

My Sky at Night

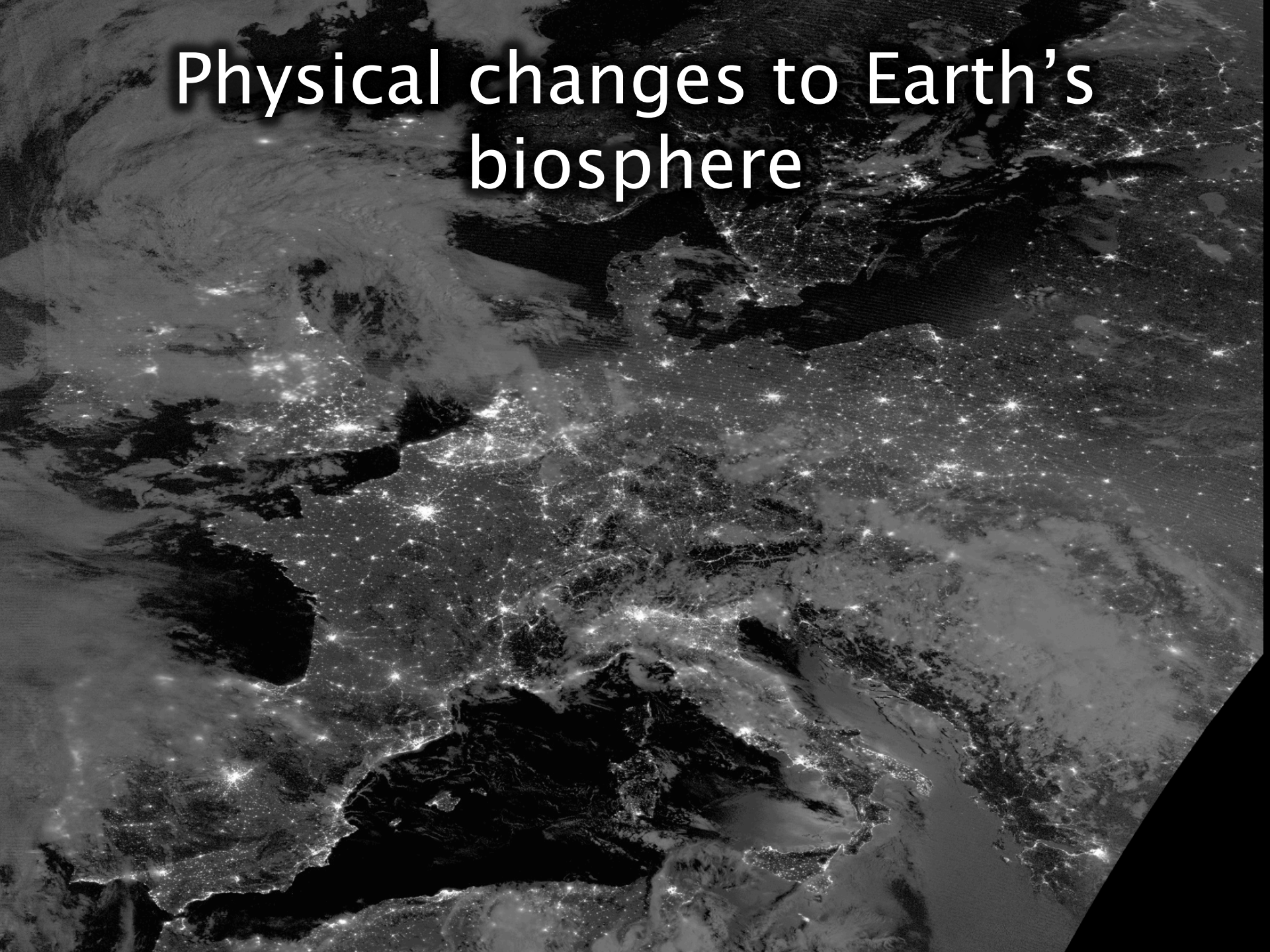
Christopher Kyba
GFZ German Research Centre for Geoscience
&
interactive scape GmbH

GEO-XII Side Event on Citizen GEOSS
Mexico City, Mexico
November 10, 2015

Physical changes to Earth's biosphere

- Chemical pollution
- Greenhouse gases
- Plastics
- Radioisotopes
- Land use / impermeable surfaces

Physical changes to Earth's biosphere



Outdoor lighting is changing rapidly!

Milan 2012

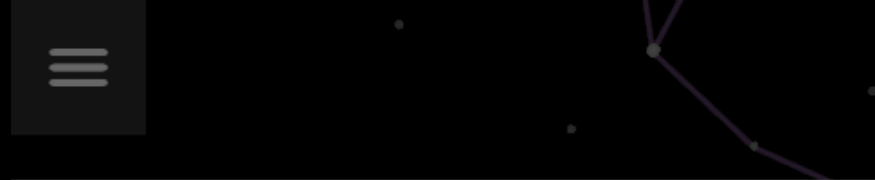
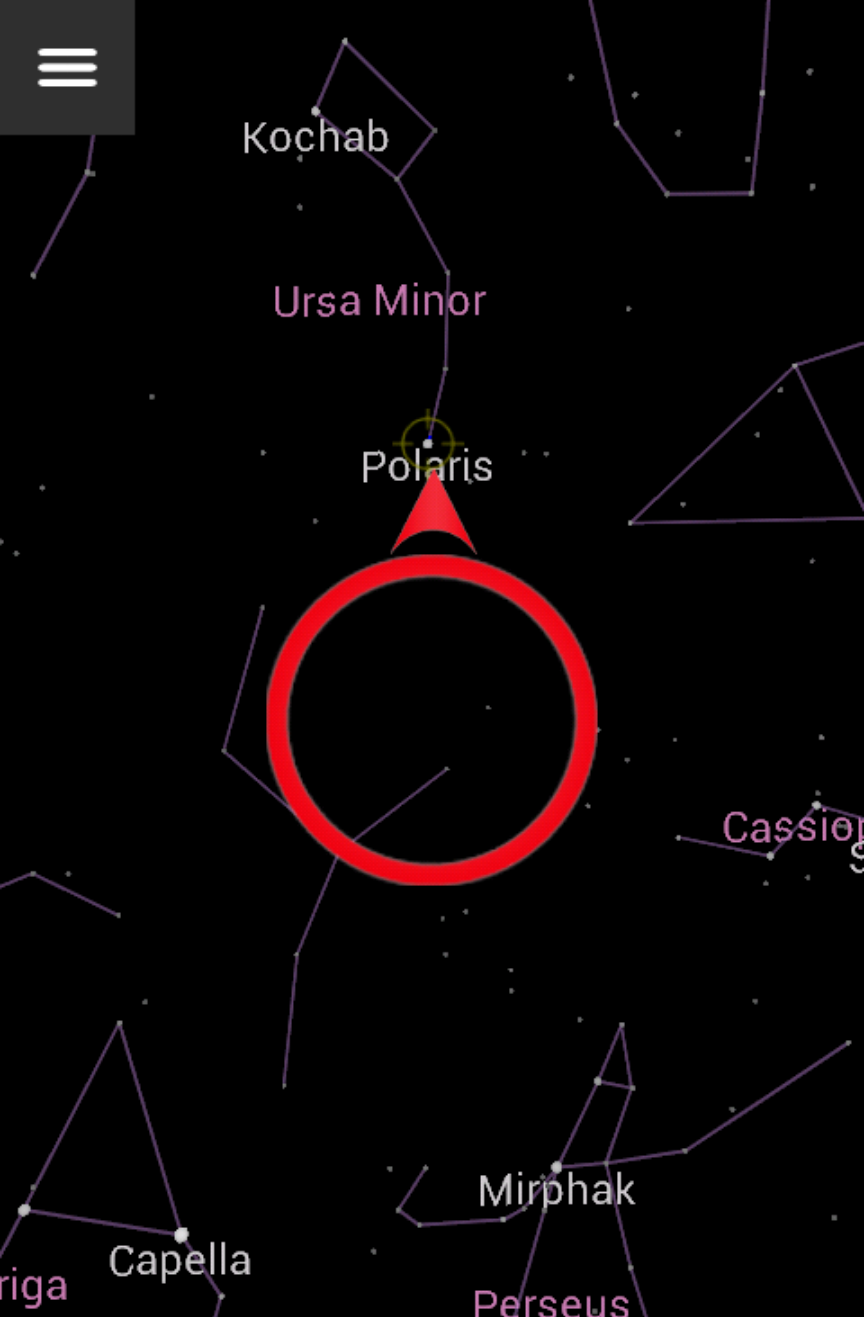


Milan 2015



Photos: ESA/Cities at night/IAU/NASA

Related work:
Kyba et al. (2015) Remote Sens



STAR NOT VISIBLE

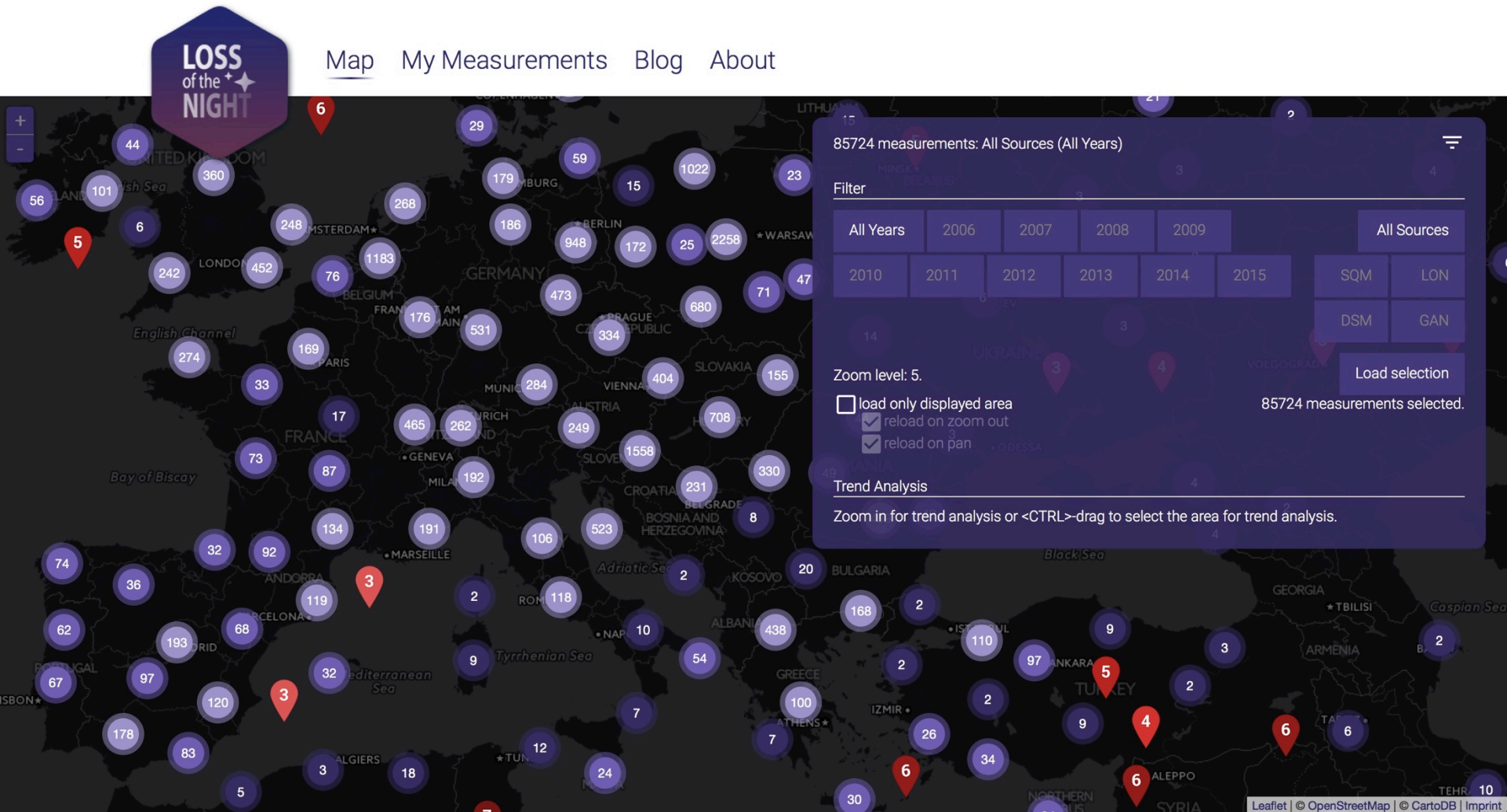
You selected the option Not visible or unsure. Please tell us more about the reasons.

- ☐ An object is in the way
- ☐ Clouds or mist block the view
- ☐ I'm not sure if it's there or not
- ☐ Visible only with averted vision
- ☐ The star is not visible

Back

Submit

Observation Locations



Examining data points

LOSS
of the
NIGHT

[Map](#) [My Measurements](#) [Blog](#) [About](#)

3299 measurements: LON (All Years)

(52.532, 13.338)
Limiting magnitude: 3.96 ± 0.4
Observed stars: 58

2014-08-01 01:33

(52.532, 13.338)
Limiting magnitude: 3.86 ± 0.51
Observed stars: 37

2014-07-22 00:39

(52.532, 13.338)
Limiting magnitude: 3.5 ± 0.1
Observed stars: 40

2014-03-27 21:15

(52.532, 13.338)
Limiting magnitude: 4.03 ± 1.12
Observed stars: 43

2014-02-20 21:42

(52.532, 13.338)
Limiting magnitude: 3.81 ± 0.1
Observed stars: 19

2014-01-01 19:57

(52.532, 13.338)
Limiting magnitude: 3.81 ± 0.28
Observed stars: 64

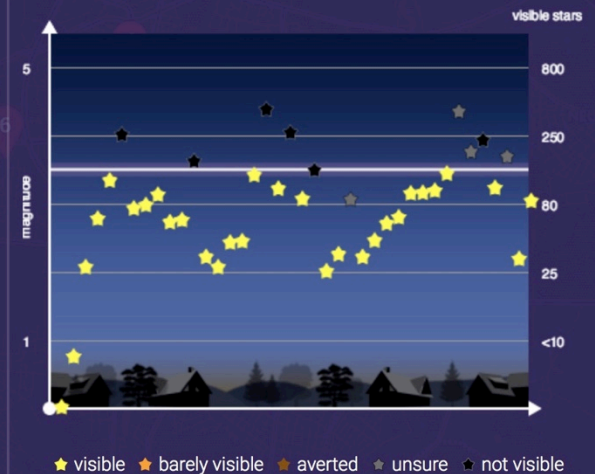
Measurement: 2014-07-22 00:39

(52.532, 13.338)

Limiting magnitude: 3.5 ± 0.1

Source: Loss of the Night (14007)

Observed stars: 40



Examining data points

2015-09-19 23:20

(37.970, 23.722)

Limiting magnitude: 3.67 ± 0.1

Observed stars: 14

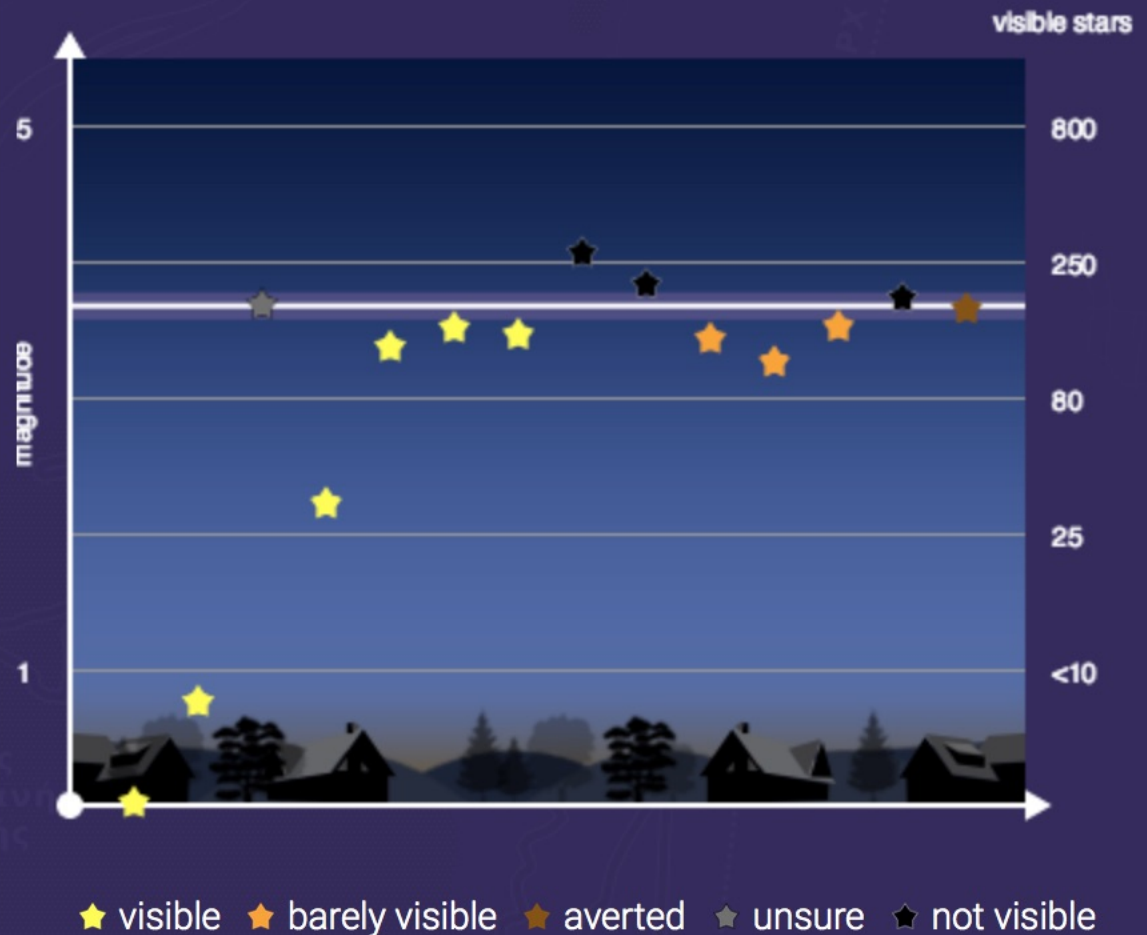
Measurement: 2015-09-19 23:20

(37.970, 23.722)

Limiting magnitude: 3.67 ± 0.1

Source: Loss of the Night (25506)

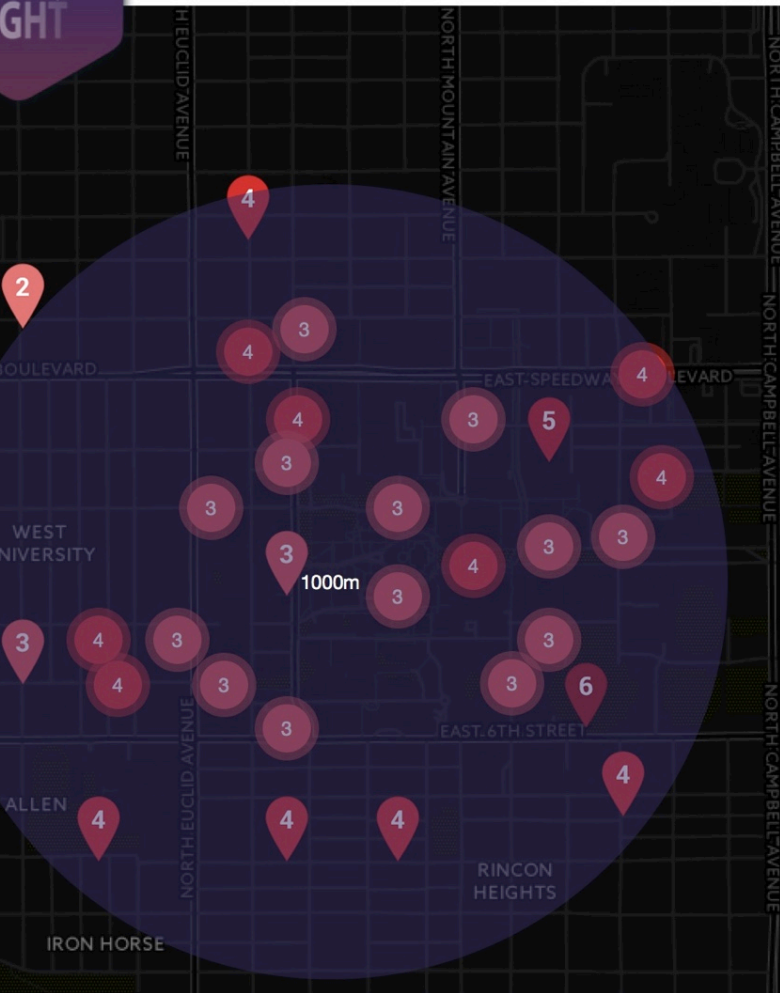
Observed stars: 14



Trend Analysis



[Map](#) [My Measurements](#) [Blog](#) [About](#)

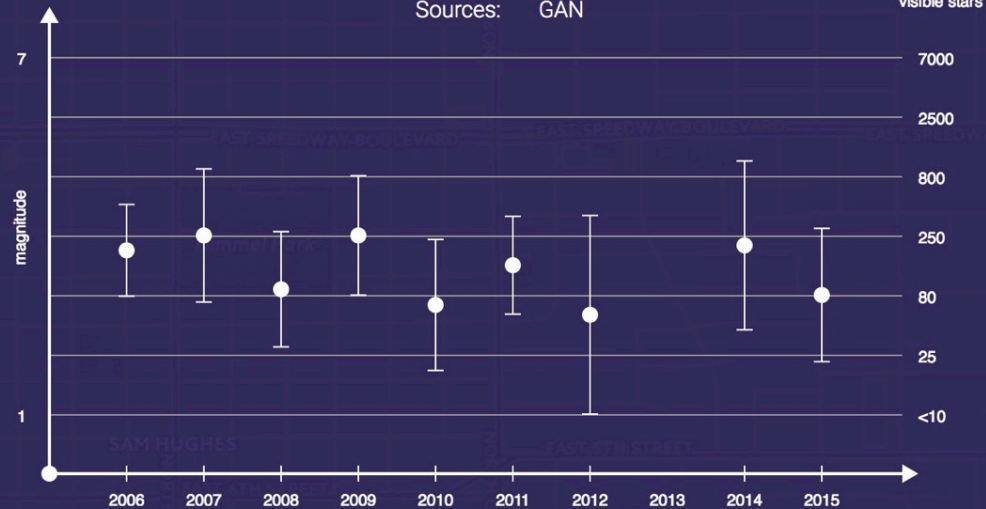


Trend Analysis: 1000m around (32.2313, -110.9558), 165 measurements.

Average NELM with confidence interval per year in selected area.

Sources: GAN

visible stars



Acknowledgements



MyGEOSS, Horizon 2020

GFZ German Research Centre for Geosciences

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