



The Aurora Night Guide

Everything you need to plan a northern lights night: what the numbers mean, when to go, what to pack and how to photograph it on your phone.

1. The three things that decide your night

Darkness, clear sky and activity. You need all three. Miss one and the aurora, however strong, stays hidden.

Dark

Get away from city lights and wait until the sky is fully dark. Around the new moon is best; a bright moon washes out faint displays.

Clear

Cloud is the number-one reason nights fail. Check a cloud forecast for your exact spot and be ready to drive towards a gap.

Active. The Kp index (0–9) measures geomagnetic activity. The higher it is, the farther from the poles the aurora can be seen.

2. Reading the Kp index

Kp	Activity	What to expect (rough guide)
0–2	Quiet	Aurora stays near the poles; visible overhead in the auroral zone (northern Norway, Iceland, Lapland, northern Canada, Alaska).
3–4	Unsettled / active	Good displays across the Arctic. A faint glow on the northern horizon at somewhat lower latitudes.
5 (G1)	Minor storm	Reaches towards Scotland, southern Scandinavia and the northern US border states, mostly as a glow low in the north.
6–7 (G2–G3)	Moderate / strong storm	Pushes much farther south; colour and movement can be seen with the naked eye from mid-latitudes under dark skies.
8–9 (G4–G5)	Severe / extreme	Rare. Aurora can reach very low latitudes. Drop everything and go outside.

Thresholds shift with the real magnetic latitude of your location, not just the country. Use them as a guide, and watch the live number rather than a forecast alone.

3. When to go

- **Season:** late August to early April in the northern hemisphere, when nights are dark. Equinox months (March and September–October) often have extra activity.
- **Time of night:** about 22:00–02:00 local time is the usual peak, but strong storms can happen at any hour of darkness.
- **Solar cycle:** activity is higher around solar maximum, which is why the current years are an especially good time to look.
- **Short-term clue:** when the solar wind magnetic field (Bz) turns south and stays there, the sky is more likely to light up within minutes.

4. Your aurora-night checklist

Before you leave

- ☐ Check the live Kp and cloud forecast
- ☐ Pick a dark spot with a clear view north
- ☐ Tell someone where you are going
- ☐ Charge phone and power bank
- ☐ Download your map offline

What to pack

- ☐ Warm layers, hat, insulated gloves
- ☐ Boots and thermal socks
- ☐ Hot drink in a flask
- ☐ Red torch (keeps night vision)
- ☐ Tripod or something steady

Tip: give your eyes 15–20 minutes to adapt to the dark and keep your phone screen dim. To the naked eye the aurora often looks like a pale grey-green cloud; the camera shows the colours more strongly.

5. Photographing the aurora with your phone

Setting	Try this
Support	Use a tripod or lean the phone on something solid. Any shake blurs a long exposure.
Mode	Night mode (iPhone) or Pro / Expert RAW mode (Samsung and other Android).
Exposure	Start at 5–15 seconds. Shorter if the aurora is moving fast, longer when it is faint.
ISO	Around 800–3200 in manual modes. Raise it only if the picture is too dark.
Focus	Manual focus to infinity, or tap a distant light first, then lock it.
Lens	Use the widest (0.5x) lens and include some foreground for scale.
Timer	Set a 2–3 second timer so tapping the shutter does not shake the phone.

Exact numbers vary between phones, so take a test shot and adjust.

6. Common myths

- **"It is only green and pink."** Green is the most common. Red and purple appear in strong events.
- **"You need a high Kp."** Not if you are in the auroral zone, where Kp 1–3 can still give a good show.
- **"Forecasts are guarantees."** They are probabilities. Watching live data on the night is more reliable.
- **"Cold nights are best."** Temperature does not matter. Clear, dark and active does.

7. Do not stay up for nothing

The hardest part of aurora hunting is knowing *when* to go outside. Checking data every few minutes is tiring, and a night that looks quiet can suddenly erupt.

Moose: free aurora alerts for Android

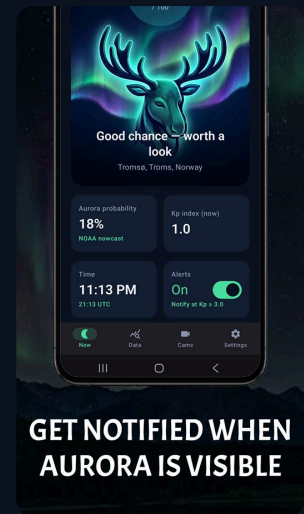
A free, beginner-friendly app that tells you when the northern lights are likely to be out, so you can wait inside and get a notification instead of watching the sky.

- Alerts when activity is high where you are
- Simple explanations, no space-weather degree needed
- Home-screen widget and manual location

Get it on Google Play:

play.google.com/store/apps/details?id=com.auroramoose.app

Or search "Moose aurora alerts" in the Play Store.



More from Moose

- **Reading the Kp index** – the full explanation: auroramoose.com/blog/reading-the-kp-index.html
- **Best places to see the aurora** – auroramoose.com/blog/best-places-to-see-aurora.html
- **Phone camera settings** – auroramoose.com/blog/iphone-samsung-camera-settings-northern-lights.html
- **Aurora webcams** – watch live from the Arctic: auroramoose.com/aurora-webcams
- **Aurora certificate** – make a keepsake with the real Kp for the night you saw it: auroramoose.com/aurora-certificate

Share it. Feel free to pass this guide on to anyone planning an aurora trip.

This guide is general information for aurora watchers. Aurora visibility depends on local conditions and cannot be guaranteed. Be careful in cold and remote places.