

NIGHTSCAPE

Pic du Midi International Dark Sky Reserve, France. Photo by Kimberly Herold.

IDA Starts New LED Public Outreach Program

We are thrilled to announce our new LED Public Outreach and Education program, generously funded by the RiverStyx Foundation. The program is headed up by our new hire Katherine Gader, who is also our new Chapters program coordinator.

As many of you know, LEDs are transforming the way we light our cities and towns, offering a once-in-a-lifetime opportunity to radically improve energy use and the quality of nighttime outdoor spaces. With this opportunity comes an obligation to manage these changes responsibly and sustainably. The stakes are high and the potential rewards great, but outcomes depend on policymakers and the public making informed decisions based on evidence and best practices.

“We are so excited to be a partner with IDA on this important project,” noted RiverStyx Foundation Program Officer Cody Swift, “and hope to see real on-the-ground changes in the way communities and municipalities embrace the rapidly evolving world of LEDs.”

IDA’s goal is to reach municipal governments considering transitioning to LEDs and make them aware of the importance of using warmer temperature (3000 Kelvins or below) outdoor lighting. Currently, the program is funded for two years and has four objectives.

First, we are identifying three communities in the U.S. to target for creating models of grassroots support and public policy to promote responsible lighting choices. Second, we will create a science-based educational and technical resource tool kit for use by IDA chapters, grassroots



organizations and community activists.

Our third objective is to conduct online technical workshops, educational programs, training seminars and other outreach efforts

to support agencies, communities, IDA chapters, and concerned citizens in the transition to dark sky friendly LED technologies. At least eight workshops will be held during the two-year grant period.

Finally, we will identify three cities in the U.S. to conduct outreach and support a “lights out for wildlife” program following existing models in Chicago, New York and Toronto, working with selected partners, such as the National Audubon Society, the American Bird Conservancy and Fatal Light Awareness Program.

By the end of the two-year project period:

- At least three municipalities in the U.S. will have increased knowledge of the importance of use of 3000K (or less) LED outdoor lighting,
- At least one of the targeted municipalities will have converted to night sky friendly outdoor lighting, serving as a model for other cities and towns in the U.S.,
- Lessons learned from the process will be utilized to inform future efforts in other locations,
- Through online webinars, at least 300 concerned citizens and/or community leaders will have increased knowledge of this issue and how to address it, and
- At least one larger city in the U.S. will have implemented a “lights out” program for wildlife.

IDA Asks for Member Feedback

As a member of the International Dark-Sky Association, your opinions and ideas are crucial in our shared mission to protect night skies! We really care about your feedback, which is why we recently asked you for your input in our first-ever comprehensive IDA member survey. We partnered with Megan Albaugh Bonham, a Ph.D. student in Sociology at Northwestern University.

The anonymous survey will provide critical information about our members and your interests that will be essential to informing and improving IDA's programs, operations, and membership program service and delivery.

It will also provide demographic and other data on our members to help us better understand who comprises IDA's membership and how we might expand and diversify our base and reach into new communities.

The official results won't be completed until the beginning of next year, but here are a few teasers from our written responses.

"Love the mission... And it's always seemed to be an ethical organization which used funds wisely and well."

"I believe that IDA will bring the stars back to everyone."

"I want to help protect the night sky but feel what I have learned from the IDA has been a major game changer for me. It would have taken me many years if ever to learn about the negative effects on blue light on humans."

"I totally agree 100 percent with your goals. I'm an 'environmentalist' and I love to sky-gaze."

"Combating light pollution is a critical need. Most importantly, it is about raising awareness about the issue as most people are not familiar with it."

"IDA is well poised to represent the community to do public outreach, education, and lobbying about these issues."

IDA Works with Japanese Officials to Designate First Dark Sky Park in Japan

In the last few days of May, IDA staffer John Barentine visited the Yaeyama Islands of southern Japan as the guest of Miyuki Miyazawa, a tour operator on Yaeyama's largest island, Iriomote. John was accompanied by IDA Tokyo chapter leader Nobuaki Ochi to inspect Iriomote-Ishigaki National Park, which is working toward applying for International Dark Sky Park status in 2017.

While in Yaeyama, the IDA delegation also met with representatives of Ishigaki City and Taketomi Town to seek support for the project and changes to local lighting policy in hopes of improving nighttime conditions in the national park. If the project is successful, it will lead to the first International Dark Sky Places designation in Japan.

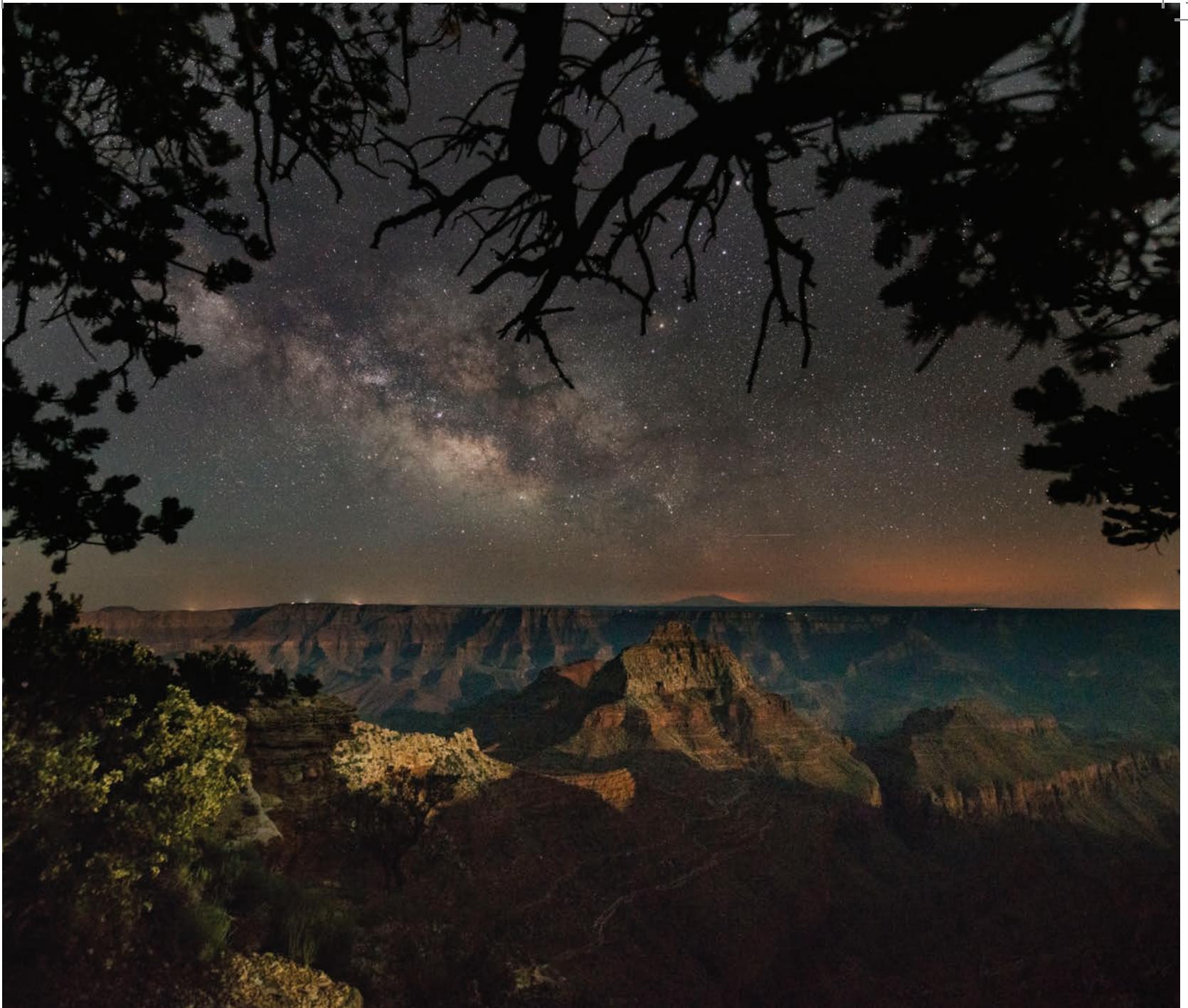
During part of their stay on neighboring Kohama Island, John and Nobuaki met with a group of summer

interns learning to give night sky tours to guests of the island's resort hotel. Many of the travelers come from bigger Japanese cities like Tokyo, and experience truly dark skies for the first time in their lives. On Ishigaki Island, staff at Ishigakijima Astronomical Observatory, part of the National Astronomical Observatory of Japan (NAOJ), showed off the 1.05-meter telescope used for public stargazing events and their theater showing NAOJ's "Four-dimensional Digital Universe Project" that visualizes celestial bodies and astronomical phenomena in both space and time.

Further meetings were held with staff from Japan Transocean Airlines on positioning dark skies stories in the company's in-flight magazine, and the IDA representatives examined a dark sky friendly lighting installation at a new seaside resort hotel on Ishigaki.



IDA Program Manager meets Ishigaki City Mayor, Yoshitaka Nakayama, at Ishigaki City Hall.



NPS Celebrates *100th Anniversary!*

This August marked the 100th anniversary of the National Park Service. That's 100 years of protecting U.S. national treasures, including dark night skies! With the help and support of the NPS Natural Sounds and Night Skies Division, IDA has recognized 15 NPS sites as International Dark Sky Parks, including Grand Canyon National Park, which was recently designated with provisional status. Thanks NPS for protecting night skies!

Natural Bridges National Monument, Utah (2007)
Big Bend National Park, Texas (2012)
Death Valley National Park, California (2013)
Chaco Culture National Historical Park, New Mexico (2013)
Grand Canyon-Parashant National Monument, Arizona (2014)
Hovenweep National Monument, Utah/Colorado (2014)
Capitol Reef National Park, Utah (2015)
Canyonlands National Park, Utah (2015)
Black Canyon of the Gunnison National Park, Colorado (2015)
Grand Canyon National Park, Arizona (2016)
Capulin Volcano National Monument, New Mexico (2016)
Flagstaff Area National Monuments, Arizona (2016)
Great Basin National Park, Nevada (2016)
Salinas Pueblo Missions National Monument, New Mexico (2016)
Big Cypress National Preserve, Florida (2016)

Grand Canyon National Park, a new IDA
Dark Sky Park. Photo by Stan Honda.



Warrumbungle National Park in Australia, a new IDA Dark Sky Park. Photo by Katherine McInroy.

Dark Sky Places Program Still Going Strong

Our International Dark Sky Places program is having another great year! As of this writing, IDA has designated 15 new International Dark Sky Places in 2016. Here are some of the highlights.

Cosmic Campground International Dark Sky Sanctuary, New Mexico

The nearest significant source of electric light to the site is more than 40 miles (65 km) away and across the border of neighboring Arizona. Coupled with ready accessibility by road and typically clear, dry weather conditions at moderate altitude, the Campground could become a new mecca for amateur astronomers and casual stargazers seeking a one-of-a-kind experience under the stars.

International Dark Sky Sanctuaries are public or private lands possessing an exceptional or distinguished quality of starry nights. Their dark nighttime conditions are specifically protected for their scientific, natural, educational or cultural value, and are often located in some of the most remote and undeveloped parts of the world. Sanctuary designations are made by IDA to increase awareness of these fragile sites and promote their long-term conservation.

Warrumbungle National Park, Australia

Warrumbungle, located in west-central New South Wales (NSW), is our first Dark Sky Place in Australia. The designation helps protect the key role the area plays in Australian astronomical research. Dark sky qualities will be protected with \$100,000 in funding to control light pollution through implementation of updated planning policies. A new Dark Sky Planning Guideline has also been developed with the Australian Astronomical Observatory as part of the NSW government's review of state planning policies.

Grand Canyon National Park, Arizona

Grand Canyon was a milestone for IDA and the National Park Service. Of all applications from across the globe, Grand Canyon's is one of the most complex IDA has seen, and includes an inventory of thousands of light fixtures on both rims and the inner canyon. Having "provisional" status gives Grand Canyon an additional three years to retrofit two-thirds of the park's lights to comply with IDA's stringent lighting guidelines. At the time Grand Canyon submitted its application, about 43 percent of the park's lights already met IDA criteria. Grand Canyon plans to complete the necessary lighting improvements to receive full IDA Dark Sky Park certification in 2019 — the 100th anniversary of the national park.

2016 DARK SKY PLACES

DARK SKY COMMUNITIES

Big Park / Village of Oak Creek, Arizona, U.S.

Moffat, Scotland

DARK SKY PARKS

Ballycroy National Park & Wild Nephin Wilderness, jointly recognized as Mayo International Dark Sky Park, Ireland

Big Cypress National Preserve, Florida, U.S.

Capulin Volcano National Monument, New Mexico, U.S.

Dead Horse Point State Park, Utah, U.S.

Flagstaff Area National Monuments (Sunset Crater Volcano, Walnut Canyon and Wupatki), Arizona, U.S.

Goblin Valley State Park, Utah, U.S.

Grand Canyon National Park, Arizona, U.S. (provisional status)

Great Basin National Park, Nevada, U.S.

Kissimmee Prairie Preserve State Park, Florida, U.S.

Salinas Pueblo Missions National Monument, New Mexico, U.S.

Warrumbungle National Park, New South Wales, Australia

DARK SKY RESERVE

South Downs National Park, England

DARK SKY SANCTUARY

Cosmic Campground International Dark Sky Sanctuary, New Mexico, U.S.

IDA to Help Host ALAN 2018

The 2018 ALAN conference and IDA Annual General Meeting will be held in November in Snowbird, Utah, pictured here.



We are excited to announce that IDA is partnering with the University of Utah to host the 5th International Artificial Light at Night (ALAN) conference in 2018.

The 5th ALAN conference will be held November 12-14, in Snowbird, Utah. Prior to the conference, IDA will host its 2018 Annual General Meeting, November 10-11 at the same venue.

The first ALAN conference was held in 2013 in Berlin. The three-day event was sponsored by Verlust der Nacht (the "Loss Of The Night" Network) and co-sponsored by IDA. Since then, the gathering has been held in Leicester, UK; Sherbrooke, Canada; and Cluj-Napoca, Romania.

The ALAN conference series is a multidisciplinary forum that brings together a diverse group of researchers from across the globe. The series is dedicated to examining all aspects of artificial light at night.

IDA was well represented at the 4th ALAN meeting held in September 2016, in Cluj-Napoca, Romania. Posters and presentations were given by IDA International Dark Sky Places Program Manager John Barentine, former IDA Board Member Christopher Kyba, and current Board Members Kellie Pendoley, Tim Shotbolt and Connie Walker.



Our Stunning Dark Sky Places Annual Calendar is Back!

Our annual calendar is back with more stunning night sky photos of IDA Dark Sky Places taken by renowned photographers from across the globe. This year we ran a photo contest and were really pleased by all of the incredible images that were submitted. Thanks so much to the photographers for donating the use of their images!

How to Get the Calendar

For a gift of \$50 dollars or more, you will help IDA save night skies and get our beautiful calendar. And don't forget, these gorgeous calendars make great holiday gifts.



A Watershed Moment in the History of the Dark Skies Movement

For the past six years, IDA has sounded the alarm about the environmental and health impacts of blue-rich white LED street lighting that is replacing older technologies in cities across the globe. This year, our guidance on LED lighting, first issued in 2010, was affirmed by two groundbreaking reports.

The recent landmark American Medical Association (AMA) report, "Human and Environmental Effects of Light Emitting Diode Community Lighting," raises health concerns about exposure to blue-rich white

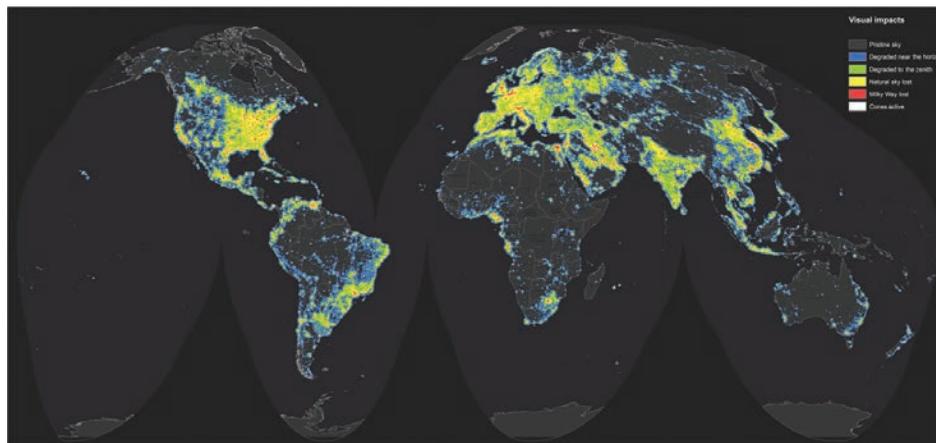
LED lighting and recommends "minimizing and controlling blue-rich environmental lighting by using the lowest emission of blue light possible."

Findings from the newly published "World Atlas of Artificial Night Sky Brightness" indicate that blue-rich white LED lighting is about 2.5 times more light-polluting than traditional high-pressure sodium light fixtures. According to the study's authors, "unless blue-light emission is restricted, a transition toward this technology can be expected to

more than double the night sky brightness." This finding is especially troubling in light of the World Atlas conclusions that "more than 80% of the world and more than 99% of the U.S. and European populations live under light-polluted skies."

Together, the AMA report and World Atlas findings represent a watershed moment in the history of the dark skies movement.

They offer an unprecedented opportunity to implore cities to transition to LEDs in the most environmentally responsible way possible. This is why we are urging you to help us change the debate on LEDs by contacting community leaders, elected officials, and other policy makers to insist that they adopt the AMA recommendations.



World map of artificial sky brightness. This map shows, in twofold increasing steps, the artificial sky brightness as a ratio to the natural sky brightness.

Enter Raffle to Win a One-of-a-Kind Night Sky Print



We are so grateful to astrophotographer Matthew Dieterich, who is donating two prints for an end-of-year raffle. Those who give a gift of \$5,000 or more will be entered in a raffle to win one of two spectacular prints of star trails over Mount Rainier. The image was selected by the U.S. Postal Service as one of its Forever Stamps celebrating the National Park Service Centennial (see page 3). The 16" x 24" aluminum metal prints are only two of eight artist proofs. Raffle winners will be announced on January 1, 2017.

IDA Chapters Doing Incredible Work

We are so proud of the work of our IDA Chapters! They are an essential part of IDA's mission to protect night skies and are on the ground doing important grassroots work.

Currently, we have more than 50 chapters across the globe and our Chapters program continues to grow, especially internationally. At present, we have 18 new chapter applications that include Tasmania, Ukraine, Nicaragua, Punjab, Argentina, and from several different locations in Mexico.

We are also excited about our new Chapter Coordinator, Katherine Gader, who is working hard to help Chapters continue their important work.

Here are some highlights of the great things our Chapters are doing.

U.S.-BASED CHAPTERS

District of Columbia

The D.C. chapter has been communicating with the D.C. Department of Transportation and the D.C. Department of Energy and Environment via meetings and a letter to advocate for dark sky friendly LED fixtures when the city replaces its 70,000 streetlights. The chapter is also working with the technical advisory committees of D.C.'s Green Construction Code and the outdoor signage lighting code to tighten the language on allowable lighting. The chairman of the Green Construction Code committee has responded positively to recommendations for shielded and 3000 Kelvins outdoor lighting. Chapter members have also engaged in several public outreach efforts.

Duluth, Minnesota

The one-year-old chapter is currently working on getting the city to install dark sky friendly lighting. Chapter representatives launched a petition and have met with the city's mayor.

Geneva Lake, Illinois

The chapter was successful in getting lighting ordinances passed in Fontana and Williams Bay, Illinois. It has also been working with the Environmental Education Department, Water Safety Patrol, Lake Geneva Nature Conservancy, and Village of Williams Bay on dark sky awareness and with the Kishwauketoe Nature Conservancy on a Dark Sky Park designation.

Hawaii

Last year the city and county of Honolulu issued a Request for Proposal for converting all of the area's 53,500 streetlights to LEDs. Full cutoff and 4000 Kelvins were specified. After the chapter raised concerns, the city and county issued another RFP specifying 4000 Kelvins

for highways and 3000 Kelvins for residential streets, with dimming capability included.

San Bernadino County, CA

The chapter's 2016 efforts have been ongoing with outreach messages on its website, Facebook page, and through the various programs and shows it produces. Its Astronomy Theater hosts a variety of shows that are all centered on an astronomy experience.

The chapter was able to revitalize the San Bernardino County Supervisors' interest in updating the county lighting ordinance, which is now underway. Community leaders have come together to form the Dark Sky Committee under the guidance of the district supervisor and includes members from Joshua Tree National Park and the U.S. Navy. The chapter is also working with Joshua Tree National Park on a Dark Sky Park designation.

Ogden Valley, Utah

The chapter participated in the founding of the Committee for Dark Sky Studies, a multi-institutional group administratively based at the University of Utah. The chapter also has representation on the committee for the 2018 Artificial Light at Night Conference to be held in Snowbird, Utah.

Pinal County, Arizona

Chapter leader Keith Krueger has been using materials from IDA's former "Save Our Stars" program with the help of the Superstition Mountain Astronomical League to educate the public and city officials about light pollution and good lighting.

Port Chester, New York

Chapter leader Charles Fulco has been traveling the country for NASA to educate people about



During the 2016 Texas Night Festival®, students of Kelly Garner's elementary school class create models that demonstrate how eclipses work. Photo by the Texas Night Sky Festival Team.

the upcoming solar eclipse. His presentations also include dark sky education.

Santa Barbara, California

The chapter is currently working with schools where astronomy is required in grades 3, 5, and 8 to include light pollution education.

Texas

IDA Texas has been busy across the state. The chapter is currently planning the second annual Night Sky Festival®, which will be held March 18, 2017. A day after the festival, they are holding an "All Texas" meeting for chapter members and dark sky advocates. The chapter is also working on numerous Dark Sky Places applications throughout the state, engaging in several public outreach activities, and trying to

convince the city of Houston to implement its planned LED retrofit using lower temperature lighting.

Virginia

The Virginia Chapter has been conducting public outreach, including participating in events and talking with local officials about good lighting. It has also been working with the county of Powhatan to enforce its lighting ordinance, and its members have made several trips to Belmead Plantation in Powhatan and

James River State Park to help with efforts for Dark Sky Park designations

INTERNATIONAL

Austria

The chapter participated in the changeout of 150,000 street lights in Vienna. The city is mapping and monitoring the carbon equivalent of "uplight" using helicopter surveys of all the lights in Vienna.

Beijing, China

To promote dark sky protection in China, the chapter organized volunteers to translate nine IDA documents into Chinese. This included IDA Dark Sky Places standards, which are now being used to establish several dark sky places including the Dark Sky Reserve of Ali, the Dark Sky Park of

Naqu and the Dark Sky Theme Park of Chongqing.

The chapter also submitted the first proposal to the 12th Chinese People's Political Consultative Conference focusing on nighttime environment.

Greece

The recently-established Greek chapter is already working towards the first Dark Sky Park in Greece, which will be its number one priority for the coming year.

Mexico

The chapter helped convince the city of Ensenada to convert all street lighting to 3000 Kelvins within the next five years in communities that are 100 kilometers or closer to the National Observatory. It is also working with Tijuana on a dark sky friendly lighting ordinance.

At the national level, there is a draft proposal to modify the national environmental law to include light pollution, which is expected to be approved in late 2016 or early 2017. In December, there will be a national astronomy event called "Noche de las Estrellas," focusing on night sky protection. The chapter expects the participation of 60 cities, with at least 200,000 people attending. The chapter participated in an international meeting with UNESCO about the inclusion of light pollution in the UNESCO Habitat program for 2030.

Québec

After a six-year effort, IDA Quebec succeeded in helping pass the BNQ 4930-100 "Outdoor lighting – Control of light pollution" standard. The new standard proposes four lighting zones and covers all of Québec. It comes as a culmination of the previous stage – the AIR Regulation developed with the International Dark-Sky Reserve of Mont-Mégantic and AQME (Association Québécoise pour la Maitrise de l'Énergie).



The Milky Way shines above the telescope domes of Shiquanhe Observatory in the Ngari prefecture of Tibet, situated in one of the naturally darkest areas on Earth. The IDA Beijing Chapter is working to get this area designated as the Dark Sky Reserve of Ali.

IDA Member Shares Reflections on the Night Sky

We were so excited and thankful when David Hochman, an IDA member of 12 years, wrote us recently to share these beautiful thoughts.

My wife and I are residents of New York City, where light pollution is as intense as anywhere on the planet.

One day a couple of decades ago, when our kids were very young, we all were attending a program at our synagogue designed to introduce toddlers and preschool children to the Jewish holidays and traditions. Our rabbi got on the subject of the patriarch Abraham, reminding the kids we are all his descendants. In fact, she said, the Bible (Genesis 15:5) tells us that Abraham was promised as many offspring as there are stars in the sky.

So, asked the rabbi, as a way of making that discussion more concrete for the kids, "How many stars are there in the sky, children?"

Being of our generation, she no doubt was expecting a Carl Sagan-like answer of "billions and billions!" Slowly, a couple of kids put their hands up, and the rabbi recognized them in turn for their answers.

"Uh, two?" asked one child. "Three!" shouted another in triumph. That was pretty much the confident consensus

among these City kids: fewer offspring for Abraham than fingers on a hand. Lesson fail!

None of them had ever experienced a sky full of stars. When we thought about it, we realized they'd never seen much more than the Moon, a planet or satellite or two, and maybe on an exceptionally clear night the two or three very brightest stars. It wasn't a matter of not understanding what the Milky Way is: they'd never seen it at all.

That's when we knew we were living a problem, and it's the reason I eventually joined the IDA. Maybe New York City itself will never get much better for star-gazing than it is now, but there's still an opportunity to help much of the rest of the country do right by the universe.



Thank You

We, the IDA staff, are so thankful for all of your support! Our small staff couldn't protect night skies without you. We are so grateful!

Top from left to right: John Barentine, Cheryl Ann Bishop, Susan Ciarniello and Scott Feierabend. Bottom from left to right: Katherine Gader, Heidi Herboldsheimer and Pete Strasser.

IDA Welcomes New Staff Members

Katherine Gader, IDA Chapter Coordinator & LED Program Coordinator

Katherine holds a B.A. in International Studies from the University of Colorado at Denver and enjoys getting to know people's unique perspectives on life. She's been working in community relations and outreach for more than six years and is excited to be working with people from different cultures across the globe to most effectively protect our night skies. Her hobbies include aquaponics, raising chickens and being a supportive step-mom. Katherine's Chapter Coordinator position is funded by a grant from the V. Kann Rasmussen Foundation and the LED Coordinator position funded by the RiverStyx Foundation. IDA is very grateful for the generous support of both foundations!

Heidi Herboldsheimer, Graphic Designer & Webmaster

Heidi has a keen interest in ecology, sustainability, being outdoors as much as possible, and from a young age had a great fascination with the night sky. Along with her graphic design work, Heidi has taught art for the past six years, often integrating ecology and astronomy. Her thesis for her M.A. in Art and Visual Culture Education at the University of Arizona is titled, "Integrating Ecology into the Art Classroom." Heidi's undergraduate degree is in Visual Art with a concentration in Graphic Design from the University of Northern Colorado. Beginning her graphic design career for USA Swimming during the Beijing Olympics, she continued working for a variety of businesses and art museums, including designing corporate identities for business startups.

Pete Strasser, Technical Director

After a five-year hiatus, Pete returned to his position in 2016 as the IDA Technical Director. In this role, Pete oversees the IDA Fixture Seal of Approval program, which certifies compliant lighting products as "dark sky friendly," and educates the public and the lighting industry about smart lighting choices. Pete served on the Illuminating Engineering Society of North America (IESNA) – IDA joint Model Lighting Ordinance task force, for which he received the IESNA President's Award. Currently, Pete serves on the IESNA Research Committee and is chairman of the International Commission on Illumination Technical Committee on the Effects of Artificial Light and the Natural Environment.



Galloway International Dark Sky Park, Scotland (Established in 2009)

Galloway Forest Park is located in southern Scotland in the Dumfries and Galloway council area and is the UK's largest forest park at 78,000 ha (192,700 ac). Approximately 20 percent of the park has been set aside as a central "core" for preservation of dark skies and wildlife, with a policy of no permanent illumination.

Photo by Dave Currie



CHAPTERS

Australia, Österreich/Austria, Canada (4), República de Chile/Chile, Česká Republika/Czech Republic, 中国/China(4), India, Éire/Ireland, ישראל/Israel, Ελλάδα/Greece, 香港/Hong Kong, Magyarország/Hungary, Italia/Italy, 日本/Japan, Repubblika ta' Malta/Malta, México/Mexico, Schweiz/Switzerland, Slovenija/Slovenia, South Korea (3), Sverige/Sweden, United States (38)

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