



**FOS4G Stack**

**For making Offline Maps for Mobile**

## **Klokantech**— tools

- Mobile SDK extension for MBTiles
- `tileserver-gl` — locally serve vector and raster tiles
- MapTiler — Soft proof tiles
- OpenMapTiles.org
- OpenMapTiles.com
- GDAL in Docker

## **OSGEO** —

- GDAL — Raster & Vector conversions
- QGIS — Filter, sort, & viewing raw data

# Mapbox — storage, tools and specs

- Mobile SDK for iOS & Android
- [mapbox.com/studio](https://mapbox.com/studio) — storing tiles and Styling
- `mason` — build tool chain for Mobile SDK
- `tippecanoe` — GeoJSON to Vector Tiles
- `tile-join` — Joining Vector MBTiles
- Command Line Cartography (GeoJSON merge, join)
- GL Style Specifications — GL Style, MBTiles, GeoJSON

# Google — Encoding

- WebP Raster compression
- ProtoBuf for encoding Mapbox Vector Tiles



**FOS 4G**

**NORTH AMERICA**

## iPhone App Sizes

iPhone App (Data sampled May 2018)	Size (MB) WebP Rasters	Native Offline?
Mapbox Studio Preview	14.9	
NGA M.A.G.E	17.5	
Amazon Prime Video	54.9	
Southwest Airlines	57.2	
<b>Offline Lower Colorado River</b>	<b>59.0</b>	<b>Offline</b>
Instagram	76.1	
<b>Offline Mount Whitney</b>	<b>80.6</b>	<b>Offline</b>
Schwab Mobile	92.7	
Delta Airlines	93.7	
Whats App	105.3	
Starbucks	116.3	
<b>Offline Joshua Tree National Park</b>	<b>123.5</b>	<b>Offline</b>
<b>Offline Yosemite National Park</b>	<b>127.7</b>	<b>Offline</b>
United Airlines	133.5	
<b>Offline San Bernardino National Forest</b>	<b>139.7</b>	<b>Offline</b>
Bank of America	149.3	
<b>Apple's cut off for downloading over LTE</b>	<b>150</b>	
Facebook (Wi-Fi only)	305.4	

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