



KEEPING OUR DARK SKIES DARK

What am I going to learn in the next 25 minutes?

- What is light pollution?
- How bad is our light pollution problem?
- How does light pollution effect humans, nature, and the economy?
- How did we bring this on ourselves?
- What can people do to maintain or improve our sky condition?

What is light (or luminescence) pollution?

Definition

Brightening of night sky due to scattering of artificial light by gaseous molecules or dust particles

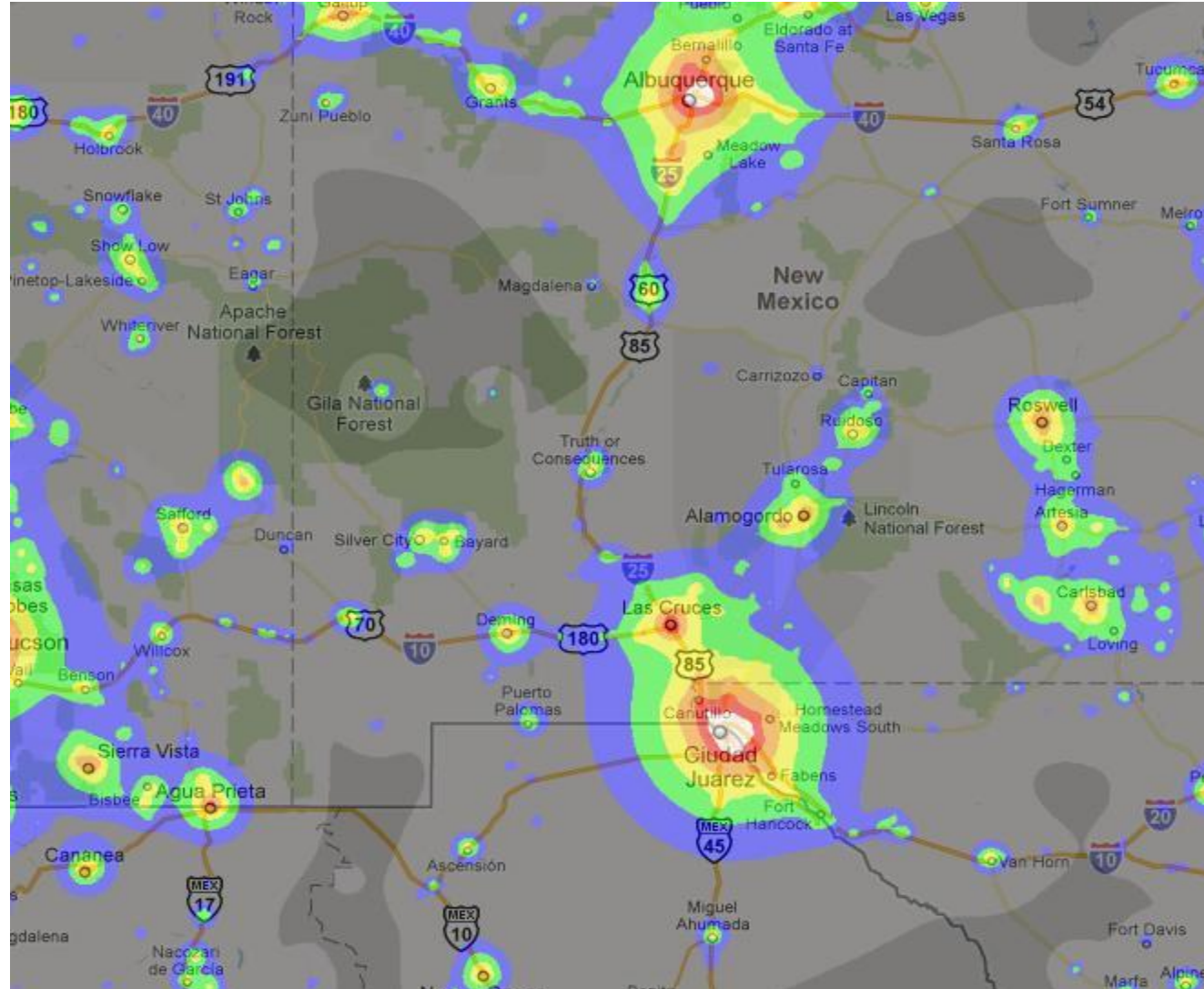
Result

This scattering results in a hazy, yellow-orange sky glow that is commonly seen in highly illuminated areas.

Effects

Sky Glow
Light Trespass
Glare
Light Clutter
... and more

New Mexico Light Pollution Map (2023)



Why is Dark Important?

- Human Health
- Wildlife Health
- Ecological Health
- Economic Benefits



Inside

Humans adhere to a circadian or day/night rhythm. This cycle is largely influenced by the photoreceptors in the eye that are more sensitive to blue wave lengths of light. Humans need to experience outdoor lighting during the day and minimize the amount of artificial light entering the eye at night particularly hot or blue lighting.

Nighttime exposure to artificial light suppresses melatonin development. Besides inducing better sleep, melatonin has antioxidant properties that boost the immune system, lowers cholesterol, and helps the thyroid, pancreas, ovaries, testes, and adrenal glands function more effectively.

“Exposure to artificial light at night increases human risk for sleep disorders, depression, obesity, diabetes, heart disease, and certain cancers. Brighter residential nighttime lighting is associated with reduced sleep time. Reduced sleep quality, excessive sleepiness, impaired daytime functioning, and obesity.”

American Medical Association, 2016

Outside

Glare from poorly shielded outdoor lights decreases visual acuity by reducing contrast. It limits your ability to see dangers especially as you get older. Often outdoor lights produce more light than needed or are poorly shielded. Reducing them reduces glare, saves energy, and saves money.

“... discomfort and disability from intense, blue rich lighting can decrease visual acuity... creating driving hazards.”

*American Medical Association,
Council on Science and Public Health, 2016*



In the Santa Monica Mountains, a western screech owl perches in a tree above Los Angeles, one of the country's most light-polluted urban areas.

From cougars and bats to birds, butterflies and sea turtles, wildlife are increasingly threatened by light pollution, but simple solutions can help

Needing the Night

Birds

Lights create areas birds and bats will not enter or nest

Lights on or in nesting areas cause birds to delay their emergence at dusk when the insects they eat are most abundant

Birds circle brightly lit buildings exhausting their energy stores

Birds often collide with lighted structures

Artificial night light interferes with migrating birds ability to calibrate their internal compass



Larger Animals

Lights create barrier to movement, fragmenting habitats and limiting access to food and shelter

Altered light/dark cycles effect reproduction, nourishment, sleep, and protection from predatorscycles

Do dark skies have an economic impact?



280-300 Telescopes
Installed



80-85 Privately Owned
Observatories Constructed

Three Remote Telescope Hosting Facilities

Providing access to Hidalgo County's dark skies to over 100 astronomers, researchers, and scientists from throughout the world.

- Astronomy Acres
- Dark Sky New Mexico
- Deep Sky New Mexico

Did we bring this predicament on ourselves?

Absolutely!

So, what do we do now? Can we undo the damage?

In your own personal sphere...

- Get outside into natural light more often
- Change your home lighting to warm bulbs with low CCT
- Reduce screen time after dark; treat yourself better

Outside Your Home...

- Encourage your neighbors to consider changes
- Make changes where you work
- Encourage local officials to implement new state standards

But most importantly...

When you see light pollution occurring at a business you patronize or an organization you support, bring it up with them. Be Nice!









Hidalgo Dark

- Mission: Maintain and improve the natural environment of our region to include maintaining our dark skies
- Method: One neighbor, one business at a time
- Meeting: Saturday, November 22, 6pm at Dark Sky New Mexico
- Confirm your intent to attend with email to: Diana at nmhokie2@gmail.com



Thank you

Michael Hensley

540.819.0057

nmhokie1@gmail.com

www.darkskynewmexico.com