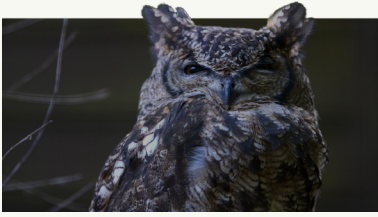


# GUIDE TO THE STARS

## PRACTICAL TIPS & TOOLS FOR GUIDED DARK SKY EXPERIENCES



### The Importance of Dark Skies

A natural dark night is not only optimal for star gazing, it is also ecologically and culturally important. About 70% of mammals are nocturnal, and on average, nearly a third more insects are found at night compared to the day. Fascination of the night sky has inspired star lore, religions, art and literature, and science. Consider tours that offer a plethora of activities from before dusk to beyond astronomical twilight to create an immersive night experience.

### Recommended Smartphone Apps



**SkyView**  
free



**Google Sky**  
free



**Heavens Above**  
free



**Stellarium Mobile**  
some paid features



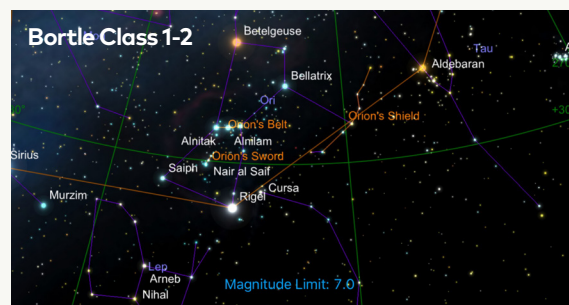
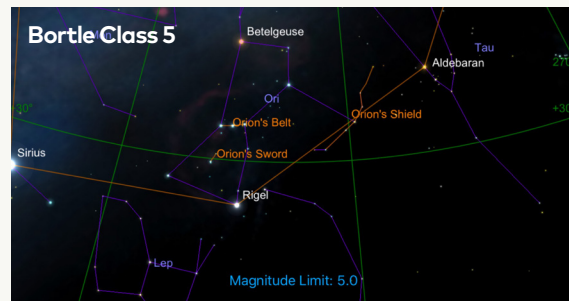
**SKEye**  
free



**Light Pollution Map**  
free

### Night Sky Quality

When planning tours, consider the night sky quality of the site. The darker the site, the more naked eye-observable celestial objects and the more nocturnal wildlife to experience, particularly if near a water source. Night sky quality can be easily classified by using the Bortle Scale (1 - the most pristine, 9 - severe light pollution).



Shown is the constellation Orion under Bortle 5 skies (e.g., Bend, The Dalles, Klamath Falls) and Bortle 1 and 2 (e.g., Grass Valley, Oregon Outback, Wallowa Mountains).

### Desktop Apps for Star Party Planning

For desktop and/or tablet with internet or Wi-Fi connections, consider the following:

- [skymaps.com/downloads.html](https://skymaps.com/downloads.html)
- [stellarium-web.org](https://stellarium-web.org)
- [stellarium.org](https://stellarium.org)
- [heavens-above.com](https://heavens-above.com)
- [in-the-sky.org](https://in-the-sky.org)
- [skyandtelescope.org/interactive-sky-chart](https://skyandtelescope.org/interactive-sky-chart)
- [drifted.in/planisphere-app](https://drifted.in/planisphere-app)
- [cleardarksky.com/csk/](https://cleardarksky.com/csk/)

### Book Recommendations

There is a range of available books on dark skies, from celestial observation, to youth and adult dark sky programming, children's education, scientific studies, astrophotography, and more.

***Dark Skies: A Practical Guide to Astrotourism** by Valerie Stimac. 2019.*

***Dark Skies – In the Moment** by Anna Levin. 2025.*

***Dark Skies: Places, Practices, Communities** by Nick Dunn and Tim Edensor. 2025.*

***Incandescent: We Need to Talk About Light** by Anna Levin. 2022.*

***Lights Out: A Movement to Help Migrating Birds** by Jessica Stremer. 2024. (For children)*

***Night Magic: Adventures Among Glowworms, Moon Gardens, and Other Marvels of the Dark** by Leigh Ann Henion. 2024.*

***Night Sky Photography: From First Principles to Professional Results** by Adam Woodworth. 2021.*

***NightWatch: A Practical Guide to Viewing the Universe** by Terence Dickinson and Ken Hewitt-White. 2023.*

***Save the Sky (Save the Earth)** by Bethany Stahl. 2022. (For children)*

***Saving the Night: How Light Pollution Is Harming Life on Earth** by Stephen Aitken. 2023.*

***The Darkness Manifesto: On Light Pollution, Night Ecology, and the Ancient Rhythms That Sustain Life** by Johan Eklof. 2020.*

***The End of Night: Searching for Natural Darkness in an Age of Artificial Light** by Paul Bogard. 2014.*

***Wild Nights Out: The Magic of Exploring the Outdoors After Dark** by Chris Salisbury. 2021.*





Katie Falkenberg

## Helpful Field Tools

- **Planisphere** - *Guide to the Stars* (latitude 30-60 degrees North; 16-inches) by Ken Graun
- **Binoculars** - 10x50 are most practical; best with a tripod
- **Telescope** - Astronomers Without Borders One Sky 130mm Newtonian reflector is quite practical
- **Red dimmable flashlight** - Celestron 93588 Astro Night Vision Flashlight; Rigel Starlite, 2-RED LED Flashlight
- **Binocular Guidebook** - *Binocular Highlights Revised & Expanded Edition: 109 Celestial Sights for Binocular Users* by Gary Seronik. 2017.
- **Star Atlas** - *Observer's Sky Atlas: The 500 Best Deep-Sky Objects With Charts and Images* by Erich Karkoschka. 2023.

## Astronomical Charts and Event Calendars

It's helpful to provide star chart handouts for guests. Many charts, particularly SkyMaps.com, include a calendar of events for the month. Other charts can be found at the desktop app sites provided in this handout.

## Stargazing Etiquette

- Dress warm and bring extra layers.
- Drive very slowly and carefully after dark in the parking area.
- Park with your vehicle's headlights pointing away from the observing field. Ask someone to guide you if you feel you cannot drive safely in a darkened parking area.
- Avoid using white light whenever possible. Use a dimmable, red flashlight or cover your flashlight with red cellophane or red tape to help protect everyone's night vision.
- Set your cell phone or tablet app to "night mode" to damp down the white light, and keep it pointed away from other people's eyes. To take a picture, turn off the flash first.
- Ask for permission before touching anyone's viewing equipment.
- Avoid green laser pointers. They present a hazard to airplanes.
- Pets are best left at home, but if necessary, make sure they are on a leash, under control and quiet at all times.
- Smoking and consuming alcohol disrupt night vision and are best avoided or minimized.
- Yes it's called a 'star party', but respect the stillness of the night and keep voices low.

## Optimal Stargazing Tips

- Higher and drier, dark sky sites with broad horizons are best.
- Avoid artificial lights after dusk for best night vision adaptation.
- Get oriented with the site before dark and note "silhouettes" for evening wayfinding. Note locations of ditches, rocky patches, and trees.
- For casual stargazers, select an evening when a partial moon is above the horizon early in the evening. Everyone loves seeing craters through binoculars and telescopes. Avoid the full moon when no terminator is present.
- For serious stargazers, select an evening when the moon is below the horizon all evening long (i.e., new moon and last quarter).
- Observe a group of constellations that tells a story (e.g., Orion/Canis Major/Taurus/Lepus/Canis Minor; Perseus/Andromeda/Cepheus/Cassiopeia/Pegasus/Cetus; Ursa Major/Ursa Minor) and use the story to star-hop and find deep space objects and interesting stars.
- Start observing in the western sky before certain constellations set for the evening. Work your way east.

## Nocturnal Wildlife Viewing Tips

- Use red light instead of white light. Red light preserves night vision and white light disturbs animals.
- Listen for distinct calls. Each species has its unique vocalizations.
- Use a red flashlight or headlamp to scan for eye shine in larger animals.
- Keep noise and disturbances to a minimum. Be patient and allow time for wildlife to appear.
- Utilize night vision technology for enhanced sightings (e.g., UV flashlight for spotting scorpions; night vision binoculars for mammals).
- In general, Oregon bats are more often observed when near a water source (i.e., stream, pond, marsh) and near tree roosting habitat.
- Use sound recording equipment to identify animals by their calls (e.g., smartphone apps: Merlin Bird ID; Song Sleuth; Wildlife Acoustics ultrasonic Echo Meter Touch 2 device for identifying bats).

For more information, request a free dark sky tourism consultation through Travel Oregon's 'Ask an Expert' program.



Joey Hamilton