



ENVIRONMENTAL
PROTECTION OFFICE

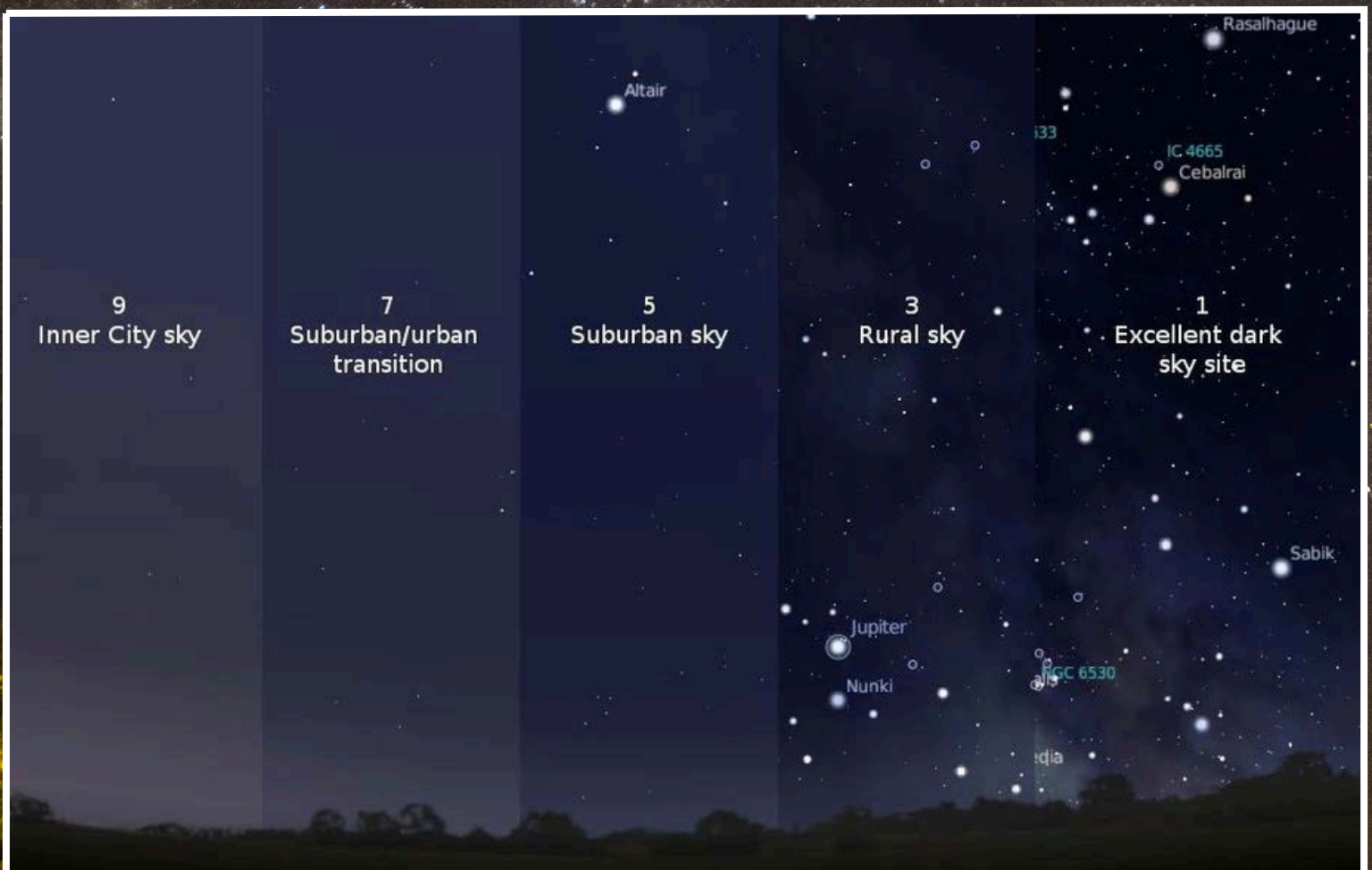
Dark Skies 101

By the STOF Climate Resiliency Program



Introduction to Dark Skies

Dark skies are relatively **free of artificial light pollution**, making them great for viewing stars and planets

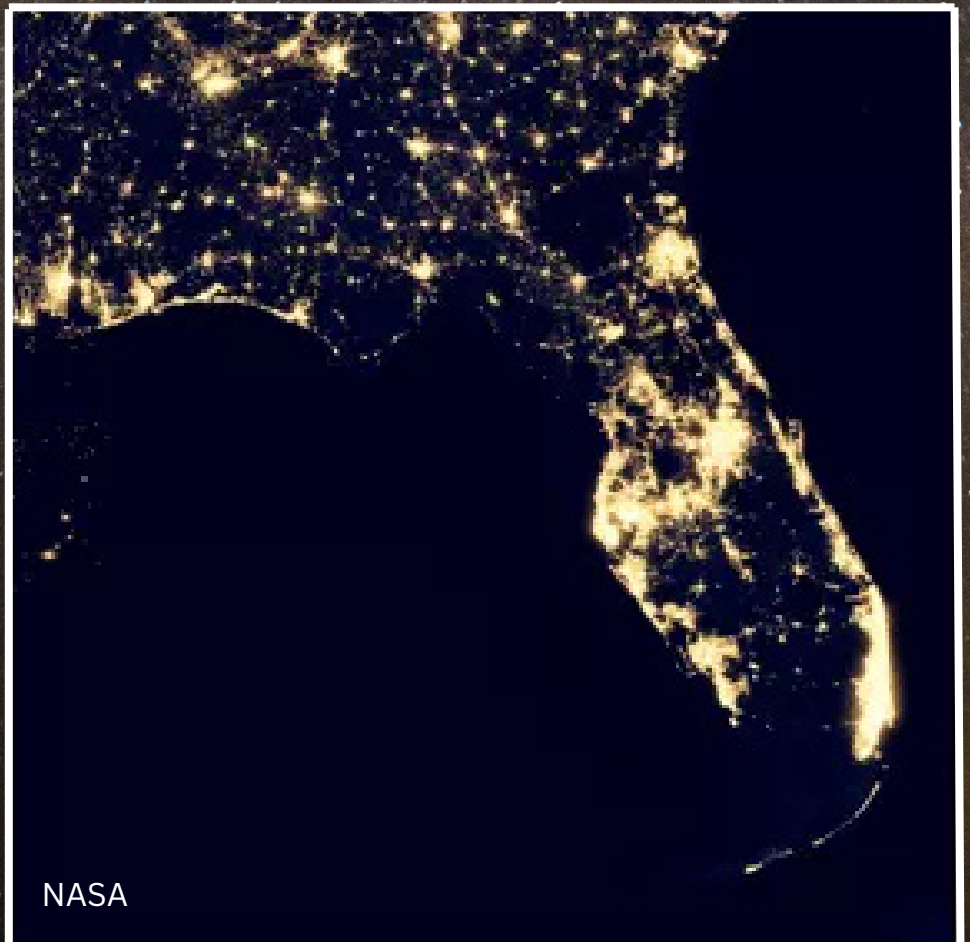


Bortle dark-sky scale is a nine-level numeric scale that measures the night sky's brightness of a particular location. It characterizes the observability of celestial objects, taking into account the interference caused by light pollution.

Where to view Dark Skies in Florida

Top public places for
star gazing in Florida:

Big Cypress National Preserve
Kissimmee Prairie Preserve State Park
Everglades National Park
Dry Tortugas National Park



Tips for Stargazing

Check the Weather

A clear sky is essential to your viewing experience.

Time of the Moon

The best time for viewing is on or around a new moon!

Time of the Year

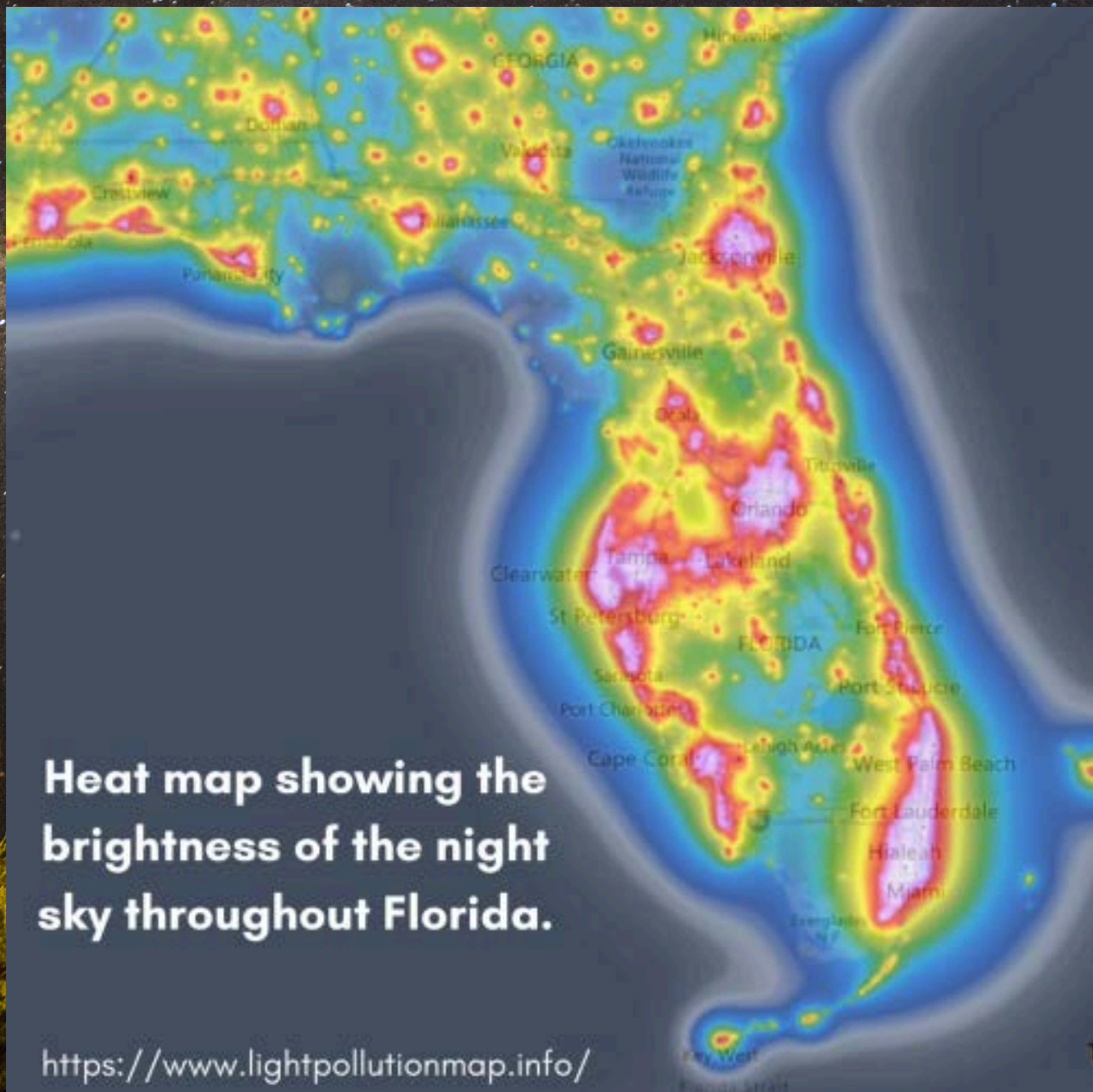
Winter often offers better viewing conditions due to less humidity in the atmosphere.

Dress warmly!

Use Red Light Only

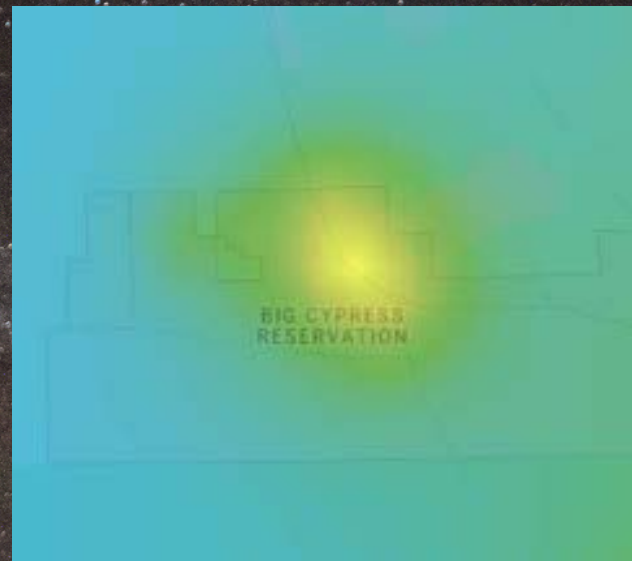
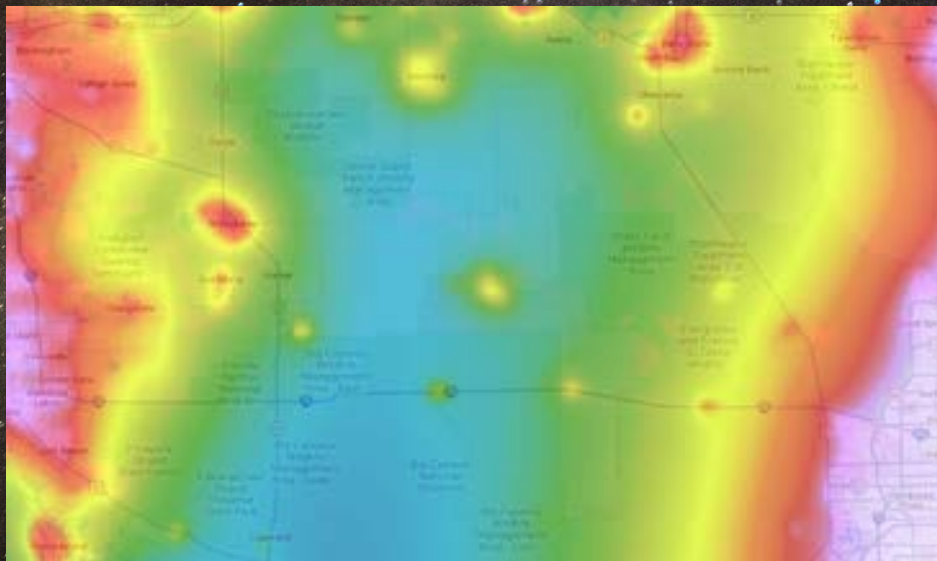
Use a red-filtered headlamp or flashlight. The wavelength of red light has the least impact on your vision.

As you can see, Big Cypress, Brighton, and Immokalee are better positioned for night sky viewing than many other communities in Florida.



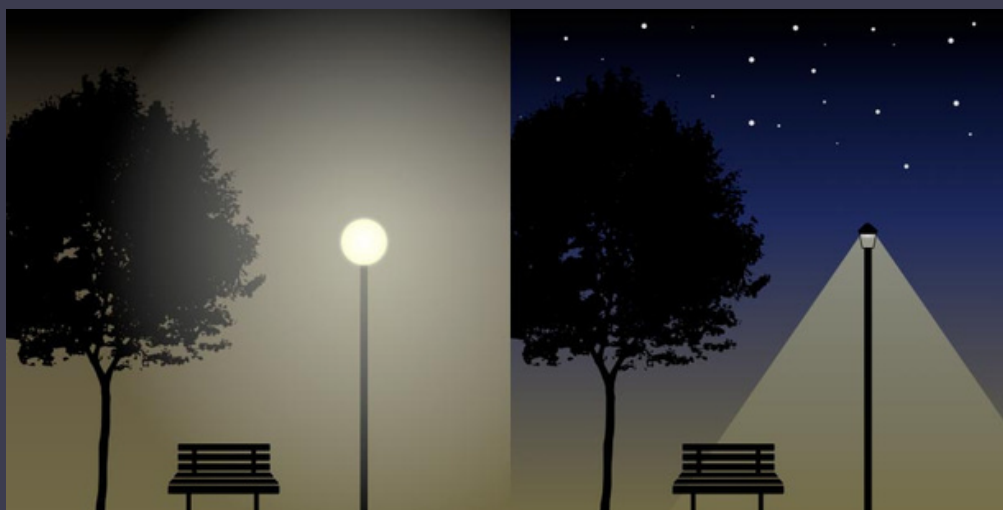
But as we grow, we add more light.

For the first time, Big Cypress
Reservation is showing up on the
Light Pollution Map.



How we can PROTECT this valuable Tribal Natural Resource?

We can include outdoor lighting standards in the Tribe's new Climate Action Plan!



Making sure that new development on reservations use appropriate outdoor lighting will:

- Protect human health
- Increase public safety
- Protect plants and wildlife
- Reduce energy use

5 easy steps to Dark Sky Friendly Lighting

Five Lighting Principles for Responsible Outdoor Lighting



Responsible outdoor lighting is

1 Useful

Use light only if it is needed

All light should have a clear purpose. Consider how the use of light will impact the area, including wildlife and their habitats.



2 Targeted

Direct light so it falls only where it is needed

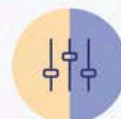
Use shielding and careful aiming to target the direction of the light beam so that it points downward and does not spill beyond where it is needed.



3 Low Level

Light should be no brighter than necessary

Use the lowest light level required. Be mindful of surface conditions, as some surfaces may reflect more light into the night sky than intended.



4 Controlled

Use light only when it is needed

Use controls such as timers or motion detectors to ensure that light is available when it is needed, dimmed when possible, and turned off when not needed.



5 Warm-colored

Use warmer color lights where possible

Limit the amount of shorter wavelength (blue-violet) light to the least amount needed.



Rev: 04-2023

Interested in re-lighting your home or business?



Find Dark Sky
Approved
Luminaires here!

Benefits: Light and Safety



Bad lighting that creates GLARE can actually make certain situations more dangerous.

In the picture above you can see how poorly directed light actually obstructs vision.

Brightness creates a feeling of safety, not a guarantee of it. People relax and lower their guard with a false sense of protection. This mismatch between perception and reality is itself a risk.

Benefits: Human health



Artificial light at night has negative impacts to human health as well.

Humans depend on natural cycles of lightness and dark to maintain a healthy and balanced circadian rhythm.

Without this balance, we are at higher risk of diseases such as cancer and cardiovascular disease, as well as elevated risk of mental health struggles like depression and anxiety.

Benefits: Human health



Scientific studies show that spending time in nature enhances positive emotional responses and reduces stress.

Stargazing inspires feelings of awe, which is understood to reduce inflammatory responses in the body, decrease anxiety and depression, and puts life's problems into perspective.

Benefits: Protect Wildlife

Artificial light at night has devastating impacts on wildlife.

From migratory birds, to panthers, and sea turtles; wildlife has depended on nights natural darkness for hunting and safety.



National Park Service

Benefits: Save Energy



lightpollutionnews.com

Each year...

More than 1/3 of all outdoor lighting is wasted in the U.S. by poorly aimed or unshielded outdoor lighting.

This equates to:

- \$3.3 billion of energy lost to sky glow
- the release of an extra 21 million tons of carbon dioxide
- which would require the planting of 875 million trees to mitigate

Sky Quality Meter

Interested in measuring the brightness of the night sky near you?

Sky Quality Meters are easy to use, handheld devices that measure the lightness of the night sky. Readings are provided to the user in “astronomer units”. The higher the number, the darker the sky.

The STOF Climate Program
has 2 Sky Quality Meters.
Want to borrow one?
Email us at
climateprogram@
semtribe.com



Globe at Night App

make your observations count!

Globe at Night is an international citizen-science campaign to raise public awareness of the impact of light pollution by inviting citizen-scientists to measure & submit their night sky brightness observations.

You can use your SQM reading, or use your own observations of what stars you can see!

<https://globeatnight.org/>

Globe at Night

NSF | NOIR Lab

Report- Orion

1 When did you make your observations?

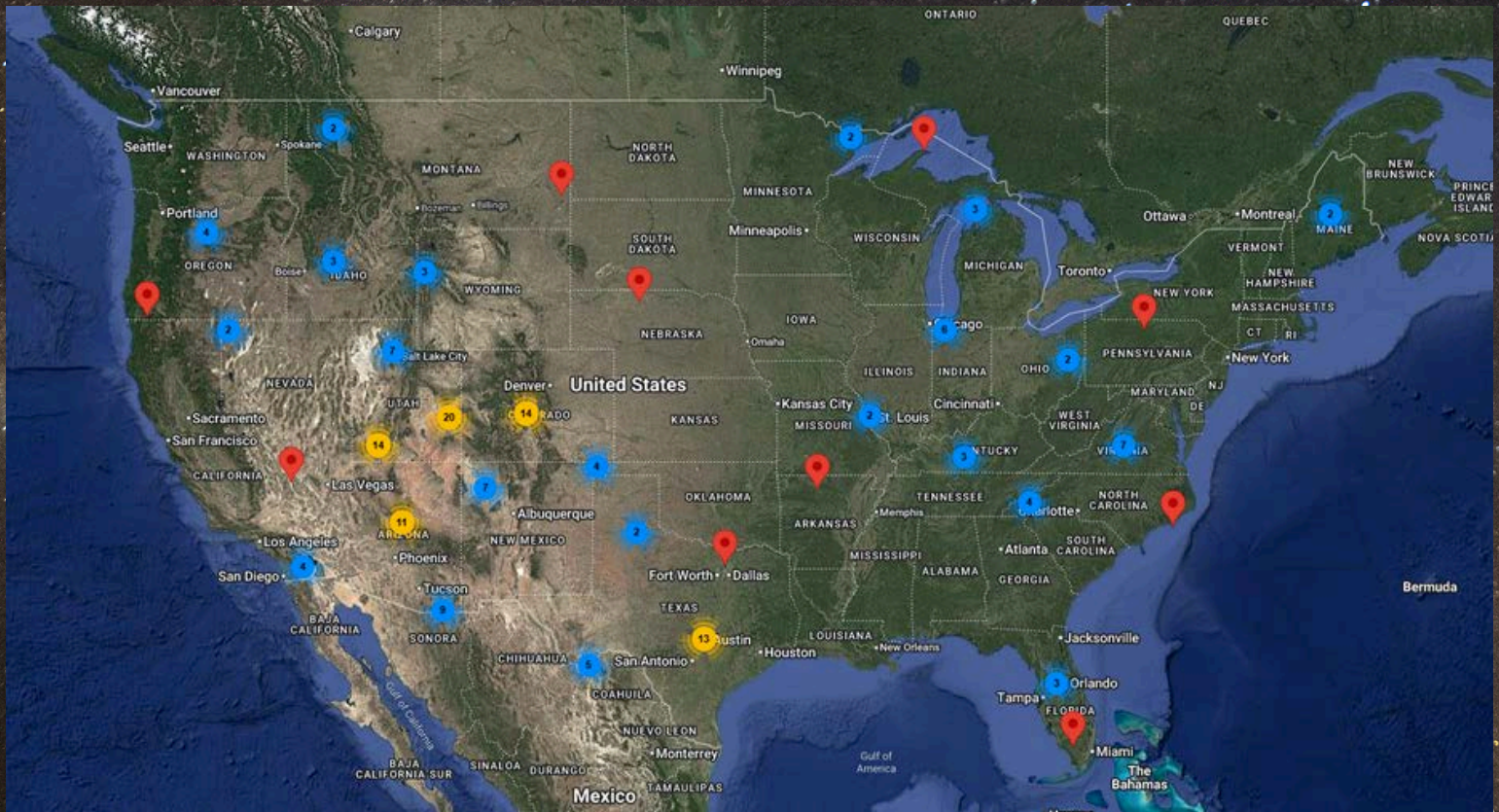
Observation Date

2 Where did you make your observations?

Map Satellite

NORTH AMERICA SOUTH AMERICA Atlantic Ocean EUROPE AFRICA ASIA Indian Ocean

There are 170 Dark Sky certified places in the United States!



Planning a trip and want to stargaze?
Find out if your destination is Dark Sky
certified with this resource:



Pursuing Dark Sky Designation



The logo for the Thunder Mountain Pootsee Nightsky, an International Dark Sky Community consisting of the Kaibab Paiute Indian Reservation. The logo shows a drawing of three tribe members under a night sky with the big and little dippers above.



Tribes can certify as a Dark Sky Community.

In 2015, Kaibab Paiute became the world's first dark sky nation.



CLIMATE RESILIENCY

STRENGTH, COMMUNITY, SURVIVAL



Thank you for being a Dark Sky Steward!

Please scan the QR code and take a moment to fill out our brief online survey to inform the Dark Skies portion of the Climate Action Plan with community vision.

Thank you!

