Luling Liu

No.19, Xinjiekouwai St, Haidian District, Beijing, China
(86)15600061231 lulingliu@mail.bnu.edu.cn
https://lulingliu.github.io/

EDUCATION

Beijing Normal University **Sep 2021 – Jun 2024**

MSc in Cartography and Geographic Information Engineering

- Second-class academic scholarship, Beijing Normal University, 2023
- First-class academic scholarship, Beijing Normal University, 2022
- Third prize in "Map Cup" Digital Intelligence Agriculture Competition, Syngenta Group China, 2022

China University of Geosciences (Beijing) **Sep 2017 – Jun 2021**

BSc in Geographic Information Science

- Second prize in CUMCM (Contemporary Undergraduate Mathematical Contest in Modeling) in Beijing Contest District, CSIAM (China Society for Industrial and Applied Mathematics), 2019

PUBLICATIONS AND PAPERS

Liu, L., Cao, X., Li, S. et al. A 31-year (1990–2020) global gridded population dataset generated by cluster analysis and statistical learning. Sci Data 11, 124 (2024). https://doi.org/10.1038/s41597-024-02913-0

Li, S., Cao, X., Zhao, C., Jie, N., **Liu, L.,** Chen, X., & Cui, X. 2023. Developing a Pixel-Scale Corrected Nighttime Light Dataset (PCNL, 1992–2021) Combining DMSP-OLS and NPP-VIIRS. *Remote Sensing*, **15**(16), 3925. https://doi.org/10.3390/rs15163925

Liu, L., Cao, X., Li, S., & Jie, N. GlobPOP: A 33-year (1990-2022) global gridded population dataset generated by cluster analysis and statistical learning (2.0) [Data set]. Zenodo. 2024. https://doi.org/10.5281/zenodo.7813301 (Code: https://github.com/lulingliu/GlobPOP)

RESEARCH GRANTS

National Natural Science Foundation of China – General Program and State Key Laboratory of Remote Sensing Science Student Project, Beijing

Principal Investigator **Apr 2023 – Apr 2024**

- Subject: Estimation and analysis of the proportion of global population with access to electricity based on long-term nighttime light remote sensing data
- Funding: $2,750

EXPERIENCE

National Natural Science Foundation of China - Major Program Sub-Project, Beijing

Team Member **Apr 2022- Dec 2023**

- Subject: Land surface anomaly remote sensing response characteristics and semantic representation
- Role: - Surveyed a total of 54 articles, and completed a 10,000-word report containing remote sensing response characteristics for three types of land surface anomalies.
  - Collected 42 real remote sensing early warning cases for land surface anomaly and relevant remote sensing data.

Special Project of Science and Technology Basic Resources Survey, Beijing

Team Member **Jan 2022 - Dec 2022**

- Subject: Knowledge Points on the Overall Distribution and Variation of Land Cover
- Role: - Extracted about hundreds of knowledge points about the overall distribution and changes of the three land cover types of forest, shrub and grassland from 2000 to 2020.
  - Automatically completed all knowledge point documents in batches using R.

Crop Field Survey, Shandong Province

Team Member **Jul 2022 - Sep 2022**

- Role: - Participated in collecting 736 sample points and 11 drone flight areas.
  - Designed rules for vegetable extraction using radar remote sensing feature and peak growth period extraction on the GEE platform, which contributed to our team winning the third prize in the 2022 “Map Cup” Digital Intelligence Agriculture Competition.

LANGUAGE AND TECHNICAL SKILLS

Language:

- English: IELTS scores 7.0, proficient in communication (oral:7.0) and writing.
- Chinese: Native speaker

Technical:

- **R**:
  - Proficient in temporal-spatial analysis of large datasets using 'sf', 'raster', and 'terra'.
  - Extensive experience in cleaning and processing panel data, particularly socioeconomic data, and skilled in modeling panel data for specific research needs, such as population prediction.
  - Advanced data presentation skills utilizing 'ggplot2'.
- **Python**:
  - Massive experience creating maps for publication
  - Skilled in spatial data manipulation using 'GDAL'.
  - Knowledge of 'numpy' and 'matplotlib' for simple data visualization and data wrangling.
- **JavaScript**:
  - Experience in ecological environment monitoring and minor crop identification using Google Earth Engine.
- **Software:**
  - GIS: QGIS (Advanced), ArcMap (Advanced), GRASS GIS (Intermediate)
  - Remote Sensing: ENVI (Advanced), Google Earth Engine (Intermediate)
  - Statistics: RStudio (Advanced), Excel (Advanced)

REFERENCES

Jin Chen (Team leader)
Professor
State Key Laboratory of Remote Sensing Science, Beijing Normal University

Xin Cao (Supervisor)
Associate professor
State Key Laboratory of Remote Sensing Science, Beijing Normal University