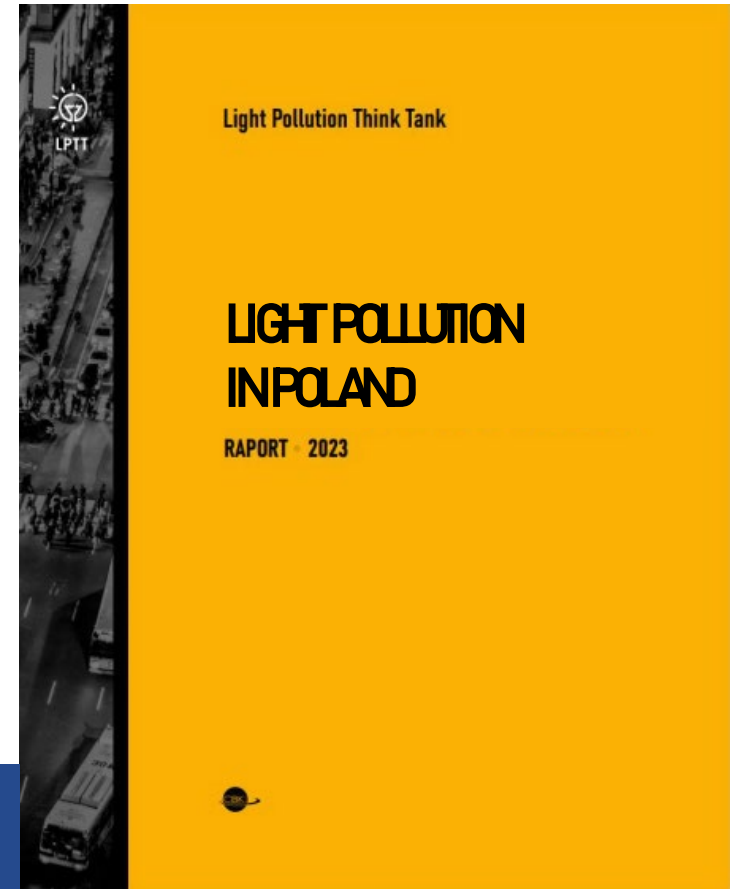


The first report on light pollution in Poland and other non-governmental initiatives aimed at protecting natural night

Karolina Skorb, MSc, BEng (PhD Student),
Dr Grzegorz Iwanicki, et al.



➤ The aims

- To present **selected activities** of Light Pollution Think Tank and POLARIS OPP Association (1st part)
- To present the **main results** of Poland's **first comprehensive report** on light pollution (2nd part)



➤ 1st Part - POLARIS OPP



- Activities since 90.
- Astronomical events
- LP-related activities
- „Dark Sky Poland” program, Dark Sky Festivals



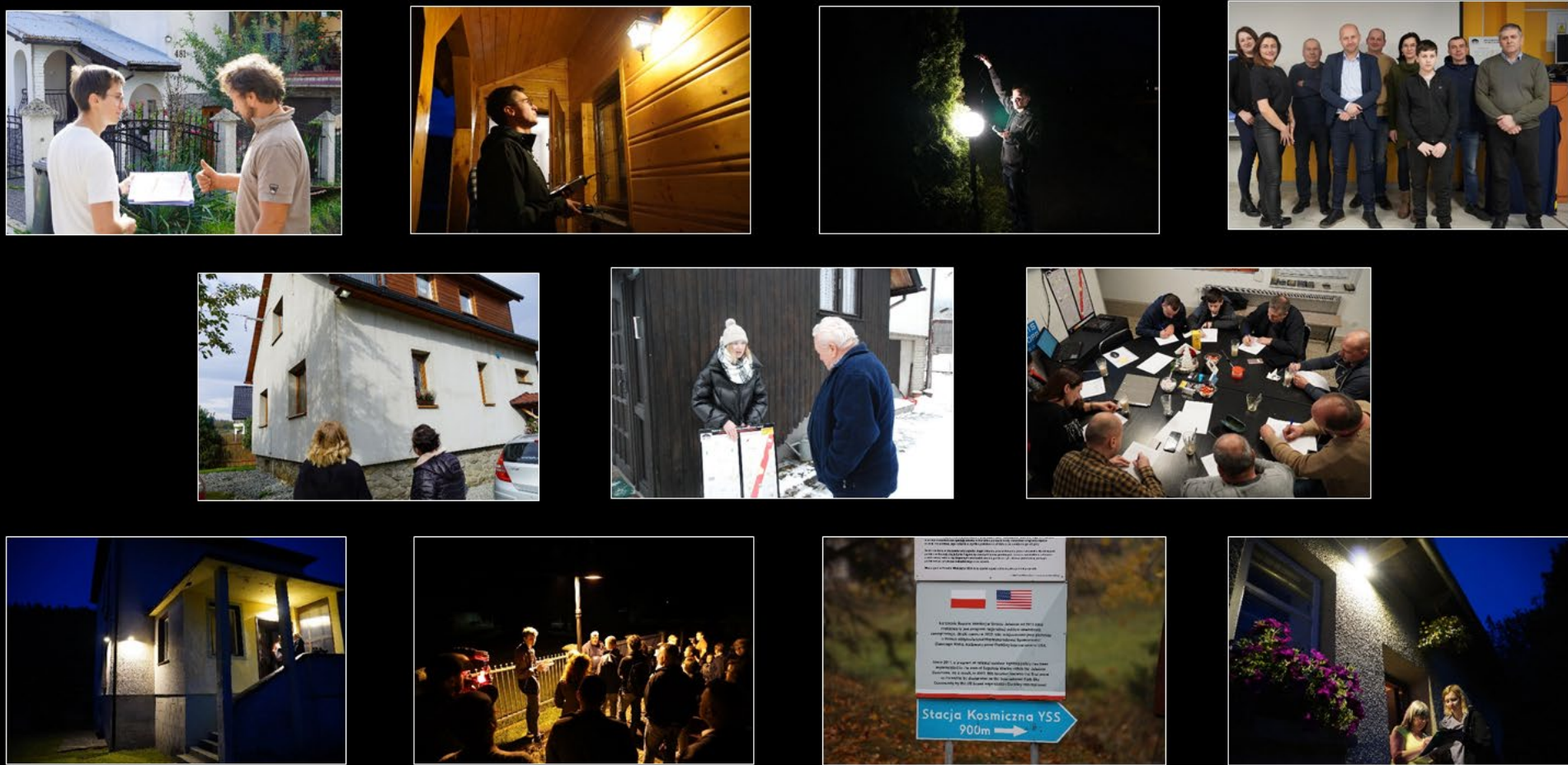
- Almost 200 street lamps changed
- The first such investment in Poland



- an „illuminating mask” for the local church

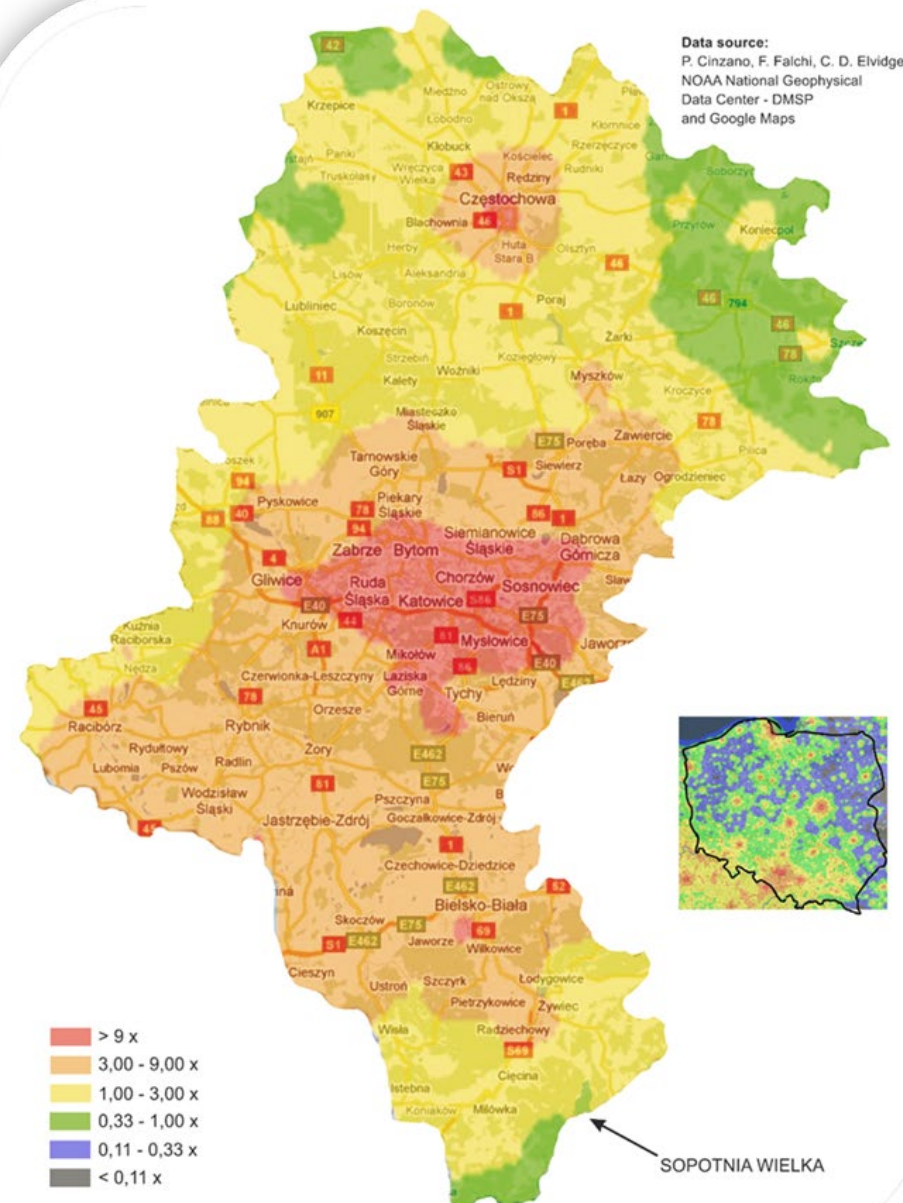
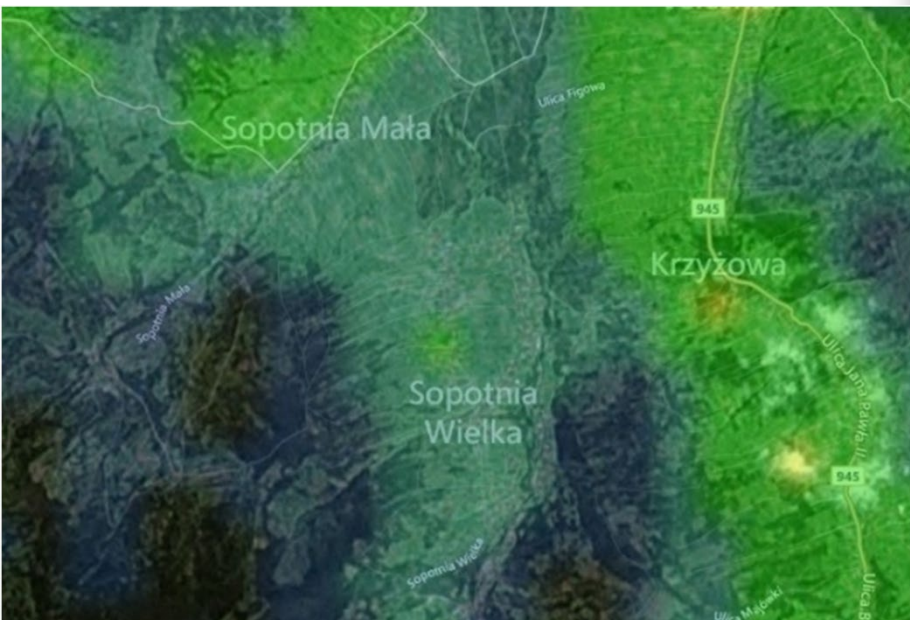


- replacement of lighting in 175 households









- **10th International Dark Sky Community in Europe**

Official ceremonies were held on November 11, 2023



- LPTT emerged in 2022 r.

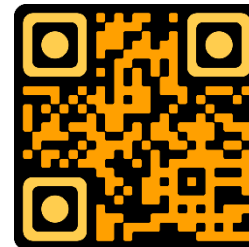
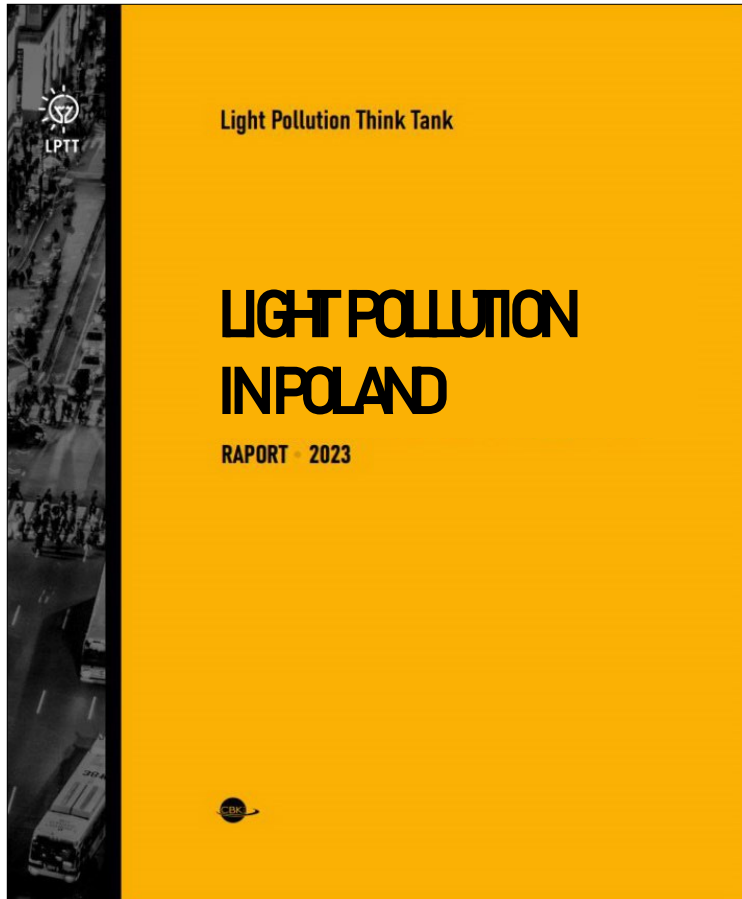


Selected LPTT activities since 2022:

- interdisciplinary guide,
- billboard campaign in 8 cities,
- creation of educational „LP-KIT’s”,
- co-organisation of scientific conferences,
- creation of first report on LP in Poland...



➤ 2nd part – Report, edited by prof. Andrzej Kotarba

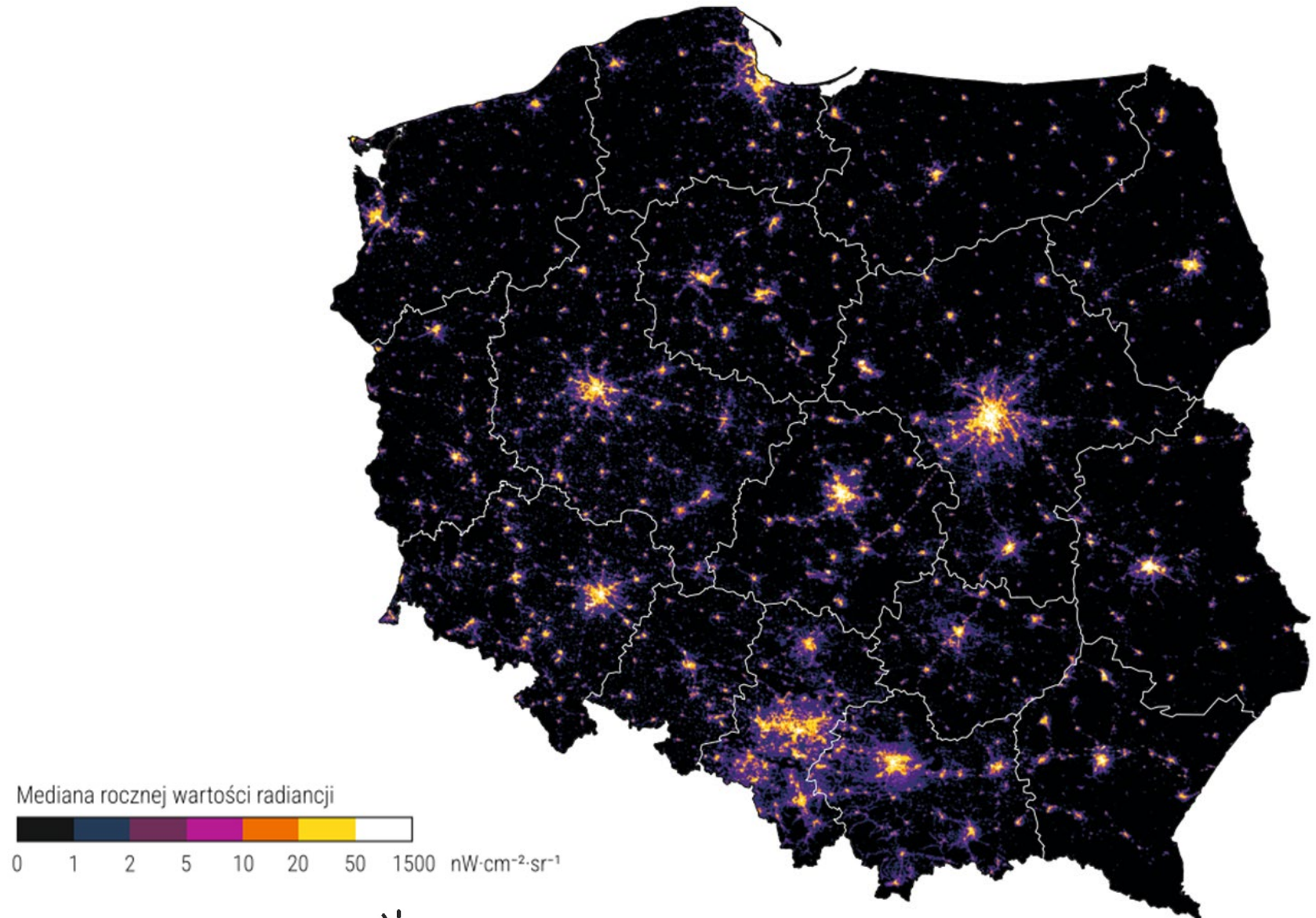


<http://lptt.org.pl/>

- Published in December 2023
- Printed and on-line versions
- Downloaded 22 000 times
(in February more than 7k times)

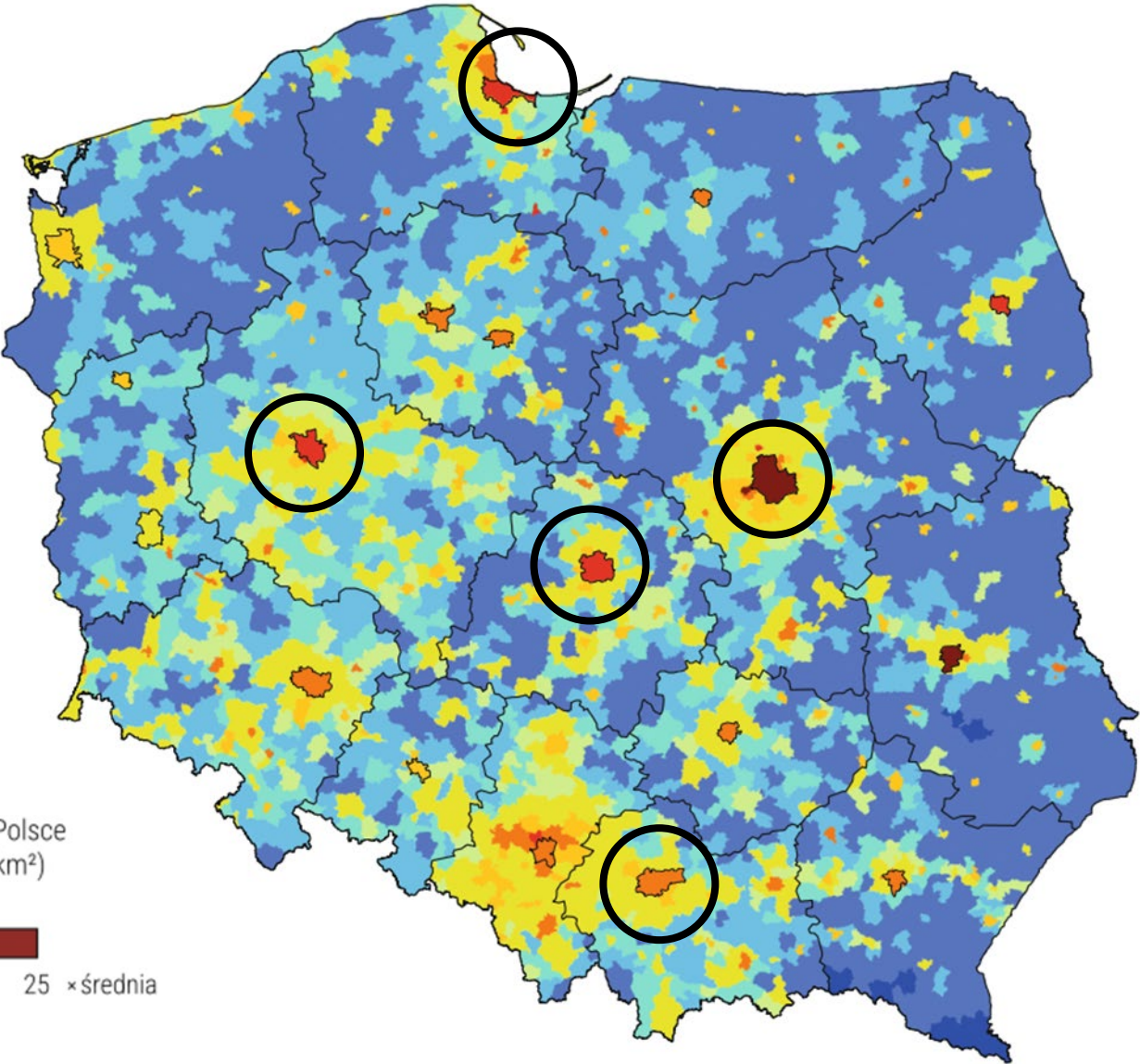


Median annual value of radiance

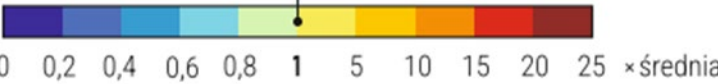


5 cities = 10% of light

Warsaw
Łódź
Kraków
Gdańsk
Poznań

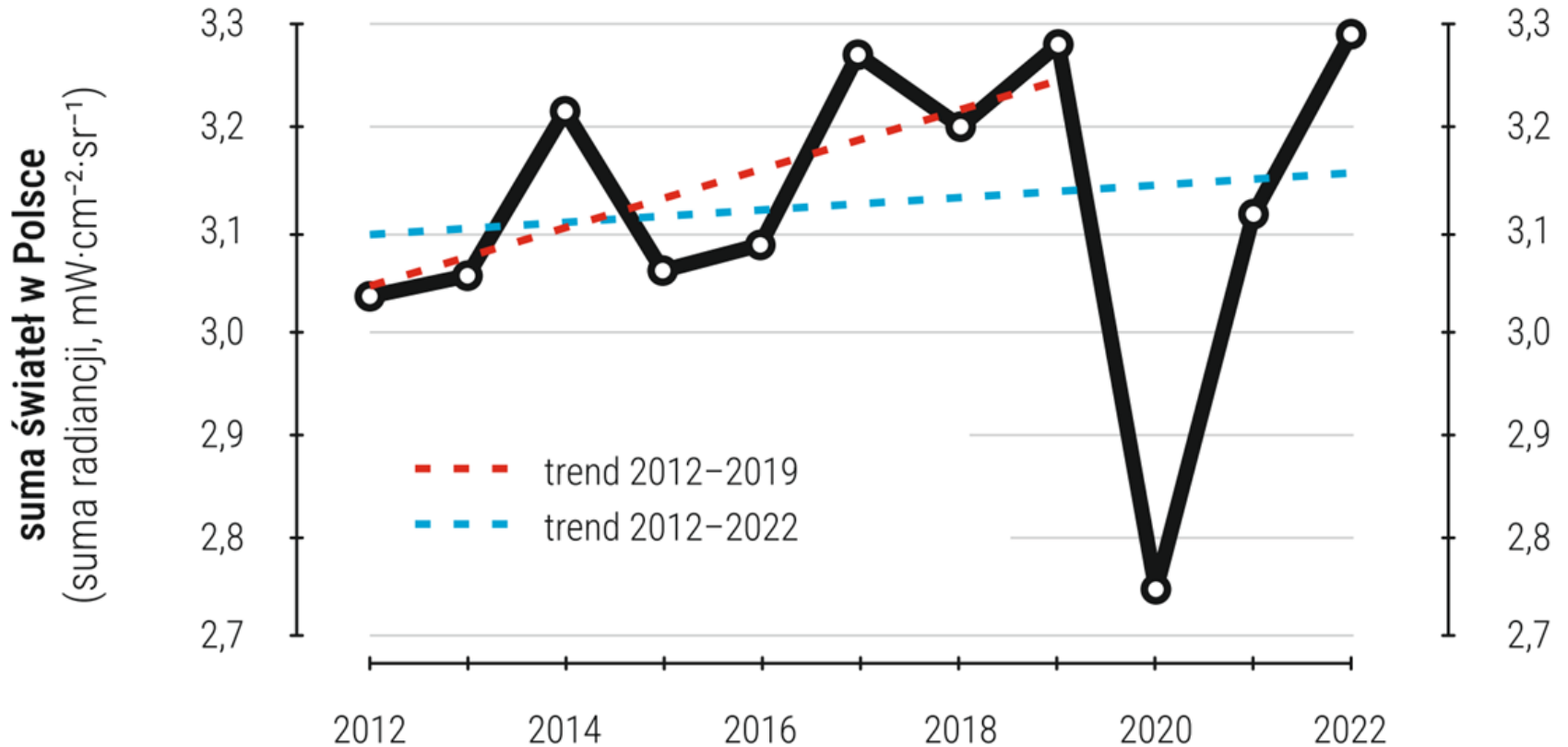


Wielokrotność wartości średniej dla gminy w Polsce
(średnia dla gminy = $10,55 \text{ nW}\cdot\text{cm}^{-2}\cdot\text{sr}^{-1}$ na 1 km^2)



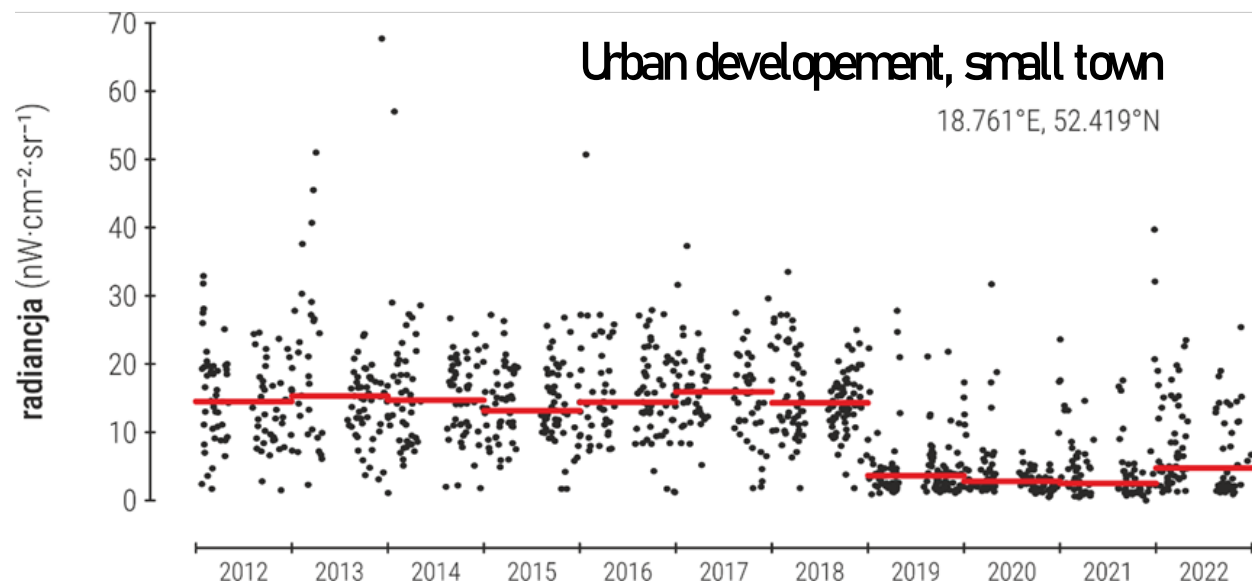
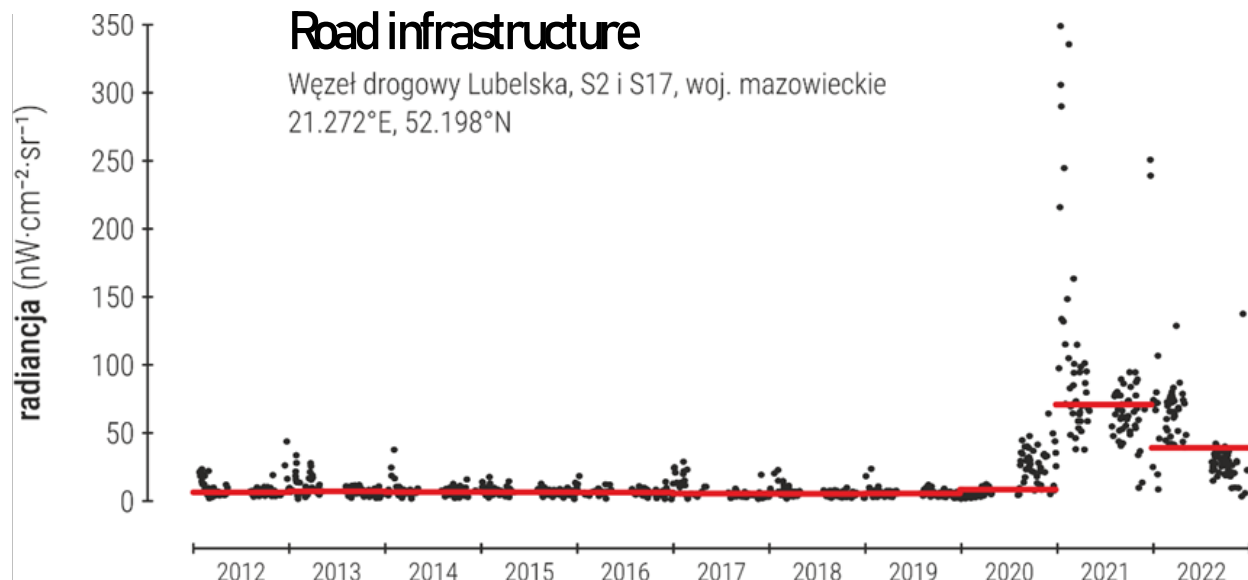
Multiple of the average value for the municipality

Sum of light in Poland



Poland 6.0% brighter in 2022 vs decade 2012-2021
(+8.5 vs 2012, +19.9% vs 2020)





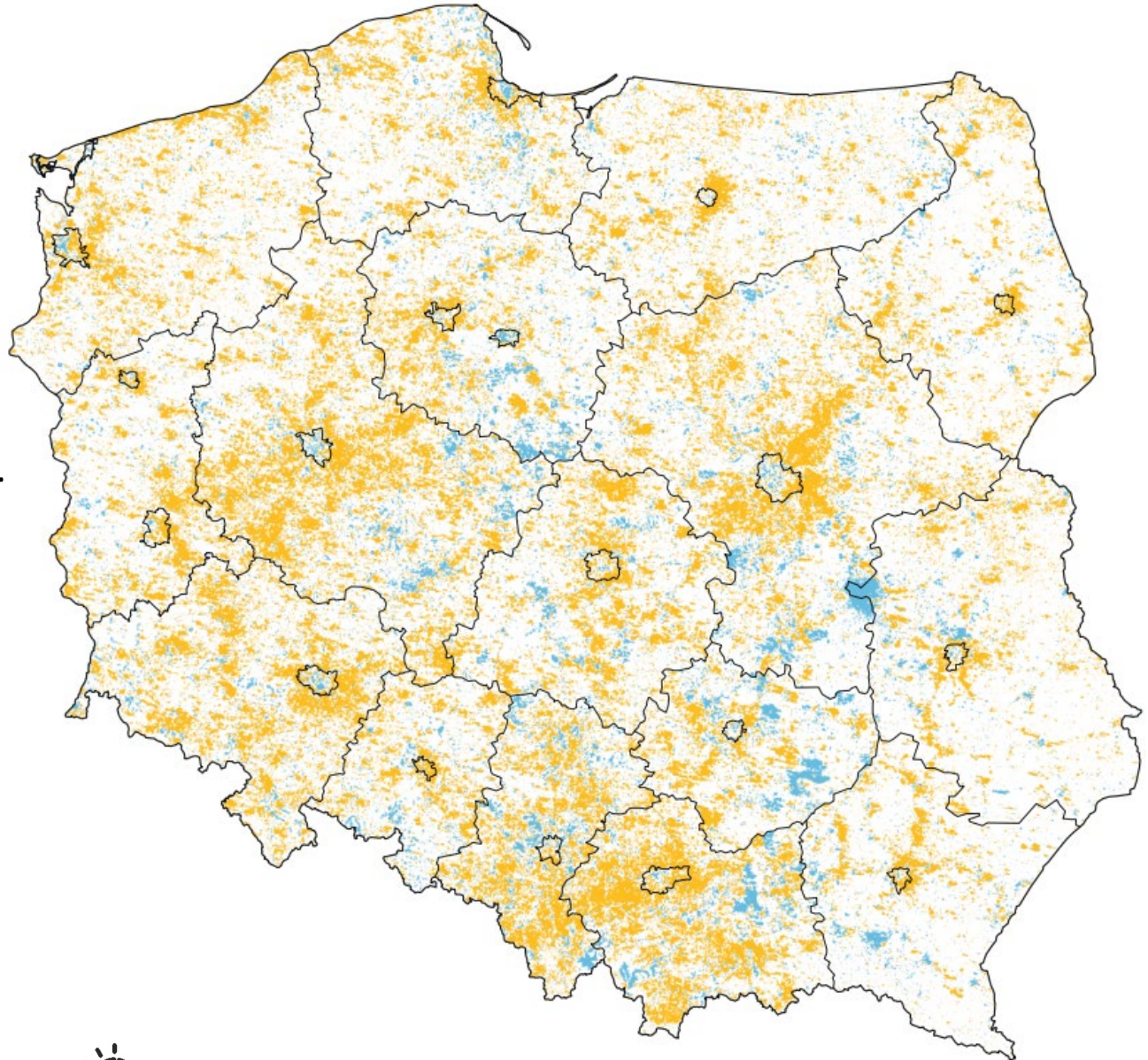
Brighter vs darker areas

2022 vs
decade 2012-2021

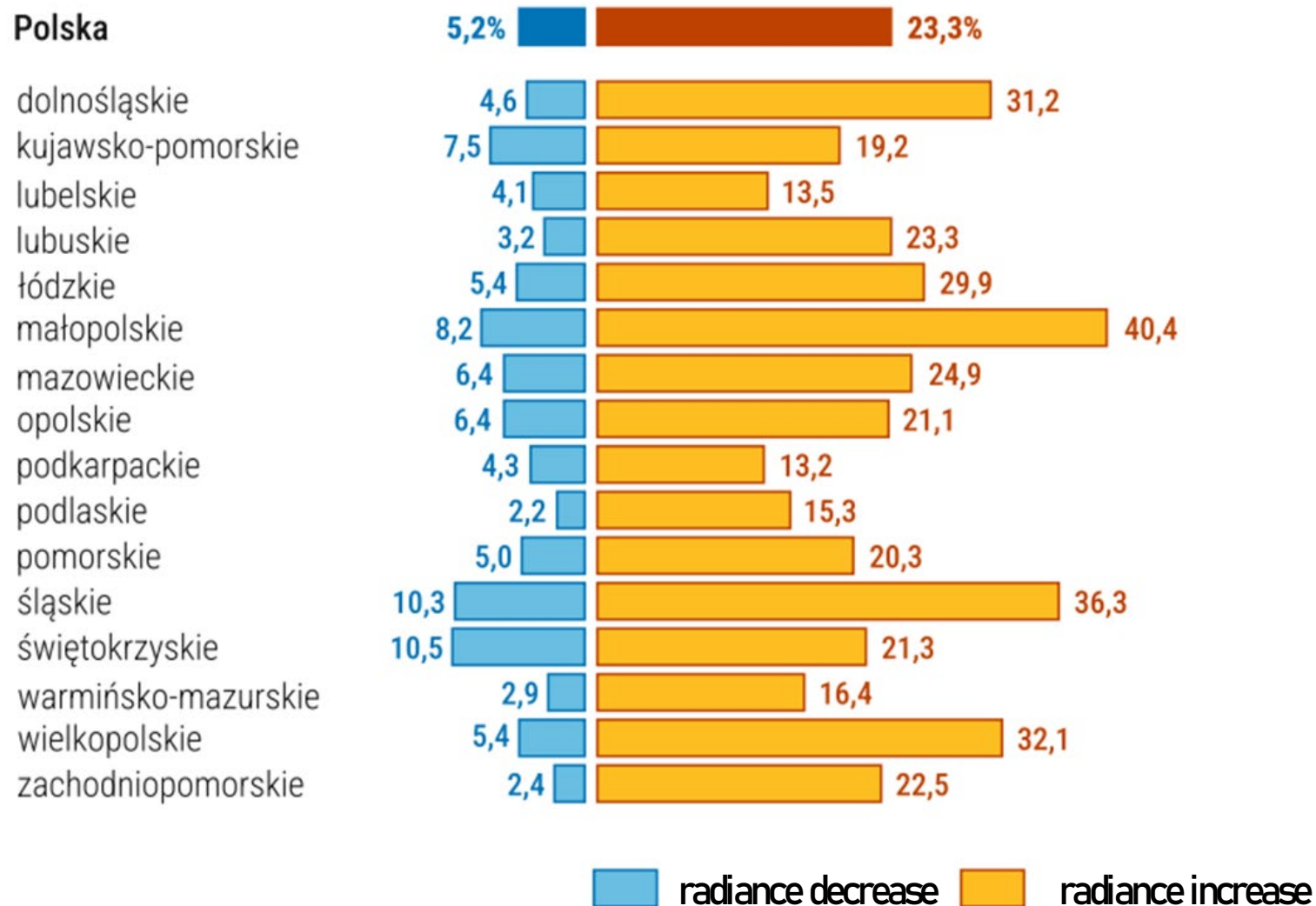
23,3% +

5,2% -

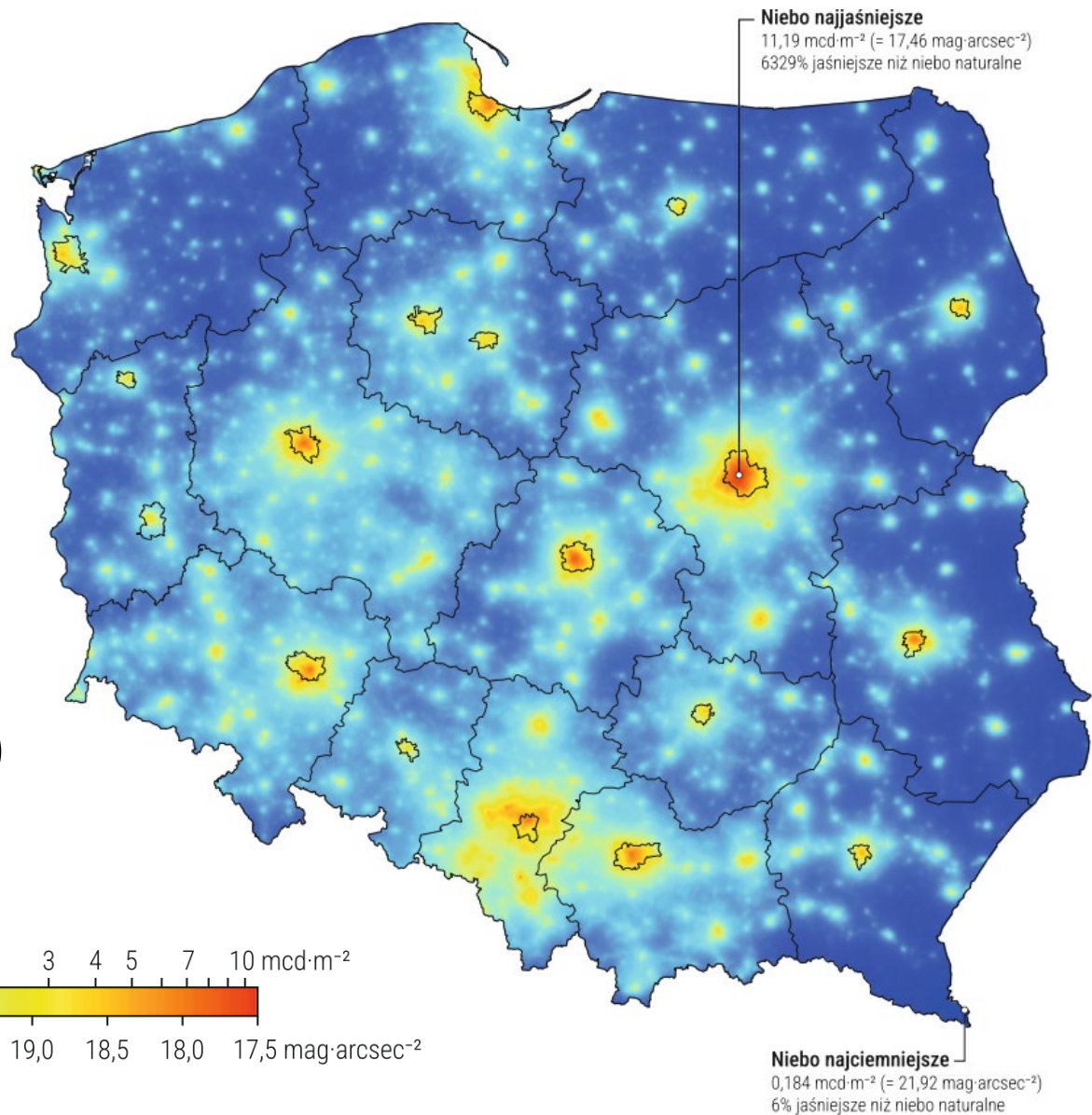
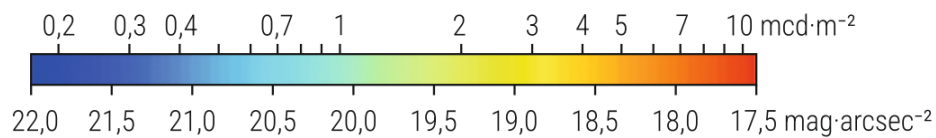
71,5% ?



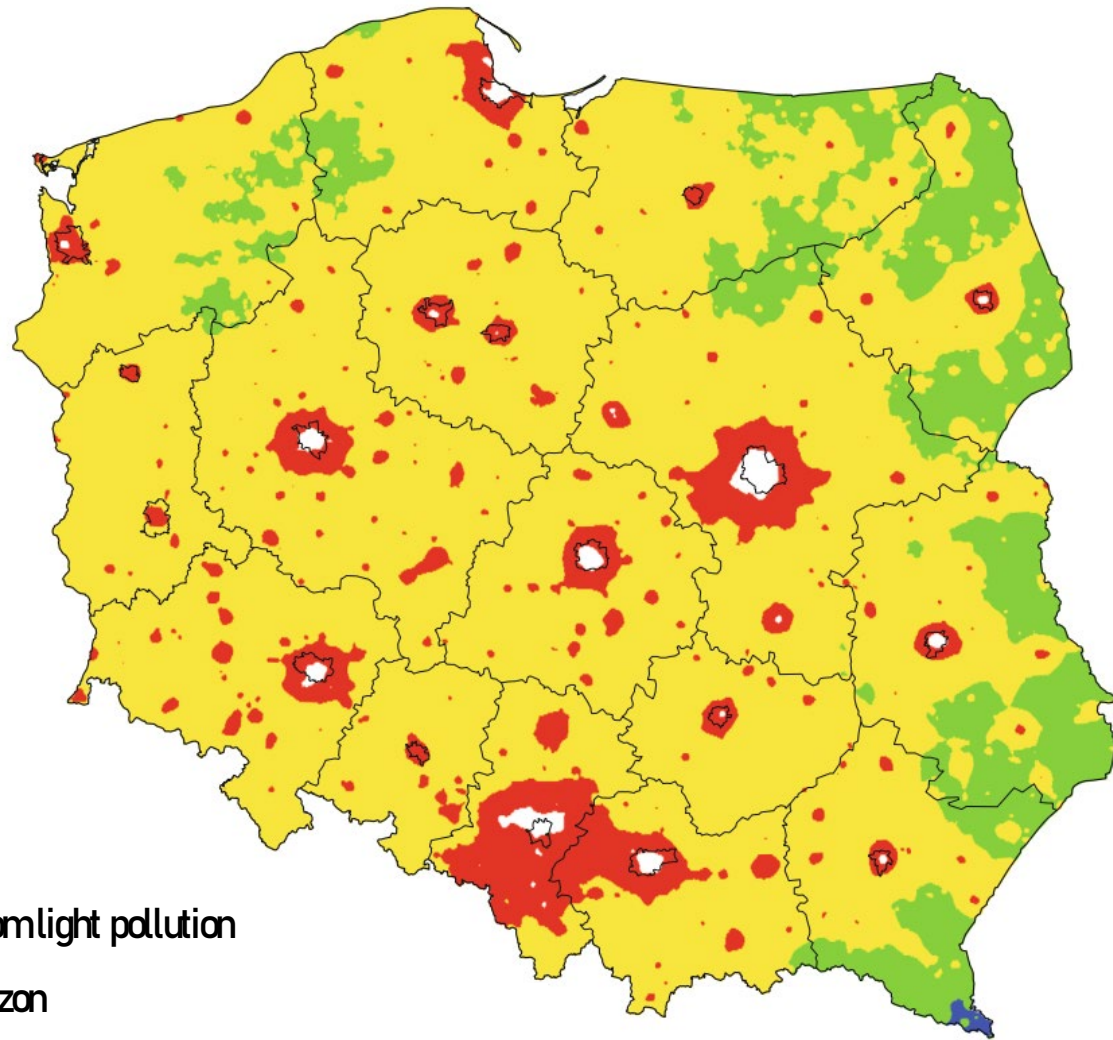
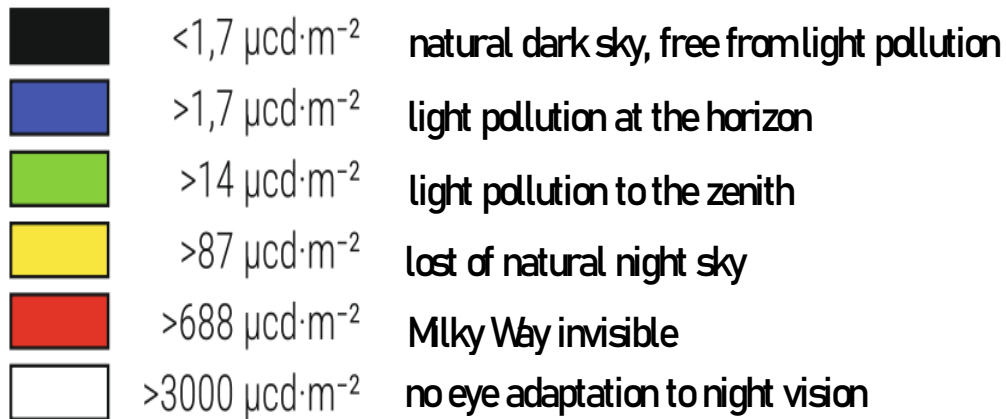
Polska



On average over
Poland
147% brighter
($21,0 \text{ mag} \cdot \text{arcsec}^{-2}$)



Degree of loss of night sky over Poland



➤ Summary of LP in Poland:

- occurs everywhere in Poland
→ Sky brightness at zenith 147% on average, from 6% to 6329%
- affects everyone, albeit to varying degrees
→ Warsaw vs Bieszczady; let's reduce in cities, don't generate where there is minimal
- intensifies despite COVID-19 experience
→ VIIRS +6% vs. 2012, +20% vs. 2020; not all linear changes
- results no night conditions in major cities
→ Eyes of 20% of Polish population do not adapt to scotopic vision
- is probably larger than reported by the Report
→ VIIRS limitations: not sensitive to blue light (LED), data only around from 1:30 at night



Thank you!



Light Pollution Think Tank



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Light pollution conference 2024

March 6th 2024, Prague

Czech Academy of Sciences, Room No. 206

Ministry of the Environment
of the Czech Republic



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