

Nightscape

IN THIS ISSUE

The next generation

Young advocates making a difference

Lights Out at the Smithsonian

+ more



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From the Executive Director

Light pollution is all around us, yet to many people, it is invisible. How do you encourage people to notice something that has become the backdrop to their lives? This is the question our advocates in Taipei set out to answer. I was with them during International Dark Sky Week when they unveiled their answer: An innovative sound and dance performance powered by an area-sized digital screen on the Taipei Center.

It took creativity, a knowledge of coding, and an understanding of social media engagement to pull this off. It helped that the people who designed and executed this were — how should I say it — younger than me. As you will read in this issue, the global DarkSky movement is stronger because of this spirit of innovation.

I was at an open space conference in the San Francisco Bay Area many years ago. A younger attendee stood up with an impassioned plea: “You talk about the ‘next generation’ as if we are not here,” he said. “But we’re here if you would only listen.”

Reading the stories in this issue, I am in awe



An innovative dance performance in Taiwan helped celebrate Dark Sky Week this year.

DarkSky Taiwan

of the passion, dedication, and innovation that are shown by a younger cadre of advocates. We're here to listen, learn, and elevate your voices. And together, we'll be the generation that reverses the scourge of light pollution and starts the journey to reclaiming the night.



For the night,
Ruskin Hartley
ruskin@darksky.org
Tucson, Arizona, U.S.



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From the Editor

For a few years, I wrote a regular column for DarkSky's website in which I interviewed advocates from around the world. I had the privilege of talking to people from many different walks of life, age groups, and geographies about why they got involved in dark sky advocacy. I found that many shared a story not unlike my own. One of being exposed to the wonders of the night sky from a young age and feeling pulled to protect it for future generations.



Earlier this year, a study published in *Science* found that global sky brightness has increased by nearly 10% per year over the last decade. The study was based on data collected through NOIRLab's community science project,



Globe at Night. The last 150 years have seen the natural world transformed, including the loss of darkness at night over much of the planet. If the pace continues, in even one generation from now, people may not have any access to the natural night. This will have profound effects on our children's health, our food chain, and on the sense of awe from which we have benefited looking up at the sky as children.

This issue focuses on the next generation of dark sky advocates. I find an immense amount of hope in speaking to younger people, teachers, and educators. They are on the front lines of bringing awareness about light pollution to a new generation, and they are full of ideas, solutions, and energy about what's possible.

It is a self-perpetuating cycle: people will not appreciate and preserve the night sky without first being awed by it, but they cannot be awed by a sky that has been lost. Hearing from passionate young and early-career advocates in this issue fills me with faith. Faith that a new generation of younger people continue to be inspired by the night around the world — many having first experienced it in the protected darkness of our International Dark Sky Places.

In this issue:

- ✦ Meet four youth and early-career advocates
- ✦ Introducing the Smithsonian's new dark sky exhibition
- ✦ A feature on the next generation from a young photographer in Wales
- ✦ Dark sky week highlights and new International Dark Sky Places



Megan Eaves

nightscape@darksky.org
London, U.K.

On the cover



"Catching Venus"
by Mihail Minkov
Bulgaria

I have a 4-year-old daughter who is really in love with the night sky. She is fascinated by the planets, stars, and the Milky Way. She is always asking if she can come along when I go out to shoot the Milky Way. So I decided to make her part of the process and try to show her what it's like to be out at night and see the beauty of the dark sky. The way the shot turned out, I thought my daughter looked like a star catcher and, after she collected all the stars from the sky and put them in her net, the one that remained was Venus, hence the photo's title. I hope that one day she'll remember this and that this memory will make her a good and decent person who really takes care of the planet and the night sky, and protects and develops that passion.

TECHNICAL DETAILS

Single exposure | Sony A7III | Helios 44-2 at 58mm | f/2

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[fineartshot.com](https://www.fineartshot.com)

Making a difference

Introducing four early-career and youth advocates working to protect the night

Stargazing with Ahmed (see page 6) in the Saudi Arabian desert.

Education and youth advocacy are crucial to DarkSky's vision for a future in which natural darkness at night is protected worldwide as essential for people and nature. Here, we introduce four early-career and youth advocates and hear their insights on what young people need to protect the night.



Ahmed T. Althaher

Deep Anand

Age: 19

Location: Delhi, India

Deep has loved the night sky since early childhood and this love for stars eventually got him hooked on astronomy and astrophysics. Deep is the founder-president of the Save Our Stars initiative, which spreads awareness and educates the general public about the problem of light pollution in India. He uses clever and unconventional methods for outreach and says social media is the best tool,

as it can create communities. Being a poet and writer, Deep also believes in appealing to an audience's emotions to emphasize the importance of dark skies. He says sky observations combined with photo booths and interactive activities help attract younger audiences to in-person events.

YOUNG ADVOCATE NEEDS

- ✦ Trust and support from older generations
- ✦ More opportunities to gain experience in the field

Danton P.B. Weil

Age: 26
Location: Paris, France

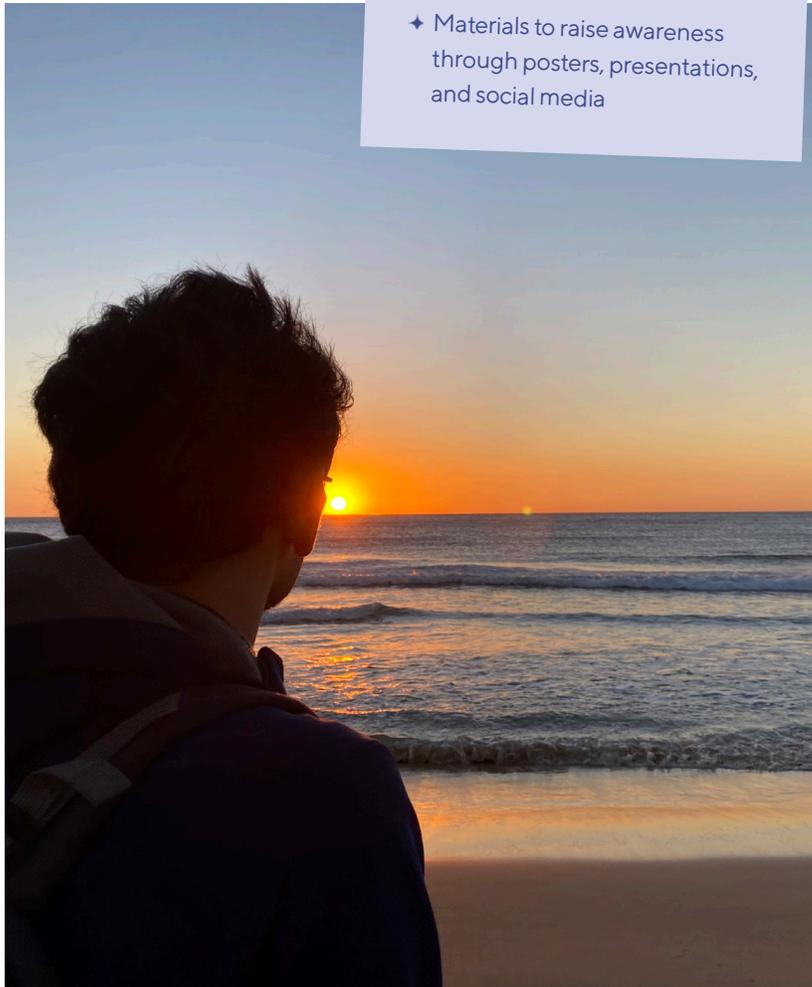
Physics teacher Danton grew up under a dark sky in Sabah, Malaysia, studied cosmology, and is a member of the IAU Centre for the Protection of the Dark and Quiet Sky from Satellite Constellation Interference. He says the dark sky elicits a sense of being infinitesimally small and yet having purpose and value in our short time on Earth. He believes the night sky is powerful because it unites us all. Danton says the key tools for younger



advocates are understanding that a problem exists and what the possible future scenarios are. With this information, young people know social change is possible and are equipped to discuss dark sky issues with their families and schoolmates. He says his students are most curious about space exploration and he uses this topic to branch into teaching about dark sky protection and the ethics of using the night sky.

YOUNG ADVOCATE NEEDS

- ✦ Concrete examples of civilian-led initiatives
- ✦ Materials to raise awareness through posters, presentations, and social media



Bonnie Peng

Age: 16
Location: Abescon, New Jersey, U.S.

Bonnie was inspired to get involved in the dark sky movement by Vincent van Gogh's painting *The Starry Night*. She began exploring art and culture associated with astronomy

YOUNG ADVOCATE NEEDS

- ✦ Encouragement and support to take tangible action against light pollution in the real world beyond virtual sharing

and the night sky and sought out natural landscapes that elicited a similar sense of wonder and awe. She says young people are likelier to engage with tools and resources tailored to their interests and needs. Social media can be useful for raising awareness, sharing information, posting inspirational photos, and building a critical sense of community. She says the quiet of the night sky fosters a connection with the natural world.



Ahmed T. Althaher

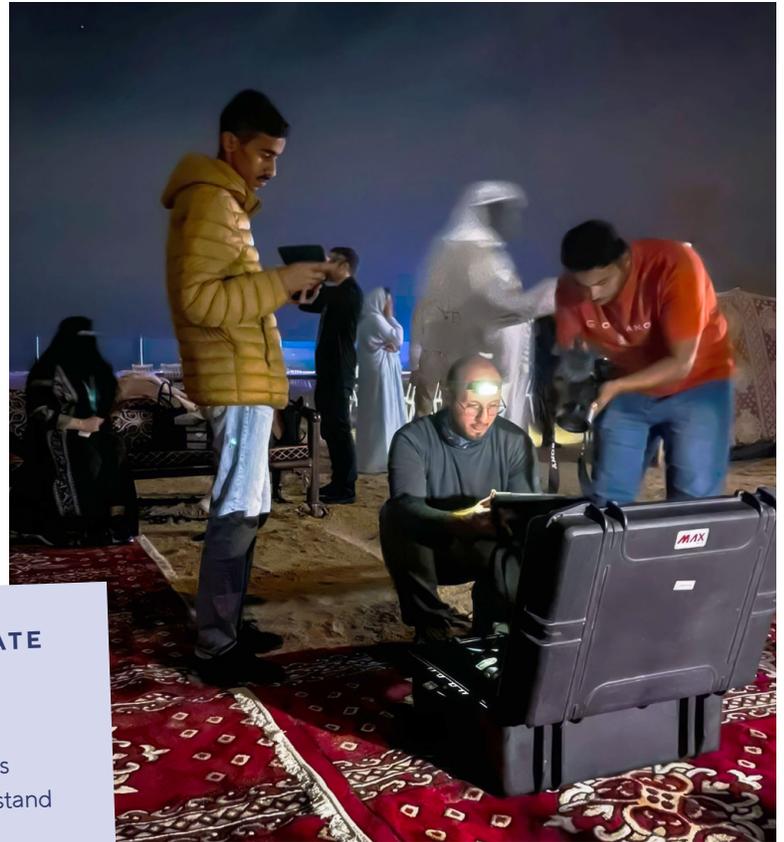
Age: 27
Location: Riyadh,
Kingdom of Saudi Arabia

Mechanical engineer and multidisciplinary inventor, Ahmed became interested in the

issue of light pollution through his passion for astronomy. He is inspired by the deep historical connections to the night sky found in Arabian culture, from agriculture and travel to season tracking, poetry, and Islamic religious practices. He says current developments for Saudi Arabia's Vision 2030 framework mean that significant investment is being placed into tourism, culture, and the environment, which are connected to the sky and light pollution. Ahmed cites light pollution maps as the most powerful advocacy tool because they give a visual representation of the impact of light pollution.

YOUNG ADVOCATE NEEDS

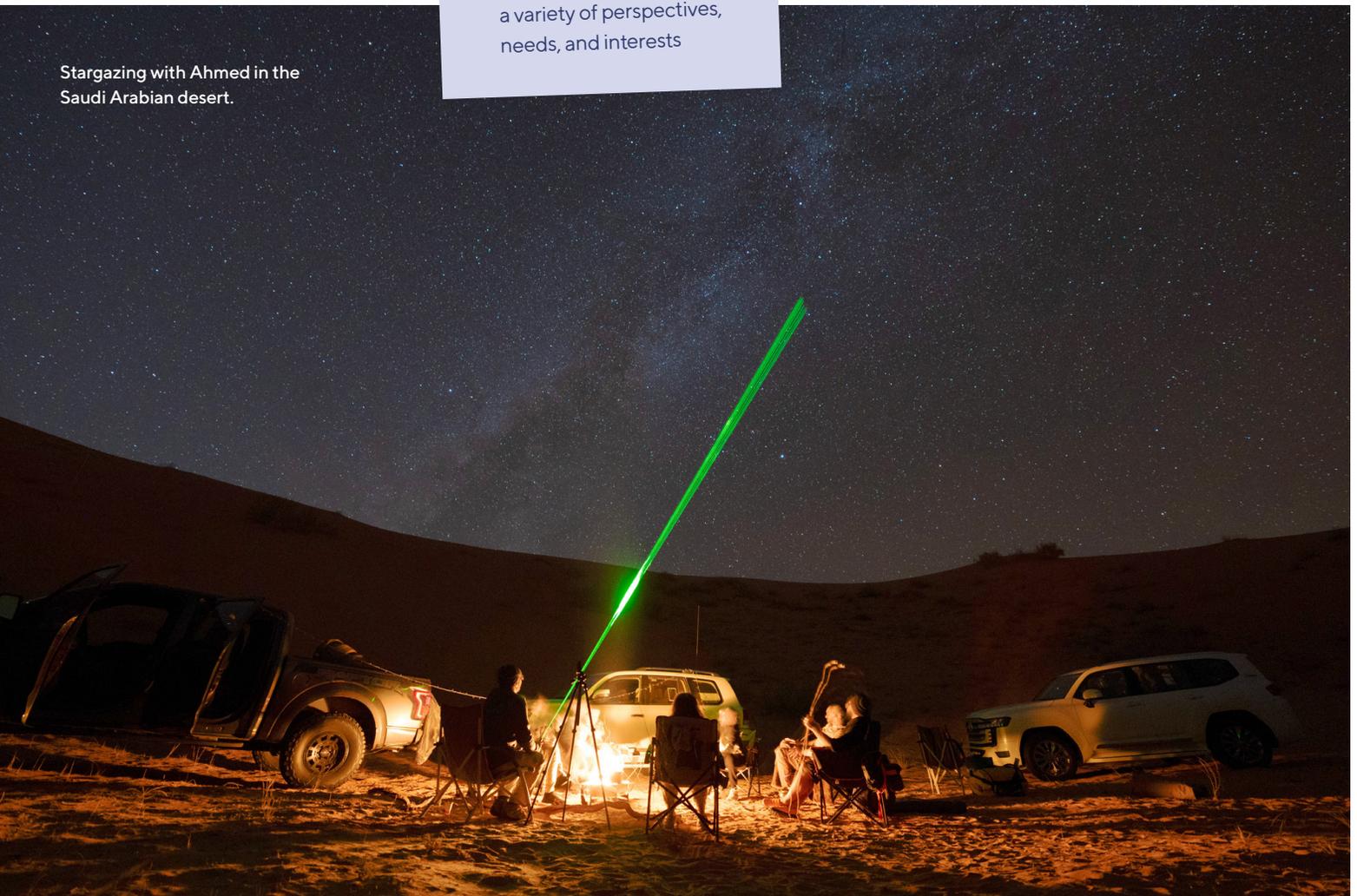
- ✦ A multidisciplinary approach that allows advocates to understand the problem and potential solutions from a variety of perspectives, needs, and interests



Ahmed T. Althaher

Ahmed T. Althaher

Stargazing with Ahmed in the Saudi Arabian desert.



Lights Out: Recovering Our Night Sky

The Smithsonian's National Museum of Natural History in Washington D.C. has opened a new exhibit on light pollution: "Lights Out: Recovering Our Night Sky."

The exhibit explores how the night sky — and its disappearance due to

nities for blind and low-vision visitors, and those who prioritize experiential and multi-sensory learning. Audio descriptions of the night sky, tactile displays of animals affected by light pollution, and an audio tour are all available.



Photos: Brittany M. Hanco, James D. Tiller, Phillip R. Lee, and James Di Loreto / Smithsonian Institution

light pollution — affects all life on Earth, from natural ecosystems to human cultures. It will be on view until December 2025. DarkSky was consulted to help curate the exhibit, and provided expertise, visuals, and data about light pollution and International Dark Sky Places.

Through extraordinary photographs, objects from the Smithsonian's collections, and interactive displays, "Lights Out" chronicles the history of lighting, its unintended consequences, and ways to discover and regain our connection with the night. In addition to stunning visuals, the exhibit also offers opportu-



Smithsonian
Institution

WHERE

Smithsonian's National Museum of Natural History
2nd Floor
10th St. & Constitution Ave. NW
Washington D.C.

naturalhistory.si.edu

WHEN

Until December 2025

HOURS

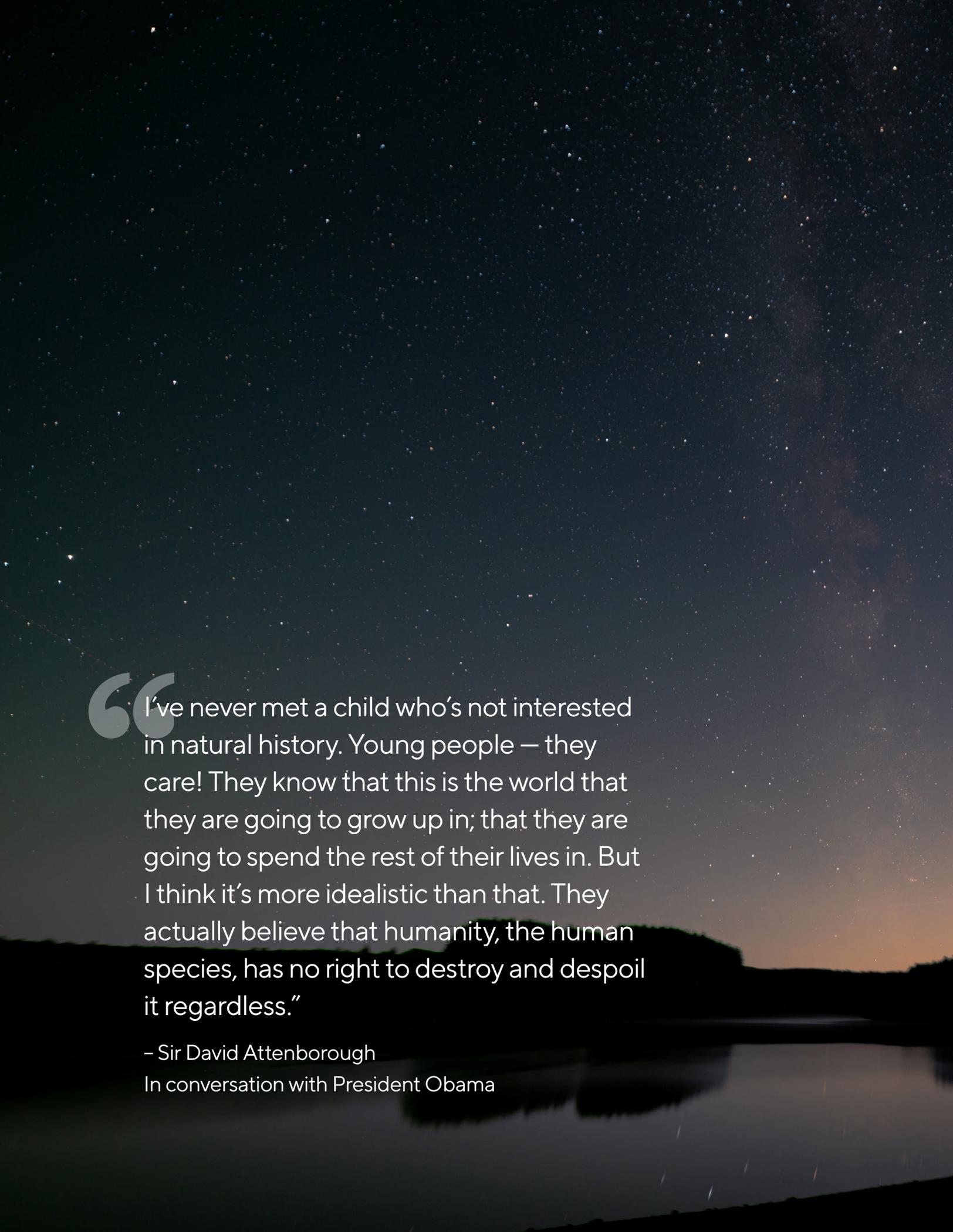
10am–5:30 pm daily
Closed December 25

PRICE

Free

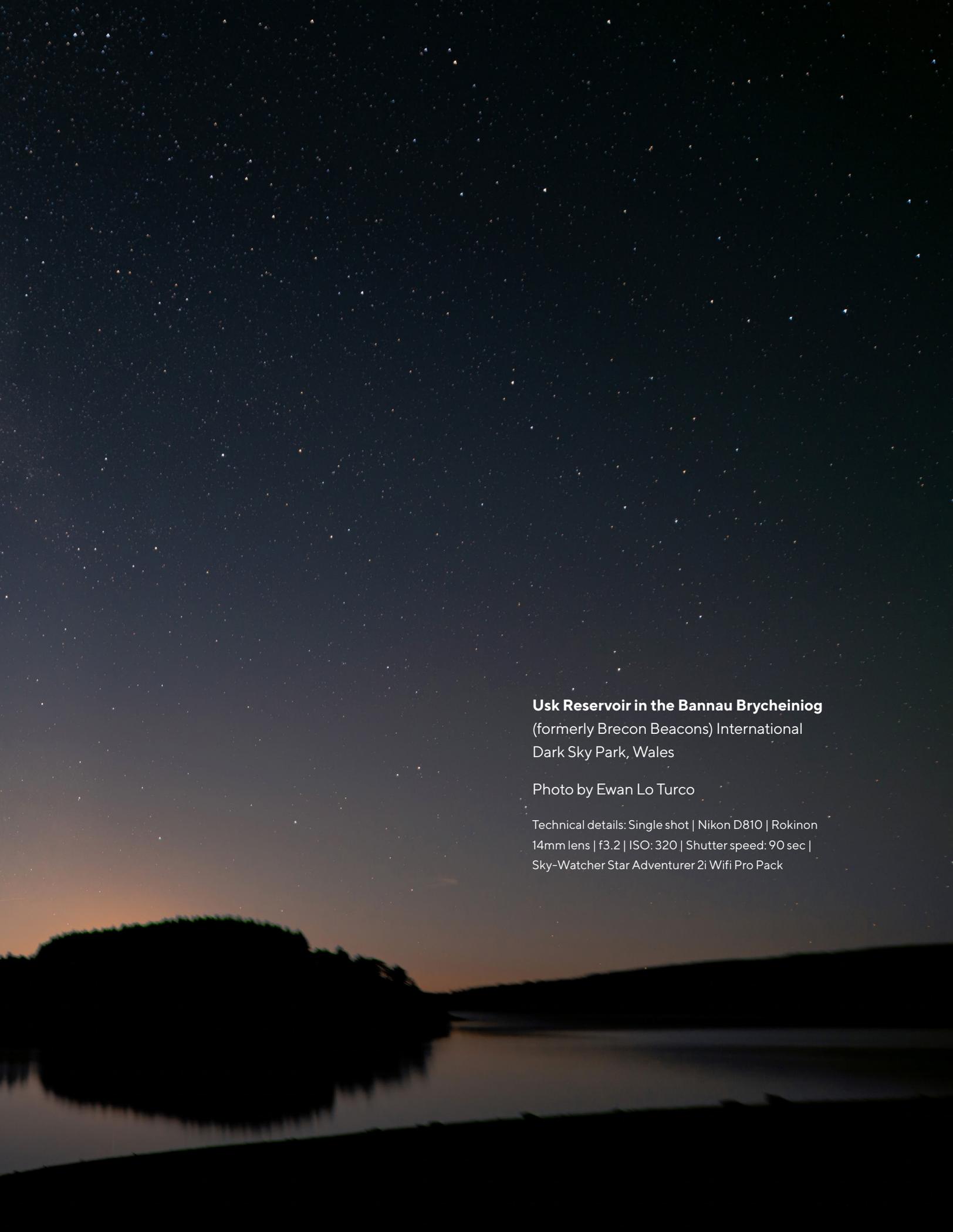
CAN'T MAKE IT IN PERSON?

You can explore the exhibit online and listen to an episode of the Smithsonian Sidedoor podcast on light pollution at: naturalhistory.si.edu/exhibits/lights-out



“I’ve never met a child who’s not interested in natural history. Young people – they care! They know that this is the world that they are going to grow up in; that they are going to spend the rest of their lives in. But I think it’s more idealistic than that. They actually believe that humanity, the human species, has no right to destroy and despoil it regardless.”

– Sir David Attenborough
In conversation with President Obama



Usk Reservoir in the Bannau Brycheiniog
(formerly Brecon Beacons) International
Dark Sky Park, Wales

Photo by Ewan Lo Turco

Technical details: Single shot | Nikon D810 | Rokinon
14mm lens | f3.2 | ISO: 320 | Shutter speed: 90 sec |
Sky-Watcher Star Adventurer 2i Wifi Pro Pack

Dark Skies: The next generation

Engaging young people in light pollution

WORDS BY PORTIA JONES

IMAGES BY EWAN LO TURCO



Ewan Lo Turco

At the edge of a pristine pine forest, the tranquillity is broken by the sounds of a tripod hastily being set up, camera bags opening, and phones lighting up with night sky apps.

It's mid-March in Levi, a village and resort in the Lapland region of northern Finland, and I'm knee-deep in icy snow alongside my youngest nephew, Ewan. Despite the freezing -20°C (-4°F) temperatures, he's earnestly setting up his camera equipment to photograph the star-filled

Arctic skies and the elusive aurora borealis (northern lights).

We've traveled from Wales to northern Lapland specifically to seek out stars, planets, and most importantly — the aurora, as Ewan is determined to capture them on camera. At just 14 years old, Ewan isn't your typical stargazer, and his curiosity is, perhaps surprisingly, entirely self-led.

A shy and rather thoughtful teen, Ewan and I regularly stargaze at home in Wales, which currently holds the accolade for the highest percent-

age of land protected by dark sky status in the world.

Ewan found a love of the night sky and its infinite possibilities through photography and new technology. During our Welsh dark sky outings, Ewan has taught himself astrophotography using YouTube videos, astronomy apps, and instructional websites to hone his skills and find inspiration.

Indeed, the challenge of photographing the night sky appeals the most to Ewan, and he uses technology

to plan dark sky trips and starry shots. “It’s a harder type of photography that takes more planning and research before you go out,” he says. “You have to know when the weather’s right, when the moon’s not full, and where the best places are for no light pollution.”

Despite much scorn from many of the older generations surrounding teenagers and their love of tech and TikTok, these tools have become vital for engaging the next generation of aspiring dark sky lovers, astronomers, and astrophotographers, who can utilize them in multiple ways to discover a love of the night.

Free or low-cost apps like Clear Outside, NightCap Camera, and Photo-

Pills make finding and photographing the Milky Way straightforward and more accessible. Any young person with a smartphone can now quickly access and snap the night sky with this innovative and user-friendly tech.

While dark sky shots are achievable by adjusting phone settings and using apps, a traditional camera and tripod are preferable for high-quality nightscape photos. But costs can soon add up for young amateurs, with even entry-level cameras and lenses costing hundreds of dollars.

Most of the cost of Ewan’s second-hand Nikon camera, tripod, and pricey star tracker has thus far been covered by family and saved-up

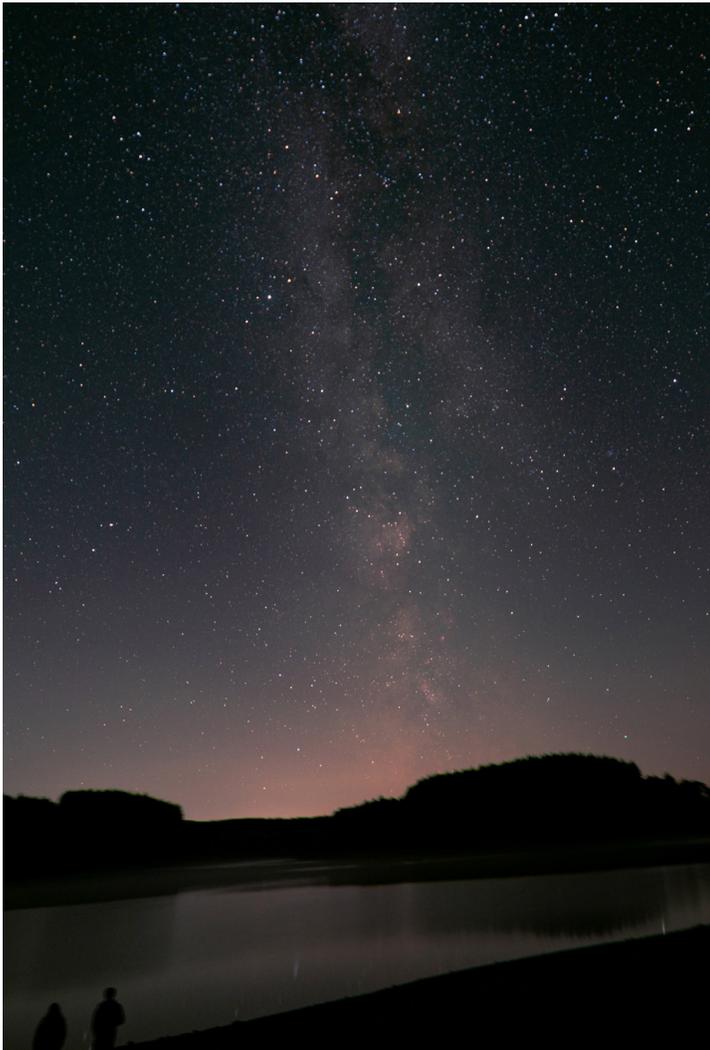
pocket money — but he acknowledges that other young people might not have this kind of support.

“It’s quite an expensive hobby; maybe that’s why it’s not that common,” says Ewan.

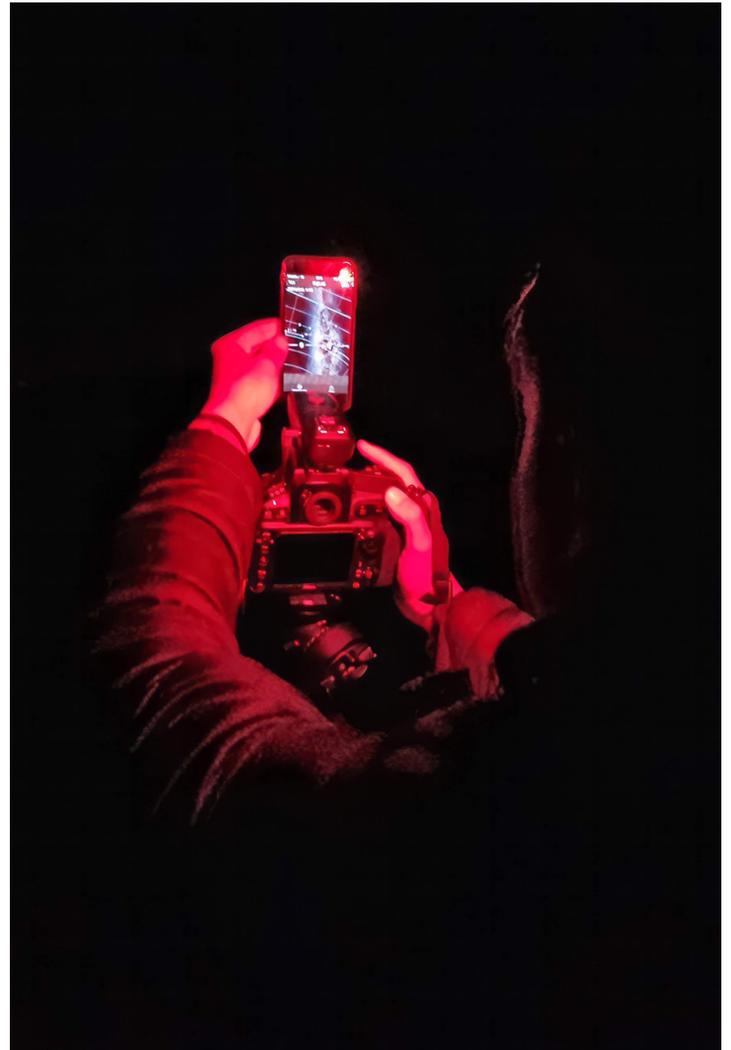
Another barrier, of course, is having an agreeable adult to transport teens to dark sky sites where they can connect with the cosmos. This is how I’ve found myself in the Arctic Circle on a star-chasing adventure with my young Padawan.

Alongside snapping the galaxy,

Below: Ewan setting up his camera to photograph the stars over Usk Reservoir in Wales.



Ewan Lo Turco



stars, and satellites, Ewan's primary goal is to photograph the dancing aurora borealis, so we've ventured out of Wales and into the Lappish wilderness with a DSLR camera and a dream.

There's no guarantee that the unpredictable northern lights will appear and I'm gently trying to manage Ewan's expectations. Luckily for us, the ski town of Levi is located high above the Arctic Circle, putting it well within the auroral zone (which sits between latitudes of 60 and 75 degrees), so our chances are fair.

The aurora call comes late on a bitterly cold and dark night. Ewan and I

leap into action, wrapping up in warm clothes, grabbing our gear, and leaping into a waiting car driven by my friend Mia Niemelä — head of concierge and VIP services at Design Hotel Levi.

We race to one of Mia's favorite dark sky spots — a secluded, snow-covered track off the main road that leads to a dense forest. We arrive just as the celestial show starts and hastily set the camera up using Ewan's preferred apps.

Suddenly, rivers of green snake up the sky and shimmer above us, forming a cosmic symphony that contrasts against the midnight blue sky. The universe has smiled upon us this

evening with a cinematic display of dancing colors that fill the heavens.

"I've never seen them quite like this before," remarks Mia. "Ewan is very lucky tonight."

Ewan is focused on nailing the shot, adjusting the aperture, ISO, and shutter speed to capture the dynamic light patterns. He's thrilled with his snaps so far and explains that it's more complex than photographing stars due to the aurora's wave-like movement, the glare of moonlight, and the freezing temperatures.

"You don't want to have a too-long exposure time, otherwise, it's going to



Suddenly, rivers of green snake up the sky and shimmer above us, forming a cosmic symphony that contrasts against the midnight blue sky.

look blurry,” he tells me confidently. “When shooting stars, you only need around 30 seconds of exposure, but for the northern lights, you probably want to stay around five seconds, as they move quickly.”

I’m lying down in the snow looking upwards when the auroral spectacle finally begins to fade and the last shots have been taken. The verdict is in: this evening has been a resounding success.

Like most teens, Ewan’s joy is coolly restrained but seeps out when pre-viewing his painstaking shots, and it’s infectious. These cherished cosmic memories are now held deep in our

hearts and will soon be displayed on prints in our family’s hallways.

We must invest in the right tools to ensure the dark sky is more accessible so that we can inspire and educate future star seekers and photographers. Viewing life through a lens might be a key to encouraging young people to care about light pollution and preserving dark sky spots.

By embracing technology, rather than dismissing it, we can open the natural night to the next generation and spark a love of the final frontier, the solace it brings, and the timeless bonds it can create. ✦

Ewan’s app recommendations

Want to give astrophotography a try? Or just learn where and when to best gaze at a sky full of stars? Here are some apps to try.



Clear Outside

“Good for telling you the weather conditions and cloud coverage at a location.”



NightCap Camera

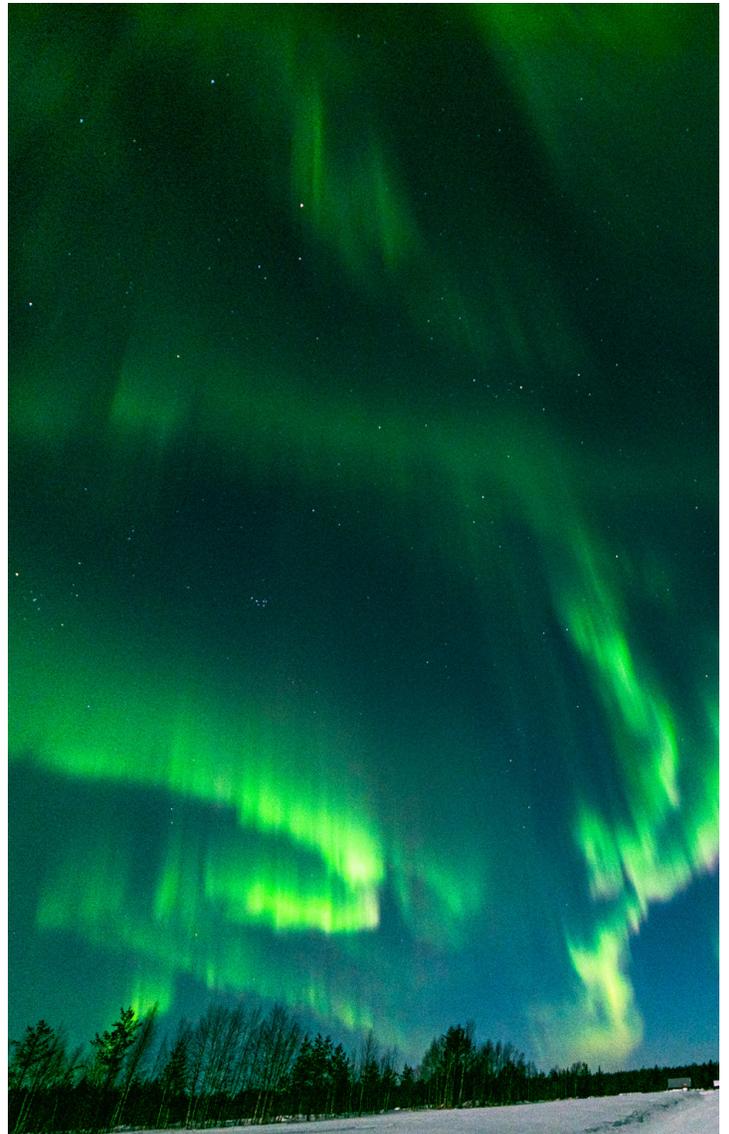
“Lets you take night sky photos on your phone – good if you don’t have a DSLR camera.”



PhotoPills

“Plan photos of the Milky Way and the galactic center with its augmented reality function.”

Ewan focuses his DSLR on the northern lights.



Advocate highlights

News snippets from our worldwide network of dark sky advocates



A Chicago, Illinois, U.S.

Join Chicago-based chapter **DarkSkyChi** in voicing concern regarding the commercialization of the night sky with a plan by a private company to launch fake, human-made meteors (“shooting stars”) that will clutter up the night sky for entertainment purposes. Sign the petition:

bit.ly/fakemeteorpetition

B Cyprus



Cyprus-based Advocate **Andreas Panayiotou** launched a new podcast called “The Dark Side of Lighting,” which explores the impacts of light pollution and what we can do to reduce them.

bit.ly/dslcast

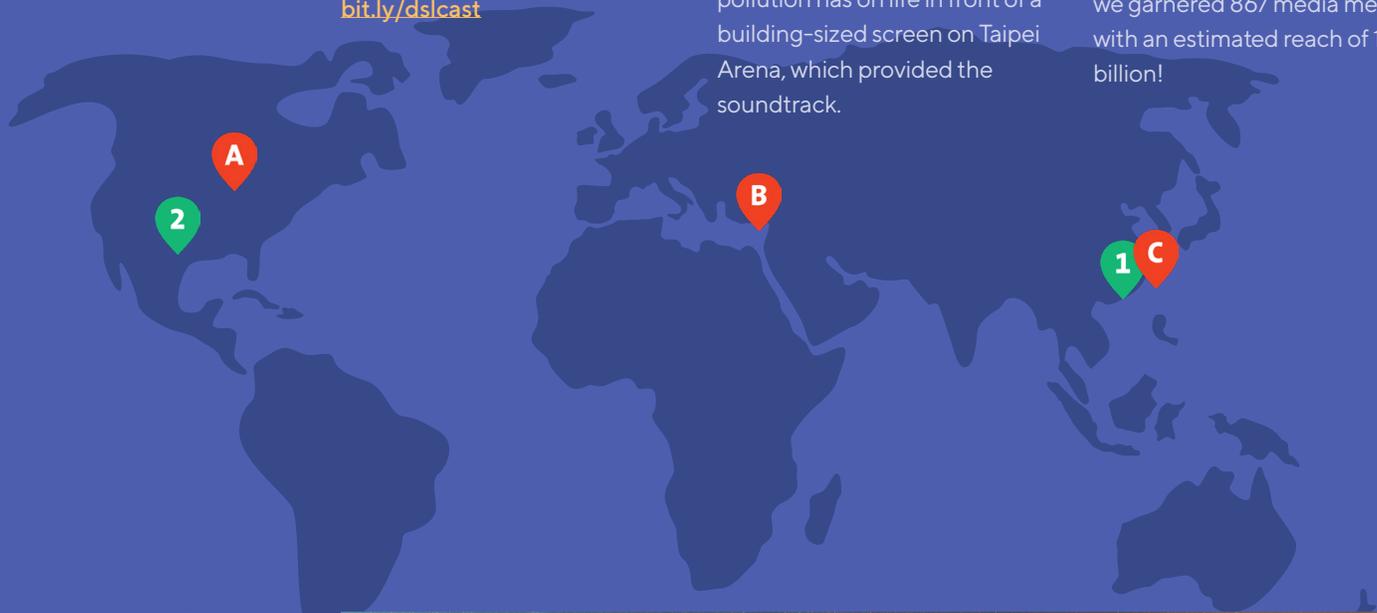
C Taiwan



In **Taipei**, members of **DarkSky Taiwan** turned light into tonal noise as part of a street performance for **International Dark Sky Week**. Dancers showcased the impact that light pollution has on life in front of a building-sized screen on Taipei Arena, which provided the soundtrack.

Worldwide

Congratulations and thanks for your help in making **International Dark Sky Week 2023** a big success! Hundreds of events were held in 23 countries, and 96 proclamations were issued in seven countries: **Italy, Australia, Mexico, Canada**, the **U.K.**, and the **U.S.**, including the **Grand Portage Band of Lake Superior Chippewa Reservation Tribal Council** in **Minnesota**. Together, we garnered 867 media mentions with an estimated reach of 1.1 billion!



Newly certified International Dark Sky Places

Communities

- 1 Xichong International Dark Sky Community, China
- 2 Bee Cave, Texas, U.S.



The Milky Way rises from Xichong

News & notables



Global news from the movement to solve light pollution

OVERHEARD

“Finding the Advocate Network made all the difference in the world to me. It is amazing how many people worldwide are working to rid the globe of poor lighting.”

– Eileen Kragie

In memoriam

It is with heavy hearts that we report the sad news that Bob Mizon, whom many will know from his outstanding efforts to protect the night from light pollution, died suddenly at home in the U.K. on 19 April 2023. Bob helped instigate the U.K.’s All-Party Parliamentary



Courtesy of the Mizon Family

Group for Dark Skies, co-established the U.K. Dark Skies Partnership, and was awarded the International Dark-Sky Association’s Galileo Award in 2006 and the David L. Crawford Lifetime Achievement Award in 2016. He was and will remain an inspiration and example to us all. Rest in the stars, Bob.



Clwydian Range & Dee Valley AONB / Dani Robertson

IN CASE YOU MISSED IT

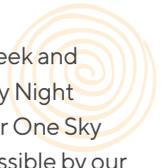
Outdoor lighting manifesto

DarkSky recently joined partners in the global lighting community to endorse the Responsible Outdoor Lighting At Night (ROLAN) Manifesto, which sets out 10 core principles for external illumination and a plan of action to implement positive change.

bit.ly/ROLAN-manifesto

Support DarkSky programs and events

International Dark Sky Week and programs like our monthly Night Matters events and Under One Sky Conference are made possible by our members’ financial support and through special fundraising campaigns. Look for upcoming emails sharing how you can get involved in supporting the movement, promoting dark sky places, and integrating the DarkSky Principles of Responsible Lighting around the world.



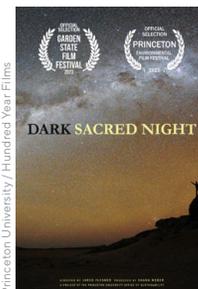
Wear dark skies on your sleeve!

A great way to support DarkSky is to purchase our customized apparel, mugs, and totes.

bonfire.com/store/idadarksky

On screen

An award-winning new light pollution documentary has been released



Princeton University / Hundred Year Films

by Princeton University’s Office of Sustainability. *Dark Sacred Night* is a short film about light pollution and why darkness matters, featuring Professor Gaspar Bakos of Princeton’s

Department of Astrophysics. Watch it on YouTube: bit.ly/darksacrednight

New payment processor

We’re planning many upgrades to our online membership capabilities, and the first one is already launched. We’ve changed our donation processor – so the next time you renew, the form will look a little different. We hope you find it easy to use!

darksky.org/ways-to-give/





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Five Lighting Principles for Responsible Outdoor Lighting



DarkSky



illuminating
ENGINEERING SOCIETY

Responsible outdoor lighting is

1 Useful

Use light only if it is needed

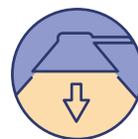
All light should have a clear purpose. Consider how the use of light will impact the area, including wildlife and their habitats.



2 Targeted

Direct light so it falls only where it is needed

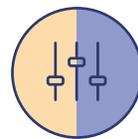
Use shielding and careful aiming to target the direction of the light beam so that it points downward and does not spill beyond where it is needed.



3 Low Level

Light should be no brighter than necessary

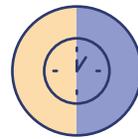
Use the lowest light level required. Be mindful of surface conditions, as some surfaces may reflect more light into the night sky than intended.



4 Controlled

Use light only when it is needed

Use controls such as timers or motion detectors to ensure that light is available when it is needed, dimmed when possible, and turned off when not needed.



5 Warm-colored

Use warmer color lights where possible

Limit the amount of shorter wavelength (blue-violet) light to the least amount needed.

