

Artificial light at night – a need for regulation?

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Deutsches GeoForschungsZentrum GFZ, Citizen Science Project

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10h30 – 12h30
Botanical Garden Museum Berlin

Whereas air, noise, or water pollution have been high priority policy issues for decades, light pollution remains scientifically, culturally, and institutionally in the dark.

Artificial light at night (ALAN) is increasing worldwide by about 3-6% a year. At riparian areas, for example, ALAN creates an interface between the hydrosphere (e.g. the nursery ground of many insects), the biosphere (most aquatic organisms have evolved molecular circadian clocks controlled by natural day-night cycles), and the anthroposphere (with all its requirements for security and aesthetically appealing illumination). ALAN has a profound effect on physiological and behavioural patterns of most organisms. Circadian and seasonal rhythms may be disturbed by ALAN. Some species are attracted by ALAN, others to the prey at light sources, resulting in an alteration of ecological communities. Illumination intensity, duration and colour spectra are typical parameters with impacts on organisms and aquatic-terrestrial interactions.

For water, air or soil pollution limits are defined, for toxins daily acceptable intake values exist, for noise the decibel scale was invented. However, for the physical parameters of artificial light at night and light pollution no upper limits have been specified, today.

This workshop aims to discuss:

1. The present mapping for worldwide lighting and changes due to technology development
2. The present state of the art knowledge about the impact of ALAN
3. Knowledge gaps,
4. Development of daily acceptable intake values or pollution thresholds with limits for light pollution
5. Strategic planning for the protection of the night.

Agenda

PD. Dr. Franz Hölker, IGB, leader of the research network 'loss of the night'

Dr. Sibylle Schroer, scientific coordinator of the research network 'loss of the night'

Moderation

Dr. Christopher Kyba, Deutsches GeoForschungsZentrum GFZ, Citizen Science Project

<http://lossofthenight.blogspot.de>

What can we learn from night time Satellite image data and citizen science data 'loss of the night'

Alessandro Manfrin, Freie Universität Berlin, IGB

Effect of artificial light at night on aquatic-terrestrial food webs

Dr. Jonathan Bennie, Environment and Sustainability Institute, University of Exeter, UK (solicited)

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