The Aurora Borealis/Australis is one of nature's most spectacular displays. While it looks magical to the naked eye, a camera can capture colors and details that we often miss. Use this guide to ensure you come home with breathtaking shots.

ℹ️ What is Aurora?

Aurora is a breathtaking natural light display in the Earth's sky, caused by the interaction between the sun and our planet's magnetic field.

Here is how it works:

- **Solar Wind:** The sun constantly emits a stream of charged particles (plasma) called solar wind.
- **Magnetic Shield:** When these particles reach Earth, our magnetic field deflects most of them, but some get funneled toward the magnetic poles.
- **Atmospheric Collision:** These particles collide with oxygen and nitrogen atoms in the upper atmosphere, exciting them and causing them to glow.

Key Details

- **Northern Lights:** Known as the **Aurora Borealis** near the North Pole.
- **Southern Lights:** Known as the **Aurora Australis** near the South Pole.
- **Colors: Green** and **red** are typically caused by oxygen, while **blue** and **purple** come from nitrogen.

🛠️ The Essential Gear

To photograph the lights, you need gear that can handle long exposures and low-light conditions.

Camera	A DSLR or Mirrorless camera with **Manual Mode (M)**.
Wide-angle Lens	Ideally between 14mm and 35mm to capture the scale of the sky.
Fast Aperture	A lens with an f-stop of **f/2.8** or lower is best.
Tripod	Absolutely essential. Long exposures require a rock-steady base.
Extra Batteries	Cold weather drains batteries significantly faster. Keep spares in your pocket to keep them warm.

⚙️ Recommended Camera Settings

Every night is different, but these "Golden Settings" are the perfect starting point.

1️⃣ Focus: Manual (Infinity)

Set your lens to **Manual Focus (MF)**. Focus on a bright star or a distant light until it is a sharp point. Once set, do not touch the focus ring!

2️⃣ The Exposure Triangle

- **Aperture:** Open it as wide as possible (e.g., **f/2️⃣8** or **f/1️⃣4**).
- **ISO:** Start at **ISO 1600**. If the image is too dark, go up to 3200. If it's too grainy, drop to 800.
- **Shutter Speed:** * *Fast-moving Aurora:* **2–6 seconds**.
    - *Slow/Faint Aurora:* **10–20 seconds**.
    - *Note:* Avoid going over 20 seconds, or the stars will start to blur (star trails).

📝 Pro-Tips for Success

Shoot in RAW: Always set your image format to RAW instead of JPEG. This allows you to recover shadows and adjust white balance perfectly during editing.

- **Turn off Image Stabilization:** When on a tripod, stabilization (IS/VR) can actually cause blur.
- **Use a Timer:** Even the click of the shutter button can shake the camera. Use a **2-second delay** or a remote shutter release.
- **Compose with a Foreground:** A photo of just the sky is nice, but adding a mountain, a cabin, or a lake for reflections makes the shot *epic*.
- **Check the Aurora Forecast:** Use apps like *My Aurora Forecast* to track the KP-index and cloud cover.

🤳 Photographing With Your Smartphone

Don't have a professional camera? No worries. Modern smartphones are surprisingly capable of capturing the Aurora, provided you use the right settings.

Basic Settings

- **Night Mode:** Most modern phones (iPhone/Samsung/Pixel) will detect the darkness automatically. Manually set the exposure time to the **maximum** available (often 10 or 30 seconds).
- **Use a Tripod:** Even for a phone, any movement will result in a blurry mess. Use a simple phone clamp on a tripod or lean your phone securely against a rock or a window.
- **Turn Off Flash:** Make sure your flash is disabled. It will only illuminate the ground in front of you and ruin the exposure of the sky.

For Advanced Smartphone Users

- **Pro Mode / RAW:** If your phone has a 'Pro' or 'Manual' mode, set the **ISO** to **800–1600** and the **shutter speed** to **5–15 seconds**. If your phone supports it, shoot in **RAW** for much better results during editing.
- **Focus:** Tap on a bright star or a distant light on your screen to lock the focus at "infinity."
- **Self-Timer:** Use the 3-second or 10-second timer so the phone doesn't shake when you tap the screen to take the shot.

Apps

- **SpaceWeatherLive:** SpaceWeatherLive is essentially a real-time monitor for the Sun's activity and its impact on Earth. SpaceWeatherLive is your early warning system for the Aurora Borealis (Northern Lights).
- **Aurora Alerts:** Aurora Alerts is a specialized notification app designed for one thing: making sure you don't sleep through the Northern Lights. While *SpaceWeatherLive* gives you the raw science and graphs, Aurora Alerts is more of a personalized "alarm clock" for aurora hunters.
- **My Aurora Forecast:** My Aurora Forecast is widely considered the most user-friendly app for casual aurora hunting. It simplifies complex solar data into a single "likelihood" percentage, making it perfect for beginners.
- **Glendale App**: The Glendale App is widely considered the "gold standard" by serious aurora hunters. Unlike most apps that you find in the App Store, this is a web-based app (you access it via a browser and save it to your home screen) created by a dedicated aurora chaser.
- **Stellarium:** Stellarium is a free, open-source 3D planetarium that acts as a virtual sky map. It shows exactly what you see when you look at the stars, whether with your naked eye, binoculars, or a telescope. For example, this app also comes in handy for easily finding North.
- **Photopills:** While Stellarium is for looking at the stars, PhotoPills is for planning how to photograph them. It is often called the "Swiss Army Knife" for photographers because it tells you exactly where to stand and when to press the shutter to get a specific shot. It's also handy for calculating the shutter speed for a specific camera and lens setup to prevent star trails. (Use the NPF rule to be on the safe side.)
- **Light Pollution Map:** Light Pollution Map (available as both an app and a website) is a tool used by stargazers, photographers, and researchers to find the darkest possible skies. It uses satellite data (from VIIRS/DMSP) to visualize artificial skyglow across the globe.

❄️ Stay Warm & Stay Patient

The Northern Lights are unpredictable. You might wait for hours in the freezing cold for a 5-minute show. Dress in layers, bring food and a thermos of coffee/tea, and keep your gear (especially lenses) acclimated to the temperature to avoid fogging.

💡 Light Pollution Information

City light pollution works like a persistent, artificial haze that masks the true darkness of the night. This phenomenon, known as skyglow, is caused by unnecessary light escaping upward and reflecting off moisture and dust in the atmosphere.

Why You Must Escape the City:

To see the Aurora, you need high contrast. Even a moderate aurora can be completely invisible against a bright city sky, while that same display would look spectacular in a truly dark, rural area.

- **Washed-Out Colors:** The delicate greens and purples of the aurora are easily drowned out by the yellow or white glow of streetlights.
- **Reduced Visibility:** The atmosphere above a city is effectively "pre-lit," making it impossible for the human eye to detect faint light sources.
- **Greenhouses:** Modern greenhouses often use LED lights optimized for photosynthesis. These lights frequently cast a striking magenta, purple, or deep red glow into the sky, which looks very similar to the colors of a vibrant aurora.

🛒 Accessories You Should Consider Buying

- **Bahtinov mask:** A Bahtinov mask is a simple but ingenious tool used by astrophotographers to achieve perfect focus on stars. Since stars are tiny points of light, it is notoriously difficult to tell if they are truly sharp or just "slightly blurry" on a small camera screen.
- **Dew heater:** A dew heater (often called a lens heater) is essentially an electric "heating scarf" for your camera lens. It prevents condensation from forming on the glass when the temperature of your lens drops below the dew point.
- **Remote trigger:** A remote trigger (or shutter release) is a device that allows you to fire your DSLR or mirrorless camera without physically touching the shutter button. It is the best way to ensure your camera stays 100% motion-free.
- **Bluetooth remote control:** A Bluetooth remote control is a tiny, battery-powered button that connects to your smartphone to trigger the camera shutter wirelessly. It is an essential tool for any photographer wanting to avoid touching the phone during a shot.

That's all for now, good luck chasing the dancing lights!
CapturingtheDance.com