MAXAR

Imagery Solutions in OpenStreetMap Matthew Gibb

State of the Map 2019 – Heidelberg, Germany





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There's one question many, if not most, people are asking...



Did we plan this?

🔎 OpenStreetMap Edit w. Export Ū Search Where is this? nd Bodyar Node: Maxbar (444526127) Renate Hackteufel Steingasse 60 Ψ (no comment) Stuffgerfier Edited 4 months ago by Principal Jim Dale Version #16 · Changeset #70962978 Location: 49.4124066, 8.7103502 16: 🚍 . 11 Tags addr:city Heidelberg Heiliggeist: addr:housenumber 5 ψę -8 Leopold Oppenheimer 69117 addr:postcode Haus Traitteur Fischmarkt Marktplatz 1 aus der addr:street Marktplatz Fußgängerzone 177 11 Altstadt amenity bar . £. various brewery 77 A arktp Wochenmarkt + matthieu@max-baremail A Heiliggeistkirche 17 heidelberg.de arkt 画 Rathaus AHau Maxbar name Place de la liberté Altstadt Mo-Fr 08:00-01:00, Sa opening_hours Information 08:00-02:00, Su Hauptstraße Ψę -09:00-01:00 Goldene Falke 9 amilie õ Ψ**q** outdoor_seating yes theimer **b** to Foto Gärtne 176 Juwelier ō +49 6221 24419 phone 388 WerkS



WHAT IS MAXAR AND WHERE DID DIGITALGLOBE GO?





- DG Premium and Standard imagery services are gone
- Maxar Premium and Standard imagery services are here!
- Previous DG Premium service had Mapbox aerial imagery included, this is also gone.



...but I can't trace time (but I can trace buildings and roads)

- Exclusively satellite imagery with spatial resolution between 30cm and 50cm
- It is normal to have a shift of 2-3m. Please adjust imagery offsets to account for it (and share using JOSM's imagery offset db plugin)
- We will be pushing updates frequently, in some places twice a year



Still to come

- If your particular area isn't being updated, or the imagery is poor quality, reach out!
- Vintage layer



Applying imagery metadata features

- Editors will include *vintage dates* for select map backgrounds (i.e. Maxar Premium)
- This is limited by what is available in the preset basemaps

How can this be enhanced?

- Using WMTS/WMS and WFS, we can automatically add feature tags in an *image* category with values based on the image metadata. Tags can include **source:imagery:date**, **source:imagery:sensor**, and **source:imagery:mosaic**.
- This adds context to the feature, informing users not only when the feature was created, but the when the source imagery was collected.

Case Study: Houston Before and After Hurricane Harvey

- Added 3 WMS/WFS pairs to a custom version of iD as preset overlays to data/imagery.json
 - 2013 Pre-Event Imagery
 - 2016 Pre-Event Imagery
 - 2017 Post-Event Imagery
- When iD is initialized, WFS is loaded into memory. WFS could be queried on each pan/zoom as well.
- When overlay is selected, WFS metadata "features" are loaded.
- On feature creation, image metadata is retrieved from WFS and added as features tags.



+ Zoom in to Edit







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Mapping requires enriched data

 Imagery feeds need "observation time" (hh/mm/ss) or "observation time range" - accommodate mosaic/composite imagery references

Geometry Matters

 Imagery feeds need geometry (angles, sensors, etc..) to help discern any bias in details, location in 3D should be driven to <1m positional certainty

Currency of imagery too!

- Tracing of geometry and attribution needs standardization on tags.
- Local Time, Universal Time

Questions (can reach out to OSM User: @kevin_bullock)