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5 WAYS
TO MAXIMIZE
YOUR CHANCES OF SEEING THE
NORTHERN LIGHTS
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Seeing the Northern Lights is an ethereal, otherworldly experience. Tracking them down, however, is a fairly straightforward process—as long as you have some time and a sense of adventure. **Here are five strategies for making this bucket-list item a reality…**

1 GO AT THE IDEAL TIME —AND EMBRACE THE COLD

The key to aurora visibility is having a dark, clear sky. "Aurora season"—when the nights tend to be dark enough to view the lights—runs from September to April. (During summer, most of Alaska gets upwards of 19 daily hours of sun and in some areas the sun scarcely dips below the horizon.)

Even the moon—especially a full moon—can add too much light to a night sky, so your best bet for seeing auroras is during a new or crescent moon.

Clear skies, meanwhile, come during the coldest winter months (November to February). You'll feel warmer during fall (September/October) or spring (March/April), but in exchange you'll have a higher risk of the auroras getting lost behind cloud cover.

2 HEAD TO THE RIGHT VIEWING SPOTS

The "Aurora Oval," the area where aurora activity is most common, sits around the North Pole and typically goes as far south as Fairbanks. During times of greater geomagnetic storms, the aurora oval expands, and you can see northern lights at lower latitudes—like in Talkeetna and Anchorage — but it takes extreme storms for the lights to be visible in the northern portion of the lower continental United States.

For the best odds of seeing auroras in Alaska, make **Fairbanks** (see map marker #1) or **Coldfoot** (see map marker #2) your destination: because they're both inland, away from the coast, cloud cover is less likely. And in Coldfoot, you don't have to worry about light pollution. (Just consider doing a guided tour to Coldfoot, so you don't have to drive the often-rugged Dalton Highway in the middle of winter—indeed, most car rental agencies won't even let you take their cars on the Dalton.)

If you're staying in Fairbanks and have a rental car, you can cut the light pollution by driving to one of these popular viewing spots:

- **Cleary Summit:** About 30 minutes from Fairbanks, this spot along the Steese Highway sits at an elevation of 2,233 feet and offers panoramic views.
- **Murphy Dome:** Once home to Murphy Dome Air Force Station, this site now houses just the Long Range Radar Station, and involves a scenic drive through lowland forest. Besides views of the Northern Lights, the Dome make a good spot for watching sunsets during fall and spring.

3 BECOME A NIGHT OWL

Sure, you can see the northern lights any time after dark, but peak viewing happens between midnight and the early morning hours—and you can't see them at all if you're asleep.

So even if you're not a night owl by nature, try to become one. That means taking naps during the day that you plan to view the northern lights. On the night of, resist the temptation of retiring to your hotel or cabin if the lights don't show up right away. After all, viewing the northern lights can be a waiting game—but it's one worth playing. If you take a multi-day trip, work your way into it: after you've dedicated a few days to the activity, your body will naturally start to adjust.

4 CHECK THE FORECASTS—FOR BOTH WEATHER AND AURORA ACTIVITY

For the best use of your viewing time, you'll need a night with clear skies plus aurora activity—which means checking two different forecasting tools.

Start with weather. For that, we recommend the NOAA's flash loop: http://www.ssd.noaa.gov/goes/west/ak/flash-vis.html. It does a great job of showing cloud cover—the biggest deal-breaker for aurora-viewing—as well as how the clouds will move (or not move) across the sky over a 7-hour period, so that you can pick a spot with the promise of clearing later. The flash loop also offers filters at the top, so you can add features to the display like temperatures, fronts and snow.

Next, check the aurora forecast. Our favorite aurora prediction tool is the one published by the Geophysical Institute out of the University of Alaska, Fairbanks. It studies the solar wind from the sun, and rates the likelihood of auroras on a scale of 0-9 for each day of a roughly three-week period. If you click on the link, you'll see an image like this, with the activity rating underneath. Then, use the buttons to the right of the image to scroll through dates.

Still, check both daily. Both the weather and aurora forecasts can change daily (solar wind takes 2-3 days to reach us, so the predictions are the most accurate within that time frame). http://odin.gi.alaska.edu/FAQ/#predict

The good news: even when aurora probability seems low, areas like Fairbanks and towns north of the Arctic Circle still offer good odds of seeing a show.

5 MAKE SURE YOU'RE ACTUALLY LOOKING AT AURORA

If you've seen your share of spectacular aurora photos, you probably think you'll know when you see one in person. But even locals have mistaken light pollution from neighboring towns for the northern lights.

How can you tell the difference? Light pollution, for starters, comes from the ground, so it looks like a yellowish haze coming from the ground up. The most common color of an aurora is a more brilliant yellowish-green (though, of course, they can be seen in blue, purple, and red). A weaker northern lights display may just look like a colorful haze in the sky, and at lower latitudes , a stronger display can sit near the horizon.

WHAT CAUSES THE NORTHERN LIGHTS?

Long ago, Native Alaskans thought that the Northern Lights were the spirits of ancestors swirling in the sky—and assisting their earthly descendants with their hunts. In the 1600s, Galileo coined the term aurora borealis, based on his own scientific theory about them—that they were reflections of sunlight in the atmosphere.

While both he and the natives were technically wrong, you can't deny the mystical and fascinating experience of watching auroras. And the accurate scientific explanation for the phenomena is pretty interesting, too.

So what are they? The swirling lights in the sky happen when electrically charged particles from a solar storm encounter the earth's atmosphere.

Why does it happen so much in the winter? It doesn't actually happen more during the winter; the solar storms can happen year round, but the skies need to be dark enough to see the results—and those dark skies are more likely during winter.

Why are they different colors? The colors result from the charged particles encountering different gasses in the earth's atmosphere. Green and red come from interactions with oxygen at different heights, while blue and purple come from nitrogen—and are all the more dazzling because they are rarer.

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