The NightSky 45 observing list for April 2007:

Objects may be observed any time of the year but it must be within the current calendar year. When documenting your observations please use the NS number associated with the object. New observing lists will be published on line and also distributed at each club meeting from January through October.

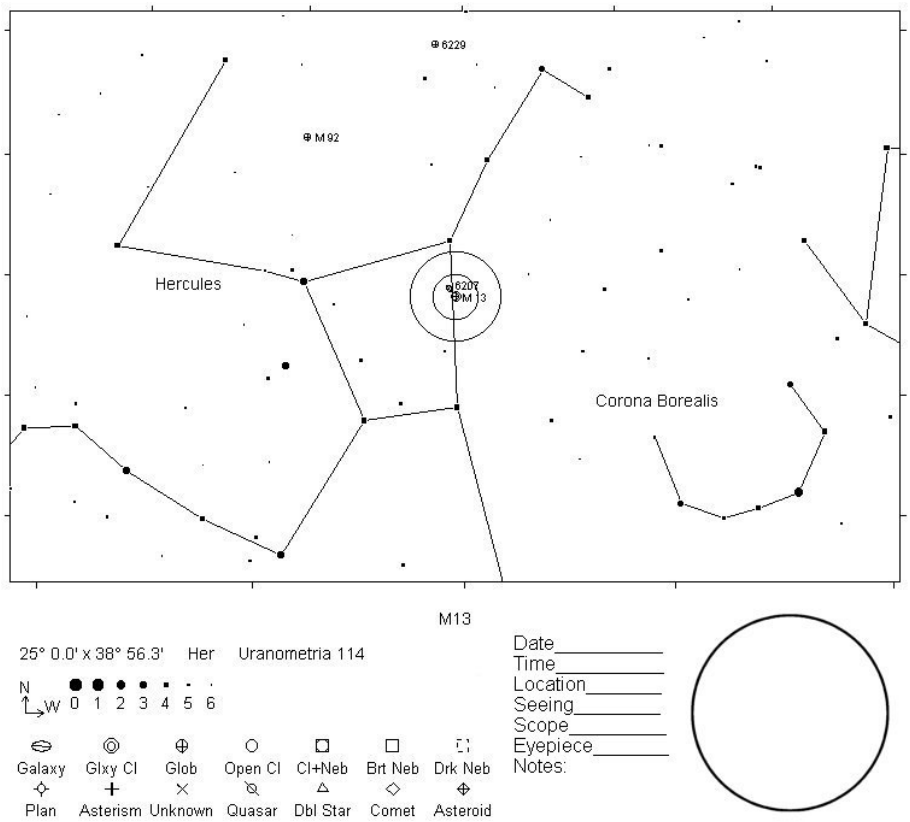
Complete 45 of these objects in calendar year 2007 to receive "The NightSky 45 Observer" certificate. Completing all will earn "The NightSky 45 Master Observer" certificate.

Documentation must be turned in before the first Wednesday of December. Certificates will be awarded at the January meeting.

Naked Eye or Binocular
NS-10: Observe the International Space Station – see www.heavens-above.com for dates and times
NS-11: Roughly determine limiting magnitude at your home by observing the Little Dipper. Which is the dimmest star you can see?
NS-12: Sea of Tranquility

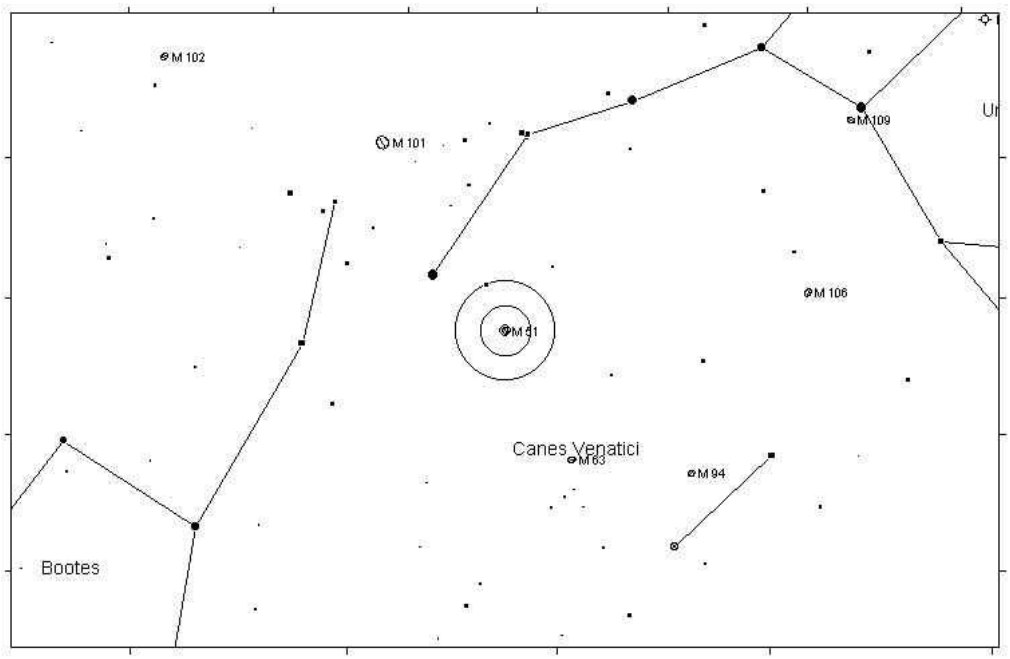
Binocular or Telescope:
NS-13: Observe a crescent phase of Venus
NS-14: M13 – The globular cluster of Hercules

Challenge:
NS-15: Titan – moon of Saturn
NS-16: M51 – The Whirlpool Galaxy in Ursa Major



International Space Station in early April

Date	Mag	Starts			Max. Altitude			Ends		
		Time	Alt.	Az.	Time	Alt.	Az.	Time	Alt.	Az.
04 Apr	0.4	04:45:01	41	ENE	04:45:01	41	ENE	04:47:12	10	ESE
04 Apr	0.6	06:16:59	10	W	06:19:12	21	SW	06:21:25	10	S
05 Apr	-0.5	05:05:21	50	SSE	05:05:21	50	SSE	05:07:40	10	SE
06 Apr	0.8	05:25:59	19	S	05:25:59	19	S	05:27:24	10	SSE
08 Apr	1.2	20:53:46	10	S	20:54:28	13	SSE	20:54:28	13	SSE
09 Apr	-0.6	21:12:52	10	SW	21:15:24	41	SSE	21:15:24	41	SSE
10 Apr	-0.8	21:32:50	10	WSW	21:35:35	70	NNW	21:35:53	61	NNE
11 Apr	-0.3	20:18:16	10	SSW	20:20:50	36	SE	20:23:25	10	ENE
11 Apr	0.7	21:53:12	10	W	21:55:46	33	NNW	21:55:59	33	N
12 Apr	-0.9	20:38:03	10	WSW	20:40:49	80	NNW	20:43:34	10	ENE
12 Apr	1.5	22:13:44	10	WNW	22:15:45	22	NNW	22:15:45	22	NNW



M51 "The Whirlpool Galaxy"

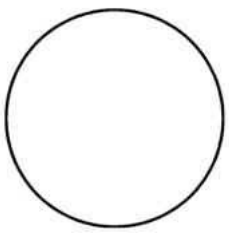
25° 0.0' x 38° 56.3' CVn Uranometria 76

N W 0 1 2 3 4 5 6

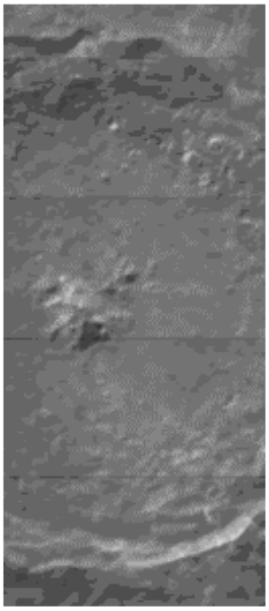
Galaxy Glxy Cl Glob Open Cl Cl+Neb Brt Neb Drk Neb

Plan Asterism Unknown Quasar Dbl Star Comet Asteroid

Date_____
Time_____
Location_____
Seeing_____
Scope_____
Eyepiece_____
Notes:



SKYWATCHER'S GUIDE TO THE MOON



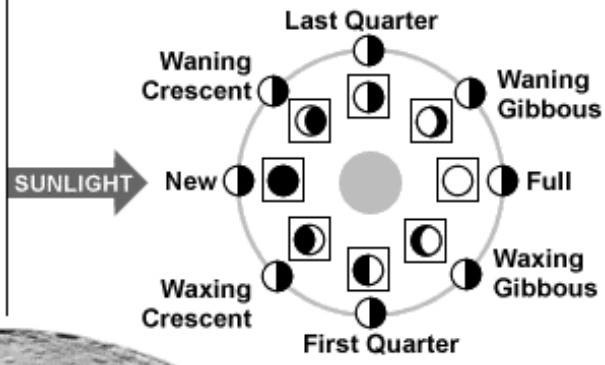
Impact!

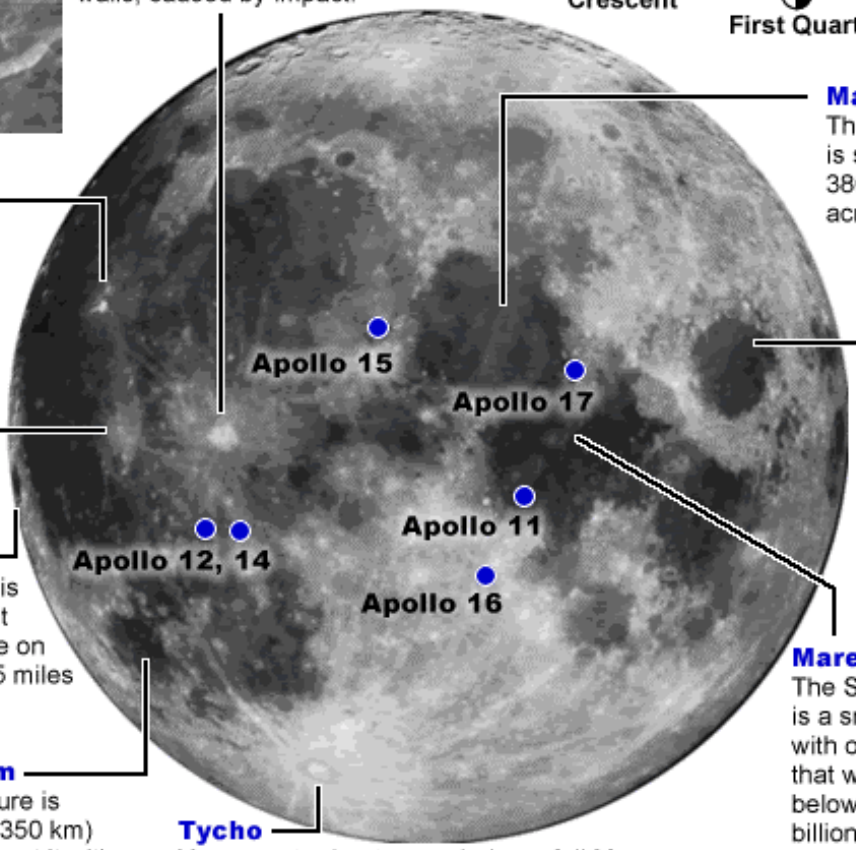
The Moon's cratered surface tells a violent story. Bright areas are ancient crust that make up the highlands. Dark areas are newer regions of lava that formed after asteroid impacts.

Copernicus
This crater (left) is easy to spot. It formed about 800 million years ago, and is 57 miles (92 km) wide. Note central peaks and terraced walls, caused by impact.

Moon Phases

Outer circle is Moon's orbit and shows sunlight hitting the Moon at each phase. Inside the squares is what you see from Earth.





Aristarchus
Young crater. So bright that Sir William Herschel thought it was an active volcano.

Kepler
Small version of Copernicus.

Grimaldi
Lava-filled crater is one of the darkest spots you can see on the Moon. It's 145 miles wide (233 km).

Mare Humorum
The Sea of Moisture is about 220 miles (350 km) across. You can spot it with the naked eye. With a telescope, you might notice two craters along its edge.

Tycho
Young crater best seen during a full Moon. Rays of bright material are ejecta blasted out of the crust when a large asteroid struck about 109 million years ago.

Mare Serenitatis
The Sea of Serenity is solid lava, some 380 miles (610 km) across.

Mare Crisium
The Sea of Crisis is about 340 miles wide (550 km) and visible to the naked eye. In fact, it's the right eye of the Man in the Moon.

Mare Tranquillitatis
The Sea of Tranquility is a smooth plain filled with once-molten lava that welled up from below after an impact billions of years ago. The first humans to walk on the Moon, Apollo 11 astronauts, landed near the edge.

SOURCES: NASA; ADVANCED SKYWATCHING; CAMBRIDGE ATLAS OF ASTRONOMY; DK VISUAL ENCYCLOPEDIA