



Middlefield Astronomy

42° 19' West 72° 54" North

Middlefield Massachusetts

OCTOBER 2023

Videmus Stellas, We See The Stars

September Events

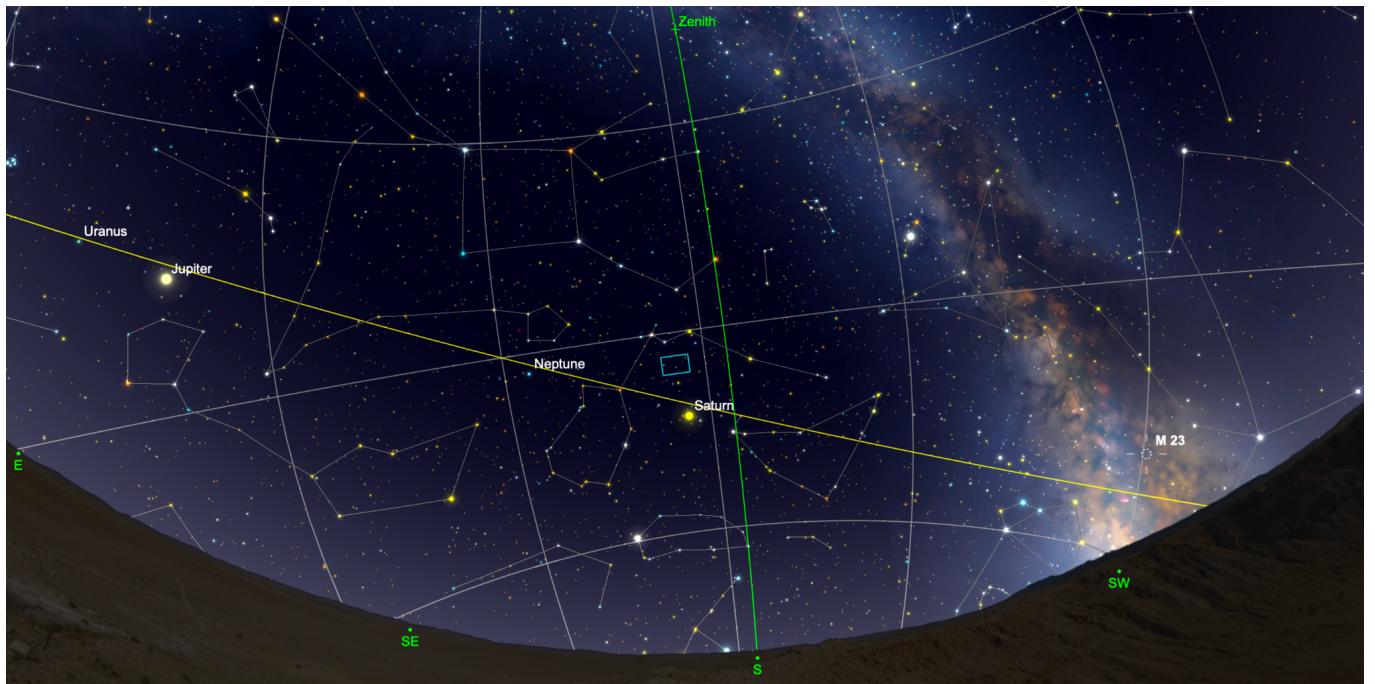
- ★ Observing from Rick and Donna's - many folks saw Saturn, Jupiter, and more!
- ★ Full Moon gathering at Tycho's. So much fun!

October Events (past)

Friday October 13 - Middlefield Day (Night) Stargazing

Huge Thanks to Cathy R for organizing Middlefield Day and the Stargazing event!

- ★ Tom, Rick, and Donna setup the big 16" Dobson Telescope behind town hall
- ★ Many folks saw Saturn and Jupiter and more, through slightly hazy skies
- ★ Great time and great discussions all night



Sky for Friday October 13 at Middlefield Stargazing Event

Saturday, October 14

- ★ Small display and signup sheet for Astronomy, several folks interested



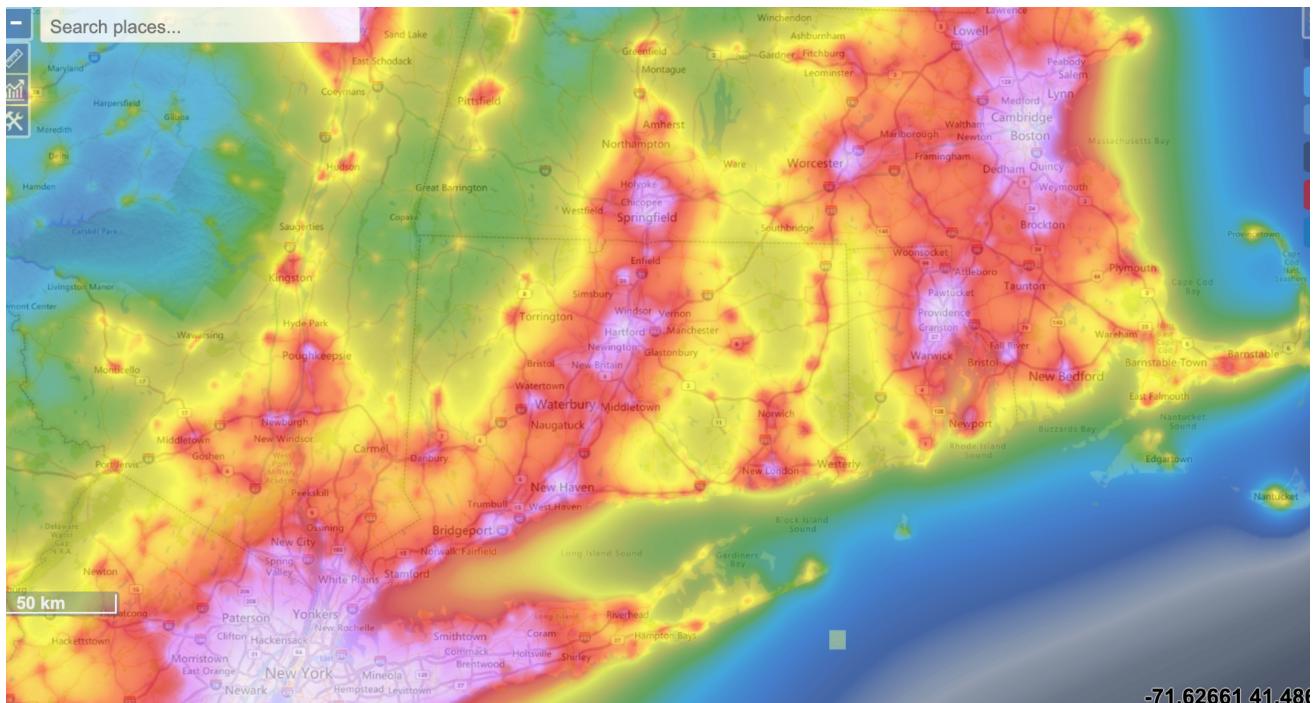
Upcoming Events

The moon dominates the rest of October until Oct 28 when it is full. This means viewing will be limited to the Moon and brighter objects like planets and stars, until early November.

- ★ **Observing:** Mon or Tues Oct 23 or 24 weather dependent - Breen's back porch
 - The Moon will be prominent, so only the brightest objects can be seen
 - Saturn and Jupiter
 - Double Stars and Star Clusters
- ★ **Other:** we hope others will feel free to suggest observing events
 - Email rick.breen@gmail.com

Dark Skies

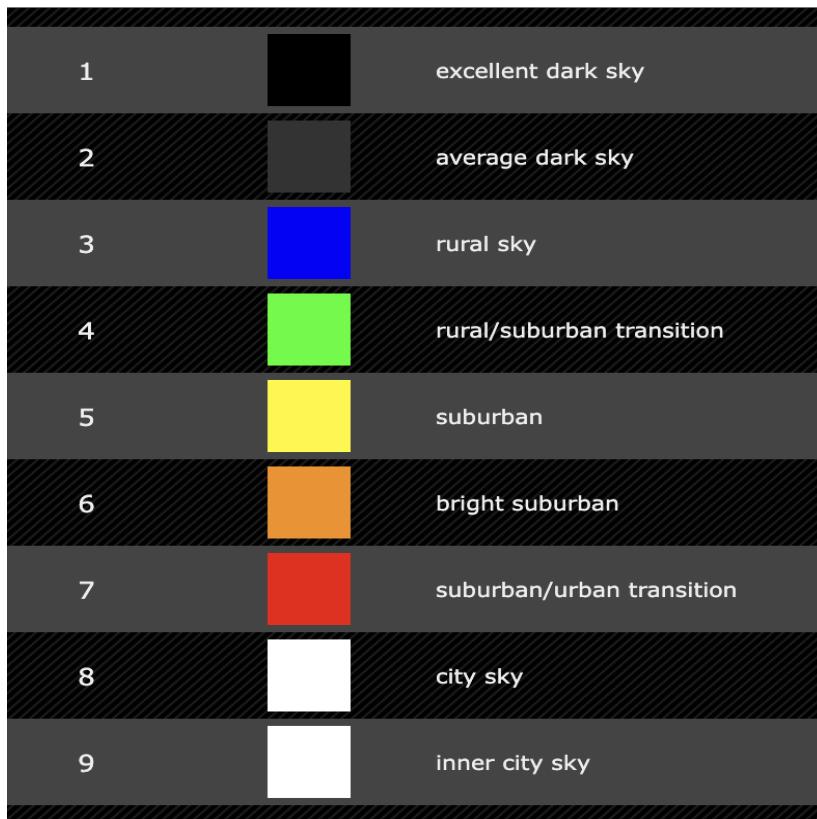
Michael Hamburg is leading an effort to raise awareness about preserving our Dark Skies. Michael has an observatory in Middlefield and he has a presentation regarding Dark Skies. It doesn't take much to preserve dark skies but if we do nothing, we may continue to see more light pollution. Here's a light pollution map:



Light Pollution Map for the Northeast from NYC to Boston

The color key to the map is described below. This scale is the Bortle Scale, developed by John Bortle. More can be learned here: <https://www.handprint.com/ASTRO/bortle.html>

Northern Maine, for example, is *class 1* or *2*. Middlefield is *class 4*, Springfield is *9-10*, Southampton is *6*, and so on. Middlefield's class 4 means we can see the Milky Way but it lacks definition such as you'd see from Northern Maine. There are other dark sky measurements but the Bortle scale is common.



Bortle Dark Sky Scale

Some Good News: Viewing the planets and the Moon is not as much affected by light pollution. We are hoping Michael can give his presentation to the town.

See the International Dark Sky Association <https://darksky.org/>

Preserving reasonably dark skies is not just about astronomy, but the quality of our lives and other species, especially migrating birds. It's not hard, it usually comes down to simple things that make a big difference. I'm sure Michael Hamburg can provide more details.

Topics of Interest

Based on talking with people over the last couple months, these are some topics of interest. Anything related to astronomy is welcome, but here are some highlights:

- ★ Learning the Fall constellations and the constellations in general
- ★ Learning the names of bright stars and tracking the planets
- ★ Basic starter astrophotography - start with the Moon and work up
- ★ Keeping up with the latest Astronomy and Astrophysics from NASA, etc.
- ★ Navigating the skies with star charts, apps, and/or binoculars
- ★ Michael Hamburg's presentation on Dark Sky Preservation
- ★ Astronomy 101 presentation sometime, if enough folks are interested.
- ★ Telescope control, Alt-Az versus Equatorial, and basic celestial mechanics

October and November Sky

The Moon

First Quarter: October 21

Full Moon: October 28

Last Quarter: November 5

New Moon: November 13

The Planets

Saturn is past prime, but still visible looking South; it transits (reaches its highest point) at 8:20 PM on November 1st; magnitude (brightness) **0.7**

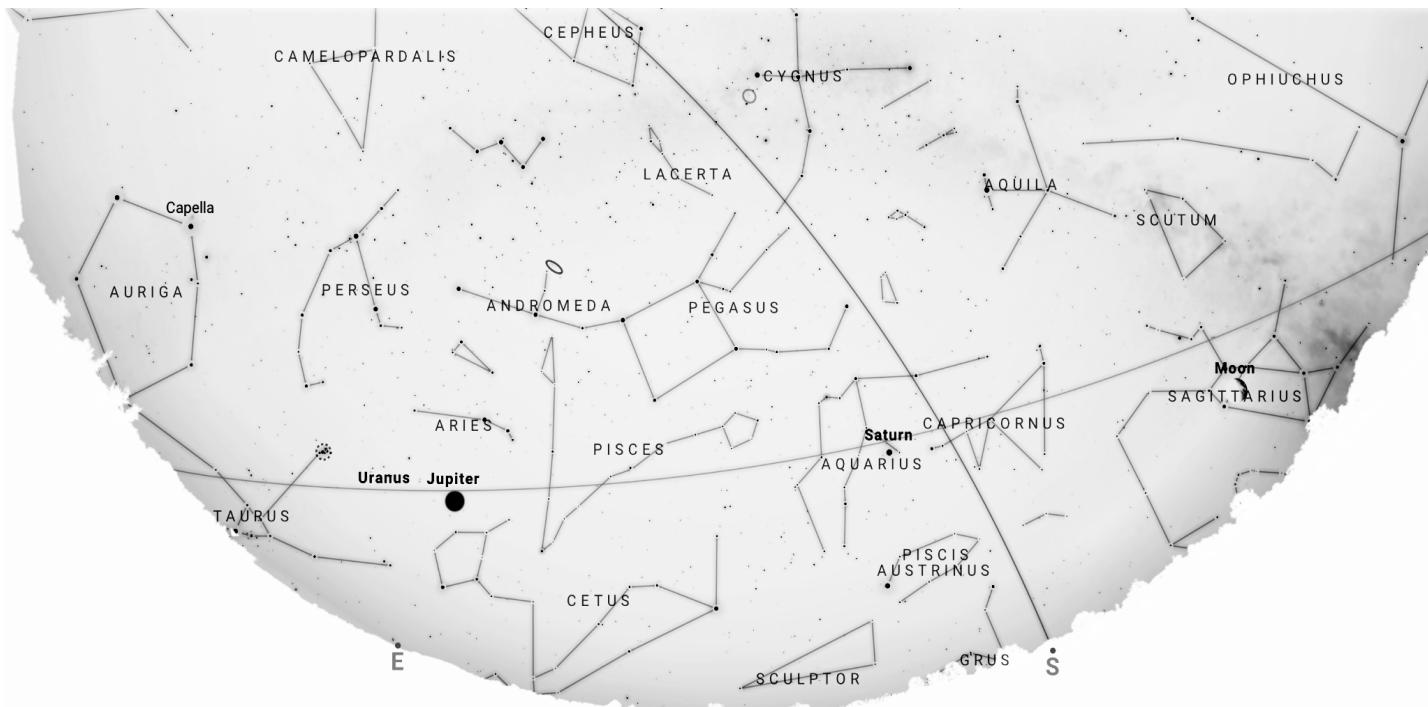
Jupiter dominates and is at opposition Nov 3, rising at sunset; magnitude **-2.9**

Venus is currently a "morning star", rising in Leo in the East around 3 AM and is visible until sunrise; Venus is extremely bright with a magnitude of **-4.4** !

Uranus and **Neptune** are visible but they're very dim and far away. They can be seen with a telescope but they're small. **Pluto** is also out there but even smaller, usually just a pinpoint but can be photographed.

Constellations, Bright Stars, and Deep Sky Objects

The Summer triangle consists of bright stars Vega, Deneb, and Altair, but the Summer Triangle is on its way out, in the West. The Winter Circle of Stars rises after midnight but Orion does not become prominent until December. In the Late Fall, the Eastern sky is dominated by Pegasus, the Great Square, Cassiopeia, and Perseus. The beautiful Pleiades star cluster is a great sight this time of year.



Looking East and South to see Pegasus, Cassiopeia, Perseus, etc.

Objects of Interest in the Fall

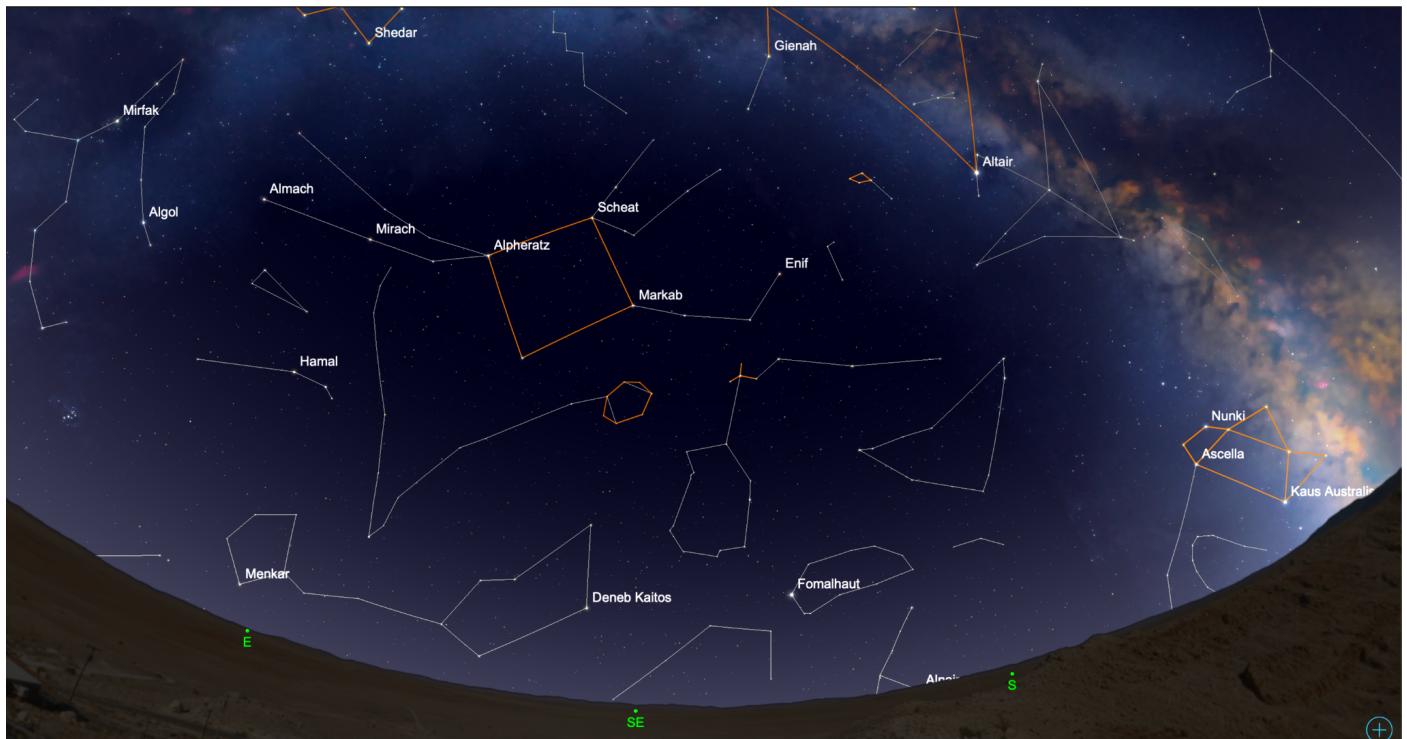
There are many objects but here are some easy highlights:

- ★ The Pleiades Star Cluster rises around 7pm, due East Northeast.
- ★ The Andromeda Galaxy in Pegasus rises 2pm and is directly up by 11:30pm
- ★ The Double Cluster is prime viewing in Perseus near Cassiopeia. It never sets.
- ★ Many other star fields and star clusters are in Perseus and Cassiopeia.

Bright Stars

Mirfak, Alpheratz, Algol, Hamal, Fomalhaut, Capella, Vega, Altair, Deneb.

Double Stars are wonderful to view, for example Albireo in Cygnus.



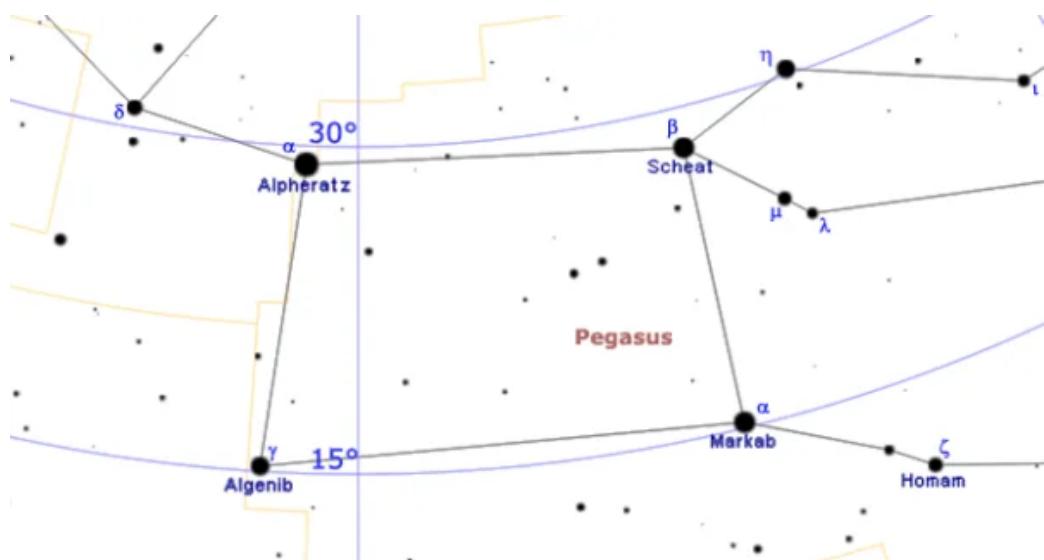
Fall Bright Stars and Constellations. Pegasus, the Great Square is dominant

Sagittarius leaves us, the summer triangle sets earlier and earlier, and The Great Square is prominent. The Andromeda Galaxy can be found between the great square and Perseus.

Many wonderful Star Charts are online and in print. See below for some examples.



Binoculars and Star Charts, in preparation for observing.



The Great Square and its brightest stars

Equipment News and Miscellaneous

- ★ Binoculars 10x70 large, used on tripod, available to club
- ★ The focus of the club is *local* and *in-person*, not online, but a website can be handy for information sharing. Rick and his son, Dan, may create a simple website for Middlefield Astronomy. No personal information will be posted without consent.
- ★ Import: We figured out how to collimate the 16" Mirror in the Dobsonian - no motor control yet
 - Tom & Rick tried to repair the Azimuth motor. No luck yet.
 - Tom repaired the broken wooden base. Thanks Tom!

If anyone is a machinist with skills making small parts, please email rick.breen@gmail.com

Broken Telescope Base



Fixed by Tom B. Huge Thanks Tom. We would have been sunk without you!



Also, Thanks to Sam C who offered to fix it even though he lives in Maine.

Photography

Astrophotography of any skill level is welcome. Here are some recent photos. Anyone interested in adding a photo to our newsletter, email Rick. If anyone is interested in learning more about astrophotography, let us know!



The Moon October 19 (RB)



Photo Collage of 2015 Lunar Eclipse (RB)

Resources

- ★ Sky & Telescope or Astronomy magazines are highly recommended
- ★ Sky Safari App is available for iPhone and Android, not too expensive
- ★ Stellarium is a wonderful app and is **free!**

Web: <https://stellarium-web.org>

Apps: <https://www.stellarium-labs.com/stellarium-mobile-plus/>

- ★ Astronomy and science books available
- ★ Rick's astrophotos <https://www.astrobin.com/users/musicalengineer/>