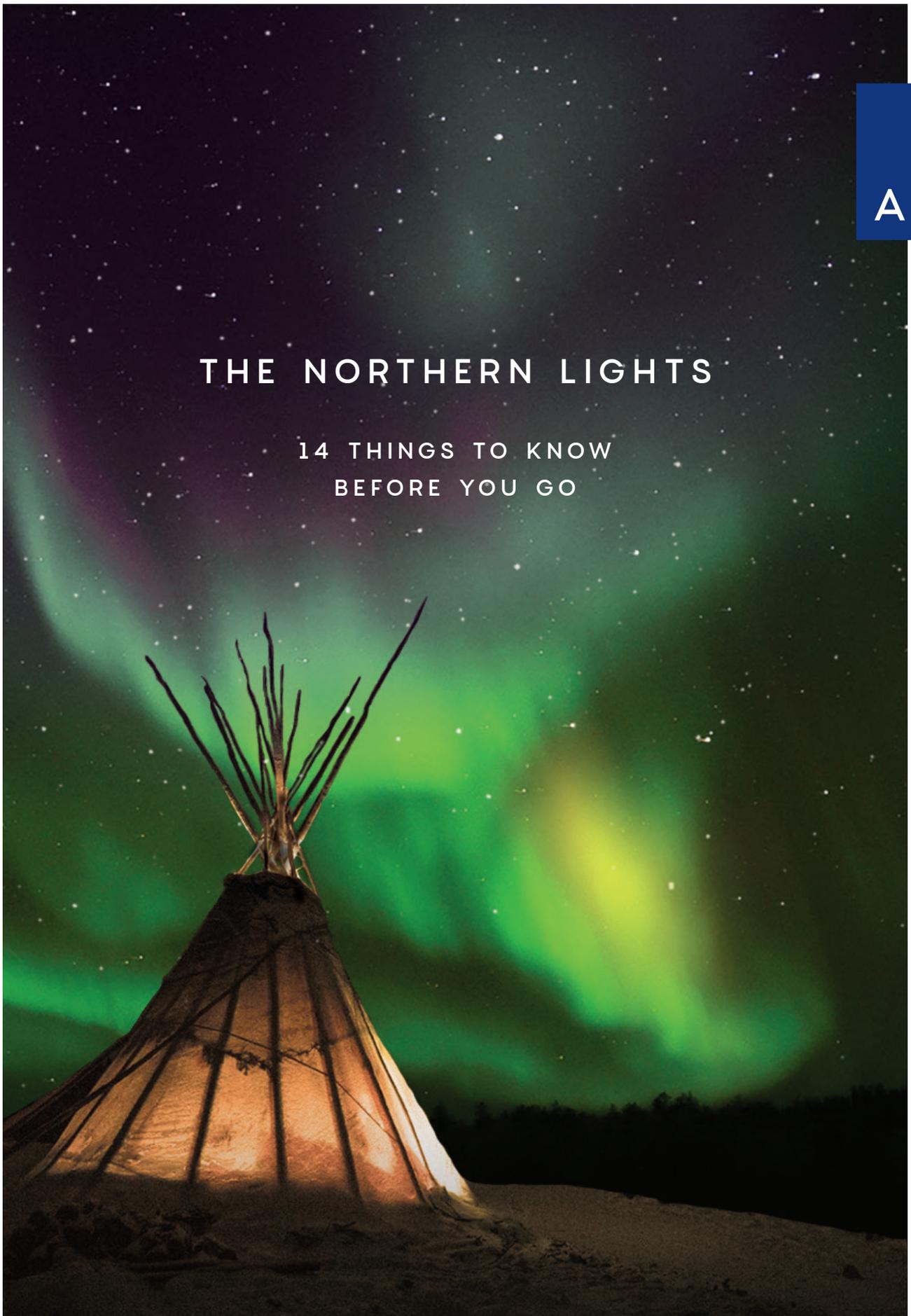


THE NORTHERN LIGHTS

14 THINGS TO KNOW
BEFORE YOU GO







**All-inspiring.
All taken care of.
So you can Live Fully.**



Seeing the Northern Lights dance across the night sky is a once-in-a-lifetime experience many of us dream of. But because of their elusive nature, the remoteness of their locations and a low awareness of where to go and how to see them, it can be difficult to figure out how to best go about it.

Lucky for you, APT has the experience and knowledge to know exactly where and when to go. We've done our research and decided to answer your questions and share with you all our best tips. It's time to embark on that journey and turn your Northern Lights dream into a reality – and we'll be with you every step of the way.



1

What are the Northern Lights?

The Northern Lights, or 'aurora borealis', are one of the world's most beautiful natural phenomena. These spectacular swirls of coloured lights, appearing in the sky as if by magic, occur when electrically charged particles emitted from the sun enter the earth's atmosphere. These charged particles collide with gas atoms and molecules, and the consequent release of energy becomes visible in the sky in the form of the aurora.

The term 'aurora borealis' got its name from Aurora, the Roman goddess of the dawn, and the Greek word 'boreas', meaning northern wind.

2

How have the Northern Lights been traced throughout history?

The Northern Lights have been the source of stories and artistic impressions for thousands of years. Depictions of them have been found all around the world, from China to Macedonia. They have inspired many myths, legends and theories across the globe, proving themselves a source of wonder over the millennia.

Aristotle believed the lights were the product of steam, raised from the ground due to the heat of the sun, hitting the fire element and igniting in the sky. Ancient Norse mythology refers to Bifrost, a rainbow bridge connecting the mortal world (Midgard) to the world of the gods (Asgard), and it's been speculated that this was inspired by the aurora. And according to native Canadian legend, the lights were thought to be the lanterns of demons looking for lost souls.

Science may have provided a more verified explanation for the Northern Lights, but this phenomenon remains just as mesmerising as it ever was.



3

Where should I go to see the Northern Lights?

In the halo of the auroral oval lies Yellowknife, Canada – one of the best places in the world to see the Northern Lights. While other places lie just below the auroral oval, Yellowknife's flat topography and minimal obstructions make it the strategic goldmine for Northern Lights expeditions and those seeking to catch a glimpse of the fairy-tale magic. The Lights can also be caught in places like Iceland, Scotland, Alaska, Scandinavia and Yukon, Canada.

4

What is the best time of the year to see the Northern Lights?

Winter is your best chance to see the Northern Lights. Although visible at other times during the year, the clear air and longer periods of darkness makes viewing far more successful. Plus, the snowy surrounds are absolutely stunning! For your best window of viewing, head on over between the months of August – March.



5

What is an aurora display typically like?

No two light displays are the same – they are unique, which is part of what makes them so special. A good aurora may last 15 – 30 minutes, and can occur multiple times in a single night.

The Northern Lights can occur in many different forms, appearing like colourful streaks, curtains or glows. One of the most exciting displays the Northern Lights can produce is a rapid change of movement, known as an ‘auroral breakup’. The lights become very bright and scatter across the sky in spectacular swirls. If you’re lucky, this can happen several times during the course of a night.

The colour of the lights can also change, depending on what molecules the charged particles collide with. For Earth, the most common aurora colour is green, which is produced from charged particles colliding with oxygen. However, when the light’s activity is closer to Earth, higher levels of nitrogen can make them appear blue or purple – a rare sight, but truly spectacular.

6

How do I increase my chances of seeing the Northern Lights?

The Northern Lights can be elusive – it’s what makes them so magical. There are a few factors to consider when planning a trip to the Lights in order to maximise your chances of witnessing this once-in-a-lifetime event.

To get the most out of your holiday, it’s important to pick the perfect destination to ensure your time away is everything it should be. Your location plays a crucial role in increasing your likelihood of a successful aurora sighting. The closer you are to the auroral oval (magnetic pole), the better your chances are of seeing the aurora. Northern Canada is one of the lucky places that lies within this zone, providing both greater chances of seeing the Northern Lights and stronger, more frequent displays.

The other factor to consider when planning your trip is consistency. More attempts mean greater odds of spotting the aurora, after all. This is why on an APT tour, guests are provided with three consecutive nights of aurora viewing, so your stay in Yellowknife gives you one of the best chances possible of seeing the Northern Lights.



7

Does the aurora exist outside of the Northern Hemisphere?

While the Northern Lights have gained a fair amount of publicity over the years, the aurora can also be found in the south. Known as the Aurora Australis, this phenomenon occurs at the southern magnetic pole. Although similarly magical, the Southern Lights can be more difficult to see due to the lack of landmass near Antarctica – though you may just manage it from New Zealand, Argentina or the Falklands.

Other planets, including Saturn, Neptune and Jupiter, also have auroras. Because these planets largely consist of nitrogen, their light displays are ultraviolet.

8

Are the Northern Lights only visible at night?

The Northern Lights can actually occur at any time, though whether or not they are visible is a different matter. A lack of other competing lights (and a nice clear sky) makes viewing the aurora possible once the sun has gone down, but they're otherwise difficult to see. New technology means that scientists can use an Ultraviolet Imager to screen out sunlight and map aurora movement regardless of the time of day, so we know they're there. But for the majority of us, the dark is pretty crucial for an aurora viewing.

The best time to see the Northern Lights is actually during magnetic midnight. Magnetic midnight, dissimilar to conventional midnight, is the time when the North Pole is aligned between the observer and the sun, and therefore it differs from day to day.



9

Will it be cold or uncomfortable trying to view the Northern Lights?

Even though snow may be falling around you, that doesn't mean you have to be cold on your winter adventure. Aurora viewing in custom-made, heated outdoor seats mean you can stay toasty and warm, while still having some of the best views in the house.

At Aurora Village in Yellowknife, teepees have been built to replicate the same shape and style as traditional First Nation teepee designs. Now, for the specific purpose of aurora viewing, they're equipped with warm fire wood stoves, and complimentary beverages for optimum enjoyment. All you have to do is sit back and enjoy the show.

10

Do the Lights make any sound?

There have been witnesses who have reported eerie noises accompanying their viewing of the aurora. Sounds of crackling, popping and hissing are said to be the result of trapped particles in the earth's atmosphere rapidly discharging.

The majority of auroras happen between 50 to 200 miles above Earth, can extend thousands of miles lengthwise across the sky, and are even visible from space. Because it takes so long for the sound to reach the viewer, the noise is often out of sync with the light, like lightening during a thunderstorm.

For the majority of people, the only sounds accompanying an aurora are their own exclamations of excitement and wonder.

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Are the Northern Lights harmful?

The Northern Lights occur very high up in the atmosphere and pose no harm to people on Earth. They can, however, occasionally disrupt technology and infrastructure, and interfere with scheduled flight paths. This is due to the electrically-charged particles that are produced, and not the lights themselves.

One of the most spectacular displays of the aurora occurred during the biggest solar storm on record, which hit Earth in 1859. Causing widespread disruptions in telegraphic communication, the resulting auroras were visible from both poles, from as far south as Cuba and as far north as Queensland, Australia. The resulting light was reportedly so bright that people were able to read newspapers in the middle of the night.



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How do I photograph the Northern Lights?

If you witness the spectacular display of the aurora borealis, chances are you are going to want to capture the moment so you can enjoy it for years to come. Photographing the Northern Lights can be difficult, as they're often rapid, and the backdrop of the dark night sky can prove a challenge for photographers. An SLR camera will be necessary to adequately capture the aurora.

Some tips that may be helpful are:

- Set your camera to manual mode and the aperture as wide as possible (2.8 or 4, depending on your camera). Set your focus to 'infinity'.
- Ensure a long exposure – anywhere between 5 – 20 seconds, depending on the speed of the aurora's movement. The slower it is, the longer the exposure time should be.
- Use a tripod to minimise blurry shots.
- A cable release or a self-timer is super helpful.

It's great to practice taking shots before your big night, to avoid fiddling around too much and missing all the action. Experiment capturing night shots on your camera and have the appropriate settings ready to go beforehand, so you're prepared when the magic hits.

13

What clothing should I wear on a Northern Lights expedition?

Dressing appropriately is important on your Northern Lights trip; you don't want discomfort impacting your otherwise-blissful escape into winter wonderland. The temperatures overnight outside in the far north are understandably icy. Winter thermals are a great way to layer-up and stay warm.

Lucky for you, APT is committed to ensuring your complete enjoyment while on holiday. In addition to the comfort provided by the excellent facilities at Aurora Village, winter clothing rental is included for the duration of your stay in Yellowknife. This means you can rug up in your Canada Goose down parka, appropriate boots and complementary face-warmer, feeling snug and prepared for your northern adventure.

14

What else can I do on my Northern Lights holiday?

If you're committed to seeing the northern lights but you're drawing short on what else to do on your winter trip, we're here to help. It's important you pick a destination that excites you in order to maximise the enjoyment of your trip. Winter provides a host of activities to suit all individual tastes. Picture horse-drawn sleighs, ice-fishing escapades, twinkling lights, ice-hockey matches and stunning frozen lakes.

Imagine the glory of the snow-capped Rockies from the heights of a helicopter, or the warmth of a crackling fire as you relax to a private dining experience in a "ViTeepee".

These experiences can become your reality. Canada boasts a spectacular array of remarkable sights and activities. The northern lights are unforgettable, but they will not be the only memories you cherish on your holiday.

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