

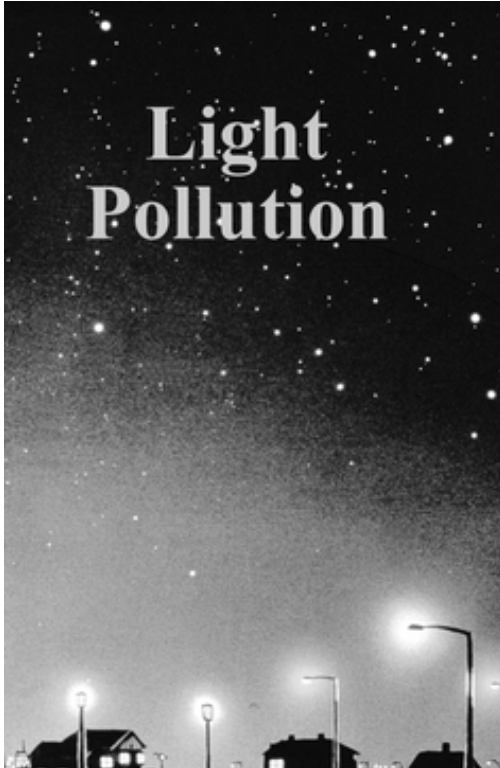


LIGHT POLLUTION



<http://www.astrosociety.org/education/publications/tnl/44/lightpoll.html>

Background



It is an unfortunate fact of today's life that most people are growing up unable to see the stars that our grandparents knew so well. The prime night sky exists only in pictures or at a planetarium. This is true not only in cities but also in suburbs and in rural areas where street lamps and other sources of "light pollution" have obscured our view of constellations, meteor showers, and even the planets.

Indeed, many children and adults say after viewing the night sky for the first time in a really dark area away from a city that "it looks just like this in the planetarium." We have lost our view of the stars, and we have mucked up our nighttime environment as well.

Causes

Such a loss might be acceptable if light pollution were the inevitable price of progress, but it is not. Most sky glow is unnecessary. The light that obscures our view of the night sky comes mainly from inefficient lighting sources that do little to increase nighttime safety, security, or utility. They produce only glare and clutter, costing more than one billion dollars annually in the U.S. alone.

Impacts

For astronomy and science, the impact has been even more dramatic. Astronomers require observations of extremely faint objects that can be made only with large telescopes at sites free of air pollution and urban sky glow. For example, scientists interested in how the universe was formed may study the light of galaxies and quasars at enormous distances from Earth. These images offer information about faraway corners of the universe, helping us understand how our own world was formed. Yet, after traveling countless lightyears, the light from these objects can be lost at the very end of its journey in the glare of our own sky.



The Earth at night

Space-based telescopes, such as the Hubble Space Telescope, offer one way around the problem. However, large telescopes on the ground will always be used, if only because they

are accessible and cost much less to build and operate. Our experience over the past decades has shown that rather than decreasing, our need for ground-based telescopes, even in an age of telescopes in space, has greatly increased. But only if they can be protected from the encroaching light pollution.

Reducing Light Pollution

Reducing light pollution is not difficult. It just makes sense, but it does require that we understand the issues and that public officials and citizens be aware of the problem and act to counter it. On an individual level, people can help reduce much sky glow by using lighting only when necessary and by choosing well shielded lighting fixtures.

Curing light pollution saves money while reducing glare and sky glow. Unlike other pollution issues, it presents us with a rare case where we should strive to be kept in the dark. The stars above us are a priceless heritage - not only for astronomers but for all humans. More of our children should be able to look up at night and see that the Milky Way is not just a candy bar.



*Tripping the light (not-so) fantastic.
View of Los Angeles, CA in 1908 (left) and 1988 (right).*