



ASTROFILES

Auburn Astronomical Society Newsletter

January 2020

Newsletter Editor — John Wingard — jwin1048@gmail.com

Moon Phases

January 17 — Last Quarter

January 24 — New Moon

February 1 — First Quarter

February 9 — Full Moon

February 15 — Last Quarter

February 23 — New Moon

March 2 — First Quarter

March 9 — Full Moon

Next Club Meeting and Events

The next AAS club meeting is set for Friday, February 7, 2020. The meeting location will be in Room 215 of Davis Hall (Aerospace Engineering) on the AU campus. Meeting time will be 7:45 PM CT.

Weather permitting, we have a star gaze scheduled at Kiesel Park in Auburn on Saturday, February 1, 2020. This is in support of the Krehler Preserve & Nature Center. It is suggested that all AAS members that plan to attend try to be there around 5:00 PM CT in order to have some daylight to set up telescopes and other equipment. Kiesel Park is located just West of Auburn on Chadwick Lane. Chadwick Lane can be accessed from either Hwy. 14 on the North end or from Wire Road on the South end. The Hwy. 14 intersection is located just across from the University Station RV Park.

Stay in touch with us



<http://www.auburnastro.org>



<https://www.facebook.com/groups/79864233515/>

Annual Russell Lands Registration Reminder

Don't forget to re-register with Russell Lands for your 2020 permit for access to the Heaven Hill observing site near Alexander City, AL. The registration form and address can be found in the December 2019 Astrofiles newsletter. I sent my form in right after the first of January and received my new permit sticker in about a week.



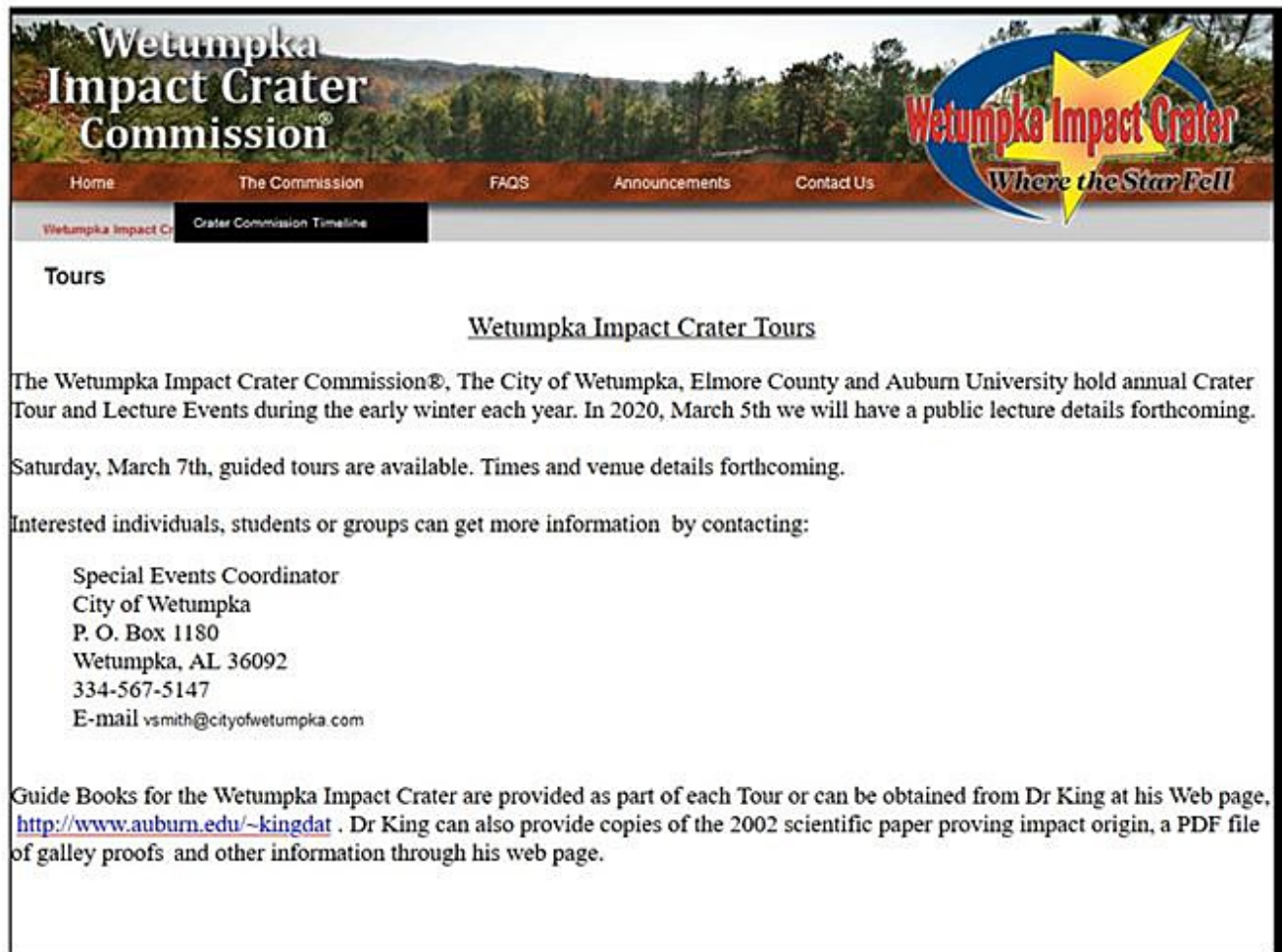
The AAS would like to welcome Dave Washatka from Prattville, AL to the group. Dave's interest is astrophotography. Welcome Dave!

Upcoming Tour of the Wetumpka Meteor Impact Crater

Public Lecture March 5th

Tour Saturday March 7th

Details are forthcoming.



Wetumpka Impact Crater Commission

Home The Commission FAQs Announcements Contact Us

Wetumpka Impact Crater Commission Timeline

Tours

Wetumpka Impact Crater Tours

The Wetumpka Impact Crater Commission®, The City of Wetumpka, Elmore County and Auburn University hold annual Crater Tour and Lecture Events during the early winter each year. In 2020, March 5th we will have a public lecture details forthcoming. Saturday, March 7th, guided tours are available. Times and venue details forthcoming.

Interested individuals, students or groups can get more information by contacting:

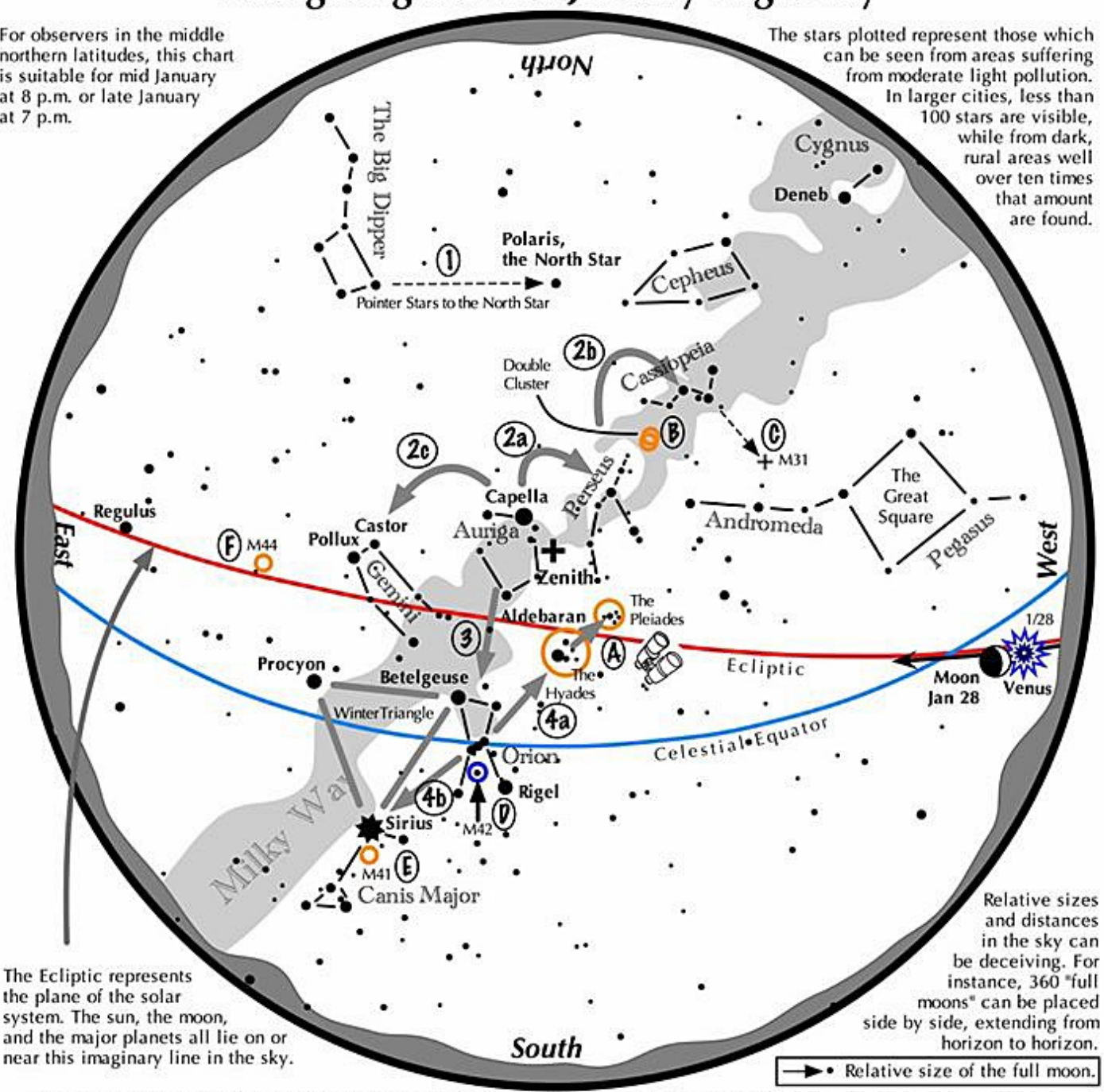
Special Events Coordinator
City of Wetumpka
P. O. Box 1180
Wetumpka, AL 36092
334-567-5147
E-mail vsmith@cityofwetumpka.com

Guide Books for the Wetumpka Impact Crater are provided as part of each Tour or can be obtained from Dr King at his Web page, <http://www.auburn.edu/~kingdat> . Dr King can also provide copies of the 2002 scientific paper proving impact origin, a PDF file of galley proofs and other information through his web page.

Navigating the mid January Night Sky

For observers in the middle northern latitudes, this chart is suitable for mid January at 8 p.m. or late January at 7 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

Navigating the winter night sky: Simply start with what you know or with what you can easily find.

- 1 Above the northeast horizon rises the Big Dipper. Draw a line from its two end bowl stars upwards to the North Star.
- 2 Face south. Overhead twinkles the bright star Capella in Auriga. Jump northwestward along the Milky Way first to Persues, then to the "W" of Cassiopeia. Next Jump southeastward from Capella to the twin stars Castor and Pollux of Gemini.
- 3 Directly south of Capella stands the constellation of Orion with its three Belt Stars, its bright red star Betelgeuse, and its bright blue-white star, Rigel.
- 4 Use Orion's three Belt stars to point to the red star Aldebaran, then to the Hyades, and the Pleiades star clusters. Travel to the southeast from the Belt stars to the brightest star in the night sky, Sirius.

Binocular Highlights

- A: Examine the stars of the Pleiades and Hyades, two naked eye star clusters.
- B: Between the "W" of Cassiopeia and Perseus lies the Double Cluster.
- C: The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval.
- D: M42 in Orion is a star forming nebula. E: Look south of Sirius for the star cluster M41. F: M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux.



Astronomical League www.astroleague.org/outreach; duplication is allowed and encouraged for all free distribution.

2020 CELESTIAL CALENDAR



JAN 10 PENUMBRAL LUNAR ECLIPSE This eclipse occurs when the Moon passes through the Earth's lighter shadow, or penumbra. The Moon will darken slightly. Visible in most of North America and northeastern Asia.	FEB 9 SUPERMOON The Moon will be at its closest approach to Earth and will look slightly larger and brighter than normal.	MAR 9 SUPERMOON The Moon will be at its closest approach to Earth and will look slightly larger and brighter than normal.	MAR 24 VENUS AT GREATEST EASTERN ELONGATION This is the most ideal time to view Venus since it will be at its highest point above the horizon in the evening sky.	APR 8 SUPERMOON The Moon will be at its closest approach to Earth and will look slightly larger and brighter than normal.	MAY 7 SUPERMOON The Moon will be at its closest approach to Earth and will look slightly larger and brighter than normal.
JUNE 4 MERCURY AT ELONGATION This is the best day to try view Mercury since it will be at its highest point above the horizon in the evening sky. Look for the planet low in the western sky just after sunset.	JUNE 5 PENUMBRAL LUNAR ECLIPSE This eclipse occurs when the Moon passes through the Earth's lighter shadow, or penumbra. The Moon will darken slightly. Visible in most of North America and northeastern Asia.	JUNE 21 ANNULAR SOLAR ECLIPSE Viewable in parts of the Middle East and Asia. Partial eclipse in Asia and northern Australia. Approved solar glasses or telescope filters required during the entire eclipse.	JULY 14 JUPITER AT OPPOSITION It's the best night of the year to view Jupiter, which will be at its very brightest and visible all night.	JULY 20 SATURN AT OPPOSITION It's the best night of the year to view Saturn, which will be at its very brightest and visible all night.	AUG 12/13 PERSEID METEOR SHOWER Up to 60 meteors per hour will appear to radiate from the constellation Perseus.
OCT 1 HARVEST MOON The full Moon closest to the autumnal equinox is called the Harvest Moon. Take a look at the yellowish-orange Moon low in the sky after sunset.	OCT 13 MARS AT OPPOSITION It's the best night of the year to view Mars, which will be at its very brightest and visible all night.	OCT 31 BLUE MOON The Moon is not really blue. This phrase refers to two Full Moons that occur in the same month.	NOV 30 PENUMBRAL LUNAR ECLIPSE This eclipse occurs when the Moon passes through the Earth's lighter shadow, or penumbra. The Moon will darken slightly. Visible in most of North America and northeastern Asia.	DEC 13/14 GEMINIDS METEOR SHOWER The biggest shower of the year can produce up to 120 meteors per hour. This year, observers will see fewer meteors due to a bright Moon.	DEC 14 TOTAL SOLAR ECLIPSE Day turns to night for observers in parts of the southern Pacific Ocean, central Chile, and central Argentina.

DEC 21

CONJUNCTION OF JUPITER AND SATURN
 The conjunction of these two giant planets is known as a great conjunction; the last one occurred in the year 2000. Look to the west just after sunset to glimpse this rare planetary sight.

JUPITER
 Evening Sky: July - November
 Morning Sky: January - July
 Opposition: July 14

MARS
 Evening Sky: October - December
 Morning Sky: January - July
 Opposition: October 13

SATURN
 Evening Sky: July - December
 Morning Sky: February - July
 Opposition: July 20

VENUS
 Evening Sky: January - June
 Morning Sky: October - December
 Greatest Eastern Elongation: March 24

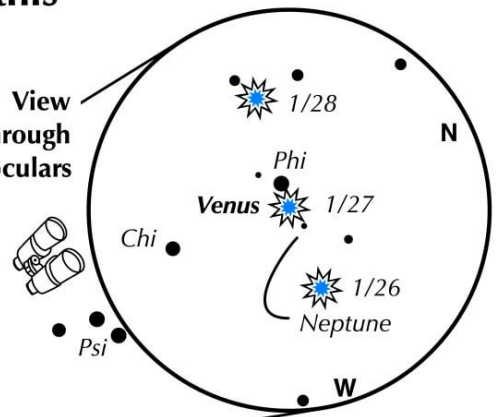
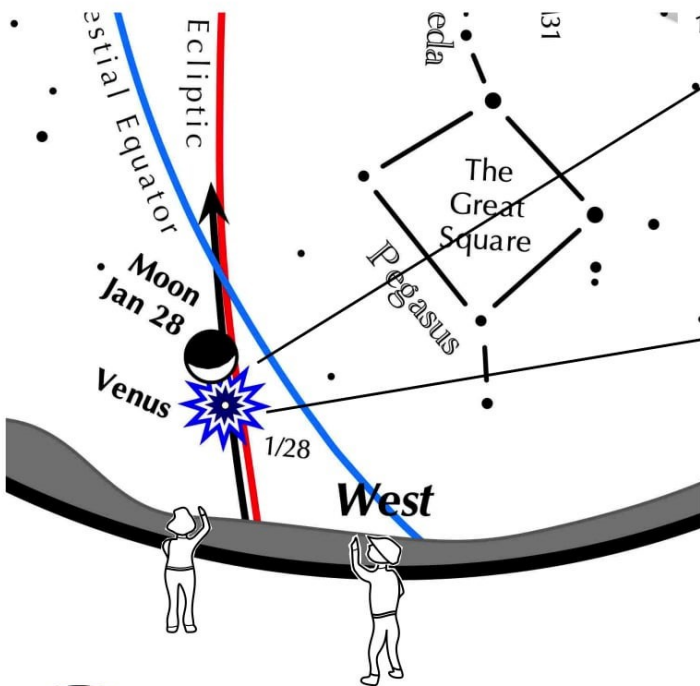
DEEP SKY CHECKLIST

- | | | |
|--|---|---|
| SPRING <ul style="list-style-type: none"> ■ Beehive Cluster (M44) ■ Leo Triplet Galaxies (M65, M66, & NGC 3628) ■ Whirlpool Galaxy (M51) ■ Bode Galaxy (M81) ■ Cigar Galaxy (M82) ■ Double Star, Mizar & Alcor ■ Sombrero Galaxy (M104) ■ Globular Cluster (M3) | SUMMER <ul style="list-style-type: none"> ■ Milky Way ■ Hercules Cluster (M13) ■ Ring Nebula (M57) ■ Lagoon Nebula (M8) ■ Trifid Nebula (M20) ■ Sagittarius Cluster (M22) ■ Eagle Nebula (M16) ■ Omega Nebula (M17) ■ Dumbbell Nebula (M27) ■ Albireo Double Star ■ Wild Duck Cluster (M11) | AUTUMN <ul style="list-style-type: none"> ■ Andromeda Galaxy (M31) ■ Double Cluster (NGC869, NGC884) ■ Globular Cluster (M15) WINTER <ul style="list-style-type: none"> ■ Orion Nebula (M42) ■ Pleiades Cluster (M45) ■ Beehive Cluster (M44) ■ Auriga Open Clusters (M36, M37, M38) ■ Lepus Globular Cluster (M79) ■ Hyades Cluster |
|--|---|---|

WINTER SOLSTICE Northern Hemisphere: December 21
 LONGEST NIGHT OF THE YEAR Southern Hemisphere: June 21

SUMMER SOLSTICE Northern Hemisphere: June 21
 SHORTEST NIGHT OF THE YEAR Southern Hemisphere: December 21

If you can observe only one celestial event this month, consider this one:



Discover Neptune

Look to the west 90 minutes after sunset.

- Venus will be the bright object low in the west.
- Aim binoculars at Venus on the night of January 27.
- Immediately above the planet is Phi Aquarii, a 4th magnitude star.
- Carefully look just to the lower right of Venus, about the same distance Phi is from it.
- A very dim "star" – Neptune – appears in a clear, dark sky.
- A dim star lies to the lower right of Neptune, about twice the distance Neptune lies from Venus.
- On January 28, the light from the nearby crescent moon may interfere with observations.

Clear, dark skies will be needed to spot Neptune!

**West 90 minutes
after sunset
in late January**





Auburn Astronomical Society Membership Application Form

Name:

Address:

City: _____ State: _____ Zip: _____

Phone: _____ Date of Application* ____/____/____

E-mail:

Telescope(s):

Area(s) of special interest:

Enclose: \$20.00 for regular membership, payable in January. *Full-Time* student membership is half the Regular rate.

If you are a NEW member joining after the first of the year, refer to the prorated table below

Jan \$20.00	Feb \$18.33	Mar \$16.66	Apr \$14.99	May \$13.33	Jun \$11.66
Jul \$10.00	Aug \$8.33	Sep \$6.66	Oct \$4.99	Nov \$2.33	Dec \$1.66

Make checks payable to: Auburn Astronomical Society and return this application to:

Auburn Astronomical Society
c/o John Wingard, Secretary/Treasurer
#5 Wexton Court
Columbus, GA 31907

For questions about your dues or membership status, contact: jwin1048@gmail.com

Thank you for supporting the Auburn Astronomical Society!