

# Munich Stargazing Map: Exploring The Night Sky



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The goal of this project was to create a practical guide for stargazers in Munich, identifying eight prime locations where the night sky can be observed with minimal light pollution. We aimed to ensure these spots were easily accessible to everyone. By offering both scenic and practical locations, we sought to connect city dwellers with the beauty of the night sky while raising awareness of the importance of preserving dark skies.

## RESEARCH METHOD

The project involved collecting key spatial datasets, including light pollution<sup>[1]</sup>, elevation (DEM)<sup>[2]</sup>, slope<sup>[2]</sup>, land use<sup>[3]</sup>, and public transport accessibility<sup>[4][5]</sup>. Spatial analysis in ArcGIS Pro, particularly weighted overlay analysis, was used to integrate these datasets and identify optimal stargazing locations. Each parameter was assigned a specific weight, and individual classes within each dataset were scored accordingly to ensure a robust assessment of the most suitable sites.

## LIMITATIONS

Several limitations were encountered during the project. One of the primary challenges was the availability and resolution of light pollution data, which could impact the accuracy of some of the selected spots. The lack of field validation further limited the confirmation of certain spots, relying instead on secondary data sources and community feedback.

## LOOKING AHEAD

Future work on the stargazing map could include the integration of real-time data, such as weather updates and visibility conditions, to improve the user experience. Additionally, the development of mobile-friendly applications and interactive features, such as constellation guides or augmented reality tools, could enhance user engagement and enrich the stargazing experience.

## CONCLUSION

The stargazing map not only highlights optimal viewing spots in Munich but also serves as a tool for encouraging outdoor exploration and fostering appreciation for astronomy. We have created a valuable resource that supports both casual observers and serious stargazing enthusiasts, contributing to a greater understanding of urban light pollution.

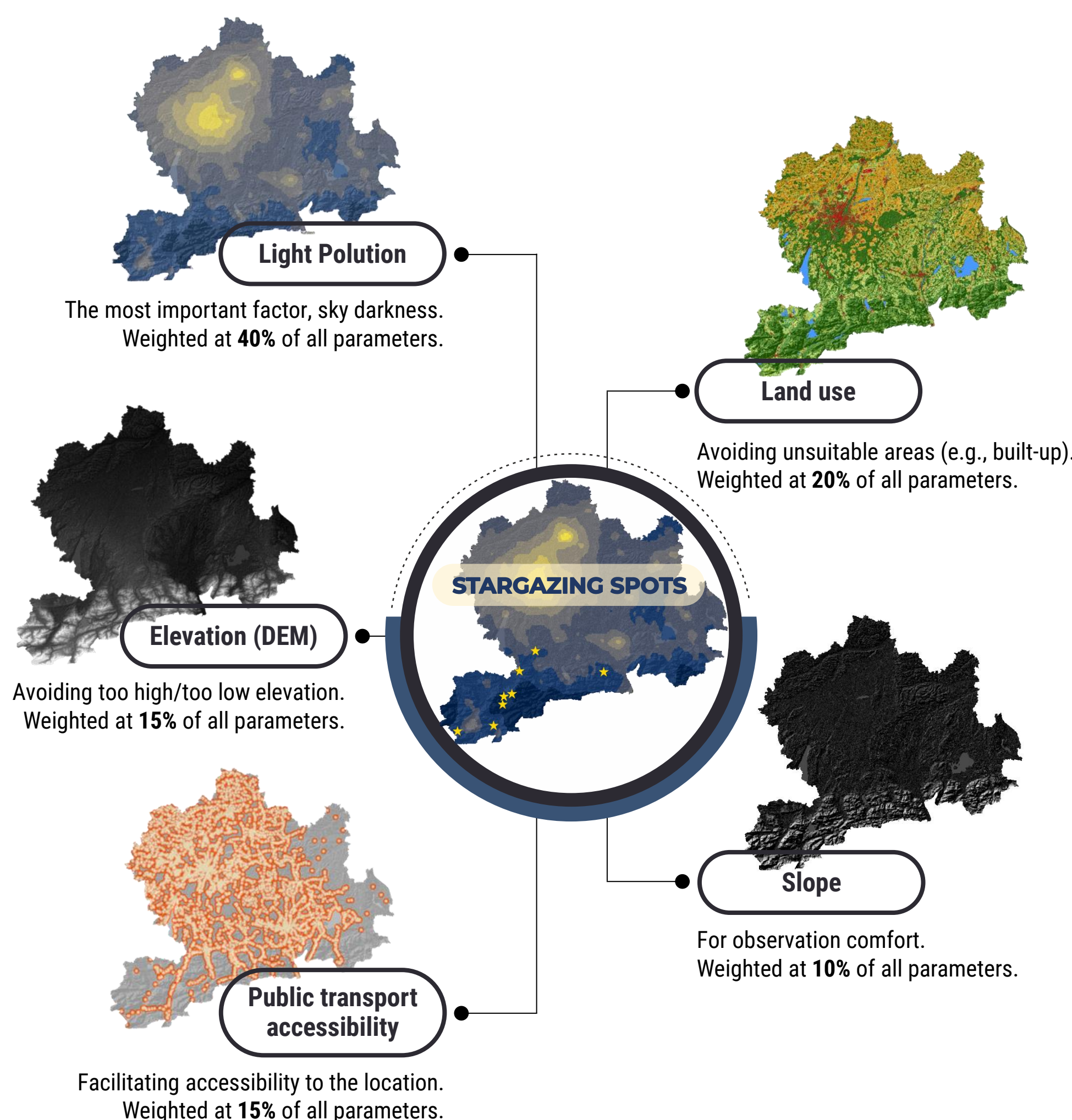


Fig. 1 Stargazing Spots Workflow

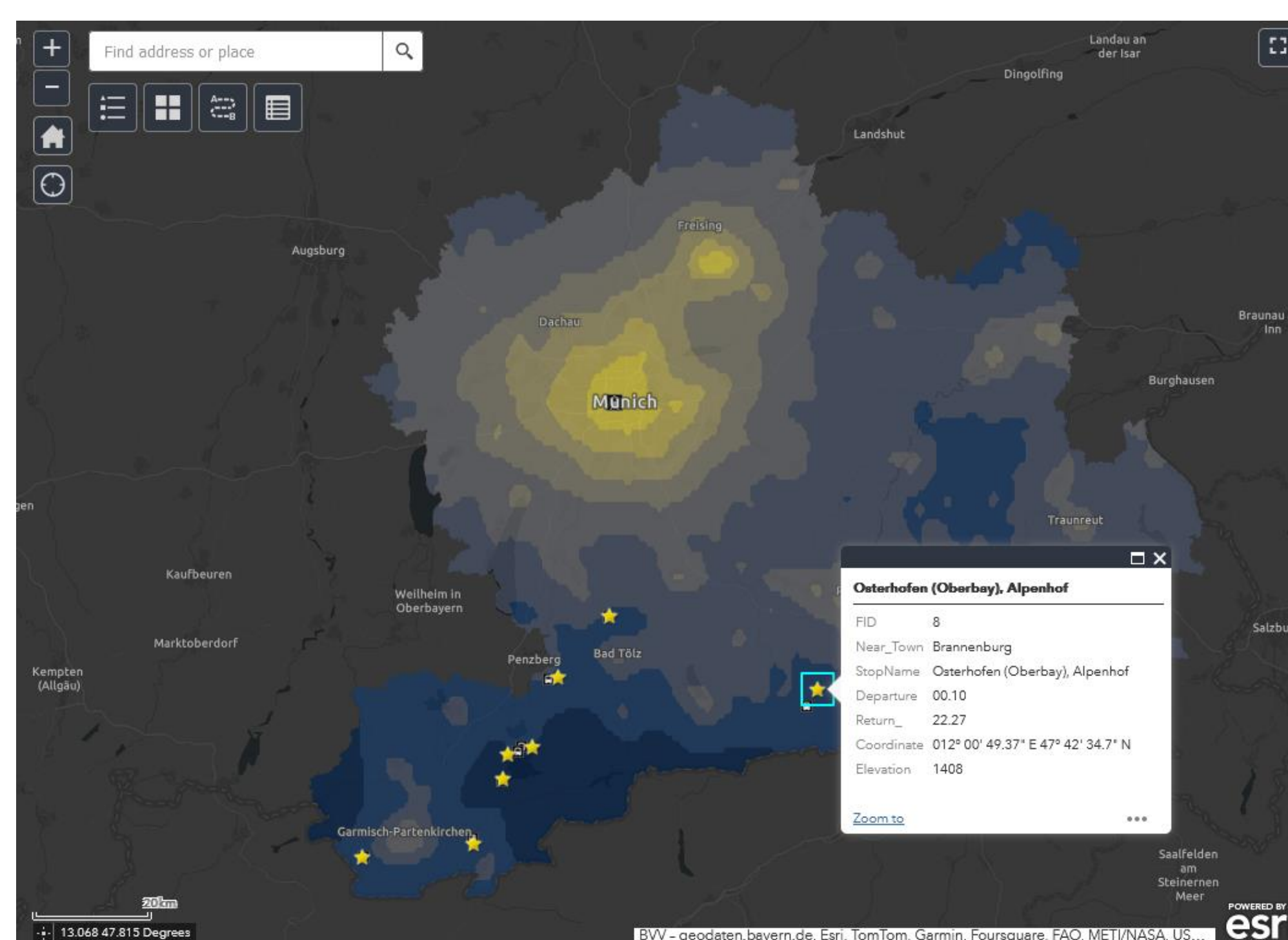


Fig. 2 Munich Stargazing Map

## IMPRINT

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## KEYWORDS

Map, stargazing, light pollution, munich, weighted overlay, spatial analysis

## LINK

<https://tu-muenchen.maps.arcgis.com/apps/webappviewer/index.html?id=e57349a74a534bc483d418cfb1b57081>



SCAN ME TO OPEN THE MAP

## REFERENCES

- [1] David Lorenz, "Light Pollution Atlas 2022" <https://djlorenz.github.io/astronomy/lp2022/>
- [2] Shuttle Radar Topography Mission (SRTM). <https://earthexplorer.usgs.gov/>
- [3] Copernicus Land Monitoring Service (CLMS). <https://land.copernicus.eu/en/map-viewer>
- [4] Open Street Map. <https://www.openstreetmap.org/>
- [5] MVV Journey Planner. <https://efa.mvv-muenchen.de/index.html#trip@enquiry>

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