	06	-06	50	Barnard 133, LDN 531	21, 22	Aql	dark nebula	10 x 3		
19	06	54	-06	14	Barnard 134, LDN 543	21, 22	Aql	dark nebula	6 x 6		
19	07	24	-03	55	Barnard 135-6, LDN 581	21, 22	Aql	dark nebula	50 x 30		
19	07	48	+04	16	NGC 6755, OCL 96	21, 22	Aql	open cluster	15 x 15	7.5	
19	08	42	+04	42	NGC 6756, OCL 99	21, 22	Aql	open cluster	4 x 4	10.6	
19	09	48	-63	51	NGC 6744, ESO 104-42, PGC 62836	6	Pav	galaxy	20.0 x 12.9	8.3	9.14
19	10	18	-37	08	SL 42	13, 14	CrA	dark nebula	12 x 8		
19	10	54	-59	59	NGC 6752, Dunlop 295	6	Pav	globular cluster	20.4 x 20.4	5.4	
19	11	12	+01	02	NGC 6760, GCL 109	21, 22	Aql	globular cluster	2.4 x 2.4	9.1	
19	15	36	+00	13	Barnard 137-8, LDN 618;627	21, 22	Aql	dark nebula	180 x 10		
19	16	36	+30	11	NGC 6779, Messier 56	29, 30	Lyr	globular cluster	5 x 5	8.3	
19	18	06	-01	28	Barnard 139, LDN 619	21, 22	Aql	dark nebula	10 x 2		
19	20	42	+37	51	NGC 6791, OCL 142	29, 30	Lyr	open cluster	16 x 16	9.5	
19	20	54	+11	16	LDN 673	21, 22	Aql	dark nebula	55 x 15		
19	21	48	+12	26	LDN 684	21, 22, 29, 30	Aql	dark nebula	50 x 10		
19	26	12	+20	06	Cr 399	29, 30	Vul	open cluster	60 x 60	3.6	
19	30	36	+20	16	NGC 6802, OCL 114	29, 30	Vul	open cluster	3.2 x 3.2	8.8	
19	35	48	+25	11	Stock 1	29, 30	Vul	open cluster	60 x 60	5.3	
19	36	48	+12	27	Barnard 334;336-7, LDN 701;702;705	21, 22, 29, 30	Aql	dark nebula	40 x 5		
19	36	54	+07	34	Barnard 335, LDN 663	21, 22	Aql	dark nebula	4 x 4		
19	40	00	-30	58	NGC 6809, Messier 55	13, 14	Sgr	globular cluster	19 x 19	6.3	
19	40	42	+10	57	Barnard 142-3, LDN 688;694	21, 22	Aql	dark nebula	80 x 50		
19	41	18	+40	11	NGC 6819, OCL 155	29, 30	Cyg	open cluster	5 x 5	7.3	
19	43	12	+23	18	NGC 6823, OCL 124	29, 30	Vul	open cluster	12 x 12	7.1	
19	44	54	-14	48	NGC 6822, IC 4895, PGC 63616	13, 14, 21, 22	Sgr	galaxy	15.5 x 13.5	8.8	9.31
19	45	18	-08	01	Pal 11	21, 22	Aql	globular cluster	10 x 10	9.8	
19	51	00	+23	06	NGC 6830, OCL 125	29, 30	Vul	open cluster	12 x 12	7.9	
19	52	12	+29	24	NGC 6834, OCL 134	29, 30	Cyg	open cluster	5 x 5	7.8	
19	53	06	+18	21	Harvard 20	29, 30	Sge	open cluster	7 x 7	7.7	
19	53	48	+18	47	NGC 6838, Messier 71	29, 30	Sge	globular cluster	6.1 x 6.1	8.3	
19	59	00	+35	00	Barnard 144, LDN 857	29, 30	Cyg	dark nebula	30 x 30		
19	59	36	+22	43	NGC 6853, Messier 27, PNG 060.8-03.6	29, 30	Vul	planetary nebula	8.0 x 5.7	7.3	
20	02	48	+37	40	Barnard 145, LDN 865	29, 30	Cyg	dark nebula	35.0 x 6.0		
20	03	54	+44	10	NGC 6866, OCL 183	29, 30	Cyg	open cluster	7 x 7	7.6	
20	04	54	+29	13	Roslund 4	29, 30	Vul	open cluster	6 x 6	10.0	
20	05	54	+35	47	NGC 6871, OCL 148	29, 30	Cyg	open cluster	20 x 20	5.2	
20	06	06	-21	55	NGC 6864, Messier 75	13, 14	Sgr	globular cluster	6 x 6	8.6	
20	06	48	+38	21	Basel 6	29, 30	Cyg	open cluster	14 x 14	7.7	
20	09	12	+35	29	Biur 2	29, 30	Cyg	open cluster	13 x 13	6.3	
20	09	54	-48	23	NGC 6868, ESO 233-39	6	Tel	galaxy	3.6 x 2.8	10.6	
20	11	18	+35	51	NGC 6883, OCL 148	29, 30	Cyg	open cluster	15 x 15	8.0	
20	11	54	+26	40	NGC 6882	29, 30	Vul	asterism	18 x 18	8.1	
20	11	54	+26	29	NGC 6885, OCL 152	29, 30	Vul	open cluster	7 x 7	8.1	
20	12	48	+38	19	NGC 6888, LBN 203	29, 30	Cyg	bright nebula	20 x 10	10.0	
20	13	30	+40	16	Barnard 343, LDN 880	29, 30	Cyg	dark nebula	10 x 5		
20	15	18	-79	17	Mel 227, Cr 411	1	Oct	open cluster	50 x 50	5.3	
20	16	30	+37	38	IC 4996, Cr 418	29, 30	Cyg	open cluster	6 x 6	7.3	
20	18	06	+40	44	Cr 419	29, 30	Cyg	open cluster	4.5 x 4.5	5.4	
20	20	24	+38	42	Berk 86	30	Cyg	open cluster	8 x 8	7.9	
20	23	12	+40	47	NGC 6910, OCL 181	30	Cyg	open cluster	8 x 8	7.4	
20	23	18	+41	42	Cr 421	30	Cyg	open cluster	6 x 6	10.1	
20	23	54	+38	32	NGC 6913, Messier 29	30	Cyg	open cluster	7 x 7	6.6	
20	24	30	-43	39	NGC 6902, IC 4948	6, 14	Sgr	galaxy	6.1 x 4.1	10.9	
20	24	48	+40	10	LDN 889	30	Cyg	dark nebula	90 x 20		
20	26	42	+43	45	Barnard 346, LDN 906	30	Cyg	dark nebula	10 x 4		
20	28	24	+39	55	Barnard 347, LDN 889	30	Cyg	dark nebula	10 x 1		
20	34	12	+07	24	NGC 6934, GCL 117	22	Del	globular cluster	7 x 7	8.9	
20	34	24	+28	17	NGC 6940, OCL 141	30	Vul	open cluster	31 x 31	6.3	
20	49	06	+45	53	Barnard 350	30	Cyg	dark nebula	3 x 3		
20	50	48	+44	21	IC 5067, IC 5070; LBN 350	30	Cyg	bright nebula	60 x 50	8.0	

Catalogue of deep sky objects, continued

h	m	s	°	'	Object designation	Chart	Con	Type	Size (arcmin)	V	B
20	53	30	-12	32	NGC 6981, Messier 72	14, 22	Aqr	globular cluster	5.9 x 5.9	9.2	
20	56	24	+31	43	NGC 6992, Ced 182B	30	Cyg	bright nebula	60 x 8	7.0	
20	56	30	+45	29	NGC 6996	30	Cyg	open cluster	7 x 7	10.0	
20	56	48	+43	52	LDN 935	30	Cyg	dark nebula	150 x 150		
20	56	48	+44	39	NGC 6997, OCL 197	30	Cyg	open cluster	7 x 7	10.0	
20	57	06	+45	22	Barnard 352	30	Cyg	dark nebula	20 x 10		
20	57	06	+31	13	NGC 6995, Ced 182C	30	Cyg	bright nebula	12 x 12	7.0	
20	59	00	-12	38	NGC 6994, Messier 73	14, 22	Aqr	open cluster	2.8 x 2.8	9.7	
21	01	30	+16	11	NGC 7006, GCL 119	22, 30	Del	globular cluster	2.8 x 2.8	10.6	
21	01	48	+44	12	NGC 7000, LBN 373	30	Cyg	bright nebula	120 x 30	4.0	
21	03	12	+44	35	Cr 428	30	Cyg	open cluster	14 x 14	8.7	
21	11	12	+45	39	NGC 7039, OCL 203	30	Cyg	open cluster	25.0 x 25.0	7.6	
21	12	06	+47	44	IC 1369, Cr 432	30	Cyg	open cluster	4 x 4	8.8	
21	12	54	+47	22	Barnard 361, LDN 970	30	Cyg	dark nebula	17 x 17		
21	19	00	-48	34	NGC 7049, ESO 236-1	2, 6	Ind	galaxy	4.5 x 3.0	10.7	
21	23	30	+46	23	NGC 7062, OCL 205	30	Cyg	open cluster	7 x 7	8.3	
21	24	24	+36	30	NGC 7063, OCL 192	30	Cyg	open cluster	8 x 8	7.0	
21	29	24	+47	05	NGC 7082, OCL 209	30	Cyg	open cluster	25.0 x 25.0	7.2	
21	30	00	+12	10	NGC 7078, Messier 15	22, 30	Peg	globular cluster	12.3 x 12.3	6.4	
21	33	30	-00	49	NGC 7089, Messier 2	22	Aqr	globular cluster	11.7 x 11.7	6.5	
21	36	30	-54	33	NGC 7090, ESO 188-12	2, 6	Ind	galaxy	7.3 x 1.2	10.7	
21	40	24	-23	11	NGC 7099, Messier 30	14	Cap	globular cluster	8.9 x 8.9	6.9	
21	52	42	-48	15	NGC 7144, ESO 237-11	2, 6	Gru	galaxy	3.7 x 3.6	10.8	
21	53	12	+47	12	Barnard 168, LDN 1055	30	Cyg	dark nebula	100 x 100		
21	59	36	-39	23	IC 5148, PK 2-52.1	7, 14	Gru	planetary nebula	2 x 2	11.0	
22	02	42	-51	18	IC 5152, ESO 237-27	2, 6	Ind	galaxy	5.5 x 4.0	10.6	
22	02	42	-20	49	NGC 7184, ESO 601-9	7, 14	Aqr	galaxy	5.9 x 1.3	10.9	
22	05	06	+46	29	NGC 7209, OCL 215	30	Lac	open cluster	25.0 x 25.0	7.7	
22	07	54	+31	22	NGC 7217, UGC 11914	23, 30	Peg	galaxy	4.0 x 3.4	10.1	
22	08	36	-57	27	NGC 7205, ESO 146-9	2, 6	Ind	galaxy	4 x 2	10.9	
22	09	18	-47	10	NGC 7213, ESO 288-43	2, 6	Gru	galaxy	3.7 x 3.4	10.1	
22	21	00	-46	02	IC 5201, ESO 289-GO18	2, 6, 14	Gru	galaxy	7.8 x 4.0	10.6	
22	29	36	-20	50	NGC 7293, PK 36-57.1	7, 14	Aqr	planetary nebula	16 x 12	6.3	
22	35	48	-26	03	NGC 7314, ESO 533-53	7, 14	Psa	galaxy	4.6 x 2.0	11.0	
22	37	06	+34	25	NGC 7331, UGC 12113, PGC 69327	23, 30	Peg	galaxy	10.5 x 3.7	9.5	10.35
22	55	00	-39	40	NGC 7410, ESO 346-12	7, 14	Gru	galaxy	5.5 x 1.5	10.3	
22	56	36	-37	02	NGC 7418, ESO 406-25	7, 14	Gru	galaxy	3.8 x 2.7	10.9	
22	57	11	-36	28	IC 1459, IC 5265, PGC 70090	7, 14	Gru	galaxy	5.2 x 3.8	10.0	10.97
22	57	12	-43	24	IC 5267, ESO 290-G026	2, 7, 14	Gru	galaxy	5.4 x 3.5	10.5	
22	57	18	-41	04	NGC 7424, ESO 346-19, PGC 70096	7, 14	Gru	galaxy	10.0 x 8.2	10.5	10.96
23	04	54	+12	19	NGC 7479, UGC 12343	15, 23	Peg	galaxy	4.0 x 3.1	10.9	
23	12	06	-28	32	NGC 7507, ESO 469-19	7, 14	Sci	galaxy	2.8 x 2.7	10.4	
23	16	12	-42	35	NGC 7552, IC 5294	2, 7, 14	Gru	galaxy	3.4 x 3.0	10.6	
23	18	24	-42	22	NGC 7582, ESO 291-16	2, 7, 14	Gru	galaxy	5.0 x 2.3	10.6	
23	19	06	-08	29	NGC 7606, MCG - 2-59- 12	15	Aqr	galaxy	4.2 x 2.3	10.8	
23	34	30	-36	06	IC 5332, ESO 408- 9	7	Sci	galaxy	8.4 x 7.6	10.5	
23	39	54	-12	18	NGC 7727, MCG - 2-60- 8	7, 15	Aqr	galaxy	4.7 x 4.1	10.6	
23	57	48	-32	35	NGC 7793, ESO 349-12, PGC 73049	7	Sci	galaxy	9.6 x 6.4	9.1	9.63