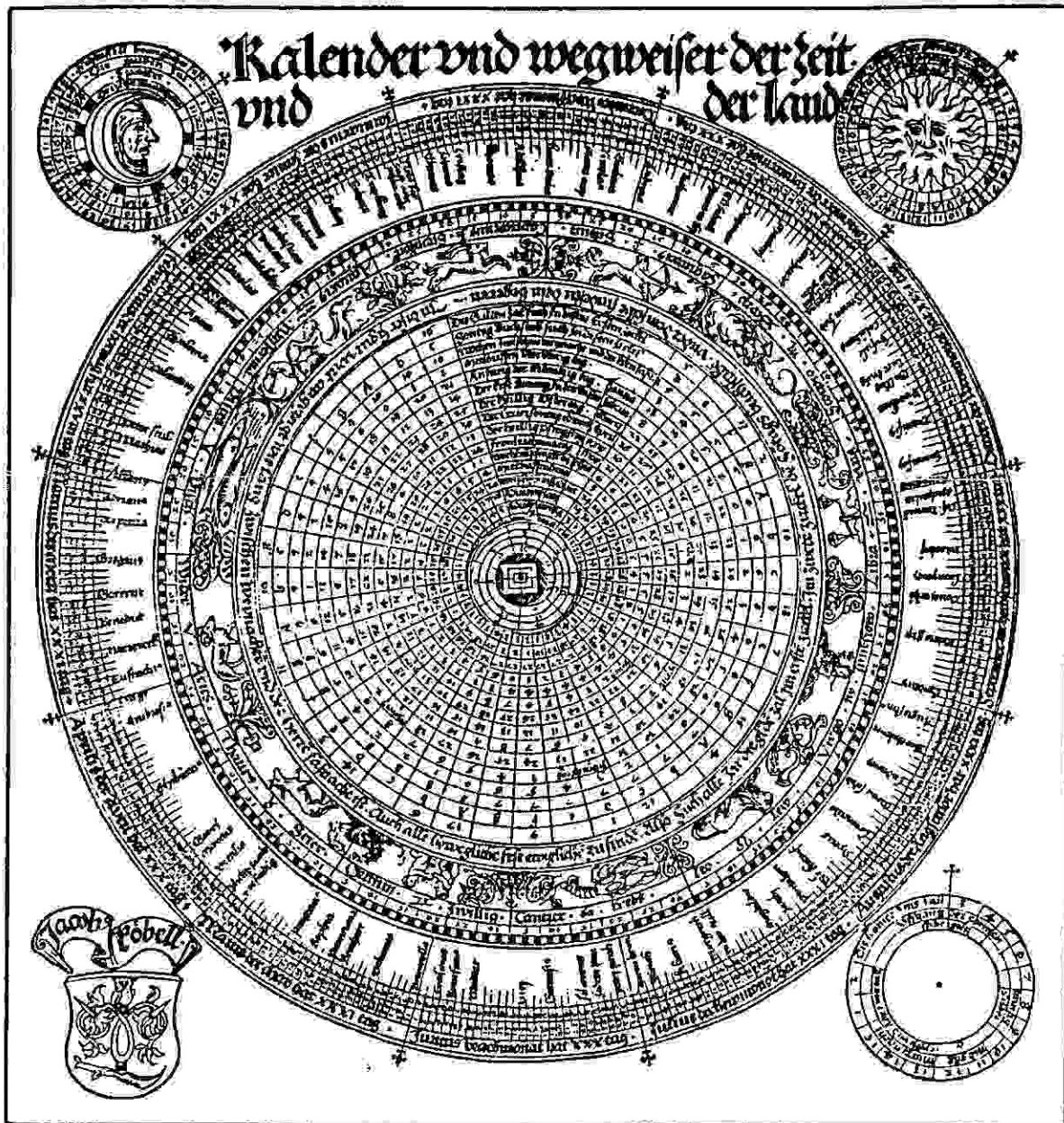


# Desert Skies

JANUARY 1992!



The Roman Julian calendar, from a broadside printed by Johannes Köbel, Oppenheim, Germany, 1520



**GENERAL MEETING - Friday, Jan. 3, 7:30 P.M.** at Steward Obs. lecture room.  
World-reknown space artist, Kim Poor, will present a talk and display some of his work.

**EXECUTIVE MEETING -Thursday, Jan. 9, 7:30 P.M.** at Flandrau Planetarium.

**STAR PARTIES - Saturday, Jan. 4 - Arivaca Star Party at new site\***

**Thursday, Jan. 9 - Van Buskirk Elementary School\***

**Thursday Jan. 16 - Canyon Ranch\***

**Saturday, Jan. 25 - Arivaca Star Party at new site\***

**Saturday, Feb. 1 - Arivaca Star Party at new site\***

\* see map inside this newsletter

#### UPCOMING MEETINGS!

Friday, Feb. 7: Dr. David Crawford, of NOAO, will present a talk on Observations of the Pleiades, variable stars, and extinction coefficients.....

March and April: Dean Ketelsen, TAAA president (and UA Optical Sciences Dept.) and Steve Larsen of Lunar & Planetary Lab. will be speakers.

#### TAAA EXECUTIVE

President	Dean Ketelson	293-2855
Vice-President	Terri Lappin	579-0185
Executive Sec.	Dick West	574-0830
Recording Sec.	Sharon Niehaus	299-7328
Treasurer	Sharon Niehaus	299-7328
Member-at-Large	Bob Goff	790-1452
Member-at-Large	Ed Vega	586-9883
Chief Observer	Andy Meyer	742-4549
Membership Coord.	Terri Lappin	579-0185
Past President	Tim Hunter	299-2972
Desert Skies ed.	Dolores Hill	325-9820
Asst. ed.	Rik Hill	325-9820

#### Desert Skies Publishing Guidelines

- \* All articles, announcements, news etc. must be submitted by the 20th of the month. Materials received after that date will appear in the NEXT issue.
  - \* All submissions are retained by the editor unless prior arrangements are made.
  - \* Articles, artwork, and photos should be camera ready. Photos should be screened.
  - \* We will not publish slanderous or libelous material!
- Send **ARTICLES, ANNOUNCEMENTS**, etc. to:  
Dolores Hill, Desert Skies  
4632 E. 14th St., Tucson, AZ 85711  
or Lunar & Planetary Lab, UA campus mail
- Send **ADDRESS CHANGES** to:  
TAAA  
Attention: "address change"  
P.O.Box 41254  
Tucson, AZ 85717

#### MEMBERSHIP IN THE TAAA

Individual Membership	\$20.00
Family Membership	\$25.00
Senior Citizen (over 60)	\$18.00

Sky & Telescope subscription (optional) \$18.00

Rates for membership in the TAAA are given above. Members can subscribe to Sky & Telescope at the time of membership renewal, saving over 25% off the cost of a regular subscription. The subscription term must match your membership period.

Send one check, made payable to: Tucson Amateur Astronomy Association, to cover both membership and subscription to: TAAA, P.O.Box 41254, Tucson, AZ 85717. It is best to pay your dues 2-3 months before your membership actually expires.

#### 4 EASY STEPS TO MEMBERSHIP RENEWAL

1. Pay your dues 2-3 months early. Your month of membership expiration is listed on your newsletter mailing label.
2. a) Decide if you want Sky & Telescope, then add \$18 to your membership rate.  
b) Include Sky & Telescope's renewal notice, if possible.
3. Write one check, payable to TAAA.
4. Send it to TAAA, P.O.Box 41254, Tucson, AZ 85717.

Call the Treasurer if you have any problems.

\*\*\*\*\*

**ITEMS WANTED OR FOR SALE.....** If YOU have placed an ad and sell the item(s) or no longer wish to run it, please call Dolores or Rik Hill at 325-9820 (home) or 621-6951(work). Otherwise the ad will continue to appear. Thanks. -ed.

**FOR SALE:** Tripod which extends to 6 feet; used for 11 x 80 binoculars....\$8. Call Gilbert Friedman at 571-1662.

**FOR SALE:** 3" f/15 all brass antique telescope, push-pull objective tilt-adjustment, high quality construction, diffraction limited, \$2100. Estey (Vermont) antique pump organ, 11 stops, all notes work fine, delightful sound...\$995. ALSO, country home, 4000 sq.ft. under roof, creek, lush vegetation, 7 acres bird-deer-or star watching....\$95,000, terms. Contact Stephen B. Smith at (602) 456-9440 or Box 5056, Huachuca City, AZ 85616.

**SERVICE:** Newtonian telescope mirrors tested FREE for club members by Bob Goff (call 790-1452).

**NEEDED:** Donations of astronomy magazines to give away at star parties along with the TAAA brochure.

**FOR SALE:** CELESTRON binocular viewer (mint condition, like new, used only once);  
TELEVUE 2" star diagonal (excellent condition) with 1 1/4" adapter and Schmidt-Cass. adapter.  
Call John Zajac at 299-3203 (answering machine is always on).

**WILL TRADE:** 4.8mm NAGLER eyepiece (excellent condition) and additional cash for 7mm Nagler eyepiece.  
Call John Zajac at 299-3203 (answering machine is always on).

**FOR SALE:** 6" Dynamax without tripod- legs screw in, 2 diagonals, 1 porro prism, 9mm, 13mm, 30mm eyepieces, camera adapter....\$500. Contact Robert L. Smith 14025 Penny Lane, Casa Grande, AZ 85222.

**FOR SALE:** 65mm refractor with equatorial mount (no motor), manual slow motion controls, carry case, 4 eyepieces, approx. 30 yrs. old.....good for beginner.\$65. Call Virginia Breckenridge at 298-3586.

**FOR SALE:** NEW (never used) 13mm Plossl TeleVue eyepiece...\$80; two Celestron polarizing filters, 67mm dia. @ \$10.00; 10 rolls of Ektapress print film, 1600 ASA, hi-contrast...\$6/roll or \$25/Propack (5 rolls). (*This is the film Mike used for the award-winning photo in the September issue of ASTRONOMY*); calymenina trilobites from Morocco...\$10 ea. Call Mike Terenzoni at 577-6857.

**FOR SALE:** Commodore 128 computer, color monitor, two floppy drives, printer. Software includes a wordprocessor, database, financial planner package, and many games (including one astronomy star chart program--weak by IBM standards and one astronomy game). All manuals are included. This computer belongs to the TAAA, given to us as a donation. All money received will go towards the 30" telescope/land project. We are asking \$300 for the entire package..... If you have questions or want to see the computer call Teresa at 579-0185, before 10 P.M.

**FOR SALE:** ASTRONOMY magazine 1974-1990; missing 7 early issues; 14 yrs. complete, in good condition...\$150. 8 inch Edmund mirror kit...\$40.00. CAVE drive, 1 1/2 inch shaft with housing, only 40 hrs. running time...\$80.00. Call Mike Sweetman evenings at 297-2781.

**FOR SALE:** 2" Rack & pinion Novak focuser with 1 1/4" adapter- mint condition (never used).....\$90.00. Call Ray Wallace at 294-1197.

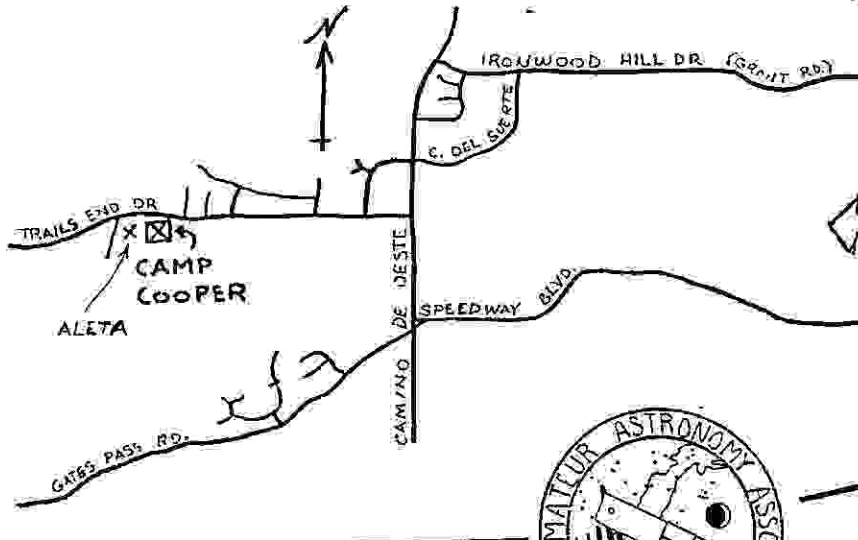
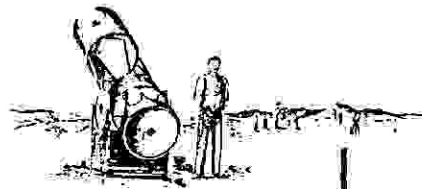
**FOR SALE:** Yashica 35mm SLR camera/50MM lens...\$150. Call Patrick Craig at 792-4980 (new phone#).

### **TAAA MIRROR-MAKING CLASS TO BEGIN!**

A mirror making class will be taught with "scaled exercises" by expert opticians Bob Goff and Duane Niehaus. All supplies are included for 4 1/4, 6, 8, 10, or 12 1/2 inch primary mirrors. For more information call Bob Goff at 790- 1452.



# STAR PARTIES



MAP FOR T.U.S.D  
CAMP COOPER

MAP FOR  
PUEBLO H.S.



1 MILE

AVO WAY

PUEBLO  
H.S.

SOUTH  
TUCSON

36th St.

I-10

V.A.  
HOSP.

12th AVE.

IRVINGTON RD.

EMPIRE RANCH  
Starparty Site.

Go 0.3 mi. south of  
Milepost 40 then turn  
east. About 0.9 mile  
turn south and park at  
clearing or where others  
are parked. Drive slow  
and use parking lights  
after dark.

Directions to Montano Ranch site near Arivaca

To Tucson  
(40 mi.  
from UA)

Green Valley

I-19

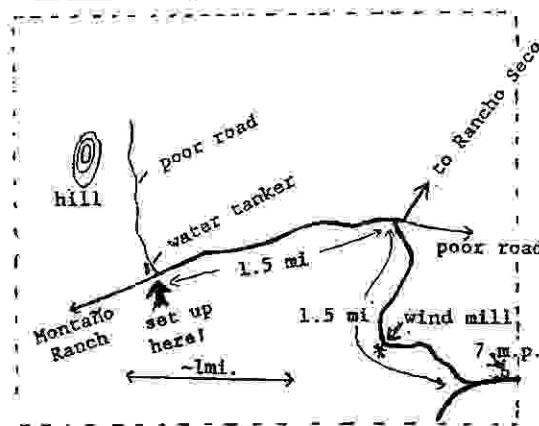
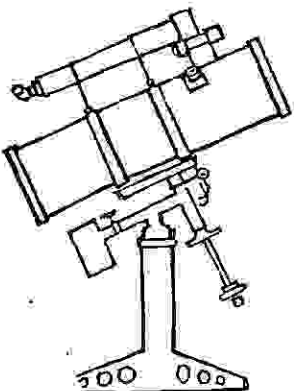
Cow Palace is on the  
W side of I-19

go W from  
Cow Palace  
Intersection

exit 48

Arivaca  
Junction

16.8-17 miles



To Arivaca

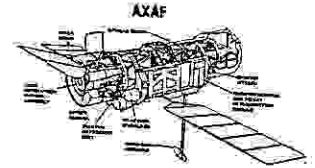


# SATELLITES FOR JANUARY

by Brad Becker

The Soviet Space Station Mir makes a few favorable appearances early this month. The evening of January 4th should be especially noteworthy as it passes nearly overhead from Tucson just prior to entering Earth's shadow. It returns two evenings later taking a more northerly pass. Late in the month the Gamma Ray Observatory appears, rising in the southwest and setting southeast. I've seen Mir as bright as -1 in magnitude and the Gamma Ray as bright as +1. The other "major" satellites are not visible in the early evening this month.

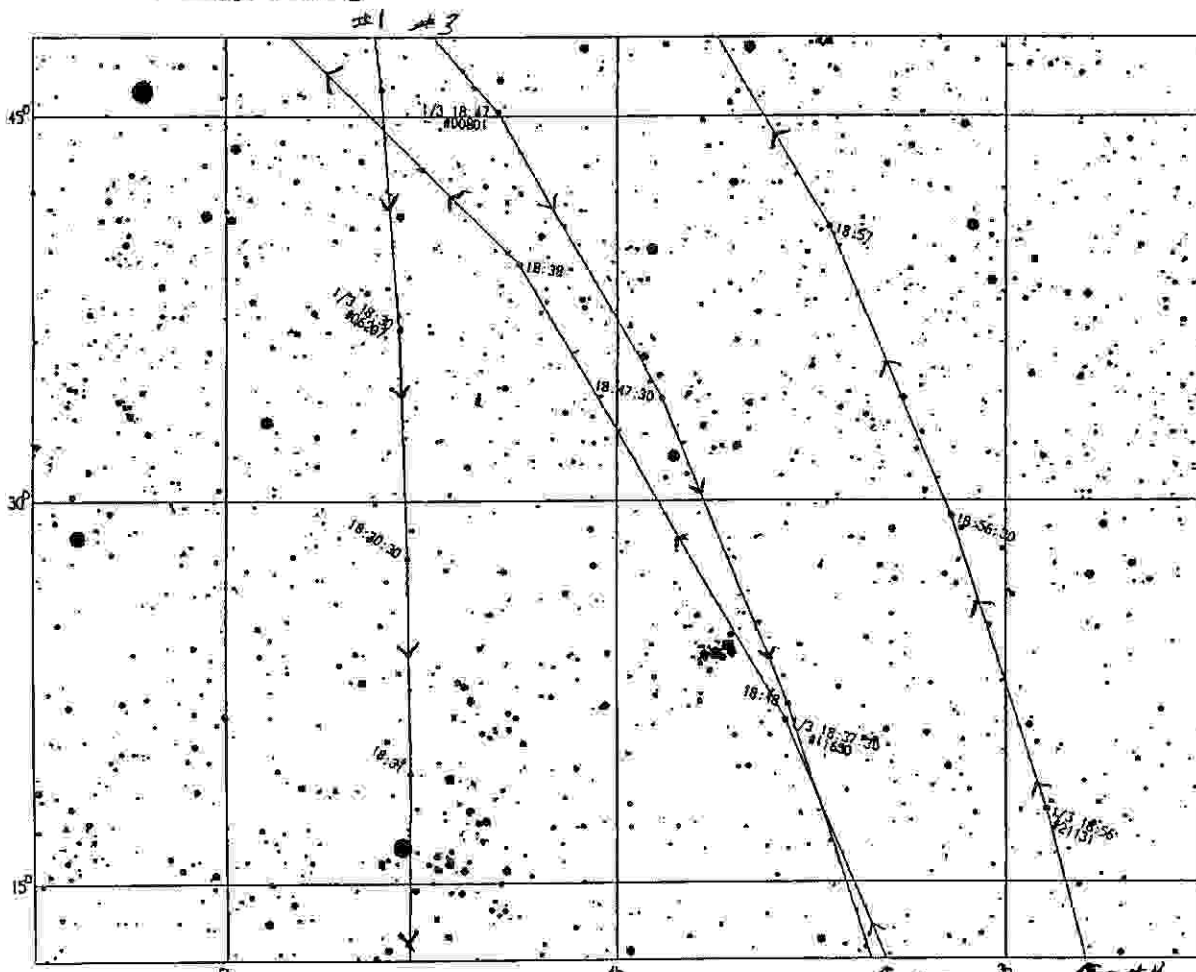
Date	Satellite	First Appearance	RA	DEC	Last Appearance	RA	DEC
1-04	Mir	6:56 p.m.	22 23	- 26 50	6:59 p.m.	04 50	48 10
1-06	Mir	6:34 p.m.	21 02	07 00	6:38 p.m.	09 07	55 53
1-27	GRO	6:58 p.m.	23 13	- 22 26	7:02 p.m.	06 31	- 13 12
1-29	GRO	6:58 p.m.	01 12	- 15 40	7:00 p.m.	06 06	- 12 25
1-31	GRO	6:55 p.m.	23 18	- 10 07	6:59 p.m.	07 05	- 17 40



Those of you with binoculars may want to use the map below to check out four fairly faint satellites passing through the star fields of Taurus January 3rd between 6:30 p.m. and 6:57 p.m. In order of appearance the satellites are:

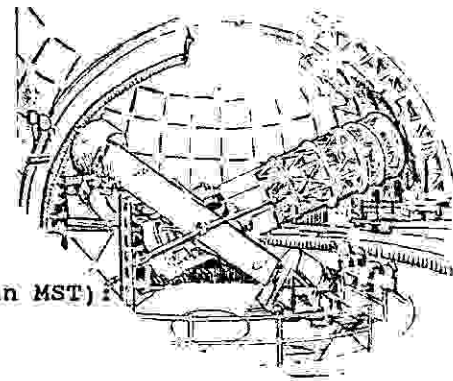
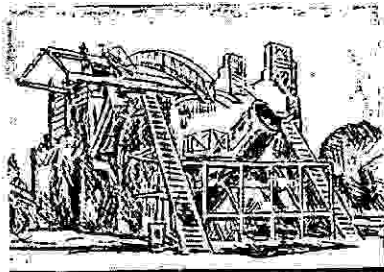
- #1 - Cosmos 521 rocket booster (passing quite close to Aldebaran), 6:29 p.m. to 6:32 p.m.
- #2 - Cosmos 1145 rocket booster (close to the Pleiades), 6:37 p.m. to 6:39 p.m.
- #3 - Transit 9 (also close to the Pleiades), 6:47 p.m. to 6:49 p.m.
- #4 - Cosmos 2135 rocket booster, 6:55 p.m. to 6:58 p.m.

It's interesting to note that rocket boosters are as plentiful as the satellites they carried. Many of them tumble, so their brightness may vary. As with all satellite times search a few minutes early to be on the safe side. Happy hunting!



Taurus Satellites for 1-3-92

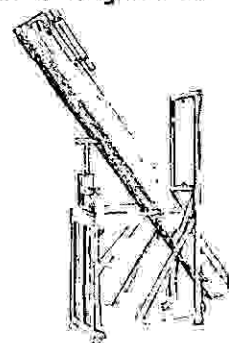
Epoch B1950.0



**CELESTIAL CALENDAR for January 1992 (all times are in MST):**

- W Jan. 1 5am, Moon passes  $5.5^\circ$  S of Venus.  
7pm, Moon passes  $1.9^\circ$  N of Antares.
- T Jan. 2 6pm, Moon passes  $2.9^\circ$  S of Mercury.
- F Jan. 3 8am, Earth at perihelion, .98323 a.u. (147,103,000 km).  
7:30pm, TAAA General Membership Meeting, Steward Obs. 1st floor auditorium, Kim Poor, astro-artist and Members night.
- S Jan. 4 Quadrantid meteor shower, ZHR 110! peaks about 2am, one of only two major showers this year well placed in a dark sky.  
TAAA Star Party, Arivaca site, see map elsewhere. Get there before 4:42pm if you're planning on seeing the ...  
Annular Solar Eclipse, 4:42pm 1st contact, of course annularity is not visible here.  
4:10pm, NEW MOON.
- S Jan. 5 1st photograph of an aurora, 1892.
- M Jan. 6 5am, Moon at apogee, distance 63.7 earth-radii.
- T Jan. 7 6am, Neptune at conjunction with Sol. Uranus was 58 hrs earlier.
- W Jan. 8 Stephan Hawking, British theoretical physicist & mathematician, born 1942.
- T Jan. 9 6pm, star party at Van Buskirk Elementary School, see map elsewhere.  
7:30pm, TAAA Executive Meeting, Flandrau Science Center conference room.
- F Jan. 10 Mercury-Mars conjunction, well within a degree of each other in the predawn sky.
- S Jan. 11 12pm, Mars at greatest declination S ( $-24.0^\circ$ ).
- S Jan. 12 7:31pm, FIRST QUARTER MOON.
- M Jan. 13 The successor to the acclaimed telescope-making firm of Alvan Clark & Sons, Carl Lundin, born 1851.
- T Jan. 14 Julian date 1/1/92.
- W Jan. 15 7:30pm, 30" Telescope Design, Land and Fundraising Meeting at Duane Niehaus', see map elsewhere.
- T Jan. 16 6pm, Astronomy Talk and Star Party at Canyon Ranch, see map elsewhere.
- F Jan. 17 Mechain discovers the short-period comet now known as Encke's, 1786.
- S Jan. 18 8:08am, Moon at descending node (longitude  $99.8^\circ$ ).
- S Jan. 19 2:28pm, FULL MOON.
- M Jan. 20 Mercury-Uranus conjunction, well within a degree of each other in the predawn sky.
- T Jan. 21 5pm, Autumnal equinox on Mars.
- W Jan. 22 6pm, Moon passes  $6.6^\circ$  S of Jupiter.
- T Jan. 23 1st well observed occultation of a star by an asteroid (Eros and  $\kappa$  Geminorum), 1975.
- F Jan. 24 Harold Babcock, American astronomer and physicist, born 1882.
- S Jan. 25 TAAA Star Party, Arivaca site, see map elsewhere.
- S Jan. 26 8:28am, LAST QUARTER MOON.
- M Jan. 27 Fire takes the lives of Apollo 1 crew; Grissom, Chaffee and White, 1967.
- T Jan. 28 Space shuttle Challenger explodes off the Florida coast - all aboard killed. 2nd worst disaster in the history of space exploration, 1986.
- W Jan. 29 Mars-Uranus conjunction, you guessed it, well within a degree of each other in the predawn sky.
- T Jan. 30
- F Jan. 31 10am, Moon passes  $1.0^\circ$  S of Venus.

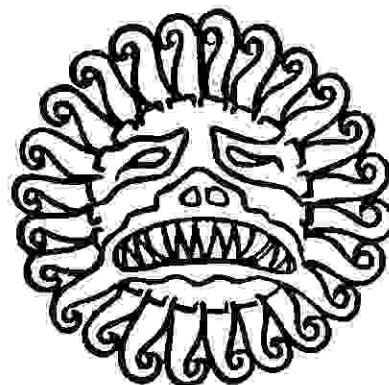
Andrew J. Meyer



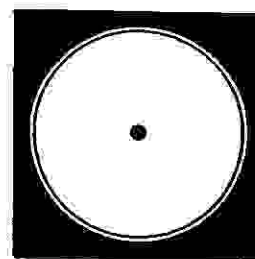


# DARK SKIES for January 1992 (in MST):

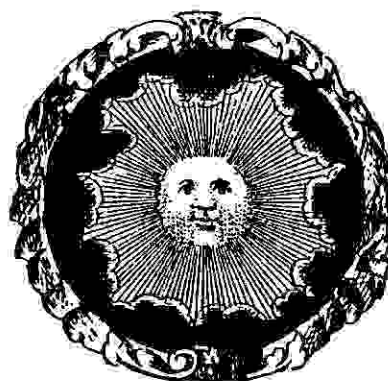
W/T	Jan.	1/2	6:55pm -	5:40am
T/F	Jan.	2/3	6:55pm -	5:57am
F/S	Jan.	3/4	6:56pm -	5:57am
S/S	Jan.	4/5	6:57pm -	5:57am
S/M	Jan.	5/6	6:57pm -	5:58am
M/T	Jan.	6/7	7:23pm -	5:58am
T/W	Jan.	7/8	8:17pm -	5:58am
W/T	Jan.	8/9	9:12pm -	5:58am
T/F	Jan.	9/10	10:06pm -	5:59am
F/S	Jan.	10/11	11:02pm -	5:59am
S/S	Jan.	11/12	11:59pm -	5:59am
S/M	Jan.	12/13	12:58am -	5:59am
M/T	Jan.	13/14	2:01am -	5:59am
T/W	Jan.	14/15	3:06am -	5:59am
W/T	Jan.	15/16	4:12am -	5:59am
T/F	Jan.	16/17	5:16am -	5:59am
F/S	Jan.	17/18	none	
S/S	Jan.	18/19	none	
S/M	Jan.	19/20	none	
M/T	Jan.	20/21	7:08pm -	7:09pm
T/W	Jan.	21/22	7:09pm -	8:20pm
W/T	Jan.	22/23	7:10pm -	9:28pm
T/F	Jan.	23/24	7:11pm -	10:34pm
F/S	Jan.	24/25	7:12pm -	11:38pm
S/S	Jan.	25/26	7:12pm -	12:40am
S/M	Jan.	26/27	7:13pm -	1:41am
M/T	Jan.	27/28	7:14pm -	2:40am
T/W	Jan.	28/29	7:15pm -	3:35am
W/T	Jan.	29/30	7:16pm -	4:26am
T/F	Jan.	30/31	7:16pm -	5:13am
F/S	Jan.	31/1	7:17pm -	5:54am
S/S	Feb.	1/2	7:18pm -	5:55am
S/M	Feb.	2/3	7:19pm -	5:55am
M/T	Feb.	3/4	7:20pm -	5:54am
T/W	Feb.	4/5	7:20pm -	5:54am
W/T	Feb.	5/6	8:01pm -	5:53am
T/F	Feb.	6/7	8:56pm -	5:53am
F/S	Feb.	7/8	9:52pm -	5:52am
S/S	Feb.	8/9	10:50pm -	5:51am



Representation of the Persian sun god Mithras as the symbol of light, truth and justice

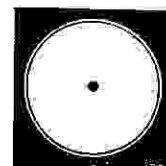


Astronomical symbol for the sun - circle and point, the Orphic egg of creation

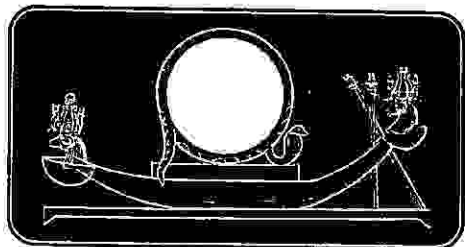


Emblematic representation of the sun as God, from Boschio's Arte Symbolica, Augsburg, 1702

Times listed are for Tucson, Arizona when:  
(1) Moon is below the horizon  
(2) Sun is >18° below the horizon  
(astronomical twilight)



Astronomical symbol for the sun - circle and point, the Orphic egg of creation



The solar barge of the ancient Egyptians, on which the sun travels over the sky to the west, and returns through the nether world to the east

Andrew J. Meyer



Symbol of the rising sun, from an Egyptian hieroglyph





# Tucson Amateur Astronomy Association

## TELESCOPE BUREAU

The TAAA observatory fund raising committee has discussed ways of expanding its effort in getting the word out about astronomy in southern Arizona! By offering a "star party" service to convention, resort, and philanthropic organizations in Pima County we can heighten awareness for the night sky as well as plug our cause - building an observatory(s) to house our 16" and 30" telescopes - to potential benefactors. In addition, donations from the organization sponsoring the star party will help us towards our goals.

In order to commit to multiple star party dates each month it becomes necessary to take "inventory" of club members interested in attending these events on a regular basis.

Please, if you will, take the time to fill out the brief questionnaire below:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

Phone: Hm. \_\_\_\_\_ Wk. \_\_\_\_\_

Telescope (optional)? No\_\_ Yes\_\_ Size \_\_\_\_\_

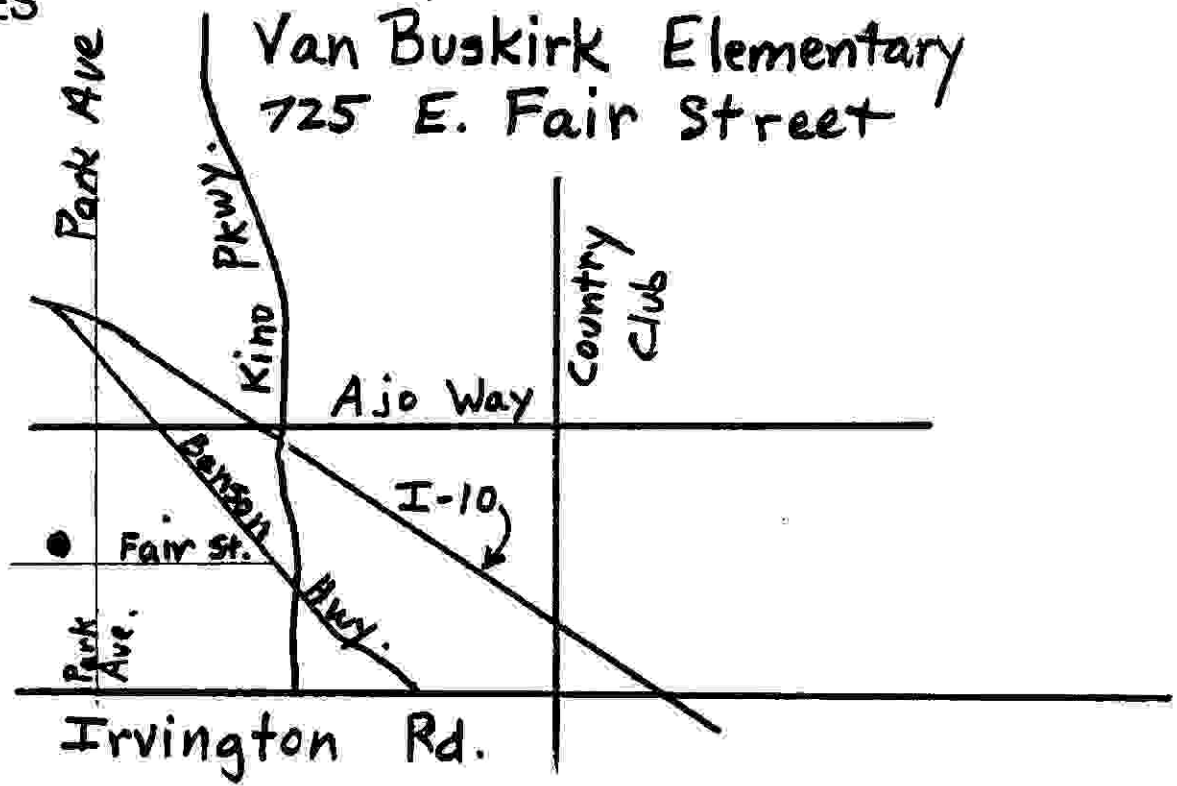
Would you like to be a speaker? Yes\_\_ No\_\_

When are you available? Weekends only\_\_

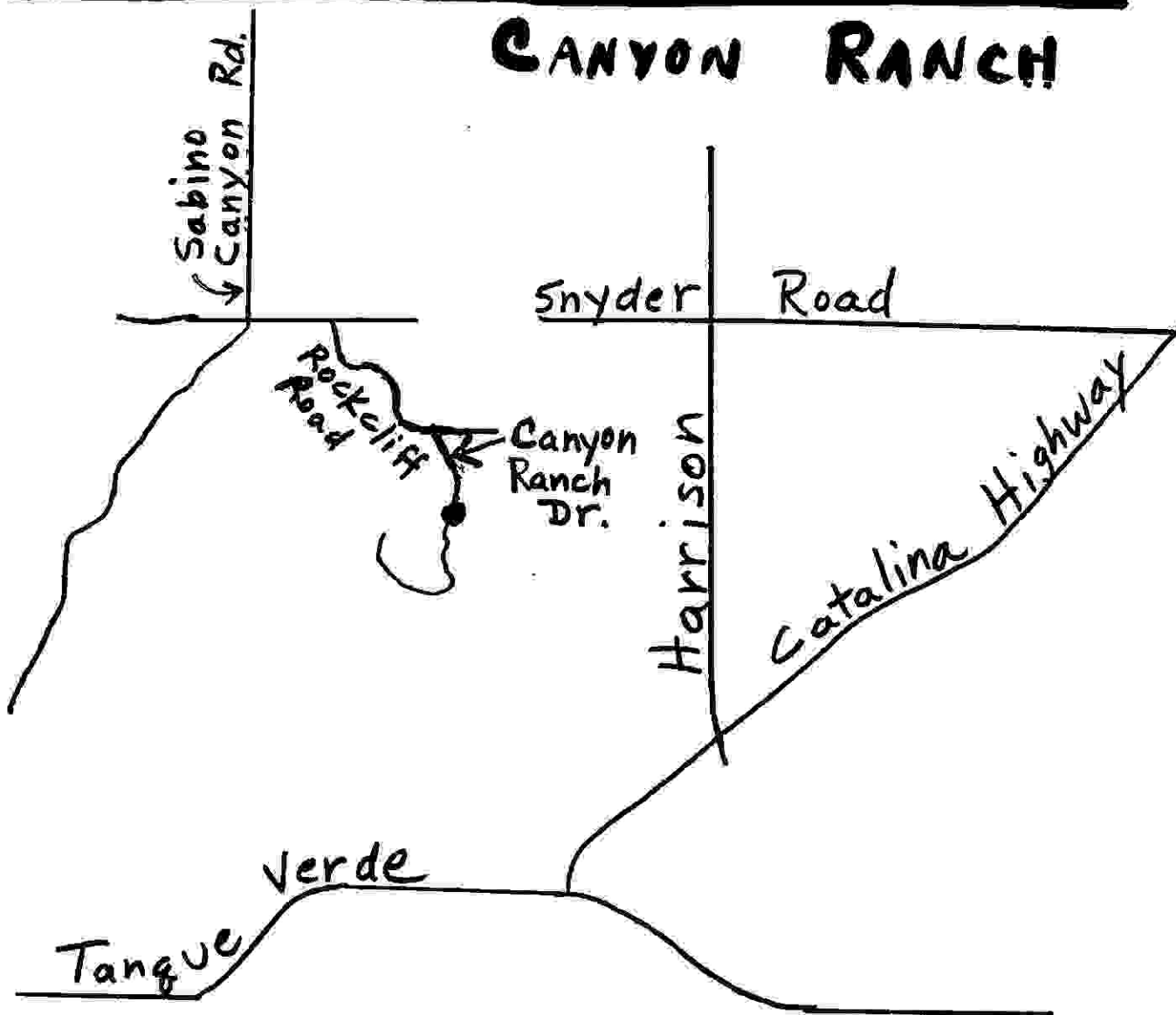
Weekdays\_\_

Most anytime\_\_

When during the day (night) is a good time to call (am/pm)? \_\_\_\_\_



## CANYON RANCH





## KITT PEAK MUSEUM

### Volunteer Program

### SHARE YOUR INTEREST IN ASTRONOMY BECOME A VOLUNTEER WITH THE KITT PEAK MUSEUM

Each year, over 100,000 people visit the Observatories. As a volunteer, you can help communicate to our visitors the excitement of scientific research and the wonders of the Universe.

Our volunteer educators (docents) will meet professional astronomers from around the world and see firsthand the tools of modern astronomy.

This is an extraordinary opportunity for anyone interested in astronomy or science in general. Kitt Peak volunteers will acquire work experience in an unique environment while, at the same time, helping the Observatory fulfill its mission to the public.

We are looking for Volunteers of all ages, from all walks of life, and all backgrounds. We do not require prior knowledge of Astronomy. All we are looking for is a willingness to learn. Transportation to the Observatories is provided from Tucson.

Call or write to: Kitt Peak Museum  
Volunteer Program  
P.O. Box 26732  
Tucson, AZ 85726-6732  
(602) 740-2426

## IMPORTANT NOTICE TO SENIORS!



FLANDRAU SCIENCE CENTER & PLANETARIUM

presents:

### The Friday 3:30 SKY SHOW

The Flandrau Science Center & Planetarium recognizes that some people like to go to bed at night, instead of staying out till all hours, so we've designed a special program just for you! The Friday SKY SHOW at 3:30 pm lets you enjoy the "night sky" in the cool, comfortable seating of the air conditioned STAR-Theater; without the bugs, the cactus or a long drive in the dark! ... And we'll give you a substantial discount, to boot!

So get out of the elements and  
do your star-gazing in the cool comfort of  
Flandrau Science Center & Planetarium's "night sky"

... and go to bed at night!

Flandrau is conveniently located on the U of A campus at Cherry and the Mall.  
The new Visitor's Parking Lot is open directly south of Flandrau.

SENIOR TICKET DISCOUNT PRICE FOR THIS SHOW  
ONLY \$2.75! (And that's nothing to snooze about...)

CALL 621-STAR or 621-4515 for more information

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