

Alternative Mapping On iOS

Justin Miller
Development Seed

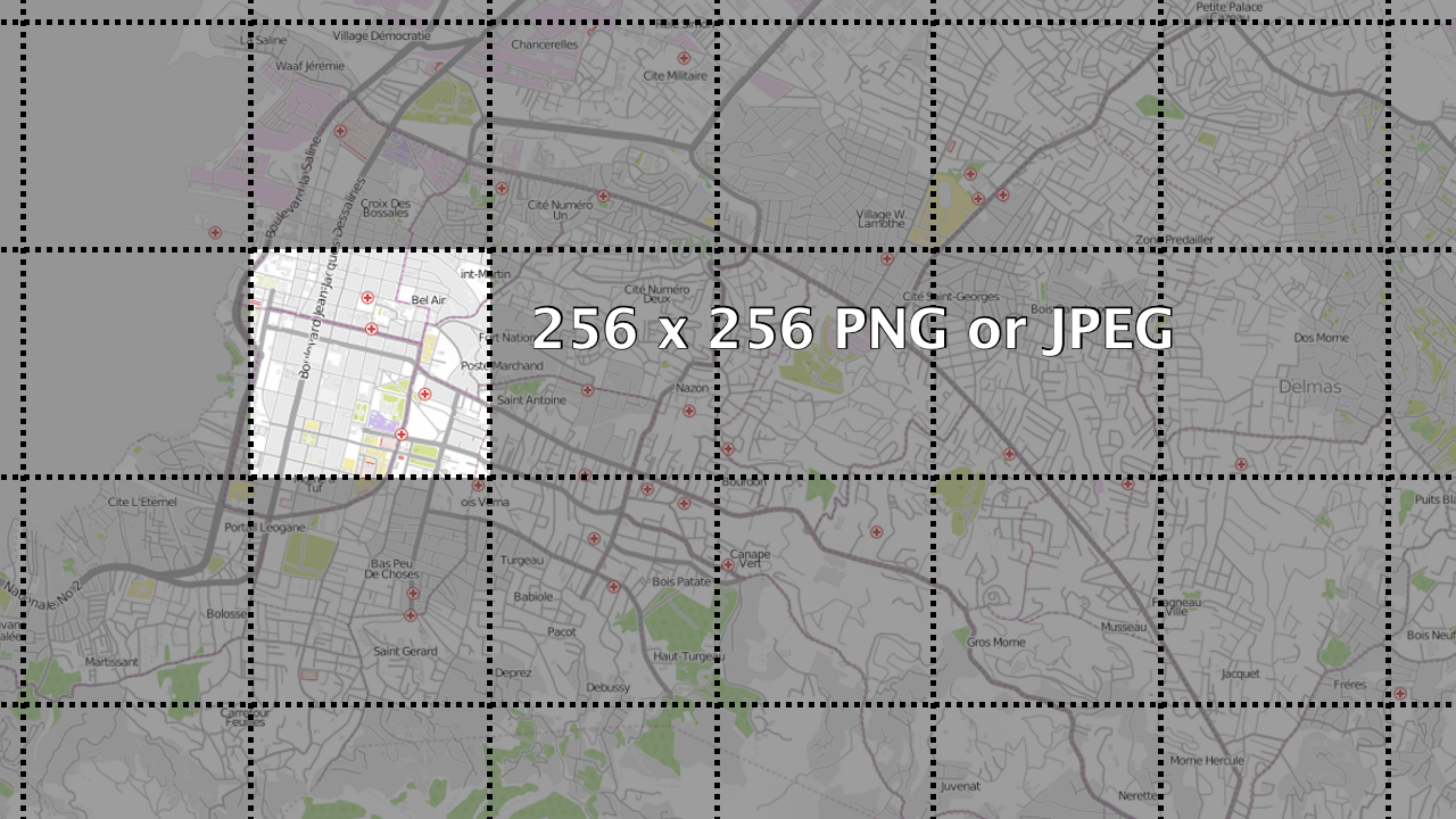


“MapKit? Where we’re going, we don’t need MapKit...”

Alternative?

- Alternative to Apple's `MapKit.framework`
 - Custom aesthetic - colors, level of detail
 - Custom behaviors - offline use, layering
 - Custom sources - boundaries, languages

Map Tiles



256 x 256 PNG or JPEG

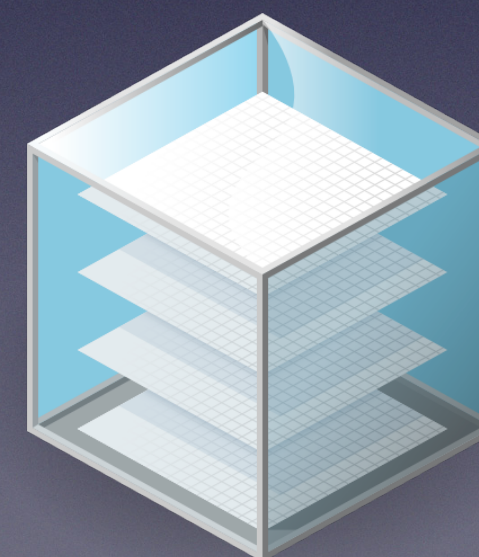
Tile-Based Map Images

- Can easily number in the millions
 - Zoom level 0
 - One 256x256 tile
 - Zoom level 18
 - 68,719,476,736 tiles
- This is a PITA for USB or network transfer *en masse*



Solution?

- SQLite: self-contained, cross-platform, serverless
 - *“Small. Fast. Reliable. Choose any three.”*
- MBTiles: a simple schema
 - Name, zoom levels, attribution, version, etc.
 - Store tile images as binary data



Added Bonuses (Bonusi?)

- Can weed out duplicate tiles (i.e., oceans)
- Generally zip down pretty well
 - 3GB on disk
 - 1GB in SQLite
 - 200MB in `.ipa`
- Easy on the user

Ok, So Now What?

- Needed a framework
- Evaluated; found `route-me`
 - Google Code at the time; now GitHub
 - Reasonably active (GitHub has helped)
 - Open source (BSD license)

route-me

- NOT a MapKit drop-in replacement
 - It's got its own funky conventions
 - It could probably use some refactoring
- Does a lot with `CALayer` directly
- Not as finely-tuned as MapKit



"I've got my own customs!"

Examples

iPad

10:58 AM

My Maps

?



MapBox

Certain data © OpenStreetMap contributors, CC-BY-SA

iPad

10:59 AM

My Maps



MapBox

Certain data © OpenStreetMap contributors, CC-BY-SA

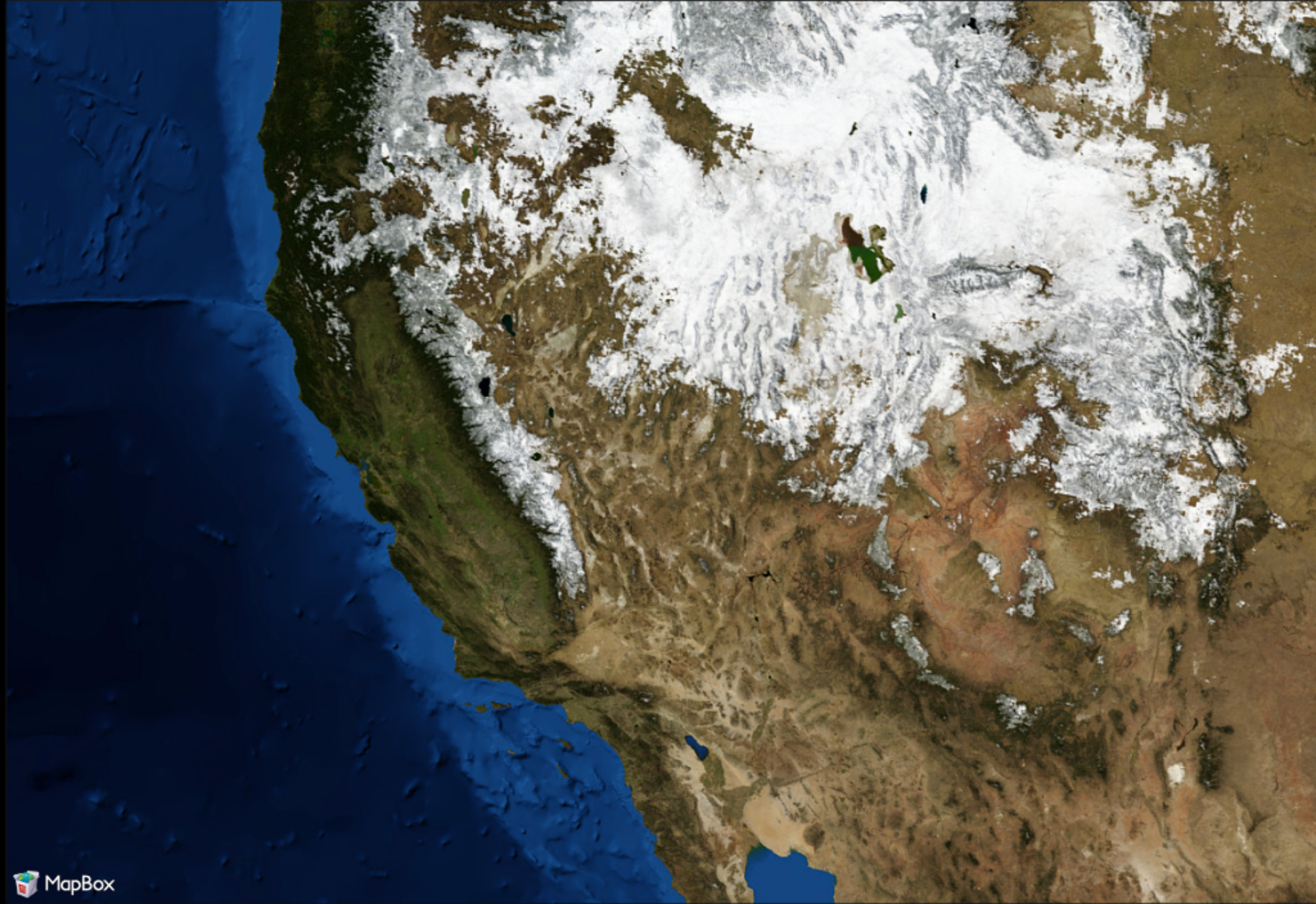


iPad

11:00 AM

My Maps

?



MapBox

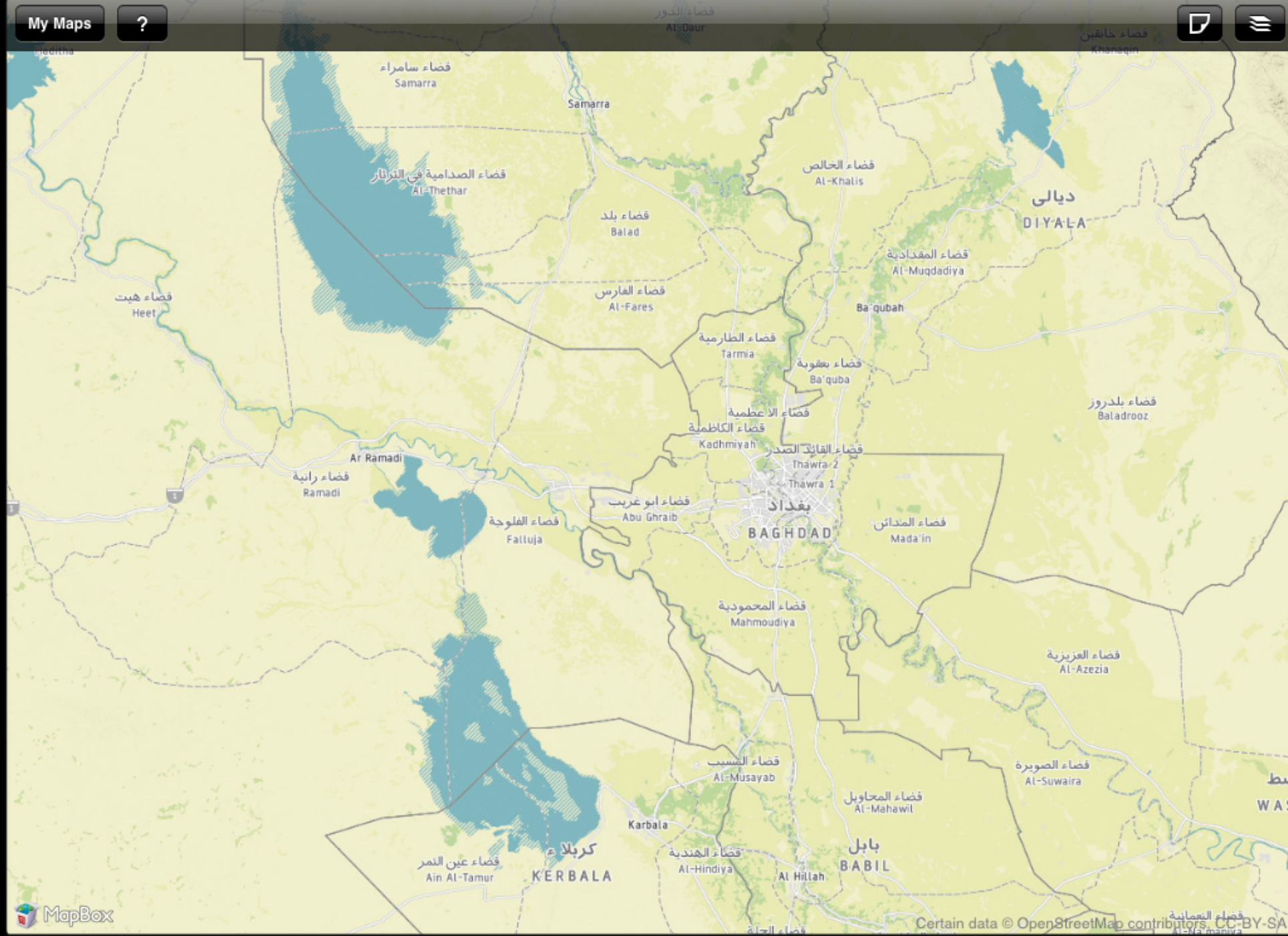


iPad

11:00 AM

My Maps

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MapBox

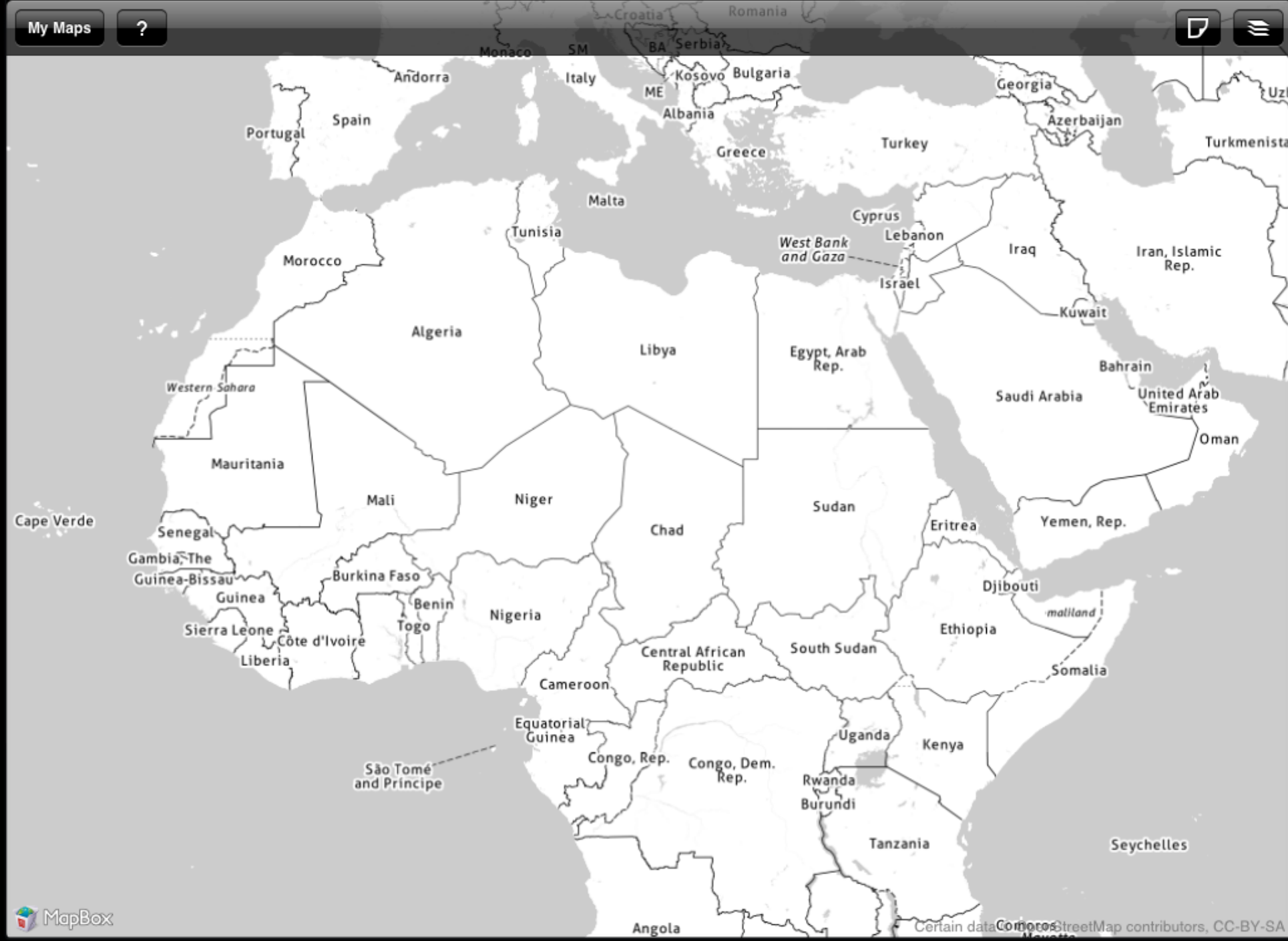
Certain data © OpenStreetMap contributors, CC-BY-SA

iPad

11:01 AM

My Maps

?



MapBox

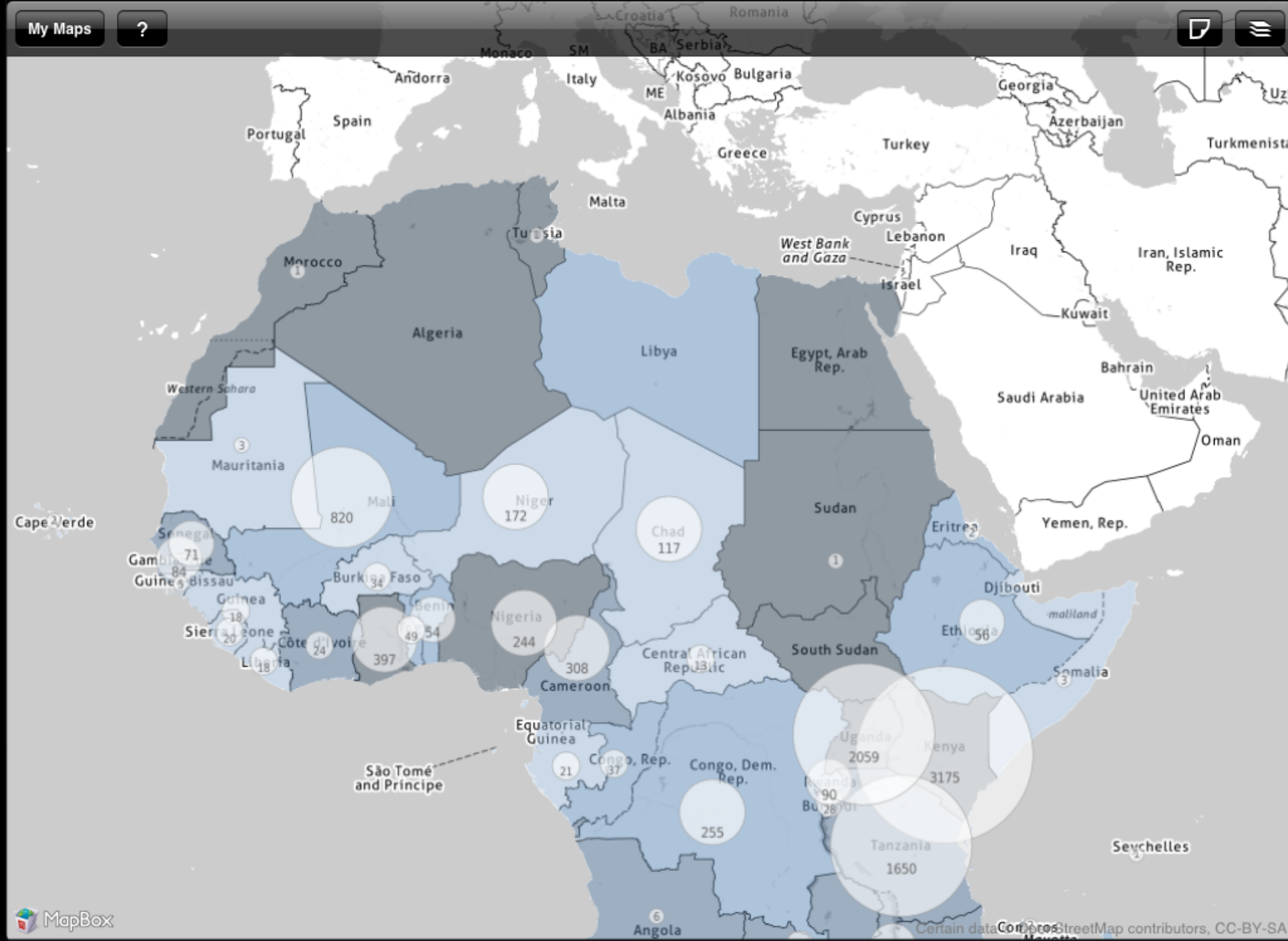
Certain data from OpenStreetMap contributors, CC-BY-SA

iPad

11:01 AM

My Maps

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MapBox

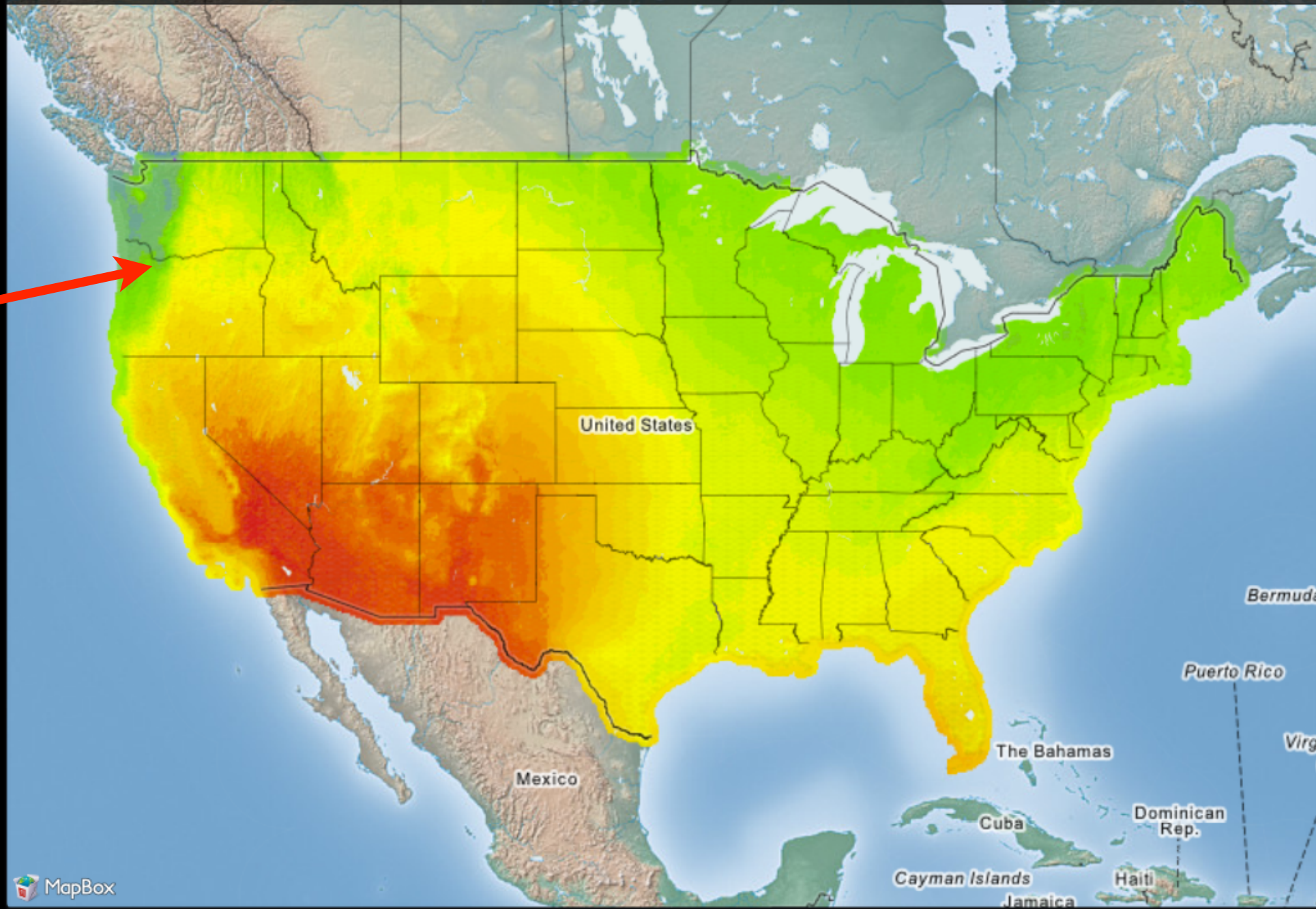
Certain data from OpenStreetMap contributors, CC-BY-SA

iPad

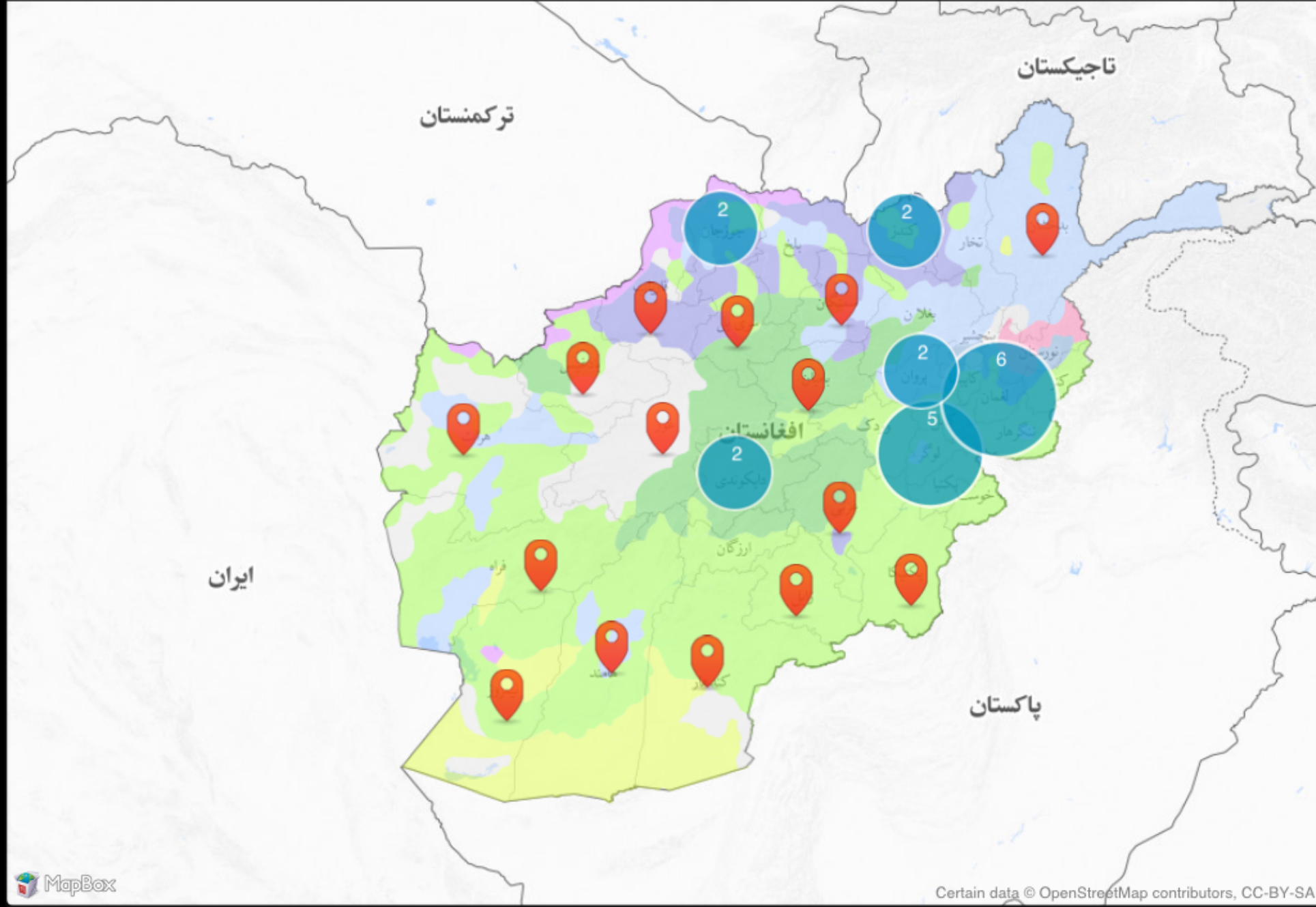
11:02 AM

My Maps

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MapBox

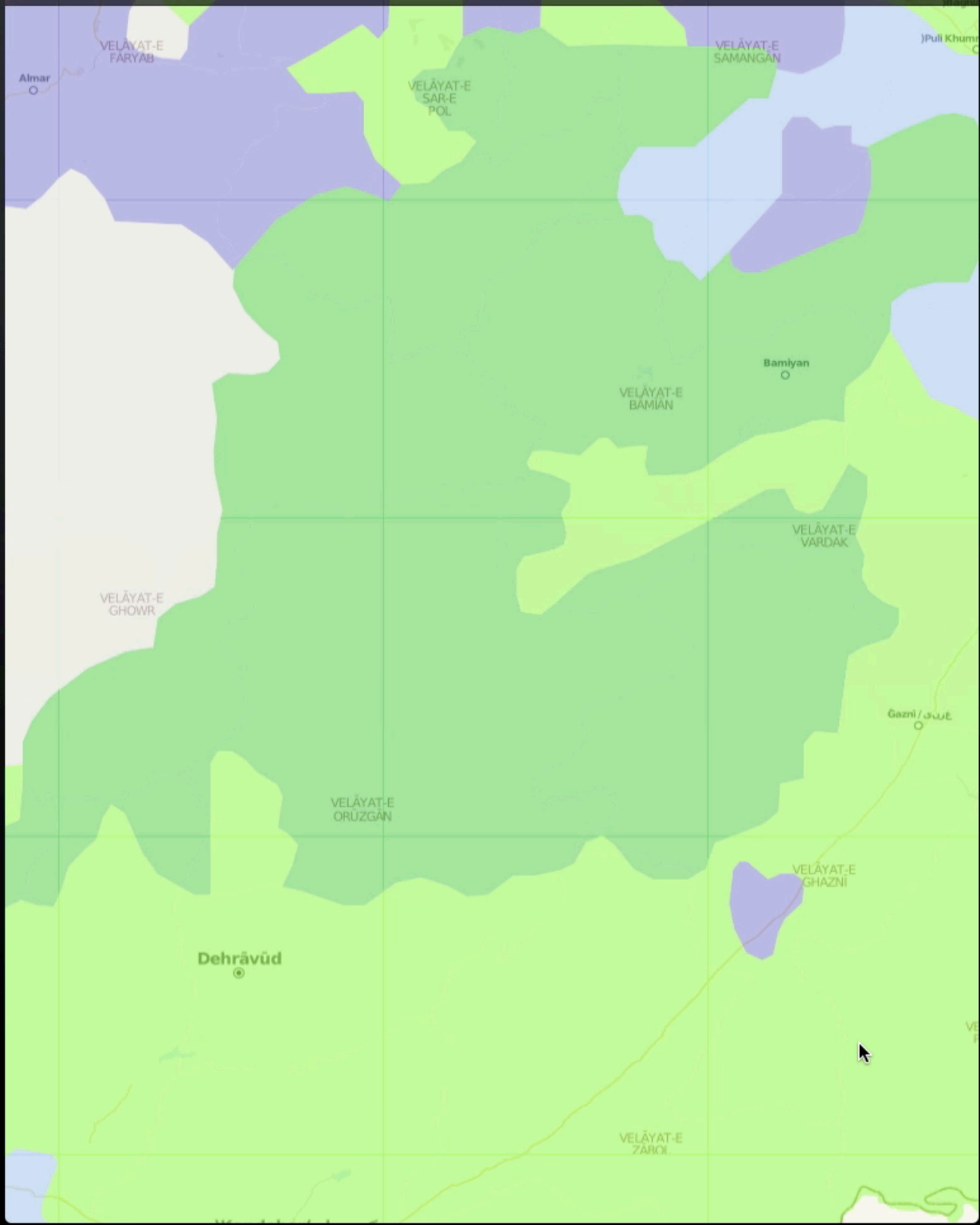


Carrier

12:37 PM

100%

Done



GitHubStuff

- tilemill
- tilestream
- mbtiles-spec
- mbutil
- carto
- wax
- tilelive.js
- Simple KML
- Fingertips
- route-me*

For More Info

- GitHub: github.com/mapbox
- Twitter: [@incanus77](https://twitter.com/incanus77), [@mapbox](https://twitter.com/mapbox), and [@developmentseed](https://twitter.com/developmentseed)
- App Store: MapBox (iPad only)
- Web: mapbox.com



Thanks!