

Which Grasses Aggravate My Allergies

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**Not sneezing that much
anymore**

Itching nose

6586 observations in the period
May 9 through Sep 19 (134 days)
 \approx 49 observations day

One Button Tracker

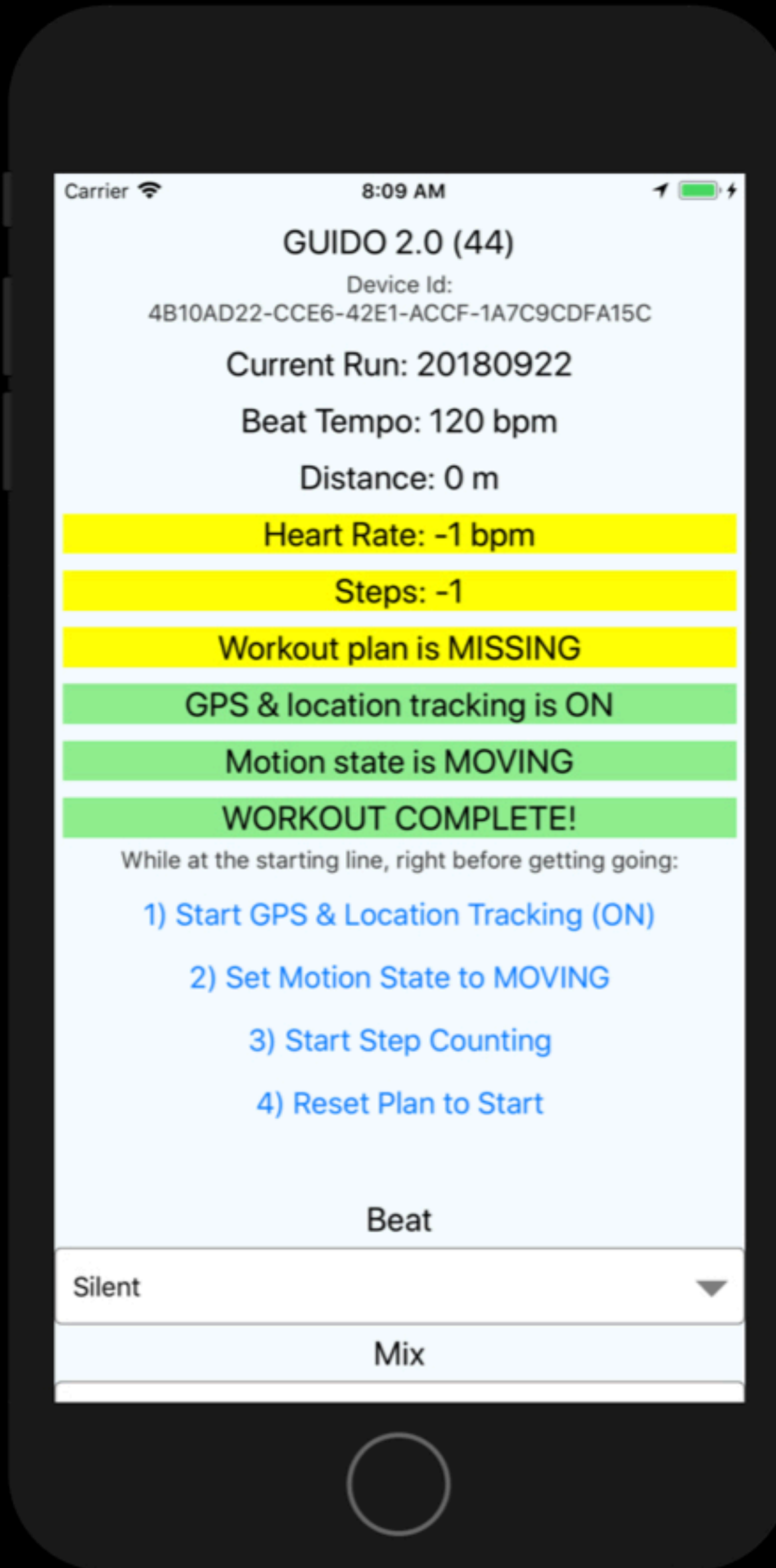


Tracked *itching nose* alongside
high-resolution *positions* and
time-lapse *photos of vegetation*
while running on the same loop
in the park

GoPro camera



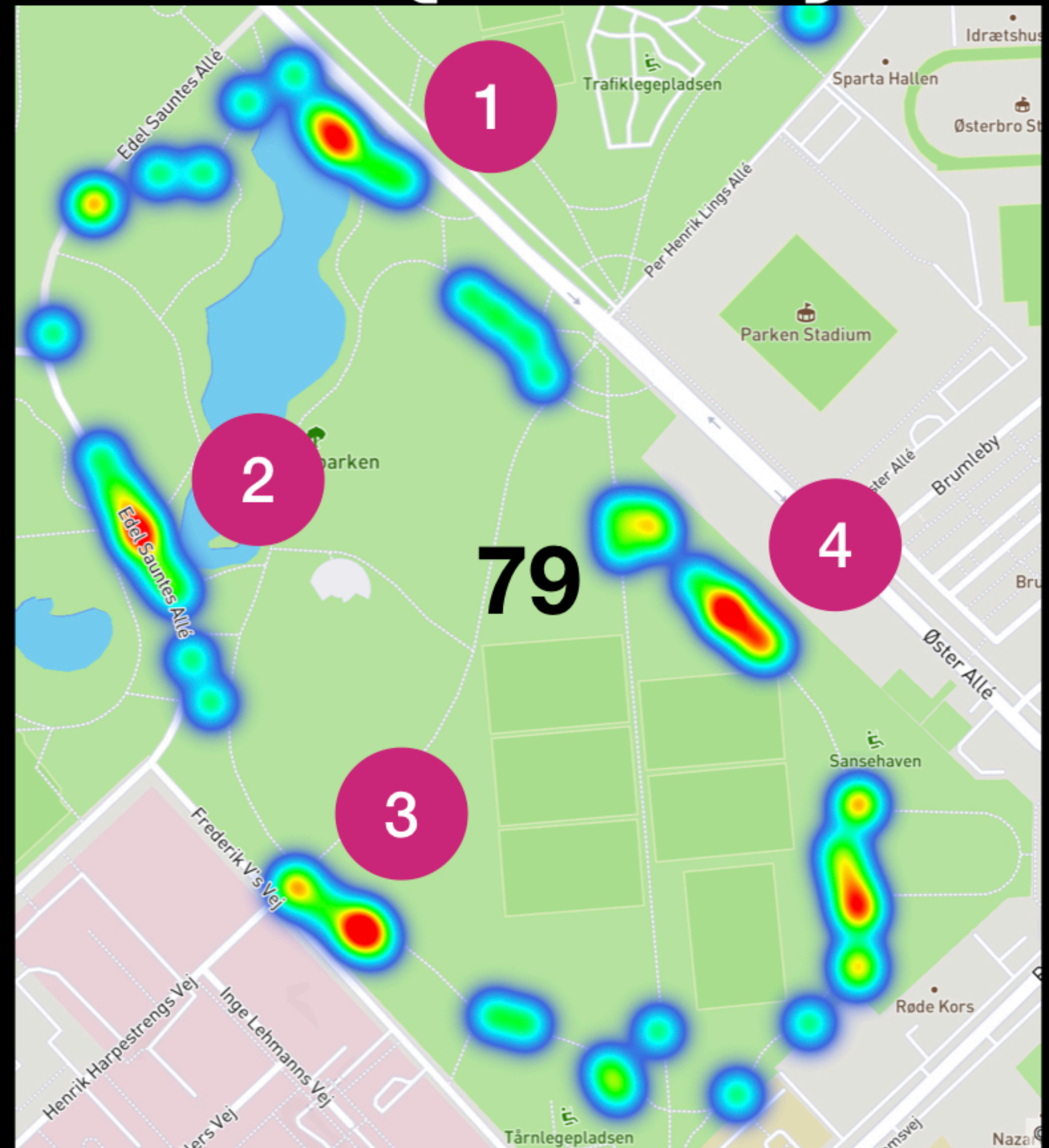
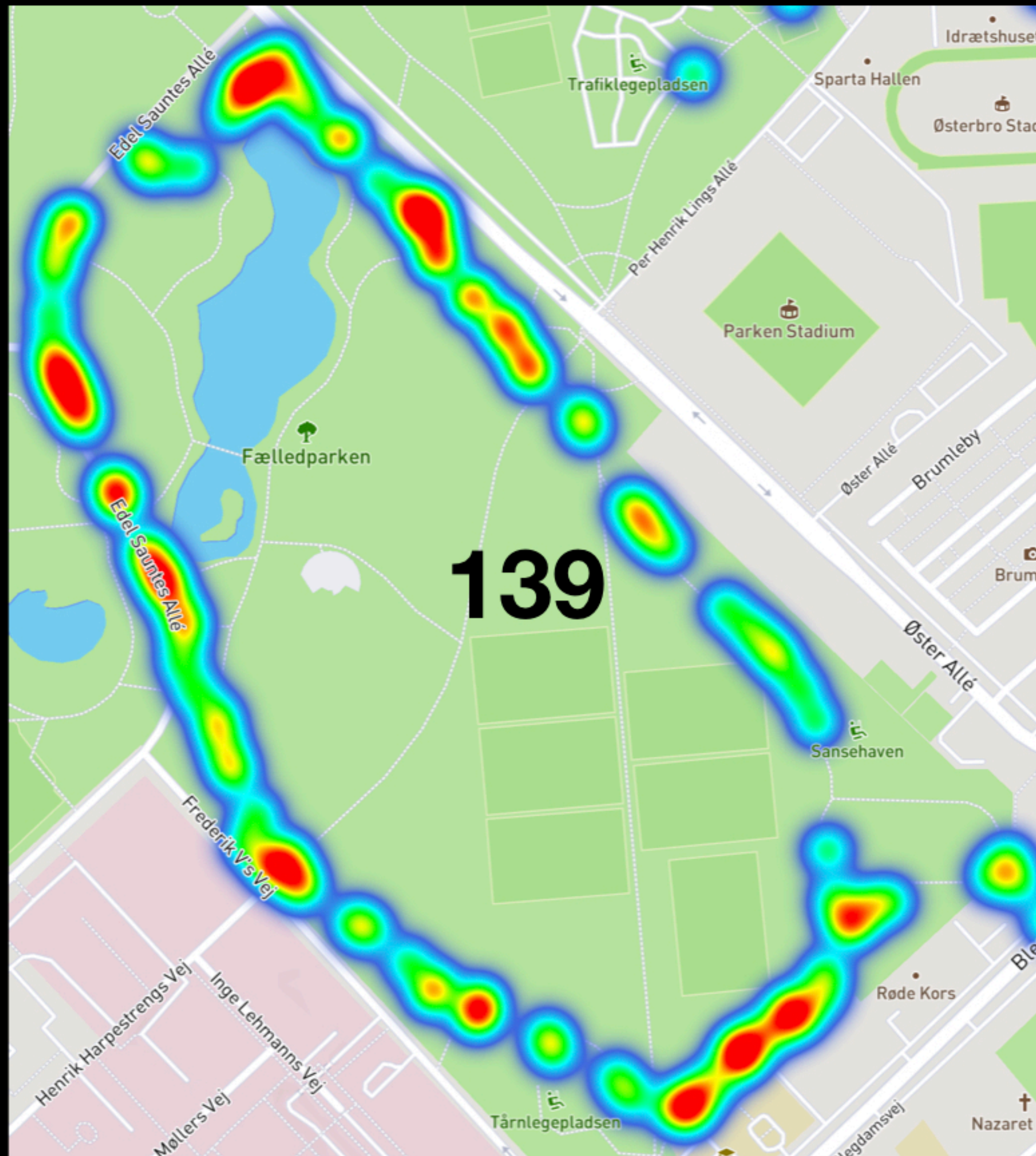
Flowrunner GUIDO



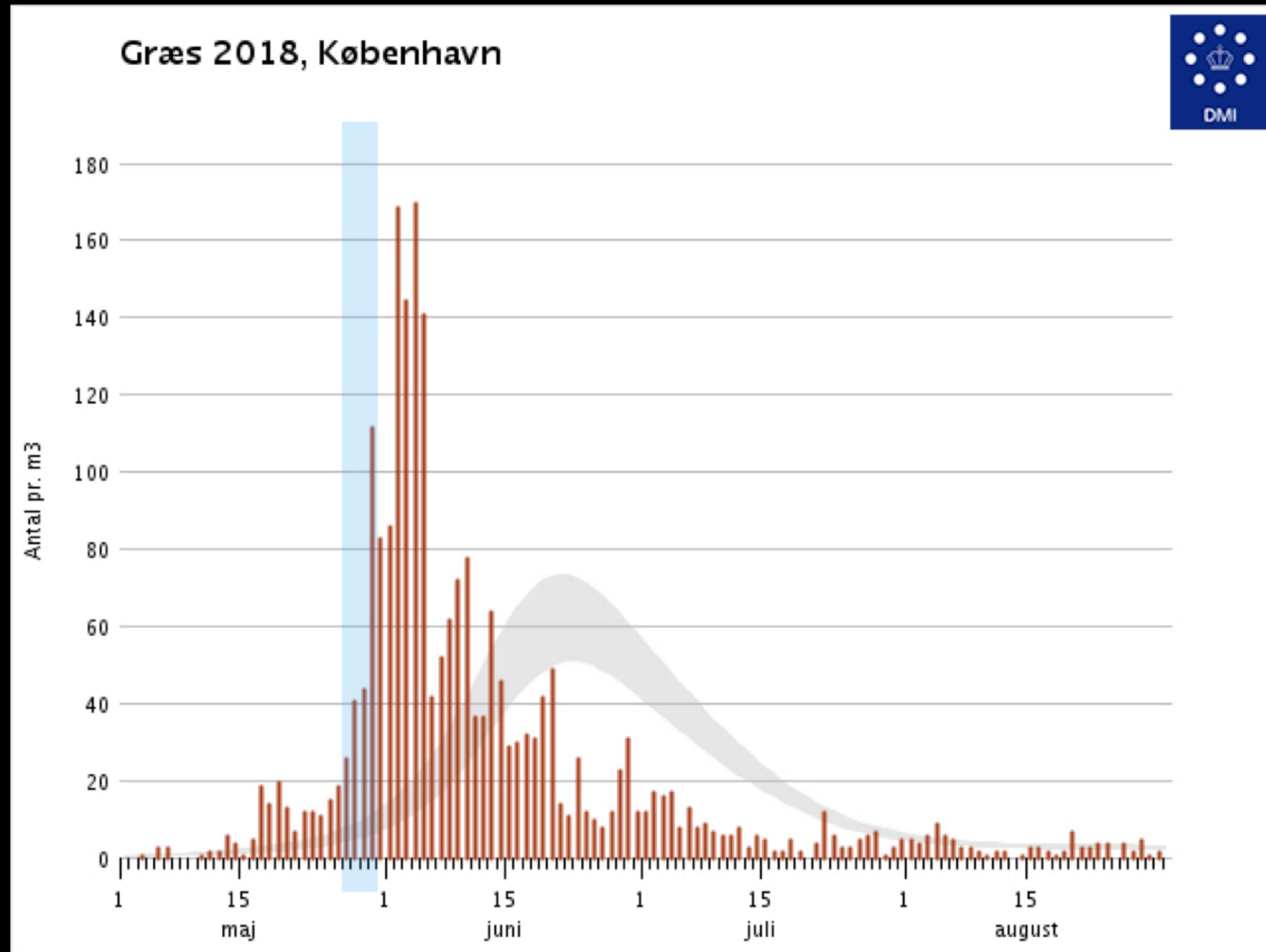
Even more over-instrumented running



Workouts 2018-05-{27,30}



Grass pollen level in Copenhagen



Vegetation at hotspot #1



Vegetation at hotspot #1



Vegetation at hotspot #2



Vegetation at hotspots #3



Vegetation at hotspot #4



Vegetation at my childhood home



Merging observation streams is not trivial

```
Light Table
clj-plot-with-incanter
doc/
resources/
src/
  clj_plot_with_inc
  core.clj
  itching-nose-run
  run-20170426.clj
  run-20170504-op
  run-20170509-1
  run-20170512-1
  run-20170515-1
  run-20170521-m
  run-20170702-h
  run-20170801-5
  run-20171029-1
  test-20170804.c
test/
guido-telemetry-2017
guido-telemetry-2nd-
guido-telemetry-run-
LICENSE
plan-20170320.csv
plan-20170402.csv
plan-20170405.csv
plan-20170411.csv
plan-20170413.csv
plan-20170419.csv
plan-20170420.csv
plan-20170423.csv
plan-20170426-rc.csv
plan-20170504-pkb.c
plan-20170521-pkb.c
plan-20170611.csv

itching-nose-running-vegetation.clj
139 (-> positions-20180527
140 (->> (drop-while #(< (:result-at-unix %) 1527419387254)))
141 ;;(->> (take 1))
142 ;;(nth 1)
143 (first)
144 ;;(->> (map :result-at))
145 ) {:accuracy 65, :latitude 55.702669807399815, :long ...
146
147 (-> positions-20180527
148 (reverse)
149 (->> (take-while #(> (:result-at-unix %) 1527419387254)))
150 (last)
151 ;;(->> (take-last 1))
152 ;;(->> (map :result-at))
153 ) {:accuracy 65, :latitude 55.702669807399815, :long ...
154
155
156 (defn determine-position-from-timestamp
157 [positions timestamp]
158 (let [position-before (-> positions
159 (->> (drop-while #(> (:result-at-unix %) timestamp)))
160 (first))
161 position-after (-> positions
162 (reverse)
163 (->> (take-while #(> (:result-at-unix %) timestamp)))
164 (last))]
165 (if (and (= (:latitude position-after) (:latitude position-before))
166 (= (:longitude position-after) (:longitude position-before)))
167 {:latitude (:latitude position-before) :longitude (:longitude position-before) :timestamp-unix timestamp}
168 (let [{lat-a :latitude long-a :longitude ts-a :result-at-unix} position-before
169 {lat-b :latitude long-b :longitude ts-b :result-at-unix} position-after
170 latitude-delta (- lat-b lat-a)
171 longitude-delta (- long-b long-a)
172 time-delta (- ts-b ts-a)
173 time-x (- timestamp ts-a)
174 latitude (+ (* (/ latitude-delta time-delta) time-x) lat-a)
175 longitude (+ (* (/ longitude-delta time-delta) time-x) long-a)]
176 {:latitude latitude :longitude longitude :timestamp-unix timestamp}
177 ))) #'itching-nose-running-vegetation.core/determine-p ...
178
179 ;; {"type": "FeatureCollection",
180 ;; "crs": { "type": "name", "properties": { "name": "urn:ogc:def:crs:OGC:1.3:CRS84" } },
181 ;; "features": [
182 ;; { "type": "Feature", "properties": { "id": "ak16994521", "mag": 2.3, "time": 1507425650893, "felt": null, "tsunami:
183
```

Allergies are a misfiring of the
immune system

My immune system is a
fast learner but a *slow forgetter*

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