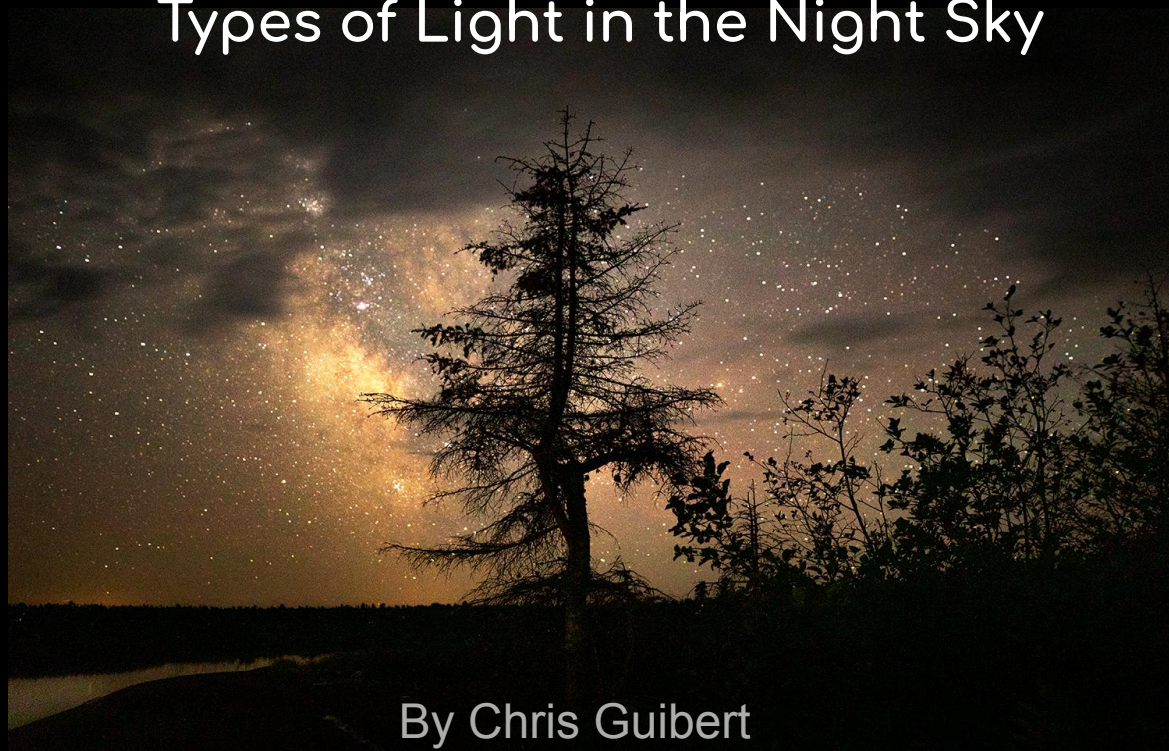


# Night Sky Photography on the Keweenaw Peninsula

## Types of Light in the Night Sky



By Chris Guibert

# STARGAZING SPOTS ACROSS THE KEWEENAW



- 1 Mclain State Park
- 2 Calumet Water Works Park
- 3 Gratiot River County Park
- 4 W.C. Veale Park
- 5 Eagle River Beach
- 6 Great Sand Bay
- 7 Eagle Harbor Beach
- 8 Eagle Harbor Marina
- 9 Esrey Park
- 10 Hebard Park
- 11 Hunter's Point Park
- 12 Brockway Mountain
- 13 Keweenaw Dark Sky Park
- 14 Mary Macdonald Preserve -Horseshoe Harbor
- 15 High Rock Bay
- 16 Manitou Island
- 17 Bete Grise Bay Beach
- 18 Bete Grise Preserve
- 19 Brunette Park
- 20 Tobaco River Park
- 21 Schoolcraft Township Park

# Safety Concerns:

- Remote - Help is far away - hospital in Laurium
- Remote - Cell phones don't always work
- Remote - Gas stations are few and far between
- Remote - At times very little people around
- Remote - Be prepared

\*\*\*Lake Superior shoreline is dangerous\*\*\*



The Lake Superior  
shoreline can be:

**DANGEROUS!!!**



## Some of the types of property owners

- State Parks: example - McLain State Park
- State Land: example - Michigan DNR
- County Roadside Park: example - Esrey Park
- City/Town Parks: example - Calumet Waterworks Park
- Township Parks: example - Hunters Point
- Land Preserves: example - Horseshoe Harbor - The Nature Association
- Private Land: example - Keweenaw Dark Sky Park

# Types of Light in the Sky

1. Sunlight
2. Starlight
3. Moonlight
4. Planetary Light
5. Aurora
6. Airglow
7. Zodiacal Light
8. Artificial - Man-made



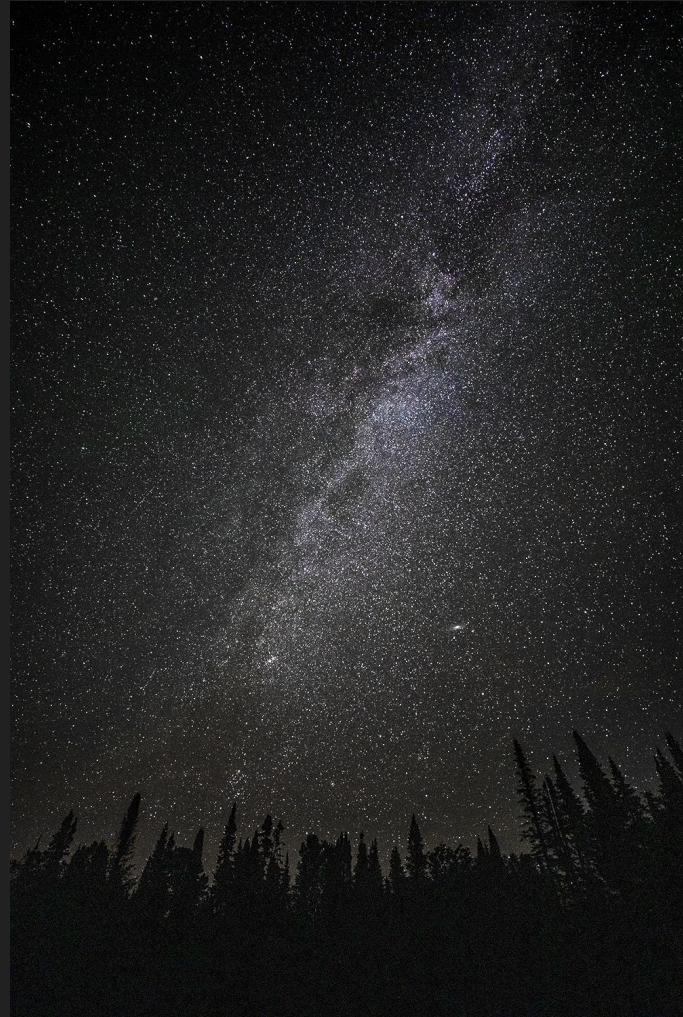


## Sunlight

**Sunlight** is a portion of the electromagnetic radiation given off by the Sun, in particular infrared, **visible**, and ultraviolet light

# Starlight

**Starlight** is the light emitted by stars. It typically refers to **visible** electromagnetic radiation from stars other than the Sun, observable from Earth at night, although a component of starlight is observable from Earth during daytime.





# Moonlight

**Moonlight** consists of mostly sunlight (with little earthlight) reflected from the parts of the Moon's surface where the Sun's light strikes.





# Planetary Light

**Planetary Light** consists of mostly sunlight reflected from the surface of planets in our solar system.

Light from Jupiter is seen reflecting on Lake Superior.

# Aurora

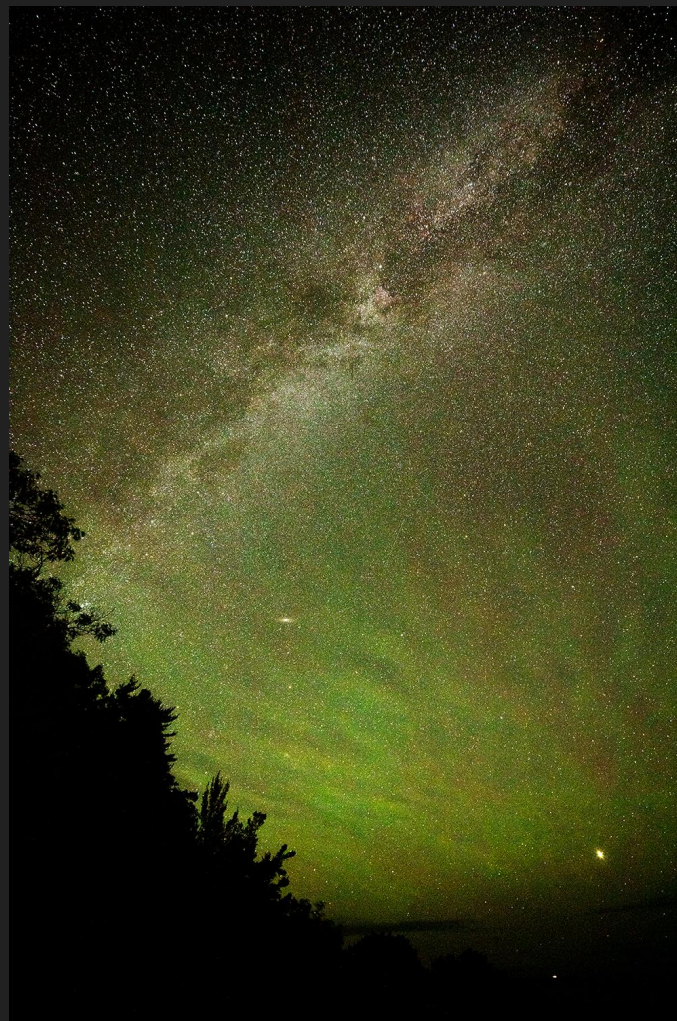
An **aurora** (pl. **aurorae** or **auroras**), also commonly known as the **northern lights** (**aurora borealis**) or **southern lights** (**aurora australis**), is a natural light display in Earth's sky, predominantly seen in high-latitude regions (around the Arctic and Antarctic). Auroras display dynamic patterns of brilliant lights that appear as curtains, rays, spirals, or dynamic flickers covering the entire sky.



# Airglow

**Airglow** (also called **nightglow**) is a faint emission of light by a planetary atmosphere.

In the case of Earth's atmosphere, this optical phenomenon causes the night sky never to be completely dark, even after the effects of starlight and diffused sunlight from the far side are removed. This phenomenon originates with self-illuminated gases and has no relationship with Earth's magnetism or sunspot activity.



# Zodiacal Light

**Zodiacal light** is a faint glow of diffuse light in the sky scattered by interplanetary dust, particularly a zodiacal cloud, along the ecliptic, and therefore the zodiac. It is mostly only visible in very dark conditions across the night sky along the whole ecliptic as the **zodiacal band**.



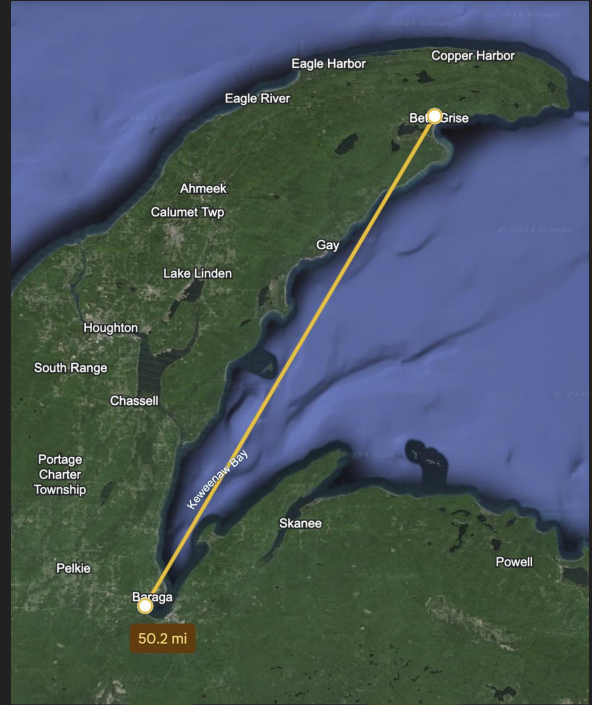
# Artificial Light - Man Made



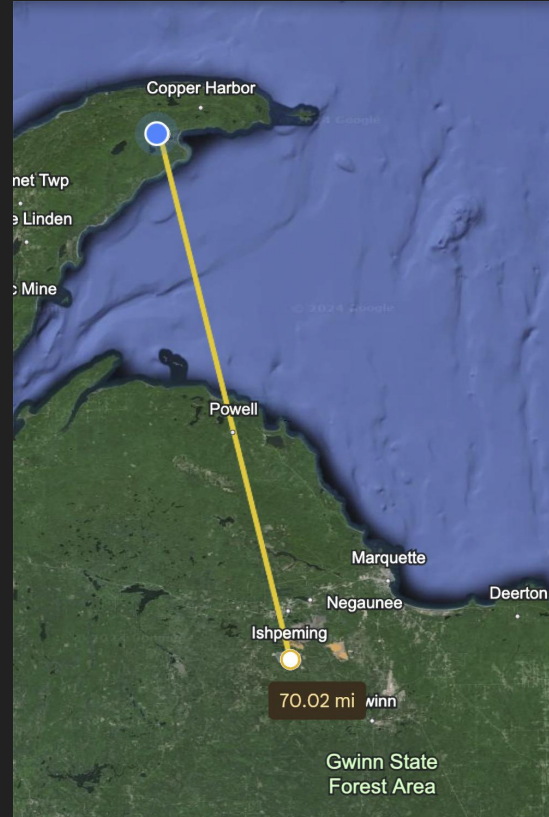
Artificial light as light produced by humans, such as electric light, candles, fireworks, and campfires

Light Pollution is the inappropriate or excessive use of artificial light

# Man-made light - is it light pollution?

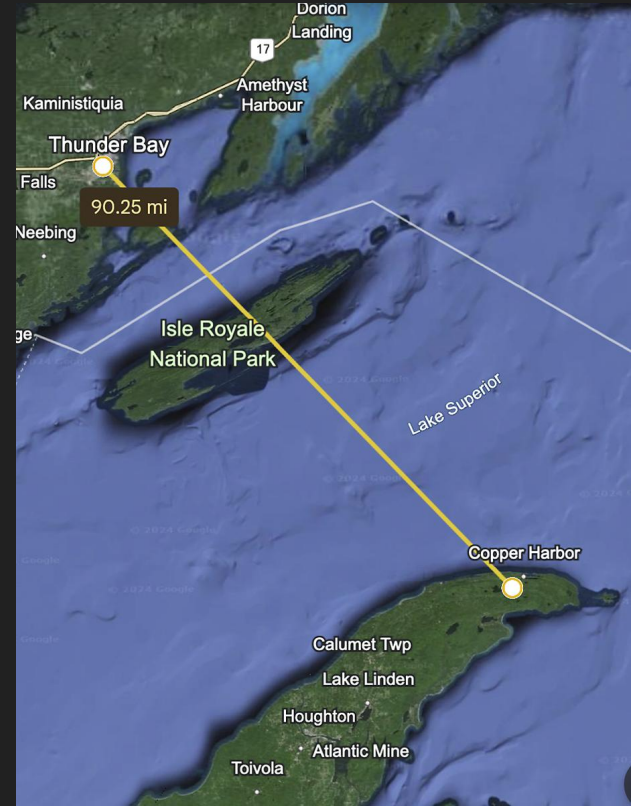


# Man-made light - is it light pollution?

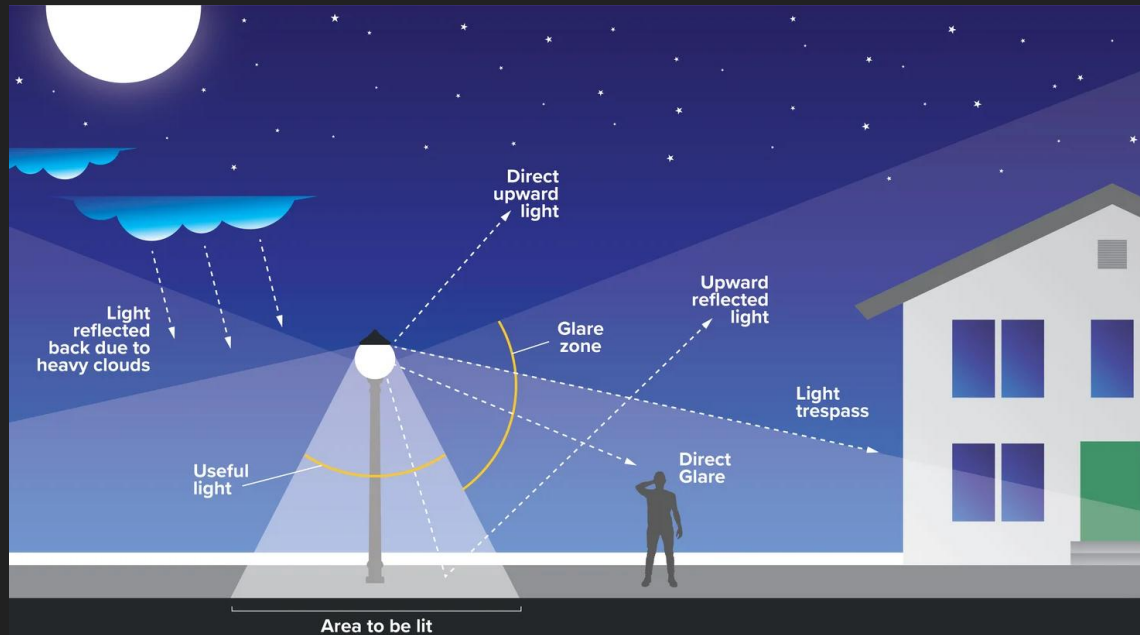




# Man-made light - is it light pollution?



Clouds reflect the light back downward and increase scattering. The combination of these effects redirects the upward escaping light back to observers. Clouds over a city light dome can enhance the sky brightness by as much as 1000 times compared to a clear night.





Types of light in this picture?

Types of light in this picture?





Types of light in this picture?

Types of Light in this picture?



Types of Light in this picture?



Types of Light in this picture?

