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„Weißer Stein“ in Hellenthal-Udenbreth @ Sternenpark Eifel National Park



The Value of the Night



Harald Bardenhagen

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www.sterne-ohne-grenzen.de

Sternenregion Eifel

Ein Projekt des Naturpark Nordeifel e.V. zur Förderung der Naturerfahrung Sternenhimmel und zum Schutz der natürlichen Nacht in der Nationalparkregion Eifel



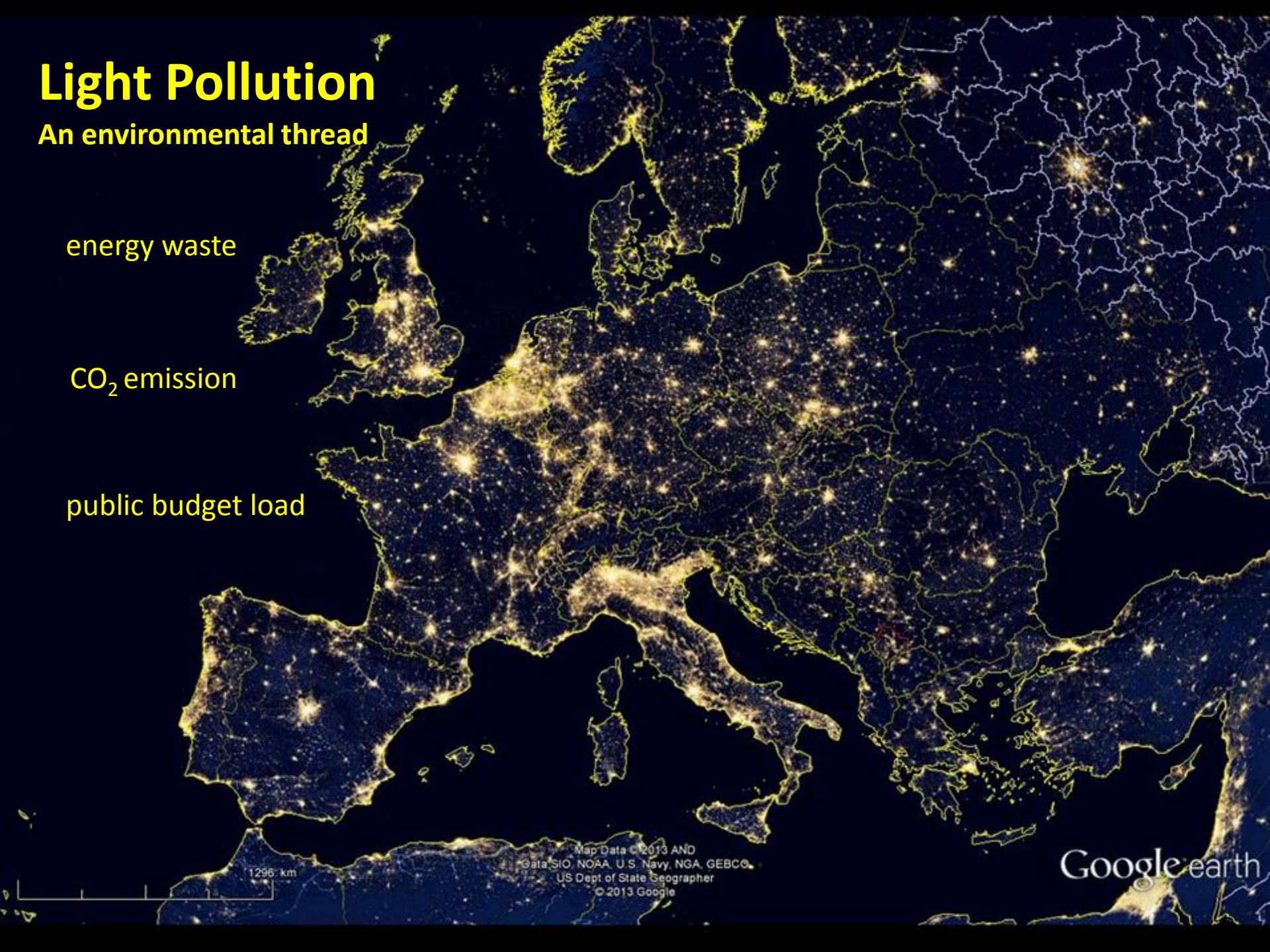
Light Pollution

An environmental threat

energy waste

CO₂ emission

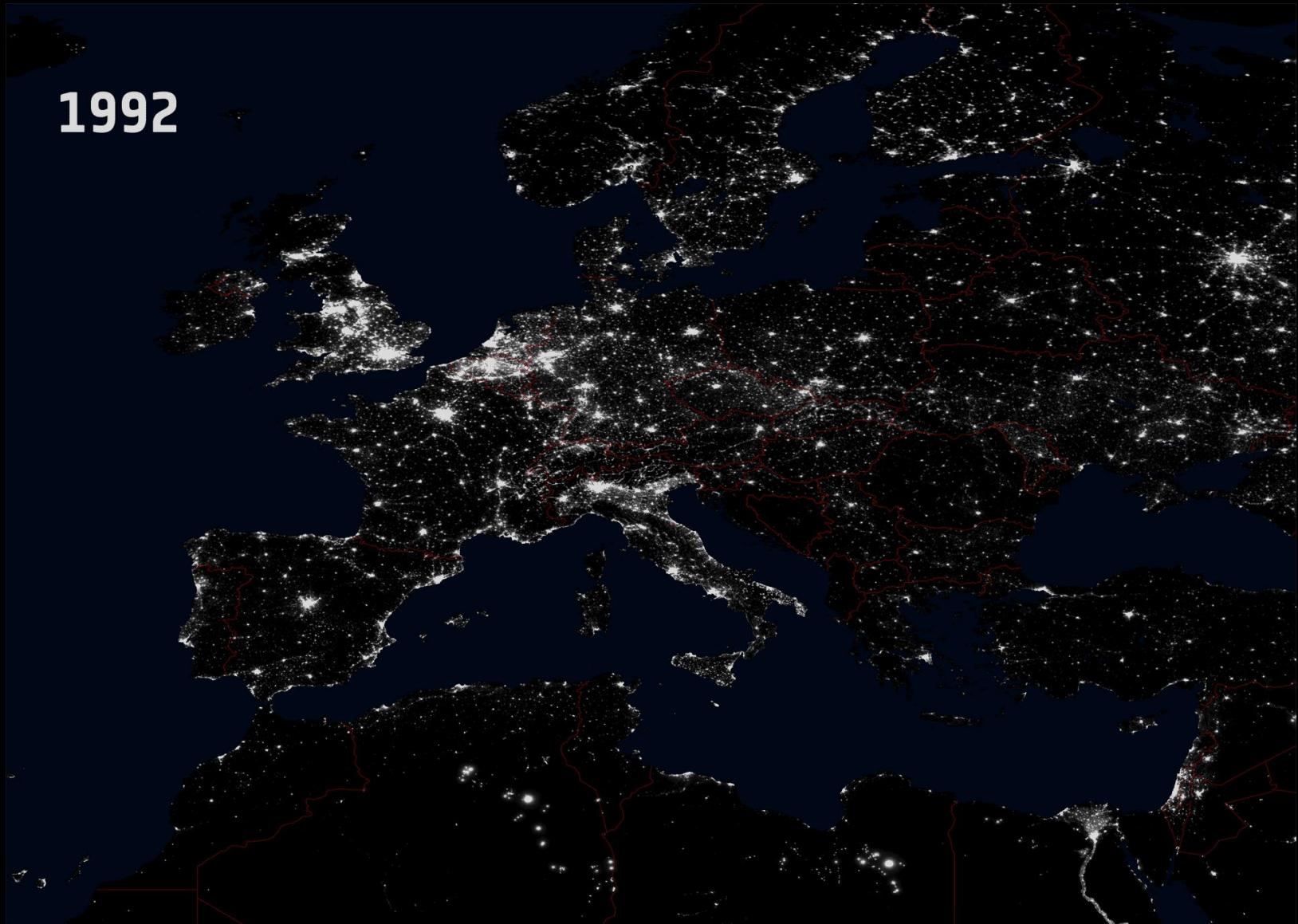
public budget load



Map Data © 2013 AND
Data SIO, NOAA, U.S. Navy, NGA, GEBCO,
US Dept of State Geographer
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Google earth

Yearly increase of light pollution of about 6%.



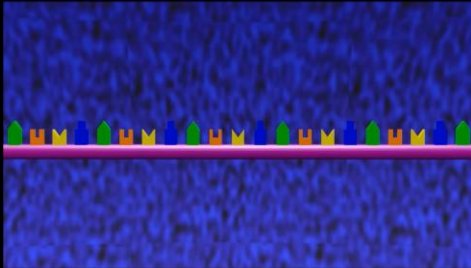
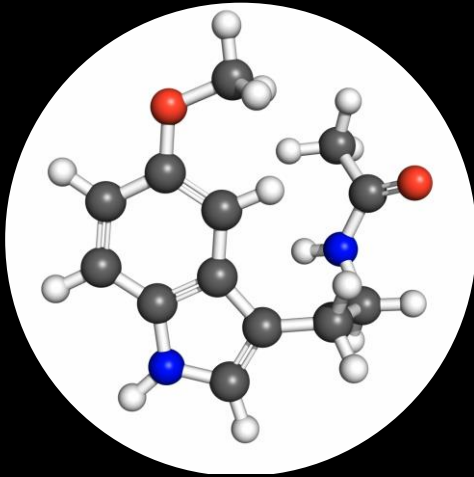
Across Europe, the Milky Way will no longer be visible for the next generation!

The Value of Darkness at Night

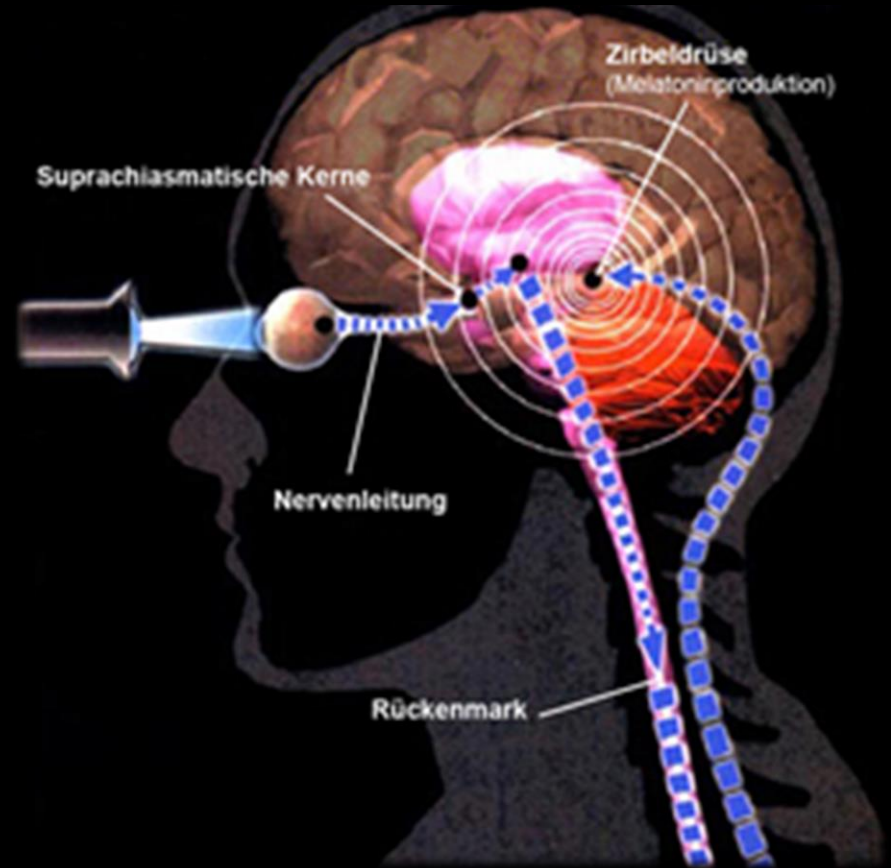
- Human Health
- Biodiversity
- Astronomy and Nature Experience

- 
- circadian rhythm
 - essential for survival

Melatonin – the hormone to start the biological “night program”, e.g. cell repair.



Blue light prevents melatonin production



Abraham Haim · Boris A. Portnov

Light Pollution as a New Risk Factor for Human Breast and Prostate Cancers

 Springer



Doctors issue warning about LED streetlights

“AMA encourages communities to minimize and control blue-rich environmental lighting by using the lowest emission of blue light possible.”



amber: yellow-orange



white: “jail light”

The Value of Darkness at Night

- Human Health

- circadian rhythm
- essential for survival

- Biodiversity



- nocturnal animals and plants
- breeding behavior
- seasonal bird migration





Nocturnal Species



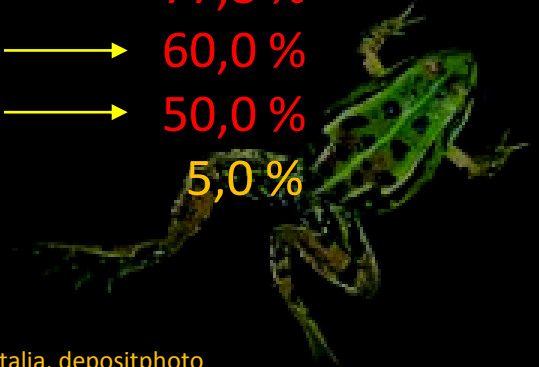
Nocturnal Species (%)

Vertebrates

Mammals	→	28,0 %
Birds		63,8 %
Reptiles		19,6 %
Amphibians	→	16,6 %
Fishes		93,3 %
		14,1 %

Invertebrates

Insects		64,4 %
Butterflies	→	49,4 %
Beetles	→	77,8 %
Crustaceans	→	60,0 %
Arachnids		50,0 %
		5,0 %







EM Final Soccer Play in Stade de France in Paris 2017

... this is just the tip of the iceberg“



The Value of Darkness at Night

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- Astronomy and Nature Experience



Weißt Du, wieviel Sternlein stehen?

Wilhelm Hey



Wohle im werten Ständlein stehn an dem bösen Herodeszeit!
Wohle im werten Ständlein stehn wirtten über die Welt!
Nicht der Reue hat sie jemals das Haus auch nicht ohne Stille
In die neuen großen Zeit! In die neuen großen Zeit!

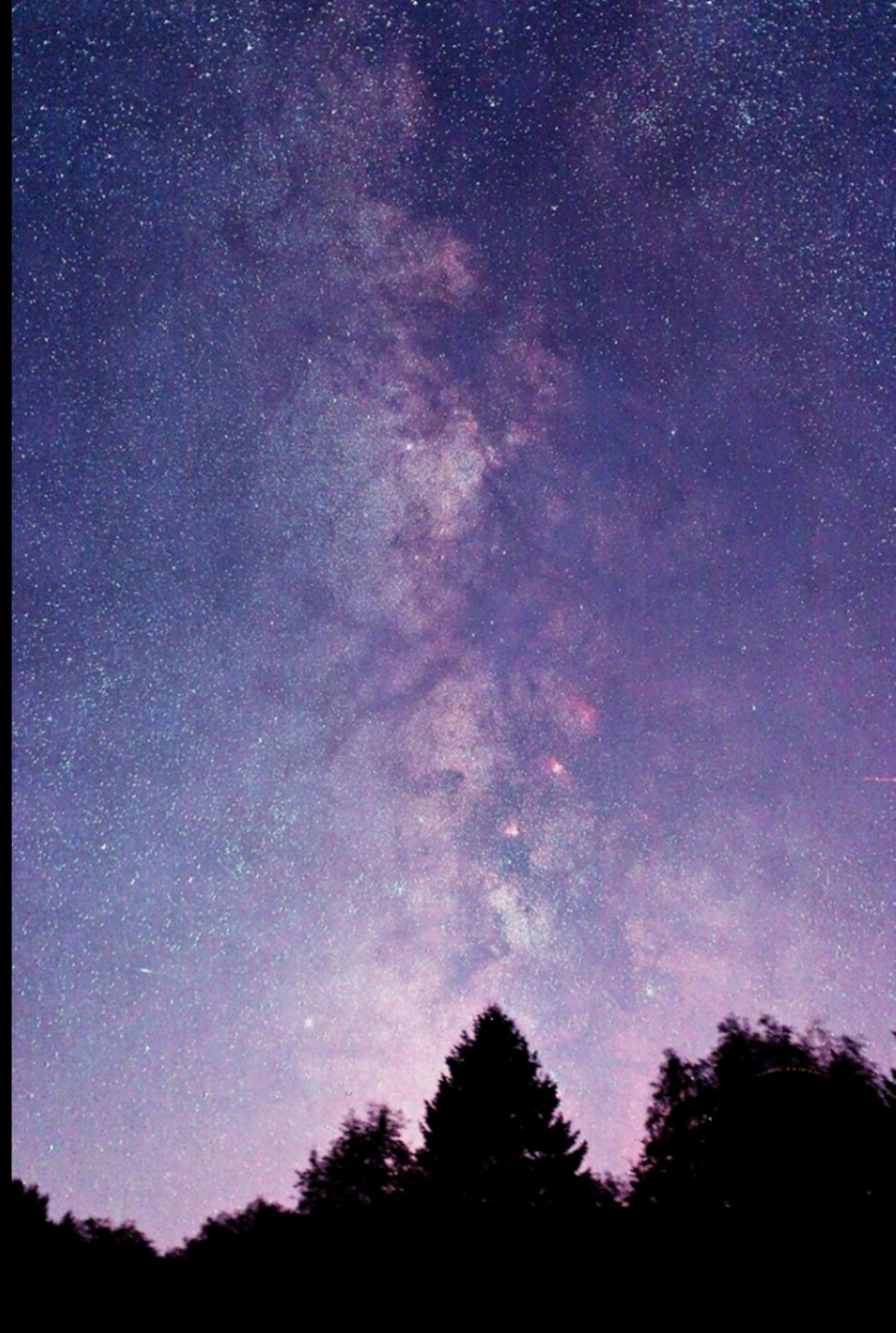


- one of the oldest cultural assets
- source of inspiration and curiosity
- unique experience for each





**Many Europeans
have never seen
the Milky Way with
their proper eyes.**



The Value of Darkness at Night

- Human Health

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- essential for survival

- Biodiversity

- nocturnal animals and plants
- Breeding behavior
- Seasonal bird migration

- Nature Experience

- one of the oldest cultural assets
- Source of inspiration and curiosity
- unique experience for each



The night sky is a natural resource.

Natural dark skies do provide habitats for wildlife and allow natural processes and rhythms to evolve unimpeded.



The night sky is a cultural resource.

It is a basic nature experience.

The starry night sky is enticing children's interest in science and is concealing some of the greatest questions humans have ever asked.



Natural nightscapes are economic resources.

They provide essential services from nature.

With the popularity of stargazing programs, night walks, full moon hikes and other nighttime activities, natural nightscapes are an economic resource as well.

My call to you:

- Recognize, that the natural, dark nightscapes and starry night skies are important components of nature that need to be protected
- Consider light pollution abatement and protection of natural nightscapes as one of your vital tasks and passion.



„Weißer Stein“ in Hellenthal-Udenbreth at Sternenpark Eifel National Park



Additional information and useful links:



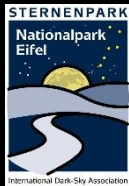
www.sterne-ohne-grenzen.de



www.sternenregion-eifel.de



www.sternenpark-nationalpark-eifel.de



<http://www.nationalpark-eifel.de/sternenpark>



www.darksky.org



www.lichtverschmutzung.de