# Geographic display of linguistic data

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August 15, 2024

## Contents

# 1   Visualisation in comparative linguistics

visualisation in comparative linguistics is mainly used to inspect data and formulate hypotheses and generalisations

Previous research (Rohrdantz et al. 2012; McNew, Derungs & Moran 2018; Comrie 2020)

dialect maps (Rabanus 2018; Rabanus 2020)
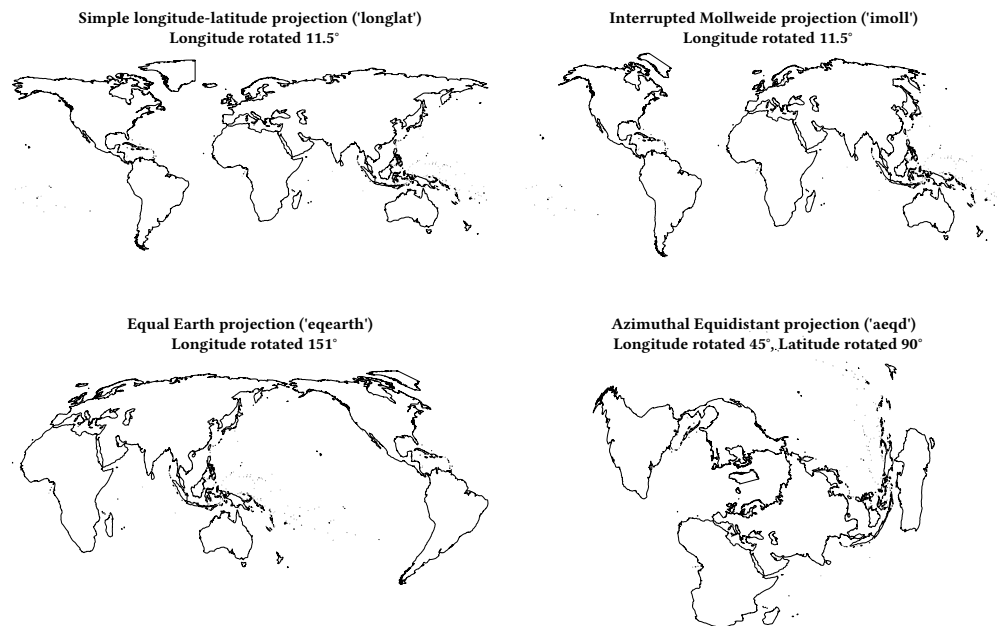
# 2 Projection



Simple longitude-latitude projection ('longlat')
Longitude rotated 11.5°

Interrupted Mollweide projection ('imoll')
Longitude rotated 11.5°

Equal Earth projection ('eqearth')
Longitude rotated 151°

Azimuthal Equidistant projection ('aeqd')
Longitude rotated 45°, Latitude rotated 90°

Figure 1: Different projections

# 3 Weighting

Populationdata from (Amano et al. 2014)

# 4  Interpolation

# 5  Prediction

# 6  Conclusion

# References

Amano, Tatsuya, Brody Sandel, Heidi Eager, Edouard Bulteau, Jens-Christian Svenning, Bo Dalsgaard, Carsten Rahbek, Richard G. Davies & William J. Sutherland. 2014. Global distribution and drivers of language extinction risk. *Proceedings of the Royal Society B: Biological Sciences* 281(1793). 20141574. doi:10.1098/rspb.2014.1574.

Comrie, Bernard. 2020. Mapping the world's languages: From data via purpose to representation. In Stanley D. Brunn & Roland Kehrein (eds.), *Handbook of the changing world language map*. Springer. doi:10.1007/978-3-030-02438-3_131.

McNew, Garland, Curdin Derungs & Steven Moran. 2018. Towards faithfully visualizing global linguistic diversity. In Nicoletta Calzolari, Khalid Choukri, Christopher Cieri, Thierry Declerck, Sara Goggi, Koiti Hasida, Hitoshi Isahara, et al. (eds.), *Proceedings of the eleventh international conference on language resources and evaluation (LREC 2018)*. Miyazaki, Japan: European Language Resources Association (ELRA). https://aclanthology.org/L18-1129.

Rabanus, Stefan. 2018. Dialect maps. In Charles Boberg, John Nerbonne & Dominic Watt (eds.), *The handbook of dialectology*, 348–367. Oxford: Wiley. doi:10.1002/9781118827628.ch20.

Rabanus, Stefan. 2020. Language mapping worldwide: Methods and traditions. In Stanley D. Brunn & Roland Kehrein (eds.), *Handbook of the changing world language map*, 103–129. Springer. doi:10.1007/978-3-030-02438-3_151.

Rohrdantz, Christian, Michael Hund, Thomas Mayer, Bernhard Wälchli & Daniel A. Keim. 2012. The world's languages explorer: Visual analysis of language features in genealogical and areal contexts. *Computer Graphics Forum* 31(3pt1). 935–944. doi:10.1111/j.1467-8659.2012.03086.x.