

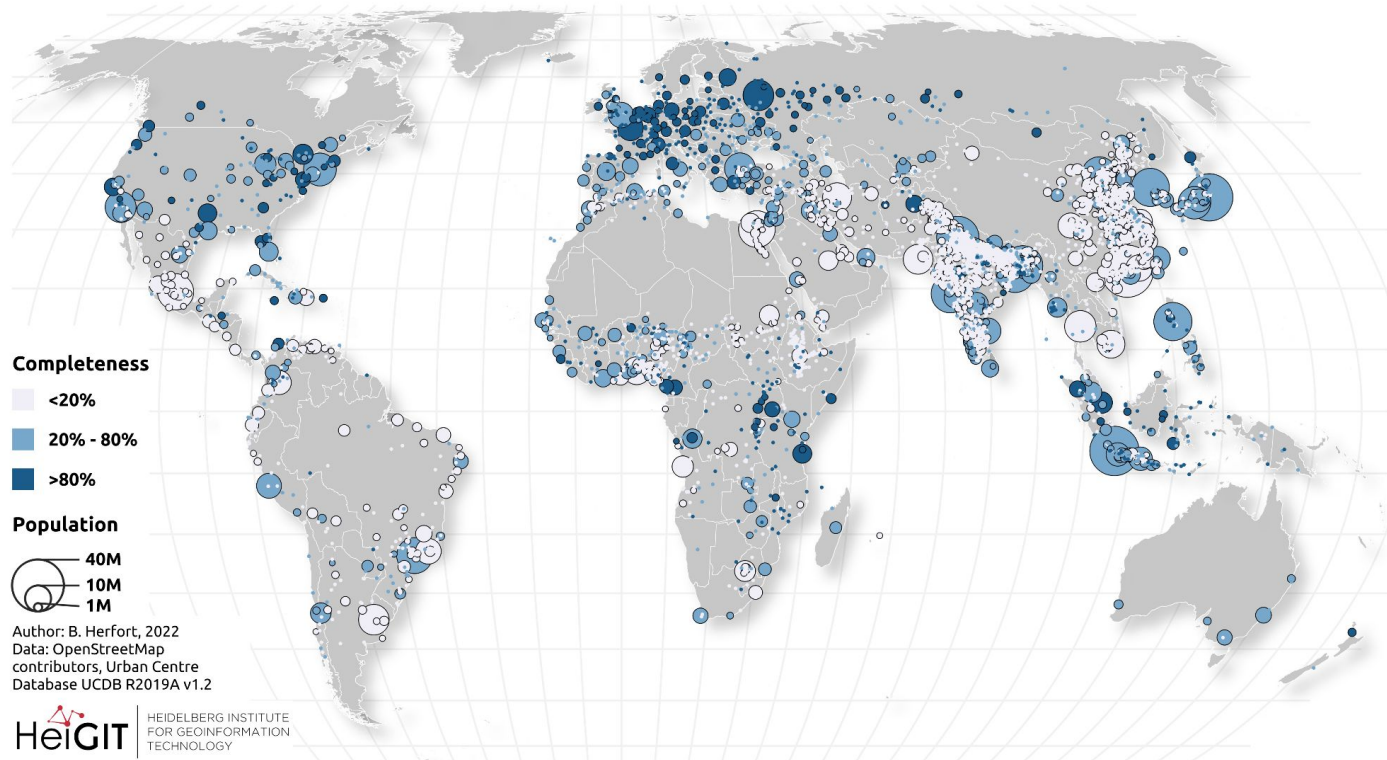
Inequalities in the completeness of OpenStreetMap buildings in urban centers

Benjamin Herfort

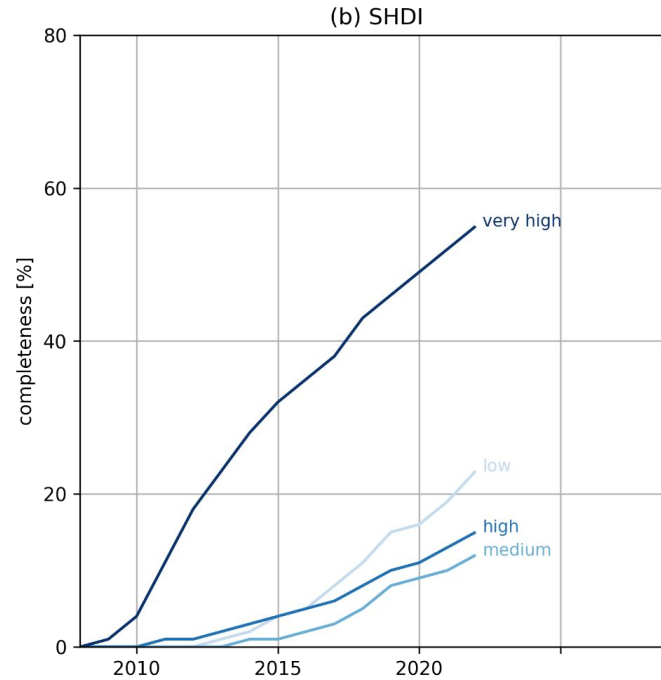
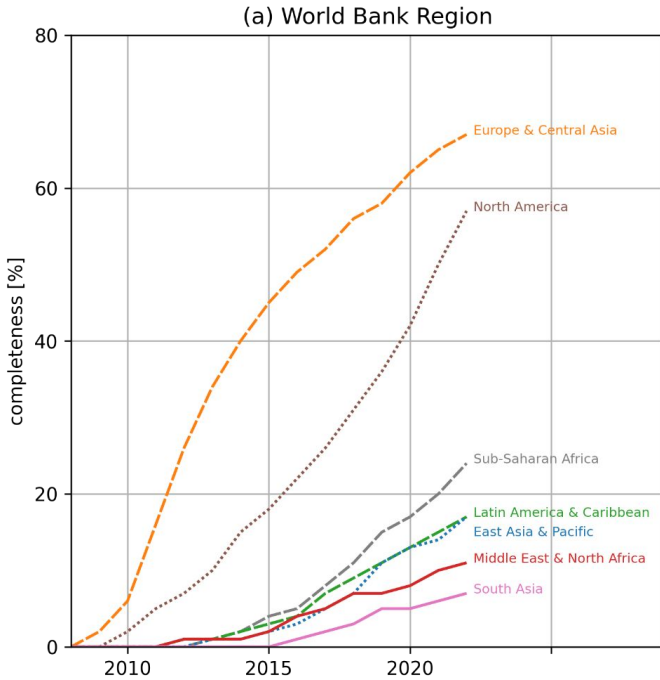
analysis conducted together with Jennings Anderson, Sven Lautenbach, Alexander Zipf and João Porto de Albuquerque

How complete is OSM building stock in urban areas?

OpenStreetMap Building Completeness in Urban Centers

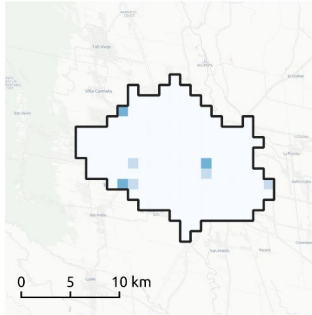


How complete is OSM building stock in urban areas?

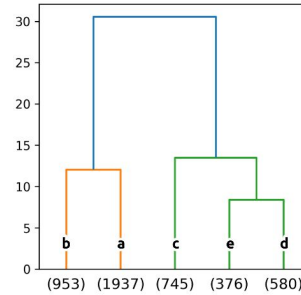


What drives the OSM building completeness within a city?

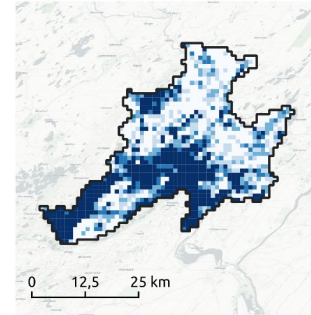
(a) San Miguel de Tucumán (ARG)
c=3% G=0.8 I=0.08



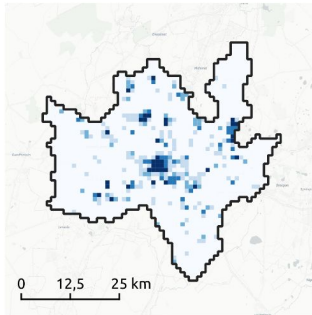
Cluster Dendrogram



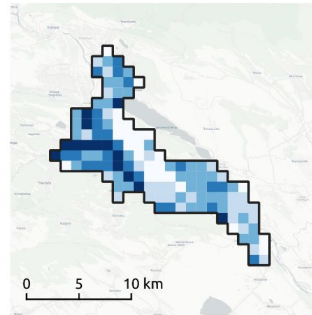
(d) Minneapolis (USA)
c=55% G=0.86 I=0.62



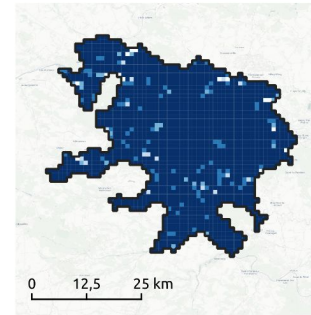
(b) Johannesburg (ZAF)
c=13% G=0.81 I=0.43



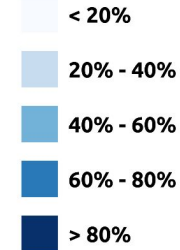
(c) Tbilisi (GEO)
c=49% G=0.57 I=0.32



(e) Paris (FRA)
c=95% G=0.68 I=0.18



Completeness



c = Completeness
G = Gini Coefficient
I = Global Moran's I

Map Data:
OpenStreetMap and
Contributors, Urban Centers
Database UCDB R2019A 1.2

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further links and resources:

- <https://github.com/GIScience/global-urban-building-completeness-analysis>
- monitoring humanitarian OSM Stats: <https://humstats.heigit.org/>
- OSM data quality tool → ohsome quality analyst: <https://oqt.ohsome.org/>
- research paper: [The evolution of humanitarian mapping within the OSM community](#)
- validation of OSM buildings with MapSwipe:
<https://americanredcross.github.io/2022/01/25/changes-to-mapswipe-for-a-changing-world/>