



# Is Map Generalisation a Computational Cartography Problem?

Guillaume Touya

## ► To cite this version:

Guillaume Touya. Is Map Generalisation a Computational Cartography Problem?. CompCarto 2022, May 2022, Bonn, Germany. hal-03677309

**HAL Id: hal-03677309**

**<https://hal.science/hal-03677309>**

Submitted on 2 Jun 2022

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution 4.0 International License

# Is Map Generalisation a Computational Cartography Problem?

---

*Guillaume Touya*

LASTIG, Univ Gustave Eiffel, IGN-ENSG, F-77420 Champs-sur-Marne, France

Map generalisation is one of the processes of map design, when the spatial data used to make the map is too detailed for the scale of the map. Map generalisation seeks to abstract and simplify this detailed spatial information to represent it on the map with a good legibility. Map generalisation involves different types of transformations: selection, simplification, displacement, aggregation, collapse, etc. Historically, computational geometry researchers greatly contributed to the automation of map generalisation by proposing algorithms to achieve some of these atomic transformations. But the research questions addressed by researchers on map generalisation have changed over the years, with the progress on the automation, and the changes in the way people use maps (apparition of multi-scale zoomable web maps). Is map generalisation still a computational cartography problem?

To discuss this rhetorical question, this presentation illustrates the current issues of map generalisation, with past contribution of computational cartography and possible computational cartography problems. For instance, there are still needs for new specific algorithms, either because maps are much more diverse, or because the larger scale range calls for new transformations. As maps tend to mix elements of topographic maps and elements of schematized maps, computational cartography is also relevant to solve this task.

Finally, as the current trend in map generalisation is the use of deep learning models, the presentation discusses the relevance of computational cartography techniques in this context.

The slides of the talk are available online:

<https://fr.slideshare.net/MapMuxing/invitedtalkcompcartotouyapdf>