

A Tour and Guide to Salem's Night Skies

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August 3, 2019



- The Moon
 - Tycho
 - Copernicus
 - Sea of Tranquility
- Planets
 - Jupiter and moons
 - Saturn
 - Venus and Mars
- Deep Sky
 - Pleides
 - Orion Nebula
 - Andromeda Galaxy
 - Hercules Cluster
- Perseid Meteor Shower



- Where to find:
 - Full: highest in sky around midnight
 - New: highest in sky at noon
 - Waxing: up in early evening
 - Waning: up in early morning
- Always see basically the same side of the Moon
 - Rotates on axis at same rate it rotates around Earth
- Near-side has lots of contrast with darker lowlands and brighter highlands
- Looking along the **terminator** where light meets dark, will give the greatest sense of depth and contrast from shadows.

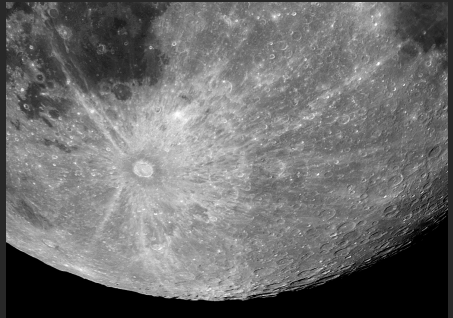
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- Bright crater in Southern hemisphere
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- Fairly young by crater standards



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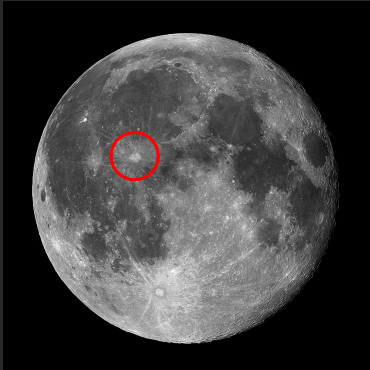


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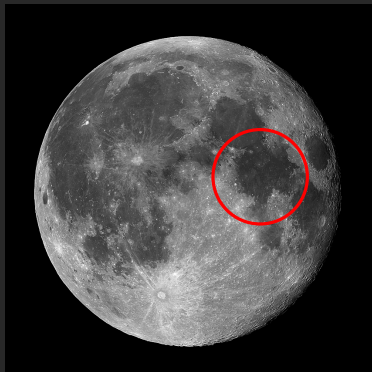


- Lower of the two seas to the East
- Lowlands expose darker rock, giving the distinct shade
- Apollo 11 landing was near the Southwest edge





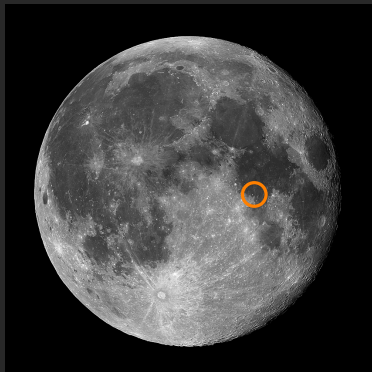
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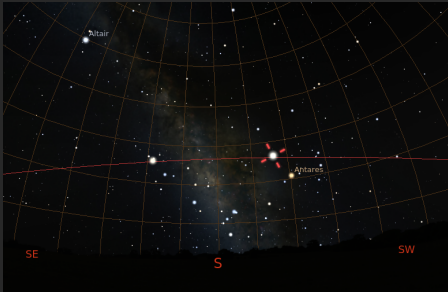
Sea of Tranquility



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Jupiter



- Largest of the planets. Will appear as a very large bright star in the sky.
- Look towards the South between 15 and 30 degrees above the horizon.
- If you see two really bright stars, Jupiter is the brighter and is the rightmost one at the moment.
- 4 moons easily visible with just binoculars
 - Io, Europa, Ganymede and Callisto
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- Mars

- Exhibits a reddish tinge
- Lies on the same ecliptic, so visible to mostly looking South
- With telescope can sometimes make out polar caps

Andromeda Galaxy



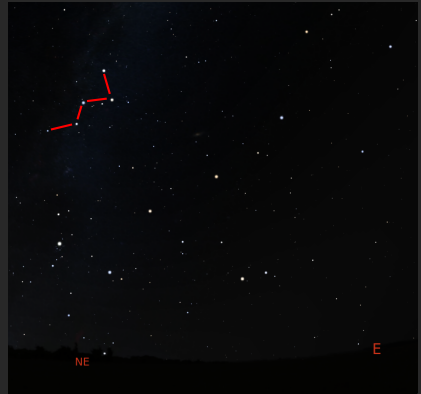
- Our nearest galactic neighbor!
- Definitely easier to spot away from light pollution
- Follow a trail of constellations to help find it:
 - Cassiopeia (the “W”)
 - Pegasus (a big square)
 - Andromeda (two “legs” attached to the square)
- Will appear an oblong fuzzy blob with naked eyes, much more detail visible with binoculars



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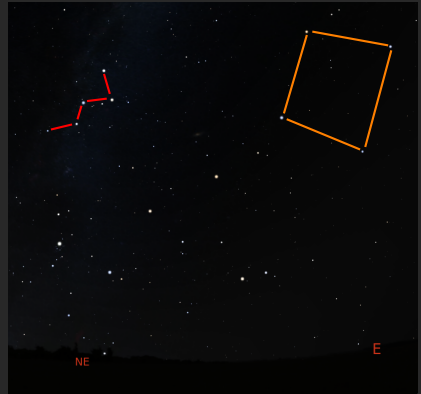
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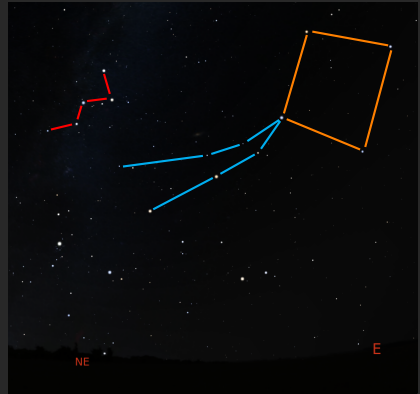
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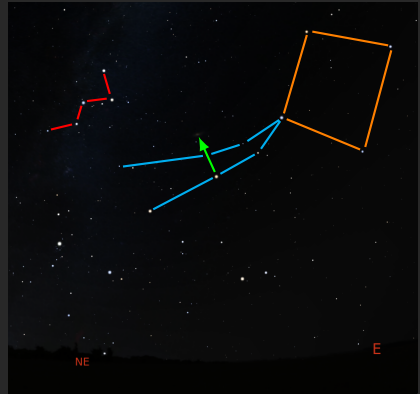
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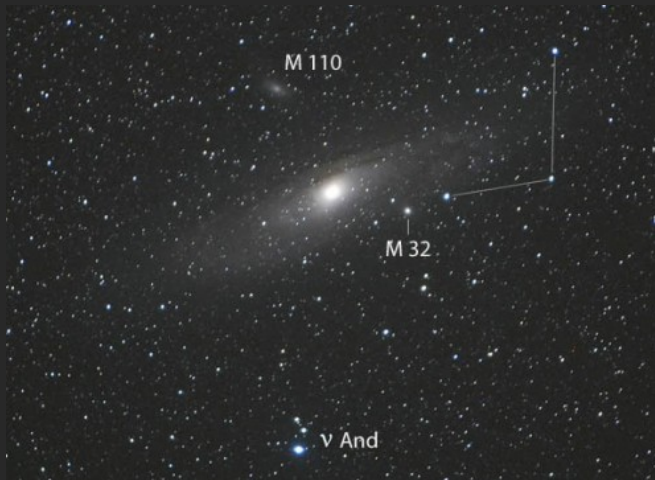
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Andromeda thru Binoculars



Orion Nebula



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- Resides in the “dagger” on Orion’s belt
- Orion currently rises just before the Sun, but will be up earlier and earlier as we move toward winter.



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- Located in the constellation Taurus
 - Can find by following the line of Orion's belt
 - Or rapidly scan the sky looking for a blurry spot
- Tightly pack bunch of young, bright blue stars
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