Imagery Solutions in OpenStreetMap
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State of the Map 2019 – Heidelberg, Germany
There's one question many, if not most, people are asking...
Did we plan this?
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.
Feature Creation in iD
Mapping requires enriched data

- Imagery feeds need “observation time” (hh/mm/ss) or “observation time range” to 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)