Fast and free 🚀

High-performance WebGL geospatial visualisation in Jupyter using Lonboard

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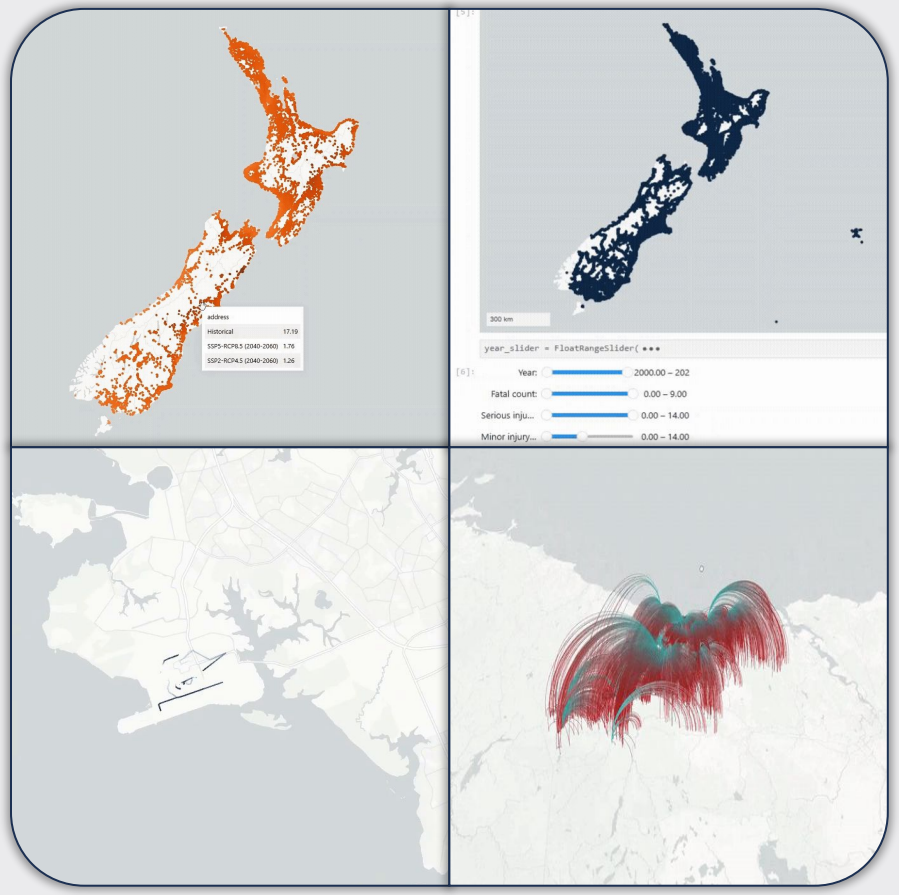
URBAN INTELLIGENCE

FOSS4G AUCKLAND 2025



Tools, Libraries & Visualisation

Lonboard: Fast, interactive geospatial vector data visualization in Python

9:00 AM 25min WG308 TE IRINGA

developmentSEED

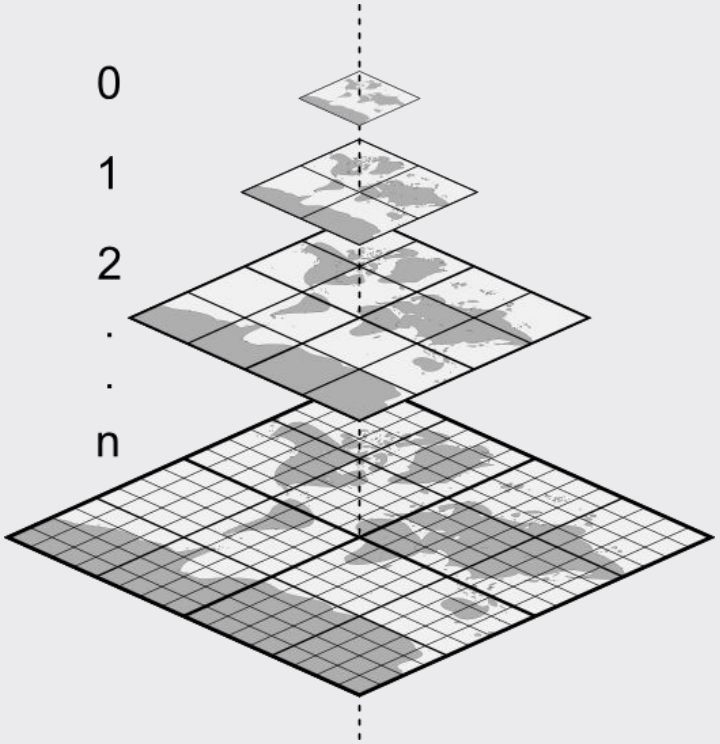
Abstract

Interactive visualization is often a precursor to extracting meaningful insights from data. Lonboard provides 30-40x faster performance for visualizing geospatial vector data than other Python libraries, supporting millions of coordinates.

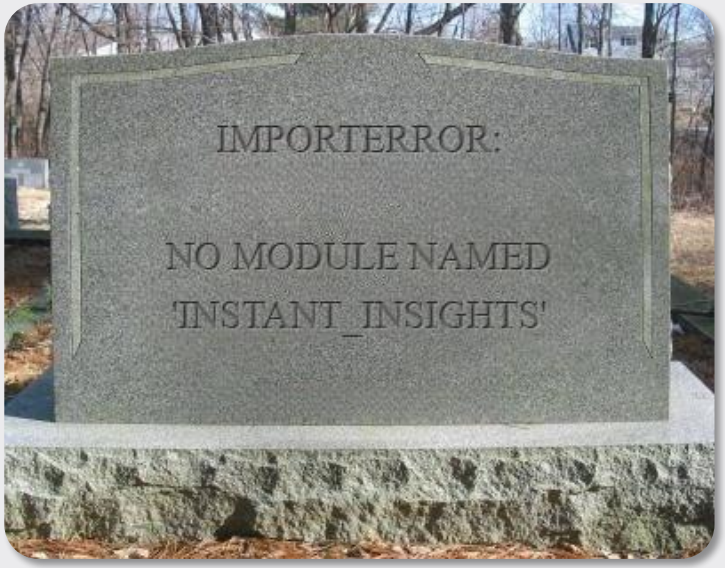
Press Esc to close

Close

Traditional geospatial workflows often require expensive preprocessing to visualise



How many brilliant ideas have died because the overhead of visualisation in Python was too high?



DECK.GL

GPU-powered, highly performant large-scale data visualization

geoarrow/ **geoarrow-rs**

GeoArrow in Rust, Python, and JavaScript (WebAssembly) with vectorized geometry operations

18 Contributors · 64 Issues · 13 Discussions · 375 Stars · 37 Forks

opengeospatial/ **geoparquet**

Specification for storing geospatial vector data (point, line, polygon) in Parquet

26 Contributors · 37 Issues · 41 Discussions · 985 Stars · 62 Forks

anywidget

custom jupyter widgets made easy

135x faster at saving data

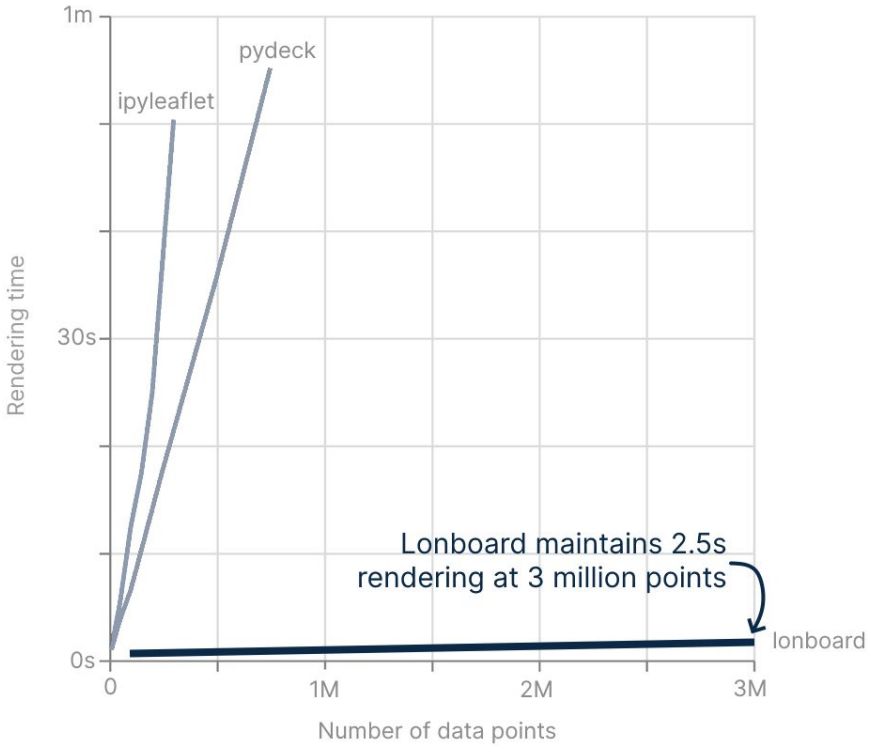
26x smaller file sizes

5.6x faster parsing in the browser

Performance of Lonboard vs Traditional Libraries

Time to render interactive maps with varying point densities

Adapted from https://kylebarron.dev/blog/fast-python-bindings



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Access to the notebooks and slides

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