

EFFECTS OF LIGHT POLLUTION ON THE ENVIRONMENT

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The invention of artificial lighting 150 years ago changed people's lives as they became independent of daylight, which brought many conveniences to their daily lives. That influenced people's behavioural patterns, and now we are dealing with a 24-hour society.

With population growth, urbanisation and technological development, the amount of artificial light in the environment is increasing. The result is a loss of natural and open spaces and a decrease in the "dark sky". The ubiquity of lighting at night and the glare extending far beyond city limits have led to light pollution. Scientists classify excessive artificial lighting as an element of anthropopression, as it disrupts human processes. It also causes negative impacts on the environment and living organisms and is therefore classified as pollution.

Urban lighting systems are designed in a way that does not ensure the reduction of light beam dispersion. Scientific studies show that light pollution is increasing by more than 2% per year. There is a strong need to reduce this pollution by reducing artificial lighting while maintaining a comparable effect.

It is a relatively new phenomenon, so research and monitoring methods are still being sought and improved. Among these are low-altitude nighttime aerial photogrammetry or analysis of satellite images of the areas under study.

Light pollution is a complex interdisciplinary problem requiring the cooperation of researchers from many scientific fields. The results of their work should be used to develop appropriate regulations to reduce light pollution and introduce new technical solutions and approaches to planning sustainable urban lighting.