

Shooting for the Stars: 2019 Annual General Meeting & Conference

From small steps to giant leaps, practical tips for advocacy and action to protect the night.

Friday, November 8 - Celebrate the Night

The Annual General Meeting will kick-off in the morning with a town hall-style membership forum lead by IDA Board and staff, followed by dark-sky-themed round-table discussions between IDA leaders and members. Friday's conference sessions focus on the knowledge, skills, and tools that help us strengthen our advocacy and build awareness about the need to protect the night. Sessions are organized around strategies to build coalitions, ways to strengthen communications, how to share the benefits of night sky protection, and keeping up the dark sky momentum. Friday will conclude with an evening of dark sky celebration where we'll honor our 2019 IDA Award recipients.

Saturday, November 9 - From Awareness to Impact

Saturday's sessions move attendees from dark sky awareness to a focus on impact through action. Sessions are organized around how science informs sustainable change, the many ways the movement is using data to address light pollution, a keynote address, and light pollution solutions. Programming wraps up with "sage advice" where a panel of seasoned dark sky advocates offers supportive feedback to an incoming advocate. IDA's Executive Director will send-off attendees with an inspirational call-to-action. Attendees can choose to attend a Saturday evening star party at Quail Creek-Veterans Municipal Park or a night astronomy program at Mount Lemmon SkyCenter (registration required).





2019 IDA Annual General Meeting Program Shooting for the Stars

Tucson, Arizona | November 8 - 9, 2019 Tucson Marriott University Park

Friday November 8

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8:00am	Registration Opens
Foyer	Attendee registration opens at 8am. Help yourself to coffee, tea, and light refreshments while you settle in for the day.

9:00am - 10:45am IDA General Meeting

Join IDA Board of Directors, Committee Chairs and staff as we kick off the conference with the Annual General Meeting. This session includes reports to the membership from IDA leaders as well as interactive discussions about the future of the organization and the dark sky movement.

9:00am - 10:00am Sabino-Pima	Membership "Town Hall" (60 mins) IDA leaders share successes and challenges faced by the dark sky movement and answer your questions about our future.
10:00 - 10:45am	Round Table Discussion (45 mins) Help IDA shape our future! Small group discussions with IDA leaders will
Sabino-Pima	explore our most pressing issues, and your solutions to address them.

10:45am - 11:15am	Break	
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11:15am - 12:30pm

Workshops: Strength in Numbers

One person *can* change the world, but many people working together can change it much faster. These interactive workshops explore some of the ways that the dark sky community has invited new constituents to the table to help our work have greater impact. **Choose one workshop to attend.**



11:15am - 12:30pm Sabino	Right vs. Effective: How to Get Over Ourselves to Get More People on the Dark Sky Team (75 mins) No matter who you are, you can connect Dark Sky preservation to something you value. The trouble is, in a politically fractious time, it's challenging to understand the values of people who seem different than us. When we stick with people who think and look just like us, we may be more comfortable, but we're less effective. This workshop will use 5 values categories (from Haidt's Moral Foundations Theory) to help participants identify and articulate their own values regarding Dark Sky advocacy. Participants will then explore perspectives of various stakeholders, some with potentially challenging political/personal perspectives, and draft responses and approaches that increase the number of people who work to protect natural night. Attend this session if you want to learn how to earnestly identify, respect, and invite diverse stakeholders into the dark sky movement. Led by: Jess Cleeves, IDA Board of Directors and University of Utah
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11:15am - 12:30pm Pima	Joining the Dark Side: Capturing Unexpected Allies in Dark Sky Protection (75 mins) The only Dark Sky Reserve in the U.S., the Central Idaho Dark Sky Reserve, was built on two decades of collaborative advocacy. City and county leaders, Forest Service staff, nonprofit organizations, and local residents brought a wide range of interests spanning geographic, cultural, and political divides. After recognition in 2017, the Reserve is still exploring how to facilitate continued interest in dark sky protection. With input from participants, we'll generate new ideas for addressing challenges and working with partners in our respective communities. Attend this session if you are working toward International Dark Sky Place recognition and trying to figure out how to build a coalition. This workshop is an opportunity to explore best practices and share your experiences. Led by: Carol Cole, Central Idaho Dark Sky Reserve; Steve Botti, Mayor of Stanley, Idaho; Kirk Flannigan, Sawtooth National Recreation Area Ranger.
11:15am - 12:30pm <i>Madera</i>	From One to Many Building a Dark Sky Coalition (75 mins) What does it take to start a movement? Join us as we explore the key ingredients for building a successful dark sky coalition and address the challenges of advocacy. We'll use the Fountain Hills Dark Sky Association as a model for building dark sky community engagement and help participants navigate their own experiences with community organizing. Attend this session if you are new to the movement and want to learn how



to gain widespread community support, recruit talent, and take awareness of dark sky conservation to a new level.
Led by: Bettymaya Foott, IDA Director of Engagement with Joe Bill, Fountain Hills Dark Sky Association

12:30pm - 1:00pm West Foyer	Lunch Lunch will be served 12:30pm - 1:00pm in the West Foyer. Enjoy in Sabino-Pima while we kick off our afternoon session.
1:00pm - 2:00pm	Plenary Address
Sabino-Pima	Communication is not Logical it's Biological! (60 mins) As a committed dark sky champion, you have a vision and important goals. How well you communicate that vision, your emotional intelligence and influence ability, are the number one predictor of your success. Period. You will leave this fast-paced, fun, authentic and inspiring session with a new understanding of the fundamentals of the neurobiology of effectively communicating with those you manage, your peers and your community for the outcomes that you most want to achieve. Led by: John Bates, Executive Speaking Success

2:00pm - 2:30pm

2:30 pm - 3:05pm / 3:25pm - 4:00pm

Rapid Fire Sessions: The Night Sky Benefits Us All

From ecology to economics; wildlife to quality of life; astronomical studies to artistic expression... the night sky, filled with stars, is a resource that benefits all living things. **Choose one "rapid fire" session** from each set below to get just a taste of the many ways we share the benefits of the night sky.

2:30 pm - 3:05pm	Wild Nights! (35 mins) Many animal species depend on the natural nighttime environment to
Sabino	move and migrate. Under the cloak of darkness, wildlife may go unnoticed. In a light-polluted environment, everything changes. Let's get to know the creatures of the night with an interactive sound-based 'pop quiz', understand how light pollution puts them at risk, and explore ways to partner advocacy for biodiversity with advocacy for dark skies. Attend this session if you want to connect with the wild side of the night.



	Led by: Erica Prather, Defenders of Wildlife
2:30 pm - 3:05pm	Sharing the Dark Sky Narrative (35 mins) There is no one right way to be a dark sky advocate, and this interactive
Pima	presentation will share narratives from individuals and entities that have become stewards of the night in their own unique ways. The Colorado Plateau Dark Sky Cooperative and newly formed Basin & Range Dark Sky Cooperative work together to build a common sense of pride in and stewardship of our dark and starry skies. The unique actions of individuals, state agencies, federal agencies, non-profits, businesses, and communities throughout the world illustrate how stewardship of dark skies is embraced in different ways by different people.
	Attend this session if you want to learn about dark sky stewardship in a fun interactive medium.
	Led by: Randy Stanley and Ashley Pipkin, US National Park Service
	Note: Attendees are encouraged to bring a laptop, tablet, or smartphone.
2:30 pm - 3:05pm	The Five Thousand Star Hotel (35 mins) Grand Canyon National Park Lodges recognizes that dark skies are good
Madera	for business. The company has worked with Grand Canyon National Park over the last several years to retrofit lighting of its guest facilities and support dark sky conservation initiatives. In this session, you'll learn about the benefits of dark skies from a business perspective and how to encourage local businesses to apply lighting solutions to protect the night.
	Attend this session if you want to learn how to pitch the benefits of dark sky conservation to local businesses.
	Led by: David Perkins, Grand Canyon National Park Lodges

3:25pm - 4:00pm	Astrophotography in our National Parks and Public Lands of the American West (35 mins)
Sabino-Pima	Take a night sky journey through some of the most iconic places of the western United States featuring meteor showers, comets, the Milky Way, and lunar and solar eclipses. As we explore the stories behind these images, you'll learn about the importance of protecting the night from an astrophotograher's perspective.
	Attend this session if you want to learn how natural darkness benefits photography and enjoy views of our night sky through astrophotography and cinematic videos.



	Led by: Jeremy Evans, Photographer, Filmmaker, IDA Delegate
3:25pm - 4:00pm	Look Up (35 mins)
Madera	Since becoming designated in 2018, the Middle Fork River Forest Reserve, just 150 miles outside of Chicago, has worked to educate the public about how light pollution affects mammals, insects, birds, and humans. The team recently launched an astrotourism campaign, encouraging people to come out after dark and look up!
	Attend this session if you want to learn how to promote astrotourism and engage your community in nighttime activities.
	Led by: Lisa Sprinkle and Matt Kuntz, Middle Fork River Forest Preserve

4:00pm - 4:15pm	Break		
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4:15pm - 5:15pm

Workshops: Mass in Motion

If momentum is mass in motion, how do we keep the masses engaged in our work? These workshops focus on effective ways to activate a community and build momentum toward effective night sky protection. **Choose one workshop to attend.**

4:15pm - 5:15pm	Dark Sky Motivation - Thinking Outside the Box (60 mins) Take a look at some of the more unusual ways to spread dark sky
Sabino	awareness during this interactive game-show format presentation. We'll explore which ideas have worked, which ones have bombed, and why.
	Attend this session if you are ready to think outside the box and explore creative and unusual ways to spread awareness about light pollution.
	Led by: John Ashley, IDA Montana
4:15pm - 5:15pm	The Squeaky Wheel (60 mins)
D:	While light pollution increases all around the world, the town of Borrego
Pima	Springs (an International Dark Sky Community) has maintained the quality of its dark sky. How? Well, to put it bluntly, they nagged (in a friendly way!) Resolute commitment from the Borrego Springs Dark Sky Coalition has kept the night sky front-of-mind for local businesses, residents, and decision-makers.
	Attend this session if you want to learn how to keep growing momentum for dark sky protection.



	Led by: Grace Rickard, Borrego Springs Dark Sky Coalition
4:15pm - 5:15pm <i>Madera</i>	Engaging Communities in Change (60 mins) Research increasingly shows that artificial light at night can be deadly for migratory birds. The National Audubon Society is working with communities across the U.S. to restore the dark night sky, with a focus on cities that are especially risky for birds. The organization has found that making a community more bird-friendly, while also working towards its sustainability goals, presents municipal leaders with an enticing win-win situation for both human and feathered residents. Attend this session if you want to learn how to build non-traditional coalitions to create effective change in your community. Led by: John Rowden, National Audubon Society
5:15pm - 7:00pm Offsite	Dinner Break Did you know that Tucson is a UNESCO City of Gastronomy? Check out a nearby restaurant for some great local food!
7:00pm - 8:30pm <i>Terrace</i>	IDA Awards Reception Please join us for an evening of dark sky celebration! We'll honor the 2019 IDA Award recipients and recognize the important members of our community. We'll have exciting dark sky items available for bid in our silent auction and desserts and drinks will be served.



Saturday, November 9

Saturday's sessions move attendees from dark sky awareness to a focus on impact through action. Sessions are organized around how science informs sustainable change, the many ways the movement is using data to address light pollution, a keynote address, and light pollution solutions. The event wraps up with "sage advice" where a panel of seasoned dark sky advocates offers supportive feedback to an incoming advocate. IDA's Executive Director will send-off attendees with an inspirational call-to-action. Attendees can choose to attend a Saturday evening star party at Quail Creek-Veterans Municipal Park or a night astronomy program at Mount Lemmon SkyCenter (registration required).

7:00am Foyer	Registration Opens Attendee registration opens at 7am. Help yourself to coffee, tea, and light refreshments while you settle in for the day.
8:00am - 8:45am	Plenary Address
Sabino-Pima	From Awareness to Action: Three Decades of Night Sky Advocacy (45 mins) Solving light pollution is as simple as flicking a switch – or changing a lighting fixture. So why is the problem growing? The dark sky movement has come a long way in the past three decades but we still have a lot to achieve. In this interactive address, we'll take a look at some of the unique challenges of dark sky conservation and explore a collective, action-based model for how we can achieve our vision.
	Led by: Chad Moore, IDA Technical Committee Chair

8:45am - 9:15am	Break
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9:15am - 10:30am

Workshops: Science into Action



If you're looking to bring change to your community, it's best to have science on your side. These workshops will showcase how science can inform bold action to protect the night. **Choose one workshop to attend.**

9:15am - 10:30am Sabino	Evidence, Emotions, Decisions: The Role of Science in Outdoor Lighting Policy (75 mins) What is public policy? How is it made? How can science influence policy, and when does evidence come up short in influencing decision makers? Learn how science informs IDA positions on lighting and public policy issues, how evidence drives emotional responses, and how what we do and don't know about light pollution drives our collective work to create change. Attend this session if you want to know more about how science and evidence inform public policymaking. Led by: John Barentine, IDA Director of Public Policy and Pete Strasser, IDA Technical Director	
9:15am - 10:30am Pima	Data + Awareness + Action (75 mins) How did a small team at Truman State University successfully advocate for changing lights on their campus and in their community? Learn about the three-step process, led by IDA Missouri Chapter member, Vayujeet Gokhale: 1) quantify the problem with data, 2) bring awareness to the issue, 3) push for bold action. Attend this session if you want to learn the formula to advocate for bold action in your community. Led by: Vayujeet Gokhale, IDA Missouri	
9:15am - 10:30am <i>Madera</i>	STEM & The Night (75 mins) Science, technology, engineering, and math have an important role in the dark sky movement. This workshop explores some of the ways we can engage young (and young-at-heart!) minds in night sky protection. Attend this session if you are interested in participant-based learning about light pollution. Led by: Connie Walker, IDA Education Committee Chair and Andreas Papalambrou, IDA Greece	



10:30am - 10:50am	Break
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10:50am - 11:25am / 11:40am - 12:15pm

Rapid Fire Sessions: Databytes

These bite-sized sessions explore advances in how we use data to understand, analyze, and engage with the night. **Choose one "rapid fire" session** from each set to learn how data can be integrated into advocacy.

advocacy.	
10:50am - 11:25am Sabino	Creating a Connection Between Light Pollution Maps and the Night Sky (35 mins) How do we create a connection to the night sky that sticks with the general public and encourages them to change their behaviors to protect the night? Join us to learn how to leverage Bortle scale images with free online tools like Stellarium to create impactful visualizations and hands-on learning experiences for every age. Attend this session if you want to jumpstart your hands-on teaching and learn about free online tools to create a meaningful connection to the night sky. Led by: Amy Oliver, Center for Astrophysics Harvard & Smithsonian, Fred Lawrence Whipple Observatory
	Note: This session uses online resources. A personal laptop is encouraged.
10:50am - 11:25am Pima	Whose Skies are Darkest? (35 mins) Did you know that natural sources of light from celestial objects and airglow can result in Bortle scale readings up to four - without any artificial light? The Sky Quality Meter is an effective tool to measure the brightness of an area, but to report accurate measurements of artificial light you need to understand the natural variations in night sky brightness. Attend this session if you want to understand how to identify light pollution by knowing what variations of light contribute to the natural night sky. Led by: Al Grauer, Catalina Sky Survey, University of Arizona
10:50am - 11:25am <i>Madera</i>	Illustrating the Night: How GIS Bridges the Gap Between Information and Advocacy (35 mins)



Geographic information systems (GIS) has the capability to bridge the gap between dark sky advocates and their communities. Light occupies space at different intensities and colors, so understanding where the source of the light (fixture) is located in relation to other sources is valuable in determining the overall progress a community has made (or needs to make) to ensure that their lighting choices are having a minimal impact on the surrounding dark skies. GIS can help solve many of these questions, especially with the assistance of this community of experts to help guide the type of information which would help accomplish this work in the most effective way possible.

Attend this session if you're interested in understanding how implementing a robust data collection process at the beginning of a project can support a more efficient, cost effective, and community-supported lighting design in support of dark skies initiatives.

Led by: Michael Torre, Evari GIS Consulting, Inc.

11:40am 12:15pm Sabino	Measuring Skyglow in Central Oregon by SQM, Photographic and Satellite Methods (35 mins) State-wide effort to measure, analyze, and communicate the meaning of night sky brightnessOur primary aim is to quantitatively measure, interpret, and publicize skyglow measurements in Central Oregon to (1) measure our current levels of light pollution and (2) document changes over the next few years. The skyglow data will help inform action toward reduced light pollution. The data will also support specific local efforts to achieve status as IDA dark sky areas. Attend this session if you want to create a sky quality measurement program as a foundation for dark sky advocacy in your community. Led by: Michael McKeag, IDA Oregon; Bill Kowalik, IDA Oregon
11:40am 12:15pm Pima	Crowdsourcing the Dark Sky Map (35 mins) How can data make the night more accessible? Dark sky advocates will find an alternative approach to mapping light pollution using crowdsourced data of the Bortle scale readings.



	Attend this session if you want to learn about darkskymap.com, a website to help locate the best night sky observation places, and lessons learned in building this tool. Led by: Sujay Patil, Panzara Labs
11:40am 12:15pm	Fueling Outreach with New Data (35 mins)
	The most effective outreach comes on the heels of new research. The
Madera	general public delights and engages with the night when given new facts drawn from fresh data. With this in mind, dark sky advocates set out to create a nighttime map of Pittsburgh. Learn about the options they explored for data collection to not only net the result they wanted, but also add a "wow" component to fuel public education and outreach.
	Attend this session if you're interested in leveraging data to drive public interest in dark sky protection.
	Led by: Diane Turnshek, IDA Pittsburgh

12:15pm - 12:45pm West Foyer	Lunch Lunch will be served 12:15pm - 12:45pm in the West Foyer. Enjoy in Sabino-Pima while we kick off our afternoon session.
12:45pm - 1:45pm	Nocturne Story Hour: The Stars are Personal
Sabino-Pima	Each of our relationships with the night and its star-filled sky is personal and unique. A series of personal stories from IDA members will inspire you, make you laugh, and deepen your connection to our work.

1:45pm - 2:15pm	Break
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2:15pm - 2:50pm / 3:05pm - 3:40pm

Rapid Fire Sessions: Light Pollution Solutions

From awareness to action, these "rapid-fire" sessions offer a template for effective solutions and actions YOU can take to mitigate light pollution in your community. **Choose one session** from each set to learn about light pollution solutions.

2:15pm - 2:50pm	Science and Activism in Inyo County (35 mins)



Sabino	Even small towns can have a big impact on the night sky. But in Inyo County, CA, advocacy and action with local government, federal agencies, recreational activity providers, and community businesses has preserved the starry night sky. Attend this session if you're interested in joining an interactive discussion about the challenges and solutions identified to protect Inyo County's spectacular night sky. Led by: Dan Duriscoe, Night Sky Metrics, LLC and April Zrelak, Inyo County Dark Sky Group
2:15pm - 2:50pm <i>Pima</i>	How to Engage Your State Building Code Amendment Process to Promote Dark Sky Initiatives (35 mins) What does the International Energy Conservation Code have to do with protecting the night sky? Join this presentation to learn how to achieve inclusion of dark sky building code requirements in your state, and learn about a plan for achieving national regulations. Attend this session if you're ready to tackle commercial light pollution in your state, and beyond. Led by: Leo Smith, IDA Connecticut
2:15pm - 2:50pm <i>Madera</i>	The Red Lights of Colter Bay (35 mins) The future of lighting is changing in the United States, and this is just the beginning. One-of-a-kind lighting in the United States was installed at Colter Bay Village in Wyoming. Follow the struggles in completing an installation of over 30 lights, and the solutions that contributed to the success. We'll explore current research to understand the effect of light color and intensity on insects and bats and visitor response to the lights. Attend this session if you want to learn about new lighting from a federal land management perspective. Led by: Kristin Hendershot, U.S. National Park Service

3:05pm - 3:40pm	Tucson LED Street Lighting Retrofit (35 mins) In 2017, the city of Tucson, Arizona converted all city-owned street lights
Sabino	to LED with adaptive controls to dim the lights, while meeting International Dark-Sky Association, Federal Highway Administration, and American Medical Association guidelines and recommendations. Learn how this project became a success and the impact the conversion has had on the community.



	Attend this session if you want to learn how this project can be repeated in other cities and towns.
	Led by: Jessie Sanders, Tucson Department of Transportation
3:05pm - 3:40pm Pima	Criteria for Effective Lighting Ordinances (35 mins) Mitigate light pollution in your community by following IDA's eight criteria for effective lighting ordinances. We'll explore real-world challenges and the solutions applied. Attend this session if you want to learn how to draft and pass effective
	lighting ordinances for small towns.
	Led by: Valentine Szwarc, IDA Colorado
3:05pm - 3:40pm	Global Satellite Observations of Surface Lighting: From DMSP to VIIRS (35 mins)
Madera	A series of polar orbiting weather satellites have collected low light imaging data for the detection of clouds in the visible. These observations began in the mid-1970's with Operational Linescan System (OLS) sensor flown by the U.S. Air Force Defense Meteorological Satellite Program (DMSP). The OLS was succeeded by the NASA-NOAA Visible Infrared Imaging Radiometer Suite (VIIRS) starting in 2012.
	Attend this session if you want to learn about the history and current research being conducted with light pollution data.
	Led by: Chris Elvidge, Earth Observation Group, Payne Institute for Public Policy, Colorado School of Mines

40pm - 4:10pm	Break			
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4:10pm - 5:40pm Plenary Address: Bring Forth The Night		
4:10pm - 5:10pm	Sage Advice (60 mins)	
Sabino-Pima	To wrap up the program, we look for answers to some of our biggest challenges. How do we work across conflicting political views? How to encourage investments in nighttime protection? And how do we help people see the night as a vital resource worth protecting? A panel of seasoned dark sky advocates help us explore solutions to commonly faced hurdles in night sky protection.	
	Led by: Ashley Wilson, California Polytechnic State University and former	



	National Park Service Natural Sounds and Night Skies Division Intern, and Amanda Gormley, IDA
5:10pm - 5:45pm	Closing Remarks (35 mins)
0.1: 0:	IDA's Executive Director closes with an inspirational call-to-action.
Sabino-Pima	Led by: Ruskin Hartley, IDA Executive Director

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Did you know that Tucson is considered the astronomy capital of the world? We're excited to offer you two options to experience Tucson's night sky.

you two options to expe	rience Tucson's night sky.
6:30pm - 9:30pm Sahuarita, AZ	Quail Creek Star Party Star party next to a sports field? Yes, it's possible! Join us for a trip to Quail Creek-Veterans Municipal Park where we'll enjoy an evening under the stars and learn about innovative, dark sky-friendly outdoor sports lighting. A local restaurant will provide Tucson fare. Round trip transportation provided for up to 108 people; sign up available at registration table. Star party is included with registration.
6:30 pm - 12:30 am Mount Lemmon, AZ	Mount Lemmon SkyCenter Astronomy Program – Registration required Shoot for the stars at Mount Lemmon SkyCenter! SkyCenter is home to Steward Observatory's public astronomy outreach program on the summit of Mount Lemmon at an elevation of 9,157 feet. Tour constellations through binoculars, observe interesting atmospheric phenomena, and view the wonders of the cosmos from a high-quality astronomical site using the amazing 32-inch Schulman and 24-inch Phillips Telescopes. A light dinner will be served. Round trip transportation is provided. ***Please note - additional registration is required for this event. Attendance is limited. Learn more here.



Thank you to our sponsors!















Conference Map

