

DR. JOHN BRANDT  
INTERNATIONAL HALLEY WATCH  
DISCIPLINE SPECIALIST

BLOOM COUNTY



John Brandt, Chief of the Laboratory for Astronomy and Solar Physics at NASA-Goddard, and International Halley Watch (IHW) Discipline Specialist for Large-Scale Phenomena, shall discuss "Halley and the Exploration of Comets" at the February 26 meeting of the Westminster Astronomical Society, at 8:00 in the Lewis Hall Decker Auditorium, at Western Maryland College. Astronomers who have been reading up on comets lately are undoubtedly familiar with the name of this distinguished comet expert who has authored over 250 publications. Among his works are two books of particular interest to amateurs, Introduction to Comets, and The Comet Book.

As a comet scientist, Dr. Brandt was involved [Sky and Telescope Nov-85, p. 427] in the September 11 flyby of Comet Giacobini-Zinner by the Maryland-built [see Newsletter Oct-85, pp. 4-5] International Cometary Explorer (ICE). ICE was the first spacecraft to fly through the tail of a comet.

Dr. Brandt has held research posts at Mt. Wilson and Mt. Palomar Observatories in California, Kitt Peak National Observatory in Arizona, and teaching positions at five major

universities including his current work at the University of Maryland.

### Dinner With the Speaker

Dinner with Dr. Brandt shall begin at 6:00 p.m. on the night of the meeting at Fan's Chinese Restraunt, 59 W. Main Street. This offers a unique opportunity for those who attend to converse informally with the speaker before the meeting. Those who participate are responsible for the cash cost of their meal. WAS provides dinner for the guest of honor. Please come no later than 6:00.

This is another reminder that the February 26 meeting shall not be held at the usual time or place. The meeting begins at 8:00 p.m. in the Decker Auditorium in Lewis Hall. The auditorium is on the first floor.

### WAS Welcome Wagon

We shout a hearty "welcome aboard" to the two newest members of the Westminster Astronomical Society:

Eileen A. Killoran  
1306 Dalton Rd.  
Baltimore, MD 21234

Stewart Tick  
Francis Scott Key H.S.  
Union Bridge, MD 21791

### President's Report

We have been looking forward to this month's program. Dr. Brandt is one of the top comet experts in the country. Be grateful that the moon is full, enabling Dr. Brandt to include WAS in his busy schedule, giving us this chance to learn more about comets and the IHW. This meeting has been publicized, is open to the public, and could draw a considerable crowd.

While waiting for Comet Halley to reappear after perihelion, you should visit "Fire and Ice" [Sky & Telescope Nov-85, p. 434] at the Smithsonian Air and Space Museum in Washington, D.C. . The exhibit features many paintings and other artful objects, actual and reproduction, depicting the intense human awareness of comets that has throbbled throughout history. I went to see it this past weekend. Although the largest crowd there was clustered around the new Challenger Memorial, tucked away in a room at the southeast corner of the second floor was the exhibit I came to see.

Good luck in finding it. I stopped at the information desk and inquired where could be found the reproduction of the 14th century Giotto fresco painting "Adoration of the Magi", featuring the comet in a Florentine nativity scene. They informed me that I must be mistaken and directed me to the National Gallery of Art!

-- Curt Roelle

### Business Meeting Results

At the January business meeting the 1986 club officers were

elected. The 1986 WAS officers are as follows:

President -	Curt Roelle
V. President -	Todd Bonner
Treasurer -	Joe Pekala
Secretary -	Andrew Jack Demario Jr.
Director at Large -	Steve Rice

In addition to the elected offices, Frank Filemyr has been appointed to be the first Astronomical League Correspondent (ALCOR).

A T-shirt pattern and club logo were also selected. Mike Scalion volunteered to be responsible for T-shirt orders and sales. He shall have more information available at a later meeting.

Two new membership classes were voted in. The "Newsletter Only" membership is for students or those who live outside the area that do not benefit directly from the WAS activities. A Newsletter makes a nice gift for a member to give a friend or other member of the family. The Newsletter member shall receive 12 issues of the Mason-Dixon Astronomer for \$5/year, but will have no voting privileges and will not be eligible for office.

The "Honorary" membership shall be bestowed on those individuals outside WAS whose dedicated service has proved to be invaluable to the Society. The Honorary member receives a free subscription to the Mason-Dixon Astronomer.

The first person to be presented with an Honorary membership is Prof. Wm. Achor of Western Maryland College, for his time and effort in providing a place for WAS to hold monthly meetings. Because of the importance of this contribution, Dr. Achor shall also receive a free WAS T-shirt.

### T-Shirt Logo Winner

The winner of the T-shirt logo contest was a last minute entry. Entry #12 was submitted by Eileen Killoran, one of the new members. The first round vote resulted in a tie between #2 and #12, but #12 won in the second round. Thank you for your contribution Eileen, and we hope you enjoy your free T-shirt.

The winning entry shall cover the entire front of the T-shirt and contains several eye-catching designs. Thus it was suggested that the more compact runner-up be used to adorn possible WAS hats and club letterhead.

The logo contestants are listed below beside their logo entry number. Entries 1 and 2 appeared in the December Newsletter, and 3 through 11 were in the January MDA. Entry 12 was presented at the January meeting.

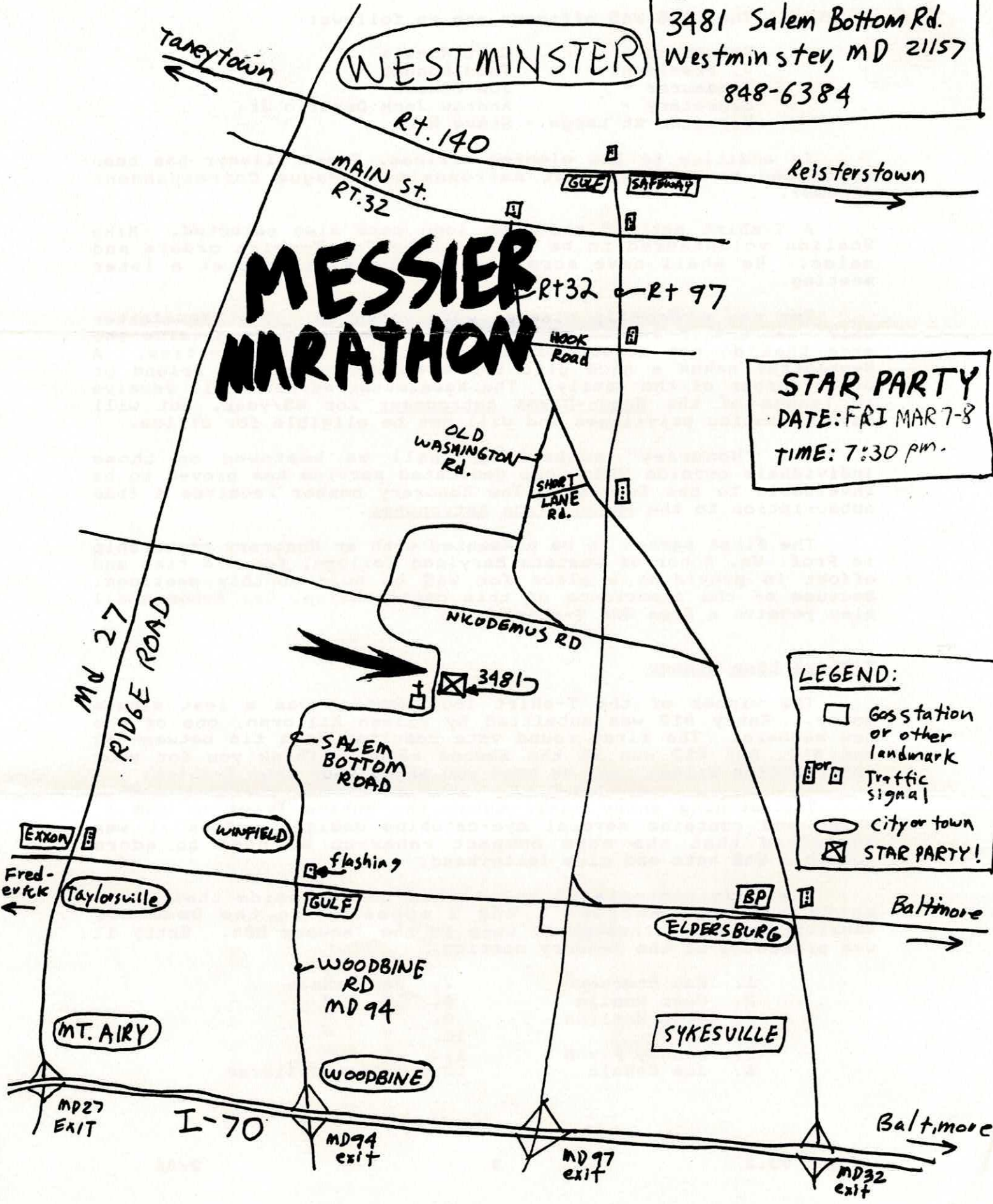
1. Ray Sterner	7. Joe Pekala
2. Curt Roelle	8. " "
3. Mike Scalion	9. " "
4. " "	10. " "
5. Kenney Flynn	11. " "
6. Joe Pekala	12. Eileen Killoran

CURT ROELLE  
 3481 Salem Bottom Rd.  
 Westminster, MD 21157  
 848-6384

# MESSIER MARATHON

STAR PARTY  
 DATE: FRI MAR 7-8  
 TIME: 7:30 PM.

LEGEND:  
 □ Gas station or other landmark  
 □ Traffic signal  
 ○ City or town  
 ⊠ STAR PARTY!



## MESSIER MARATHON, 1986

### Background and General Information

#### Why a Messier Marathon?

Near the time of the Vernal Equinox it is possible to observe nearly all of the objects in Charles Messier's famous catalog in one night. Unfortunately this year the waxing lunar orb shall be two days past first quarter on the March 20 equinox. Thus, the March weekend closest to New Moon shall be on Friday night, March 7-8. The attached schedule of risings and settings will aid the observer in determining the sequence in which to locate each Messier object during rotation of the celestial sphere.

#### Charles Messier

Charles Messier (1730-1817) was a hunter, his quarry: comets. Equipped with a small telescope he carefully searched the sky for these occasional interlopers from his observatory in Paris. He soon became frustrated by some of his discoveries that turned out not to be comets at all. Ordinary comets move among the background stars, some slower and some faster, but they all change position from one night to another. A number of the possible comets he found, never changed position; obviously these were not comets.

Determined not to be fooled again, Mr. Messier published a catalog of 103 "objects which could be confused with comets", in four installments in 1771, 1781, 1784, and 1786. A wide assortment of various objects make Messier's list the "greatest hits" of the deep sky. These open and globular star clusters, nebulae, and galaxies discovered some 200 years ago remain at the top of the list and close to the hearts of amateur astronomers.

Ironically Mr. Messier is best remembered not for his cometary discoveries, but for his list of non-comet objects. Several turned up "missing" due to recording errors by Messier, but most have been recovered. Some additional objects have since been attributed to Messier bringing the total to 109. The list is numbered M1 - M110, with M40 being the only truly missing object. M40 consists of two stars in Ursa Major.

Besides his list of "fool's comets", Mr. Messier discovered 13 real comets. The seriousness with which he hunted his prey is recalled in a certain tale. Messier was forced to care for his ailing wife. During that time a new comet appeared, which was discovered by Messier's rival Montaigne of Limoges. At the funeral of his wife Messier was heard to bemoan his true grief, "Alas, Montaigne has robbed me of my thirteenth comet."

#### Observing the Messier Objects

Observing begins once darkness descends on Friday, March 7. Twilight ends at 7:35 p.m. EST. Halley's comet rises at 4:24 a.m. and is at an altitude of six degrees when morning twilight begins at 5:01 a.m. Nature allots nine hours and twenty six minutes of darkness for completion of the list. This is 46 more minutes than last year. The objects will be observed at an average rate of 12-13 per hour, and practicing before the marathon is advisable. The attached schedule can aid in preparation. Significant schedule data includes the rising, setting, and culmination times of the messier objects. The Messier catalog is sorted by Right Ascension showing the correct order in which

each object parades across the sky, but not necessarily the sequence in which each rises and sets.

### Marathon Schedule

The Messier schedule was processed on a Columbia Data Systems Model 1600 personal computer. This year an Intel 8087 math coprocessor has been installed to speed up processing by an order of magnitude.

I maintain a database using TIM IV (Innovative Software Inc.) to record deep sky objects that I have observed. This database has over 800 deep sky objects including Messier's. A subset of the database containing only the Messier objects is input to the MARATHON program. The MARATHON schedule generator is written in Borland's Turbo87 Pascal. This section describes the listing format.

Column 1 is the original number assigned by Messier.

Column 2 is the New General Catalog number given by Johan Dreyer (1888). Two objects do not have NGC numbers. M45 is the Pleiades, and M25 is listed as IC4725, from the Index Catalogs of 1895 and 1908.

Column 3 is the common or popular name of the object. Few deep sky objects actually have names, but many of Messier's do.

Column 4 is the abbreviation of the constellation in which the object is located.

Columns 5 and 6 are the Right Ascension and Declination. Both R.A. and Dec. are for epoch 2000. These were obtained by precessing the 1975 coordinates of the Revised New General Catalog (Sulentic, Tift). The entire list is sorted by R.A.

Column 7 is the object type:

- IG - Irregular Galaxy
- EG - Elliptical Galaxy
- SG - Spiral Galaxy
- BG - Barred Spiral Galaxy
- DN - Diffuse Nebula
- PN - Planetary Nebula
- OC - Open star Cluster
- GC - Globular star Cluster

Column 8 lists the magnitude, or apparent brightness.

Columns 9 and 10 give the rising and setting times (EST). The object can be observed between these times. As seen from our latitude a number of objects never set but appear to revolve about Polaris, the north star. These are designated as "North Circumpolar".

Column 11 is the time of culmination. Culmination occurs when the object transits or crosses, the meridian. The meridian is an imaginary arc that runs from north to south, including the zenith, the imaginary point directly above the observer. In other words at culmination, the object is seen at its highest point above the horizon and is best placed for observing.

NOTE: All rising, setting and culmination times are for the day beginning 0h U.T. March 8. Thus for events occurring before 7:00 p.m. EST, 4 minutes should be added to obtain true event times for March 7. This small difference may be ignored.

The schedule may also be used for days before and after March 7-8. For each earlier day, add 4 minutes to the rising, setting and culmination times. For each later day subtract 4 minutes.

The Third Messier Marathon will be Friday, March 27, 1987.

Curtis W. Roelle

THE SECOND ANNUAL MESSIER MARATHON SCHEDULE  
March 07-08, 1986

Prepared by the Westminster Astronomical Society  
Westminster, Maryland  
Longitude = W. 77.0, Latitude = 39.5

M#	NGC	Common Name	CON	R. A.	Dec.	TY	Mag.	EST Rises	EST Sets	EST Culm.
		***** SUNSET *****	PSC	23h12.5m	-5.1D				18:02	
M110	N.205	Satellite G. of M.31	AND	0h40.4m	41.7D	IG	10.0	4:36	22:55	3:29
M32	N.221	Satellite G. of M.31	AND	0h42.8m	40.9D	EG	9.0	4:45	22:50	3:31
M31	N.224	GREAT ANDROMEDA GAL.	AND	0h42.8m	41.3D	SG	4.0	4:42	22:53	3:31
M103	N.581		CAS	1h33.3m	60.7D	OC	7.0	N Cir-Polar		4:22
M33	N.598	TRI. OR PINWHEEL GAL	TRI	1h33.9m	30.7D	SG	7.0	6:41	22:36	4:22
M74	N.628		PSC	1h36.7m	15.8D	SG	11.0	7:47	21:36	4:25
M76	N.650/1		PER	1h42.0m	51.6D	PN	11.0	N Cir-Polar		4:30
M34	N.1039		PER	2h42.0m	42.8D	OC	6.0	6:27	1: 6	5:30
M77	N.1068		DET	2h42.7m	-0.0D	SG	9.0	9:46	21:48	5:31
M45	PLEIADES (SEE N.1435 FOR NEB)		TAU	3h46.9m	24.1D	OC	1.4	9:24	0:19	6:35
M79	N.1904		LEP	5h24.2m	-24.5D	GC	8.0	13:55	23: 1	8:12
M38	N.1912		AUR	5h28.7m	35.8D	OC	7.0	10: 6	2:59	8:16
M1	N.1952	CRAB NEB W/ PULSAR	TAU	5h34.5m	22.0D	PN	10.0	11:20	1:57	8:22
M42	N.1976	GREAT ORION NEBULA	ORI	5h35.3m	-5.4D	DN	0.0	12:56	0:22	8:23
M43	N.1982	NE WING OF ORION NEB	ORI	5h35.5m	-5.3D	DN	0.0	12:56	0:23	8:23
M36	N.1960		AUR	5h36.2m	34.1D	OC	6.0	10:24	2:57	8:24
M78	N.2068		ORI	5h46.8m	0.1D	DN	0.0	12:50	0:52	8:34
M37	N.2099		AUR	5h52.3m	32.5D	OC	6.0	10:49	3: 4	8:40
M35	N.2168		GEM	6h 8.8m	24.4D	OC	6.0	11:44	2:41	8:56
M41	N.2287		COM	6h47.1m	-20.8D	OC	6.0	15: 3	0:39	9:35
M50	N.2323		MON	7h 2.9m	-8.3D	OC	6.0	14:33	1:40	9:50
M47	N.2422		PUP	7h36.6m	-14.5D	OC	5.0	15:28	1:52	10:24
M46	N.2437		PUP	7h41.9m	-14.8D	OC	9.0	15:35	1:56	10:29
M93	N.2447		PUP	7h44.6m	-23.9D	OC	6.0	16:13	1:24	10:32
M48	N.2548		HYA	8h13.6m	-5.8D	OC	5.3	15:35	2:59	11: 1
M44	N.2632	BEEHIVE OR PRAESEPE	CNC	8h40.0m	20.0D	OC	0.0	14:33	4:54	11:27
M67	N.2682		CNC	8h51.1m	11.8D	OC	7.0	15:14	4:35	11:38
M81	N.3031		UMA	9h55.7m	69.1D	SG	8.0	N Cir-Polar		12:43
M82	N.3034	AP337, 3C231, 4C69	UMA	9h55.9m	69.7D	IG	9.0	N Cir-Polar		12:43
M95	N.3351		LEO	10h43.9m	11.7D	SG	11.0	17: 7	6:27	13:31
M96	N.3358		LEO	10h46.7m	11.8D	SG	10.0	17: 9	6:30	13:34
M105	N.3379		LEO	10h47.8m	12.6D	EG	10.0	17: 8	6:34	13:35
M108	N.3556		UMA	11h11.6m	55.7D	SG	10.0	N Cir-Polar		13:58
M97	N.3587	OWL NEBULA	UMA	11h14.8m	55.0D	PN	11.0	N Cir-Polar		14: 2
M65	N.3623		LEO	11h18.9m	13.1D	SG	10.0	17:37	7: 7	14: 6
M66	N.3627		LEO	11h20.2m	13.0D	SG	9.0	17:38	7: 8	14: 7
M109	N.3992		UMA	11h57.6m	53.4D	SG	11.0	N Cir-Polar		14:44
M98	N.4192		COM	12h13.9m	15.9D	SG	11.0	18:22	8:12	15: 0
M99	N.4254		COM	12h18.9m	14.4D	SG	0.0	18:32	8:12	15: 5
M106	N.4258	WH543	CVN	12h18.9m	47.3D	SG	10.0	15: 8	11:35	15: 5
M61	N.4303		VIR	12h22.0m	4.5D	SG	10.0	19:13	7:41	15: 9
M100	N.4321		COM	12h23.0m	15.8D	SG	10.0	18:31	8:21	15:10
M84	N.4374		VIR	12h25.1m	12.9D	EG	10.0	18:44	8:12	15:12
M85	N.4382		COM	12h25.5m	18.2D	EG	10.0	18:25	8:32	15:12
M86	N.4406		VIR	12h26.3m	13.0D	EG	10.0	18:45	8:14	15:13
M49	N.4472		VIR	12h29.8m	8.0D	EG	9.0	19: 9	8: 0	15:16
M87	N.4486	V CL CTR, JET, 3C244	VIR	12h30.9m	12.4D	EG	10.0	18:51	8:16	15:17
M88	N.4501		COM	12h32.1m	14.4D	SG	10.0	18:45	8:25	15:19
M91	N.4548		COM	12h35.5m	14.5D	EG	10.9	18:48	8:28	15:22
M89	N.4552		VIR	12h35.7m	12.6D	EG	11.0	18:55	8:22	15:22

M#	NGC	Common Name	CON	R. A.	Dec.	TY	Mag.	EST Rises	EST Sets	EST Culm.
M90	N. 4569		VIR	12h36.9m	13.2D	SG	11.0	18:54	8:25	15:23
M58	N. 4579		VIR	12h37.8m	11.8D	SG	10.0	19: 4	8:21	15:24
M68	N. 4590		HYA	12h39.4m	-26.8D	GC	8.0	21:23	6: 5	15:26
M104	N. 4594	SOMBRERO GAL	VIR	12h39.9m	-11.6D	SG	8.0	20:25	7: 5	15:26
M59	N. 4621		VIR	12h42.1m	11.7D	EG	11.0	19: 9	8:25	15:29
M60	N. 4649		VIR	12h43.7m	11.6D	EG	10.0	19:11	8:26	15:30
M94	N. 4736		CVN	12h50.9m	41.1D	SG	8.0	16:49	10:58	15:37
M64	N. 4826	BLACKEYE GAL	COM	12h56.7m	21.7D	SG	8.0	18:42	9:17	15:43
M63	N. 5055		CVN	13h15.8m	42.0D	SG	10.0	17: 6	11:31	16: 2
M53	N. 5024		COM	13h12.9m	18.2D	GC	8.0	19:16	9:19	15:59
M51	N. 5194	WHIRLPOOL G, & N. 5195	CVN	13h30.0m	47.2D	SG	9.0	16:21	12:44	16:16
M83	N. 5236		HYA	13h37.1m	-29.9D	SG	9.0	22:35	6:48	16:23
M3	N. 5272		CVN	13h42.3m	28.4D	GC	6.0	19: 2	10:31	16:29
M101	N. 5457	FAMOUS FACE-ON SPIR	UMA	14h 3.3m	54.4D	SG	8.0	N Dir-Polar		16:50
M102	N. 5866		DRA	15h 6.5m	55.8D	EG	11.0	N Dir-Polar		17:53
M5	N. 5904		SER	15h18.6m	2.1D	GC	6.0	22:17	10:29	18: 5
M80	N. 6093		SCO	16h17.1m	-23.0D	GC	7.0	0:44	9:59	19: 7
M4	N. 6121		SCO	16h23.6m	-26.5D	GC	6.0	1: 6	9:50	19:13
M107	N. 6171		OPH	16h32.5m	-13.0D	GC	9.0	0:21	10:52	19:22
M13	N. 6205	GREAT HERCULES CLUS	HER	16h41.7m	36.5D	GC	6.0	21:17	14:14	19:31
M12	N. 6218		OPH	16h47.2m	-2.0D	GC	7.0	23:59	11:44	19:37
M10	N. 6254		OPH	16h57.1m	-4.1D	GC	7.0	0:16	11:47	19:47
M62	N. 6266		OPH	17h 1.3m	-30.1D	GC	7.0	2: 0	10:10	19:51
M19	N. 6273		OPH	17h 2.6m	-26.2D	GC	7.0	1:43	10:30	19:52
M92	N. 6341		HER	17h17.2m	43.1D	GC	6.0	21: 1	15:42	20: 7
M9	N. 6333		OPH	17h19.2m	-18.5D	GC	7.0	1:28	11:18	20: 9
M14	N. 6402		OPH	17h37.6m	-3.3D	GC	8.0	0:53	12:30	20:27
M6	N. 6405		SCO	17h40.0m	-32.2D	OC	6.0	2:50	10:38	20:30
M7	N. 6475		SCO	17h54.0m	-34.8D	OC	5.0	3:18	10:37	20:44
M23	M. 6494		SGR	17h57.0m	-19.0D	OC	7.0	2: 8	11:54	20:47
M20	N. 6514	TRIFID N., WH512/441	SGR	18h 2.3m	-23.0D	DN	0.0	2:29	11:43	20:52
M8	N. 6523	LAGOON N., 6530 IN IT	SGR	18h 3.1m	-24.4D	DN	5.0	2:35	11:38	20:53
M21	N. 6531		SGR	18h 4.6m	-22.5D	OC	7.0	2:29	11:48	20:54
M24	N. 6603		SGR	18h18.5m	-18.4D	OC	6.0	2:27	12:18	21: 8
M16	N. 6611		SER	18h18.7m	-13.8D	OC	7.0	2:10	12:35	21: 8
M18	N. 6613		SGR	18h20.0m	-17.1D	OC	7.0	2:23	12:24	21:10
M17	N. 6618	OMEGA OR HORSESHOE N	SGR	18h20.8m	-16.2D	DN	6.9	2:21	12:29	21:10
M28	N. 6626		SGR	18h24.5m	-24.9D	GC	8.0	2:59	11:58	21:14
M69	N. 6637		SGR	18h31.3m	-32.4D	GC	8.0	3:42	11:29	21:21
M25	IC4725		SGR	18h31.8m	-19.2D	OC	6.0	2:43	12:28	21:21
M22	N. 6656		SGR	18h36.3m	-23.9D	GC	6.0	3: 7	12:14	21:26
M70	N. 6681		SGR	18h43.2m	-32.3D	GC	9.0	3:53	11:41	21:33
M26	N. 6694		SCT	18h45.4m	-9.4D	OC	8.0	2:21	13:17	21:35
M11	N. 6705	FLYING GEESE CLUSTER	SCT	18h51.0m	-6.3D	OC	6.0	2:16	13:33	21:40
M57	N. 6720	RING NEBULA	LYR	18h53.5m	33.0D	PN	9.0	23:49	16: 6	21:43
M54	N. 6715		SGR	18h55.2m	-30.5D	GC	8.0	3:56	12: 2	21:45
M56	N. 6779		LYR	19h16.6m	30.2D	GC	8.0	0:27	16:14	22: 6
M55	N. 6809		SGR	19h40.1m	-30.9D	GC	5.0	4:43	12:45	22:29
M71	N. 6838		SGE	19h53.7m	18.8D	GC	9.0	1:53	16: 1	22:43
M27	N. 6853	DUMBBELL NEBULA	VUL	19h59.6m	22.7D	PN	8.0	1:44	16:23	22:49
M75	N. 6864		SGR	20h 6.2m	-21.9D	GC	8.0	4:28	13:51	22:55
M29	N. 6913		CYG	20h24.0m	28.5D	OC	7.0	1:42	17:13	23:13
M72	N. 6991		AQR	20h53.5m	-12.5D	GC	9.0	4:40	15:14	23:43
M73	N. 6994	ONLY 4 STARS	AQR	20h59.0m	-12.6D	OC	0.0	4:46	15:19	23:48
M15	N. 7078		PEG	21h30.0m	12.2D	GC	6.0	3:53	17:13	0:19
M39	N. 7092		CYG	21h32.2m	48.5D	OC	6.0	0: 3	21:12	0:21
M2	N. 7089		AQR	21h33.5m	-0.8D	GC	7.0	4:40	16:33	0:22
M30	N. 7099		CAP	21h40.3m	-23.2D	GC	8.0	6: 7	15:20	0:29
M52	N. 7654		CAS	23h24.2m	61.6D	OC	7.0	N Dir-Polar		2:13
		***** SUNRISE *****	PSC	23h14.4m	-4.9D			6:35		



### Messier Marathon

The second annual Messier Marathon shall begin following the end of twilight on Friday, March 7, at the home of Curtis Roelle. This is a special year for the Messier Marathon, as our hero and comet hunter Mr. Messier is being overshadowed by another cometary figure, Mr. Halley. Mr. Halley's comet shall rise at 4:24 a.m. during the Marathon, more than one-half hour before morning twilight.

A map is enclosed in this MDA issue. In case of poor weather, we shall regroup the following night at the home of Mike Scalion.

### March Star Party

WAS member Mike Scalion is also the cohesive force of the Active Amateur Astronomers of Maryland (AAAM). Their monthly star party shall be Saturday night, March 8-9. Mike's address is 2201 Green Haven Way, Hampstead, telephone 239-3105. A map may be found in the Newsletter for November, 1985.

### Hatter Planetarium

The next show appearing at the Hatter Planetarium on the campus of Gettysburg College shall be "Galaxies and the Universe", March 23, at 1:00 p.m. and 3:00 p.m. If you are interested in carpooling up with other WAS members for the 3:00 show, then meet in the parking lot behind Lewis hall for a 2:10 departure. We shall return at approximately 4:30.

### Astronomy With Girl Scouts

On Sunday night February 16, several members attended a winter campout at the Hashawa Environmental Center to help approximately 150 Girl Scouts meet the astronomy requirements for an aerospace merit badge. Although cloudy until after the scheduled time expired at 9:00 p.m., these enthusiastic youngsters were able to view the moon in an 11X80 binocular, a 4" reflector, and a 3" refractor. The Baltimore Astronomical Society generously loaned WAS their Comet Halley slide program once again which was shown to the girls. Thanks go to Kenney Flynn, Nancy Raab, Blaine Roelke, and Curtis Roelle for their fine work.

### Upcoming Spring Activities

As we look forward to Spring, WAS is getting geared for Halley's encore appearance. Listed below are the currently planned activities and status of each. Please leave room on your calendar to help and/or attend.

**Astronomy Day, April 19.** Similar to the two Astronomy Days WAS held last year in June and October. These included exhibits brought by members. The location being sought is the Carroll County Library in Westminster. Date and place are tentative, however pending further information.

**Public Halley Watch, April 25.** WAS has been invited to

present Halley to the public at Piney Run Park in Eldersburg. Members are requested to bring telescopes just as they did at the Christmas comet watch at Hashawa December 14. This is a confirmed date and place.

Public Halley Watch, May 3. WAS has been asked to provide one last look at Comet Halley at the Hashawa Environmental Center for those who may have missed our other two public comet watches in December and April. Tentative date but confirmed location.

### WAS CALENDAR

February	26	6:00 p.m.	Dinner with Speaker - Fan's Rest.
		8:00 p.m.	Monthly Meeting - Lewis Hall, WMC
March	7	Dusk	2nd Annual Messier Marathon
	8	Dusk	Star Pary - Mike Scalion, Hampstead
	23	2:00 p.m.	Planetarium - meet at Lewis Hall
April	19	9:00 a.m.	Astronomy Day - Westminster Library
		to 5:00 p.m.	
	25	7:00 p.m.	Public Halley Watch - Piney Run Park
		to 10:00 p.m.	
May	3	7:00 p.m.	Public Halley Watch - Hashawa Center
		to 11:00 p.m.	

Westminster Astronomical Society

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