**Highlights of the August Sky**

**2nd → 6th**  
PM: Asteroid Vesta shines at magnitude 5.6 - its brightest until 2018.

**3rd**  
DUSK: Waxing Crescent Moon is below Saturn.

**4th**  
DUSK: Waxing Crescent Moon is below Spica.

**6th**  
First Quarter Moon

**6th → 7th**  
AM: Mars is less than 1° south of M35, low in ENE.

**10th**  
PM: Pi Sagittarii (2.9 mag.) disappears behind dark edge of gibbous Moon.

**12th → 13th**  
Perseid meteor shower peaks (bright Moon spoils the show).

**13th**  
Full Moon

**18th → 19th**  
AM: Mars is 1½° south of 3.0 magnitude star Epsilon Geminorum.

**19th**  
PM: Jupiter rises below the Waning Gibbous Moon.

**21st**  
Last Quarter Moon  
PM: Pleiades rises above the Moon.

**25th**  
DAWN: Mars is left of the thin crescent Moon.

**28th**  
New Moon

**31st**  
DUSK: Spica is to upper left of thin crescent Moon.

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**Perseid Potluck Picnic: Saturday, August 6 @ 6:00 pm**  
Kalamazoo Nature Center - Details on Page 2

**Observing Session: Saturday, August 6 @ 8:30 pm**  
First Quarter Moon - Kalamazoo Nature Center

**Board Meeting: Sunday, August 14 @ 5:00 pm**  
Sunnyside Church - 2800 Gull Road - All Members Welcome

**Observing Session: Saturday, August 20 @ 8:30 pm**  
The Summer Triangle - Kalamazoo Nature Center

**Kiwanis Star Party: Saturday, August 27 @ 8:30 pm**  
Kiwanis Youth Conservation Area - Details on Page 5

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**Inside the Newsletter...**

July Meeting Minutes..........................p. 2  
Perseid Potluck Picnic..........................p. 2  
NASA Space Place..............................p. 3  
August Night Sky..............................p. 4  
KAS Board & Announcements.............p. 5  
The SkyShop.................................p. 6
The general meeting of the Kalamazoo Astronomical Society was brought to order by President Jack Price on Friday, July 8, 2011 at 7:12 pm EDT. Approximately 30 members and guests were in attendance in the Cooper’s Glen Auditorium at the Kalamazoo Nature Center.

Our special “Gadget Night” speaker was fellow Michigan amateur astronomer Jason Blaschka. The title of Jason’s presentation was the *Golden Age of Amateur Astronomy*. The start of the golden age of amateur astronomy started with the rise of the Internet. Newsgroups like sci.astro.amateur and websites like Astromart, Astronomy Mall, Cloudy Nights, and Yahoo! Groups has brought amateurs from all over the world together. There they’ve exchanged advice and guidance about what and what not to buy. Today’s amateur astronomer must also be a traveling one. As light pollution grows worse, we must head out to dark, remote locations to enjoy a pristine sky. The past 20 years or so has seen many major star parties sprout up around the world. Equipment must therefore become highly portable.

Another reason for the current boom in amateur astronomy is the rise of digital imaging. Taking beautiful images of the night sky is easier than ever thanks to affordable CCD and DSLR cameras. Much of the astronomy marketplace is aimed at astrophotographers. The reason is simple. Astrophotographers purchase 8 - 10 times more equipment than the visual observer combined! Jason spent the remainder of his talk showing the latest telescopes, eyepieces, etc. available today. Many images from this year’s Northeast Astronomy Forum & Telescope Show (NEAF) were also shown. Over 6,000 people attended this year’s event at Rockland Community College in Suffern, New York.

The traditional “Gadget Night” portion of the meeting followed the snack break. Chicago-area amateur Darren Drake shared gadgets like a rare Nikon eyepiece with a 102° field-of-view, a Blue Nebula Focuser from Starlight Instruments, a 200mW green laser pointer, and TheSky on a vintage pocket computer. Bill Nigg replaced some of the rear set screws on his guidescope rings with springs. This makes it easier to get the guidescope aligned with the main-scope. Bill is also making an effort to keep track of his observations in a *Stargazer’s Journal* logbook. Joe Comiskey cut a piece out of one of the lenses of an old pair of eyeglasses and attached it to his finderscopes. This allows him to see clearly through his finderscope, but not scratch his current pair of eyeglasses.

Jack Price encouraged all KAS members to attend a star party or two this summer (see the February 2011 issue of *Prime Focus* for a list). The meeting concluded at 9:08 pm.

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**The Seventeenth Annual Perseid Potluck Picnic**

Kalamazoo Nature Center  
Saturday, August 6th  
Arrive at 6:00 pm EDT  
Dinner begins at 7:00 pm EDT  
Observing after Sunset (weather permitting)

Mark your calendar. Hope for good weather. It’s time for the big social event of the summer for the KAS. So get ready to party! Here are the details:

The KAS will provide the hot dogs, hamburgers, and veggie burgers. You will be required to bring your own beverages, table service, lawn chairs, bug spray, and a dish to pass. Condiments will be provided by the KAS.

While dinner is cooking we will have solar observing available through KAS member telescopes. Feel free to bring any type of outdoor games or toys to pass the time while we wait for dinner.

After dinner, we’ll hold a Public Observing Session - gates open at 8:30 pm. Stargazers should be prepared to observe the Moon, Saturn, deep sky delights of the summer Milky Way, and the near-peak of the Perseid Meteor Shower.

This gathering will take place rain or shine, so be prepared for whatever Mother Nature throws our way!
So far this spring, more than 1,400 tornadoes have struck the U.S. Some of them have cut jaw-dropping trails of destruction across the countryside and, tragically, across inhabited communities, too. Hundreds of lives have been lost in the onslaught.

Throughout the season, the National Weather Service has routinely issued tornado alerts. In the case of the Alabama tornadoes of April 27th, forecasters warned of severe weather five full days before the twisters struck. Because they couldn’t say precisely where the twisters would strike, however, many of their warnings went unheeded.

“If people get a hurricane warning, they often evacuate the area,” notes NOAA’s Steve Goodman. “But we react differently to tornado warnings.”

Perhaps it’s because tornadoes are smaller than hurricanes, and the odds of a direct hit seem so remote. Recent pictures from Tuscaloosa, Alabama, and Joplin, Missouri, however, show the perils of playing those odds. Goodman believes that more precise warnings could save lives.

To fine-tune tornado warnings, NOAA will soon launch the first in a series of next-generation weather satellites – GOES-R (Geostationary Operational Environmental Satellites-R series). The spacecraft is brimming with advanced sensors for measuring key ingredients of severe weather including winds, cloud growth, and lightning.

“GOES-R will be the first geostationary spacecraft to carry a lightning sensor,” says Goodman, the GOES-R Program Senior Scientist. “Studies show that sudden changes in the total lightning activity correlate with storm intensity — and with tornadoes.”

The lightning mapper will detect and map not only cloud-to-ground lightning, but also bolts within and between clouds. The kind of cloud-to-ground lightning we see from our front yards accounts for only 15-20 percent of total lightning. To get a clear idea of a storm’s intensity, meteorologists need to know about all the lightning — a view GOES-R can provide.

All by itself, the lightning mapper will provide 7 minutes more lead time in tornado warnings, according to Goodman. GOES-R’s state-of-the-art instruments will also improve long-range forecasts.

“The satellite's Advanced Baseline Imager (ABI), for instance, will provide a much clearer picture of clouds,” says NOAA research meteorologist Tim Schmit. Compared to lesser instruments already in orbit, ABI can better detect super-cold “overshooting tops,” evidence of enormous energy and upward velocity that correlate with subsequent severe weather.

“Accurate advanced notice of high-risk tornadic conditions can cue officials to close schools and businesses even before tornadoes are actually detected,” says Schmit.

Forecasts doubt tornadoes can ever be predicted with 100% accuracy. The twisters are just too capricious. GOES-R, however, is a step in the right direction.

Find out more about GOES-R’s unprecedented capabilities at http://www.goes-r.gov.

Young people can learn more about tornadoes and all kinds of other weather at http://scijinks.gov.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.
The Dawn spacecraft is now in orbit of the asteroid 4 Vesta and giving us our first close-up images of its ancient surface. You’ll have a great opportunity to see Vesta through a telescope between August 2nd and 6th. Vesta spends August in the constellation Capricornus and will appear as a magnitude 5.6 star. This is the brightest apparition of an asteroid until 2018.

Binoculars and telescopes will show the 2.9 magnitude star Pi Sagittarii (Albaldah) disappear behind the dark edge of the Waxing Gibbous Moon on August 10th. The occultation occurs at approximately 9:57 pm EDT. The star will reappear at about 10:53 pm.

The crescent Moon, Saturn, and Spica form a right triangle low in the west-southwest on August 31st. Spica is to the upper left of the Moon, and Saturn is to the Moon’s upper right.
Kiwanis Star Party

The KAS and Battle Creek Kiwanis Club of will co-host a public star party on **Saturday, August 27th**. Gates open at 8:30 pm. It'll be held at the Kiwanis Youth Conservation Area on 15th Avenue, 3.6 miles north of Turkeyville in Calhoun County. Admission is FREE. For more information or to volunteer your time and telescope, contact Dick Gillespie (269-966-9653).

Help Save the James Webb Space Telescope

The House of Representatives wants to cancel funding for the **James Webb Space Telescope**. Scheduled for launch in 2018, the JWST, intended to succeed the Hubble Space Telescope, would orbit in deep space, a million miles from Earth, and peer into the dawn of the universe. Its observations would answer major questions about the structure of the cosmos.

**Sign the Petition Today!**

Public Observing Sessions

**Saturday, August 6th**
*Features: First Quarter Moon*

**Saturday, August 20th**
*Features: The Summer Triangle*

Gates Open: 8:30 pm • Observing Begins: 10:00 pm

Kalamazoo Nature Center • 7000 N. Westnedge Ave.
Kalamazoo Astronomical Society
c/o KAMSC
600 West Vine, Suite 400
Kalamazoo, MI 49008

More available at:  http://skyshop.kasonline.org/

- **KAS 75th T-shirt**
  - $20.00

- **Galileoscope**
  - $30.00

- **Miller Planisphere**
  - $13.00

- **Nightwatch**
  - $35.00

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