

AL Urban Observing Program

Introduction

The purpose of the Urban Program is to bring amateur astronomy back to the cities, back to those areas that are affected by heavy light pollution. Amateur astronomy used to be called "backyard astronomy". This was in the days when light pollution was not a problem, and you could pursue your hobby from the comfort of your backyard. But as cities grew, so did light pollution, and the amateur astronomer was forced to drive further and further out into the country to escape that light pollution. It is not uncommon today for a city dweller to drive 100 miles to enjoy his/her hobby. But many people do not have the time or the resources to drive great distances to achieve dark skies. That is the reason for the creation of this program, to allow those who want to enjoy the wonders of the heavens in the comfort of their own neighborhoods to do so, and to maximize the observing experience despite the presence of heavy light pollution.



The list of Urban Program objects consists of 87 deep-sky objects, 12 double stars and 1 variable star.

The objects on this list have been observed from the East Coast to Middle America to the West Coast, and from major metropolitan areas like Miami, Baltimore, Dallas, Houston, and Los Angeles. Sky limiting magnitudes went from a high of 4, down to 2, to a "Geez" on one particularly bad evening. Instruments ranged from a six-inch reflector to a ten-inch SCT. There is a world of objects out there that can be enjoyed under even poor skies, and it only takes a small to medium sized telescope to enjoy them. It is sincerely hoped that this program encourages you to continue your enjoyment of this wonderful hobby of astronomy.

Urban Observing Program - Deep-Sky Objects

OC: Open Cluster PN: Planetary Nebula
 GC: Globular Cluster BN: Bright Nebula
 GAL: Galaxy

Object	Messier	RA	Dec	Mag	Type	Con
NGC 129		00 ^h 29.9 ^m	+60° 14'	6.5	OC	Cas
NGC 221	M32	00 ^h 42.7 ^m	+40° 52'	9.0	GAL	And
NGC 224	M31	00 ^h 42.7 ^m	+41° 16'	4.4	GAL	And
NGC 457		01 ^h 19.1 ^m	+58° 20'	6.4	OC	Cas
NGC 663		01 ^h 46.0 ^m	+61° 15'	7.1	OC	Cas
Cr 463		01 ^h 48.4 ^m	+71° 57'	5.7	OC	Cas
NGC 752		01 ^h 57.8 ^m	+37° 41'	5.7	OC	And
Stock 2		02 ^h 15.0 ^m	+59° 16'	4.4	OC	Cas
NGC 869		02 ^h 19.0 ^m	+57° 09'	5.3	OC	Per
NGC 884		02 ^h 22.4 ^m	+57° 07'	6.1	OC	Per
Tr 2		02 ^h 37.3 ^m	+55° 59'	5.9	OC	Per
NGC 1068	M77	02 ^h 42.7 ^m	-00° 01'	8.8	GAL	Cet
Tr 3		03 ^h 11.8 ^m	+63° 15'	7.0	OC	Cas
Stock 23		03 ^h 16.0 ^m	+60° 02'	6.2	OC	Cam
Mel 20		03 ^h 22.0 ^m	+49° 00'	1.2	OC	Per
NGC 1342		03 ^h 31.6 ^m	+37° 20'	6.7	OC	Per
M45	M45	03 ^h 46.9 ^m	+24° 07'	1.2	OC	Tau
Hyades		04 ^h 27.0 ^m	+16° 00'	0.5	OC	Tau
NGC 1647		04 ^h 46.0 ^m	+19° 04'	6.4	OC	Tau
NGC 1807		05 ^h 10.7 ^m	+16° 32'	7.0	OC	Tau
NGC 1817		05 ^h 12.1 ^m	+16° 42'	7.7	OC	Tau
NGC 1912	M38	05 ^h 28.7 ^m	+35° 50'	6.4	OC	Aur
NGC 1960	M36	05 ^h 36.1 ^m	+34° 05'	6.0	OC	Aur
NGC 1976	M42	05 ^h 35.4 ^m	-05° 27'	3.7	BN	Ori
NGC 1981		05 ^h 35.2 ^m	-04° 26'	4.2	OC	Ori
NGC 2099	M37	05 ^h 52.4 ^m	+32° 33'	5.6	OC	Aur
NGC 2168	M35	06 ^h 05.9 ^m	+24° 20'	5.1	OC	Gem
NGC 2169		06 ^h 06.4 ^m	+13° 57'	5.9	OC	Ori
NGC 2232		06 ^h 26.6 ^m	-04° 45'	3.9	OC	Mon
NGC 2244		06 ^h 32.4 ^m	+04° 52'	4.8	OC	Mon
NGC 2264		06 ^h 41.1 ^m	+09° 53'	3.9	OC	Mon
NGC 2281		06 ^h 49.3 ^m	+41° 04'	5.4	OC	Aur
NGC 2287	M41	06 ^h 46.1 ^m	-20° 46'	4.5	OC	CMA

Object	Messier	RA	Dec	Mag	Type	Con
NGC 2301		06 ^h 51.8 ^m	+00° 28'	6.0	OC	Mon
NGC 2323	M50	07 ^h 03.2 ^m	-08° 20'	5.9	OC	Mon
NGC 2392		07 ^h 29.2 ^m	+20° 55'	9.2	PN	Gem
NGC 2539		08 ^h 10.7 ^m	-12° 50'	6.5	OC	Pup
NGC 2548	M48	08 ^h 13.8 ^m	-05° 48'	5.8	OC	Hya
NGC 2632	M44	08 ^h 40.1 ^m	+19° 59'	3.1	OC	Cnc
NGC 2682	M67	08 ^h 50.4 ^m	+11° 49'	6.9	OC	Cnc
NGC 3031	M81	09 ^h 55.6 ^m	+69° 04'	6.8	GAL	UMa
NGC 3034	M82	09 ^h 55.8 ^m	+69° 41'	8.4	GAL	UMa
NGC 3242		10 ^h 24.8 ^m	-18° 38'	7.8	PN	Hya
Mel 111		12 ^h 25.0 ^m	+26° 00'	1.8	OC	Com
NGC 4374	M84	12 ^h 25.1 ^m	+12° 53'	10.1	GAL	Vir
NGC 4406	M86	12 ^h 26.2 ^m	+12° 57'	9.8	GAL	Vir
NGC 4486	M87	12 ^h 30.8 ^m	+12° 24'	8.6	GAL	Vir
NGC 4594	M104	12 ^h 40.0 ^m	-11° 37'	8.3	GAL	Vir
NGC 4736	M94	12 ^h 50.9 ^m	+41° 07'	8.1	GAL	CVn
NGC 4826	M64	12 ^h 56.7 ^m	+21° 41'	8.5	GAL	Corn
NGC 5272	M3	13 ^h 42.2 ^m	+28° 23'	5.9	GC	CVn
NGC 5904	M5	15 ^h 18.6 ^m	+02° 05'	5.7	GC	Ser
NGC 6121	M4	16 ^h 23.6 ^m	-26° 32'	5.8	GC	Sco
NGC 6205	M13	16 ^h 41.7 ^m	+36° 28'	5.7	GC	Her
NGC 6210		16 ^h 44.5 ^m	+23° 49'	8.8	PN	Her
NGC 6218	M12	16 ^h 47.2 ^m	-01° 57'	6.8	GC	Oph
NGC 6254	M10	16 ^h 57.1 ^m	-04° 06'	6.6	GC	Oph
NGC 6266	M62	17 ^h 01.2 ^m	-30° 07'	6.7	GC	oph
NGC 6341	M92	17 ^h 17.1 ^m	+43° 05'	6.4	GC	Her
NGC 6405	M6	17 ^h 40.1 ^m	-32° 13'	4.2	OC	Sco
IC 4665		17 ^h 46.3 ^m	+05° 43'	4.2	OC	Oph
NGC 6475	M7	17 ^h 53.9 ^m	-34° 49'	3.3	OC	Sco
NGC 6520		18 ^h 03.4 ^m	-27° 54'	7.6	OC	Sgr
NGC 6523	M8	18 ^h 03.8 ^m	-24° 23'	5.0	BN	Sgr
NGC 6618	M17	18 ^h 20.8 ^m	-16° 11'	6.0	OC	Sgr
NGC 6633		18 ^h 27.7 ^m	+06° 34'	4.6	OC	Oph
NGC 6656	M22	18 ^h 36.4 ^m	-23° 54'	5.1	GC	Sgr
IC 4756		18 ^h 39.0 ^m	+05° 27'	4.6	OC	Ser
NGC 6705	M11	18 ^h 51.1 ^m	-06° 16'	5.8	OC	Sct
NGC 6709		18 ^h 51.5 ^m	+10° 21'	6.7	OC	Aqi
NGC 6720	M57	18 ^h 53.6 ^m	+33° 02'	8.8	PN	Lyr
Cr 399		19 ^h 25.4 ^m	+20° 11'	3.6	OC	Vul

Object	Messier	RA	Dec	Mag	Type	Con
NGC 6818		19 ^h 44.0 ^m	-14° 09'	9.3	PN	Sgr
NGC 6826		19 ^h 44.8 ^m	+50° 31'	8.8	PN	Cyg
NGC 6853	M27	19 ^h 59.6 ^m	+22° 43'	7.3	PN	Vul
NGC 6910		20 ^h 23.1 ^m	+40° 47'	7.4	OC	Cyg
NGC 6934		20 ^h 34.2 ^m	+07° 24'	8.7	GC	Del
NGC 6940		20 ^h 34.6 ^m	+28° 18'	6.3	OC	Vul
NGC 7009		21 ^h 04.2 ^m	-11° 22'	8.0	PN	Aqr
NGC 7078	M15	21 ^h 30.0 ^m	+12° 10'	6.0	GC	Peg
NGC 7089	M2	21 ^h 33.5 ^m	-00° 49'	6.4	GC	Aqr
NGC 7092	M39	21 ^h 32.2 ^m	+48° 26'	4.6	OC	Cyg
NGC 7160		21 ^h 53.7 ^m	+62° 36'	6.1	OC	Cep
NGC 7209		22 ^h 05.2 ^m	+46° 30'	7.7	OC	Lac
NGC 7243		22 ^h 15.3 ^m	+49° 53'	6.4	OC	Lac
NGC 7662		23 ^h 25.9 ^m	+42° 33'	8.3	PN	And
NGC 7789		23 ^h 57.0 ^m	+56° 44'	6.7	OC	Cas

Urban Observing Program - Double Stars

Object	RA	Dec	Magnitudes	Separation
Eta η Cassiopeia	00 ^h 49.1 ^m	+57° 49'	3.4, 7.5	12"
Gamma γ Aries	01 ^h 53.5 ^m	+19° 18'	4.8, 4.8	7.8"
Gamma γ Andromeda	02 ^h 03.9 ^m	+42° 20'	2.3, 5.5	9.8"
Trapezium	05 ^h 35.3 ^m	-05° 23'	6.7, 7.9, 5.1, 6.7	8.8", 13", 21.5"
Beta β Monoceros	06 ^h 28.8 ^m	-07° 02'	4.7, 5.2	7.3"
Gamma γ Leo	10 ^h 20.0 ^m	+19° 51'	2.2, 3.5	4.4"
Zeta ζ Ursa Major	13 ^h 23.9 ^m	+54° 56'	2.3, 4.0, 4.0	14.4, 709"
Beta β Scorpius	16 ^h 05.4 ^m	-19° 48'	2.6, 4.9	13.6"
Epsilon ϵ Lyra	18 ^h 44.3 ^m	+39° 40'	5.0, 6.1, 5.2, 5.5	208", 2.6", 2.3"
Beta β Cygnus	19 ^h 30.7 ^m	+27° 58'	3.1, 5.1	34.4"
Gamma γ Delphinus	20 ^h 46.7 ^m	+16° 07'	4.5, 5.5	9.6"
Delta δ Cepheus	22 ^h 29.2 ^m	+58° 25'	3.9, 6.3	41"

Urban Observing Program - Variable Star

Object	RA	Dec	Magnitude Range	Variable
Beta β Perseus (Algol)	03 ^h 08.2 ^m	+40° 57'	2.1-3.4	2.9 days

Urban Observing Program List

C	Date	C	Date	C	Date
NGC 129		NGC 2323		NGC 6705	
NGC 221		NGC 2392		NGC 6709	
NGC 224		NGC 2539		NGC 6720	
NGC 457		NGC 2548		Cr 399	
NGC 663		NGC 2632		NGC 6818	
Cr 463		NGC 2682		NGC 6826	
NGC 752		NGC 3031		NGC 6853	
Stock 2		NGC 3034		NGC 6910	
NGC 869		NGC 3242		NGC 6934	
NGC 884		Mel 111		NGC 6940	
Tr 2		NGC 4374		NGC 7009	
NGC 1068		NGC 4406		NGC 7078	
Tr 3		NGC 4486		NGC 7089	
Stock 23		NGC 4594		NGC 7092	
Mel 20		NGC 4736		NGC 7160	
NGC 1342		NGC 4826		NGC 7209	
M45		NGC 5272		NGC 7243	
Hyades		NGC 5904		NGC 7662	
NGC 1647		NGC 6121		NGC 7789	
NGC 1807		NGC 6205		η Cas	
NGC 1817		NGC 6210		γ Ari	
NGC 1912		NGC 6218		γ And	
NGC 1960		NGC 6254		Trapezium	
NGC 1976		NGC 6266		β Mon	
NGC 1981		NGC 6341		γ Leo	
NGC 2099		NGC 6405		ζ UMa	
NGC 2168		IC 4665		β Sco	
NGC 2169		NGC 6475		ϵ Lyr	
NGC 2232		NGC 6520		β Cyg	
NGC 2244		NGC 6523		γ Del	
NGC 2264		NGC 6618		δ Cep	
NGC 2281		NGC 6633		β Per	
NGC 2287		NGC 6656			
NGC 2301		IC 4756			