

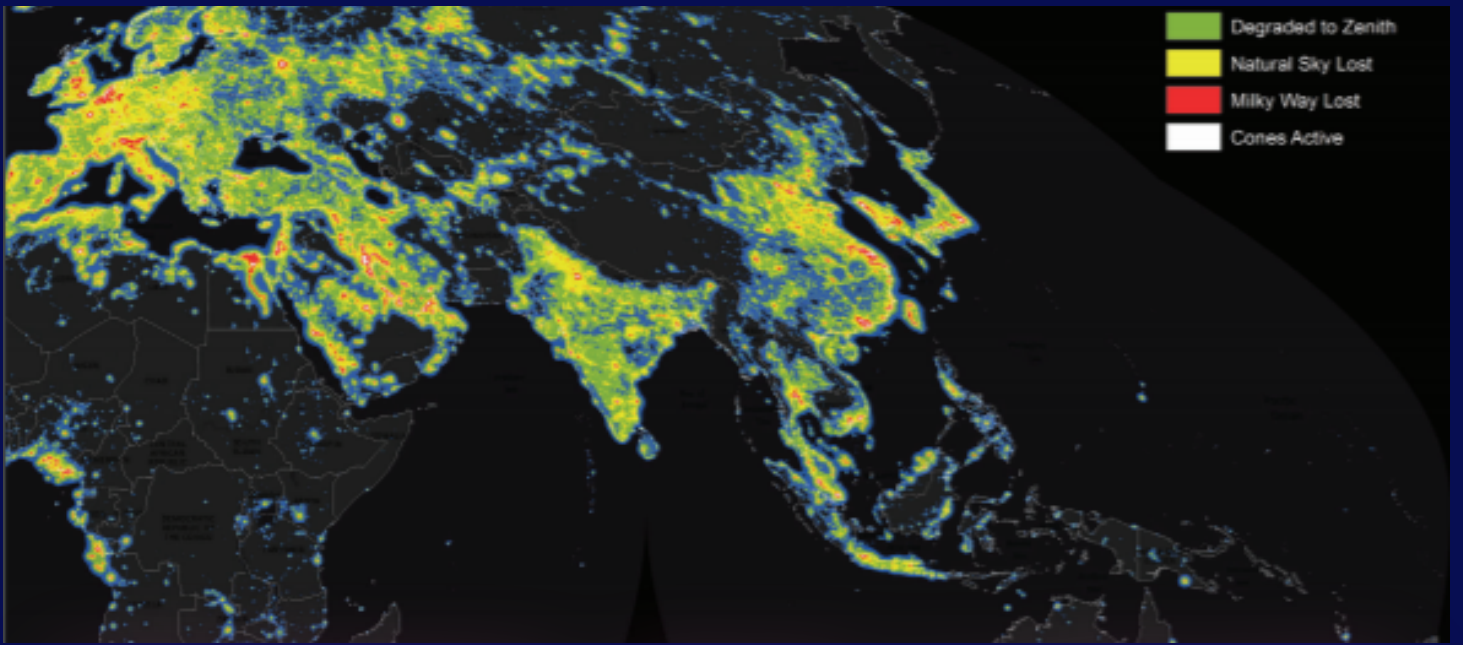
LIGHT POLLUTION

Light pollution is excessive, misdirected, or obtrusive artificial light. Too much light pollution has consequences: it washes out starlight in the night sky, interferes with astronomical research, disrupts ecosystems, has adverse health effects and wastes energy.

Brief history

The phenomenon was firstly described in the mid-1970s. defined only as the brightening of the night sky due to artificial lighting. At that time, the astronomers have already noticed the impacts of the light pollution on the environment. Then in the 1980s the notion of photopollution was introduced as the degradation of the natural environment by artificial lighting.

MID-1970S



TYPES OF LIGHT POLLUTION

Glare is excessive brightness that causes visual discomfort.

GLARE

SKY GLOW

Skyglow is brightening of the night sky over inhabited areas.

Light trespass is light falling where it is not intended or needed.

Light trespass

CLUTTER

Clutter is bright, confusing and excessive groupings of light sources.

CAUSES

Light pollution can be caused only by human beings. Here are main factors that contribute to this phenomenon.

1. **Bad planning of light placement** - engineers who don't care about the effects of light placement, create a glare, light trespass and light clutter.
2. **Improper use** - leaving lights turned on for all night
3. **Overpopulation** - more inhabitants = more homes = more lights
4. **Overconsumption of light** - electricity becomes cheaper so people don't really care about overusing it.
5. **Smog and clouds** - such phenomenon can reflect light and therefore cities seem to be much brighter
6. **Cars and other motor vehicles** - bright lights of cars and other motor vehicles contribute to the light pollution, especially in cities where many citizens own a car.



effects

ADVERSE HARM TO OUR HEALTH

We are dependent on natural body cycles called **circadian rhythms**, as well as the **production of melatonin**. Both of these are regulated by light and dark, which means that melatonin production can be suppressed, when we are **exposed to light during the night**. This can cause many health problems like increased **headaches**, **worker fatigue**, medically defined **stress**, some forms of **obesity** due to lack of sleep and increased **anxiety** and some types of **cancer**.

DISRUPTING ECOSYSTEMS AND WILDLIFE

Light pollution disrupts the **circadian cycles** of some animals as well. It can also impact animals like **sea turtles**, who are **drawn towards the lights along beaches**, thinking they are heading towards the moon.

LOSSING PARTS OF OUR CULTURAL HERITAGE

This is a more abstract effect of light pollution. But in the past we were **inspired by the night sky**. We can see that by looking at artists like Van Gogh. Now that **our skies are washed out by artificial lights** we can't draw inspiration from them anymore.

HOW TO LEVEL UP?

- Use **light** only when it's needed
- Use **LED** lights
- **Limit blue** light at night
- Use **motion sensors** on important outdoor activities
- Support **wilderness**
- **Reduce** lamp power
- Use **amber** lights instead of blue
- **Plant trees** and place lamps between them
- Restrict uplight
- **GET INVOLVED!**

Good and bad lighting fixtures (Credit: Cities at Night by Alejandro Sánchez de Miguel et al.)



VERY BAD



BAD



BETTER



BEST