

Preserving our Dark Skies and Astronomy



Man meets Milky Way Credit: ESO/P. Horálek

To gaze up at the night sky and take in the incredible sight of our Universe is one of the priceless gifts we enjoy on our planet.

Humanity's Heritage

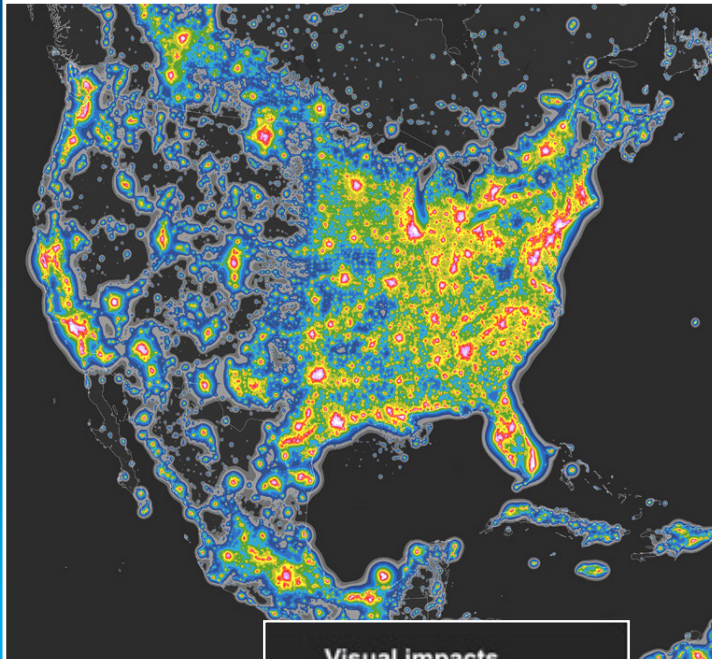
A little more than 100 years ago, you could walk outside at night even in a city and see the Milky Way galaxy arch across the night sky. Being able to see thousands of stars was part of everyday life, inspiring artists and writers.

The night sky is our human heritage, used for millennium to encode our mythologies and stories, and explored today to discover our origins and establish our place in the universe. Our access to the night sky though, is rapidly diminishing through increasing man-made light pollution. This impacts not only our ability to conduct astronomical research but also daily life on our planet Earth.

More than half of the world's population now live in cities. 3 out of every 4 people in cities have never experienced the wonderment of pristinely dark skies.

Adverse Health Impacts

Besides blocking our view of the night sky, light pollution has been tied to adverse health effects. Many species, especially humans, are dependent on natural body cycles and the production of melatonin, which are regulated by light and dark. If humans are exposed to light while sleeping, melatonin production can be suppressed. This can lead to sleep disorders, worker fatigue, medically defined stress, some forms of obesity and ties are being found to some types of cancer.



Map of North America's artificial sky brightness, in twofold increasing steps, as a ratio to the natural sky brightness. Fabio Falchi et al. Sci Adv 2016;2:e1600377

Visual impacts

- Pristine sky
- Degraded near the horizon
- Degraded to the zenith
- Natural sky lost
- Milky Way lost
- Cones active

5 Ways Light Pollution Hurts our Planet

Artificial light not only prevents city dwellers from seeing the stars, it also harms the environment and human health.



Light Pollution Devastates Wildlife

Plants and animals depend on Earth's daily light and dark cycle to govern life-sustaining behaviors. Research shows that artificial light at night has negative and even deadly effects on many species.



Light Pollution May Harm Your Health

Studies suggest that artificial light at night negatively affects human health by increasing our risks for obesity, sleep disorders, depression, diabetes, breast cancer and more.



Light Pollution Can Make You Less Safe

There is no clear scientific evidence that increased outdoor lighting deters crime. In fact, poor outdoor lighting can decrease personal safety by making victims and property more visible to criminals.



Light Pollution Wastes Energy and Money

As much as 50 percent of outdoor lighting is wasted, which increases greenhouse gas emissions, contributes to climate change, and renders us all more energy dependent.



Light Pollution Robs Us of Our Heritage

Our ancestors experienced a night sky that inspired science, religion, philosophy, art and literature. Now, millions of children across the globe will never know the wonder of the Milky Way.

International
Dark Sky
Association

Energy and Ecosystems

Light pollution harms wildlife and wastes energy.

In disrupting ecosystems, light pollution poses a serious threat in particular to nocturnal wildlife, having negative impacts on plant and animal physiology. It can confuse the migratory patterns of animals, alter competitive interactions of animals, change predator-prey relations, and cause physiological harm.

Wasteful lighting is also responsible for at least one-fourth of all electricity consumption worldwide and an increased carbon footprint.

Reduction Strategies

The good news is that we can reduce light pollution by shielding lights properly, by only using light when and where it is needed, by only using the amount that is needed, by using energy efficient bulbs, and by using bulbs with appropriate spectral power distributions for the task at hand.

Public Policy

Policies that promote dark skies are infrastructure investments for the future. They can reduce energy consumption and light pollution by promoting efficient and shielded outdoor lighting technologies and controlling the types of outdoor lighting that may be installed by public and private entities.



Example of a shielded light fixture that has the seal of approval from the International Dark Sky Association. The seal identifies products that meet light pollution standards.



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