A large-scale study of **Contributor Engagement in Humanitarian Mapping**

Martin Dittus · ICRI Cities, UCL · @dekstop
2 May 2015

Humanitarian OpenStreetMap Team

MISSING MAPS

Contributor Engagement in Humanitarian Mapping

- We're coordinating **thousands of volunteers**, many without prior OSM experience.

- **How well does this work?**
  How long do people stick around?

- **How important is newcomer training?**
  Do OSM newcomers drop out more quickly than expert mappers?

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Engagement has many aspects.

- I'm using **quantitative measures** such as…
  - map contributions ("edits")
  - labour hours
  - number of days with contributions
- These are easy for me to produce across a wide range of projects.

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Data sources (in late March 2015)

- **Projects and participants: HOT Tasking Manager**

  - ~800 publicly visible HOT projects

  - ~5,000 registered contributors

- **Match with OSM edit history** (user, time, location)

  - ~680 projects with map edits

  - ~4,700 contributors found in the edit history

  - ~52M map edits attributable to HOT

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Humanitarian mapping on OpenStreetMap: all contributed edits

This visualises the density of all map edits contributed through HOT or Missing Maps before July 2014.
To participate visit hotosm.org or missingmaps.org

Humanitarian
OpenStreetMap
Team
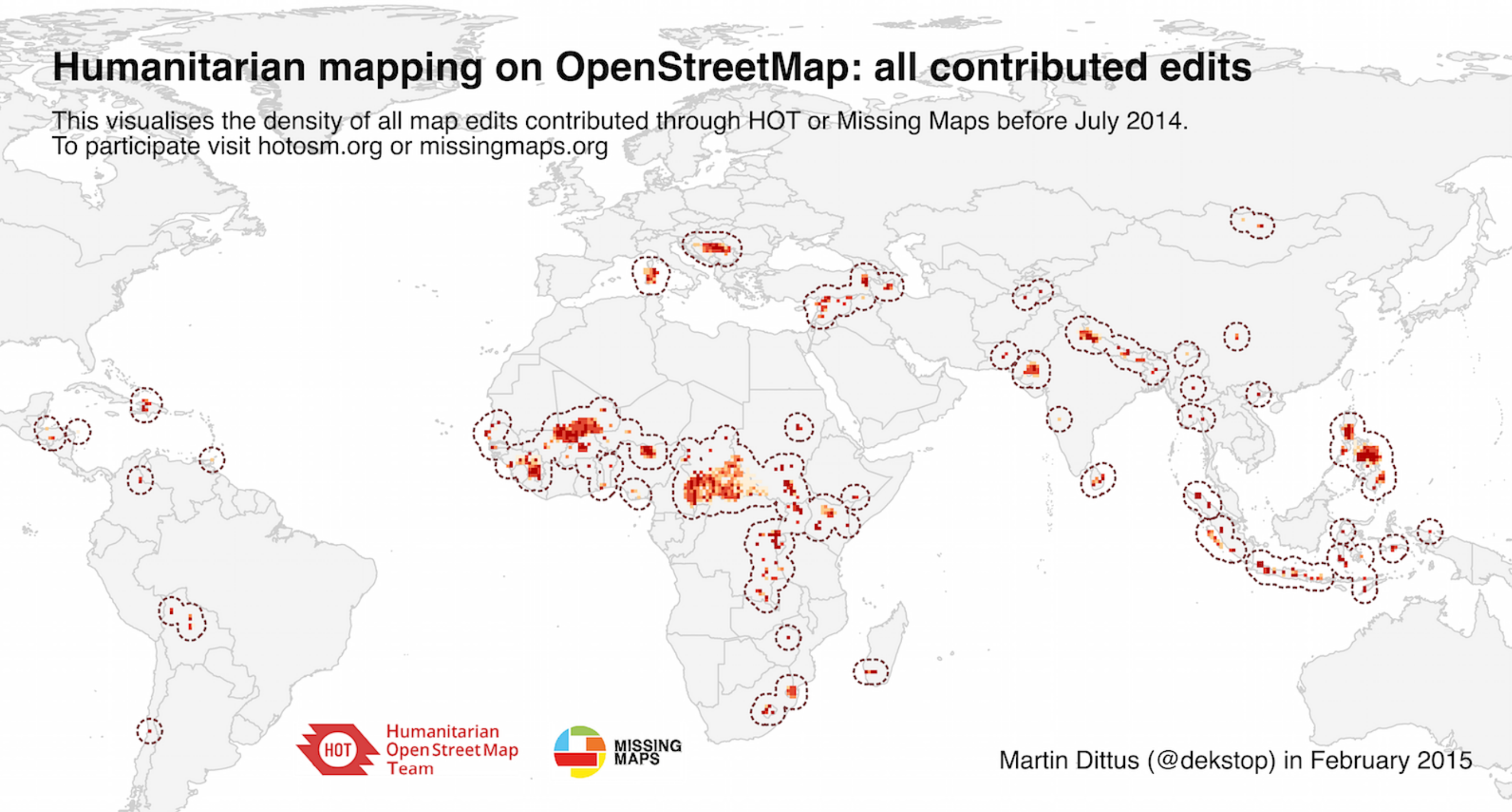
MISSING
MAPS

Martin Dittus (@dekstop) in February 2015

Humanitarian mapping on OpenStreetMap: all contributed edits
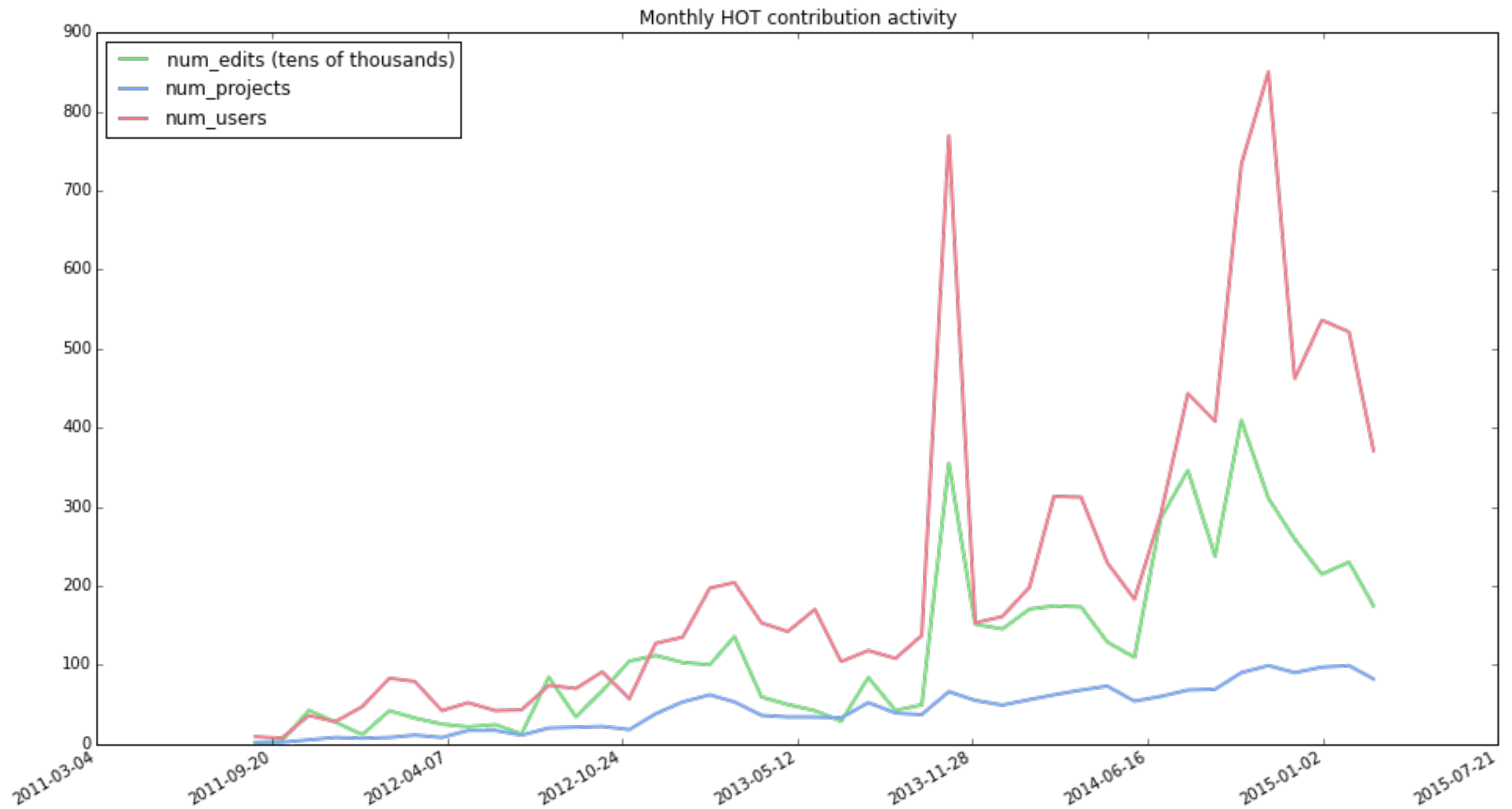
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HOT Humanitarian OpenStreetMap Team

MISSING MAPS
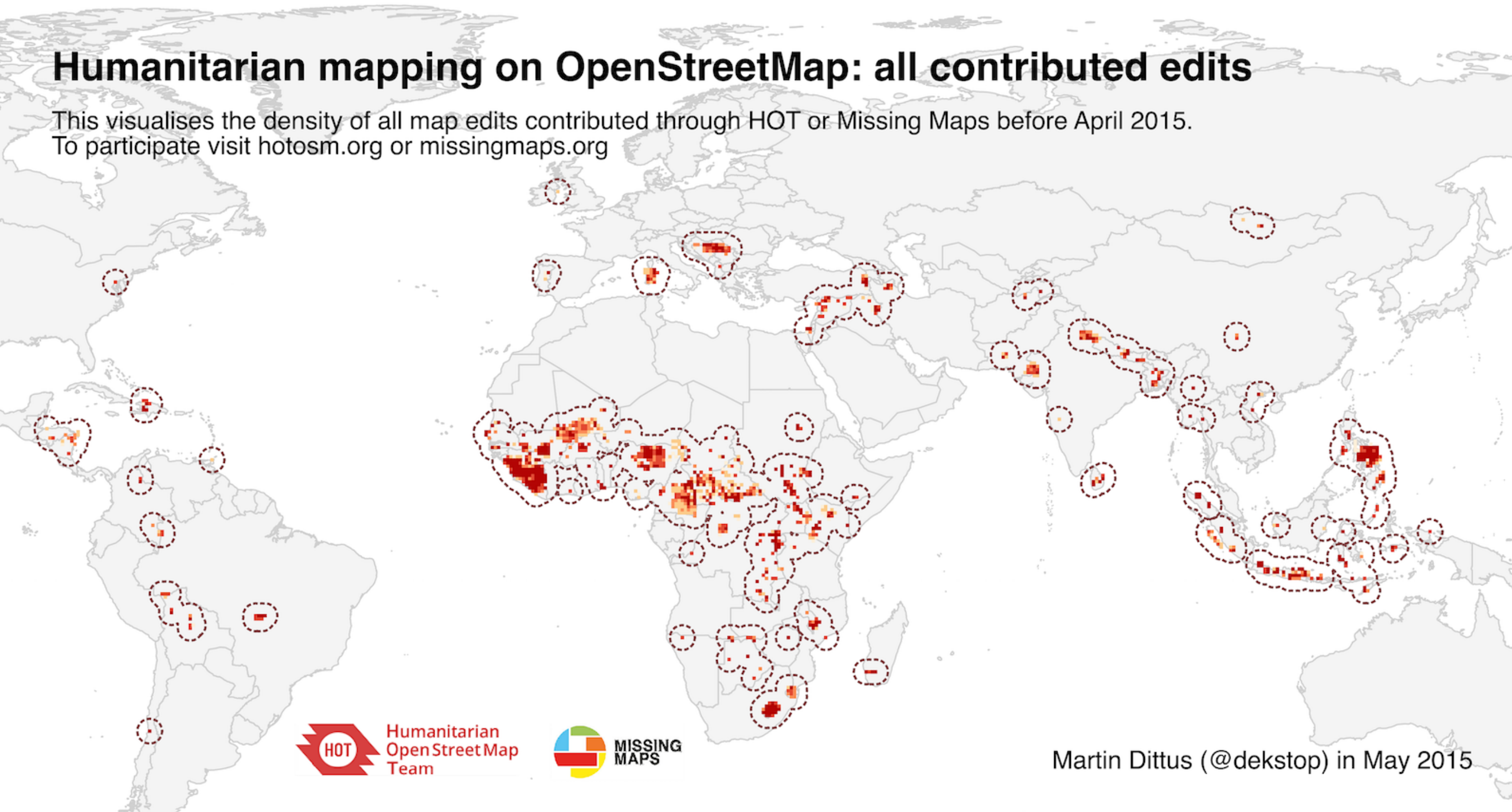
Martin Dittus (@dekstop) in May 2015

Monthly contribution activity

Monthly HOT contribution activity

Legend:
- num_edits (tens of thousands)
- num_projects
- num_users

HOT contributor activity trails

HOT contributor timeline: number of edits per contributor and day

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HOT contributor activity trails

HOT contributor timeline: number of edits per contributor and day

Some initiatives activate "everyone"

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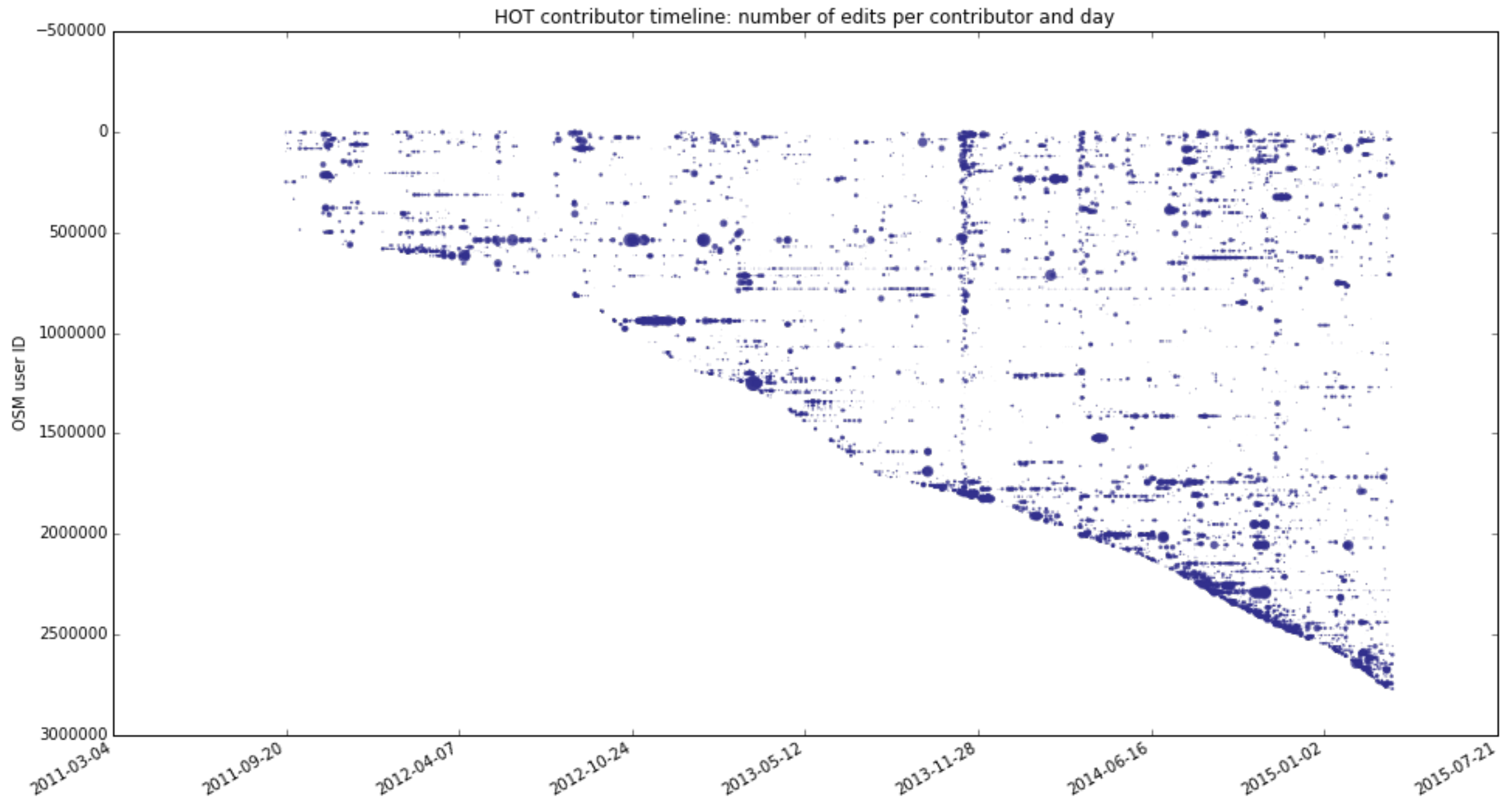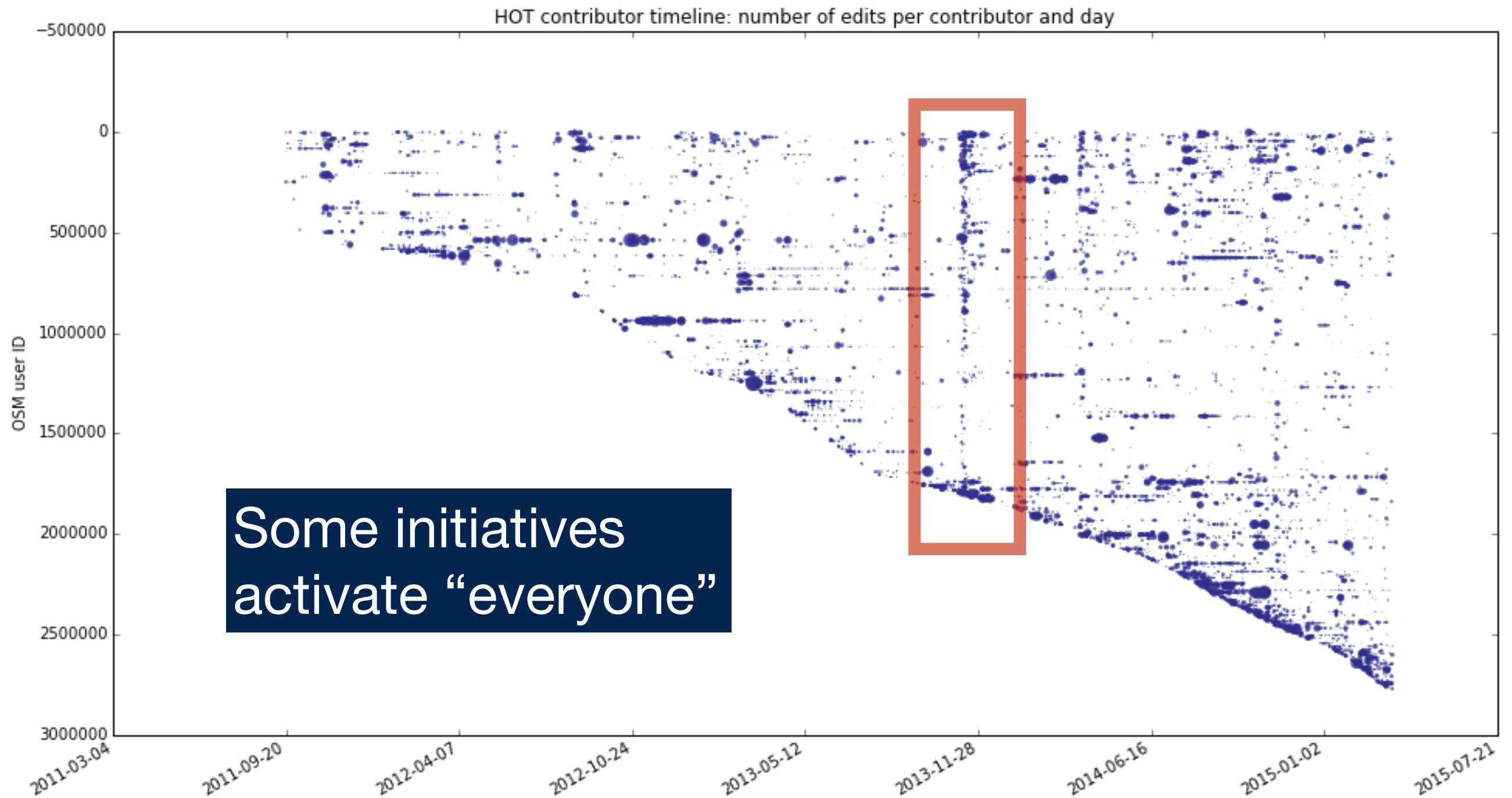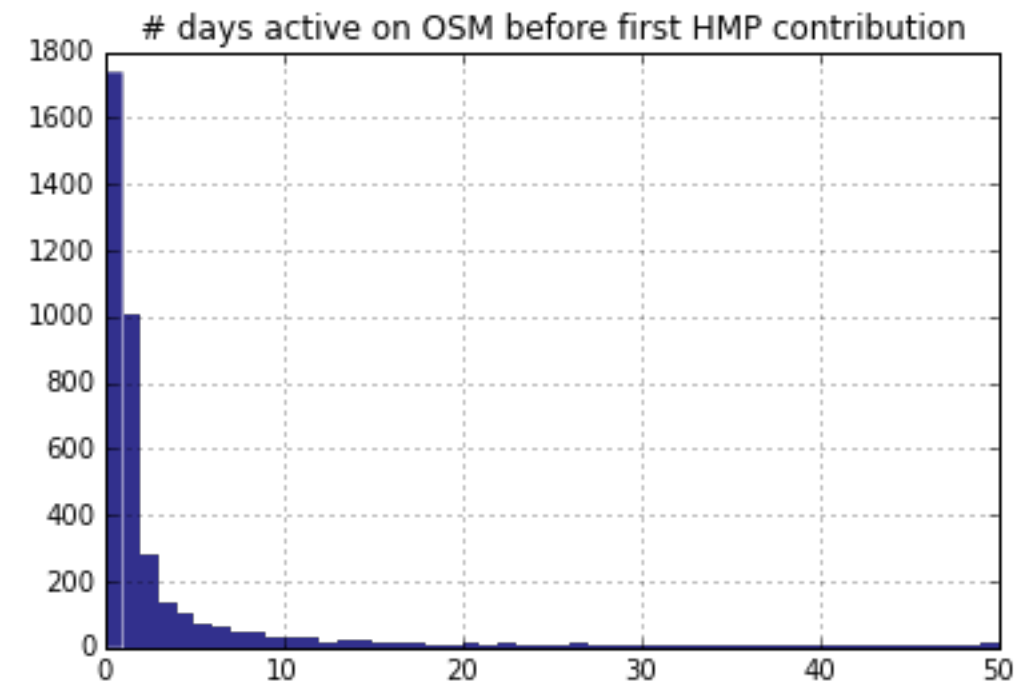
How much OSM experience do first-time contributors tend to have?

Among all first-time contributors…

- 70% have less than 7 days of OSM experience

- For 35% the first HOT edit is also the first OSM edit

days active on OSM before first HMP contribution

Most contributors are newcomers to OSM!
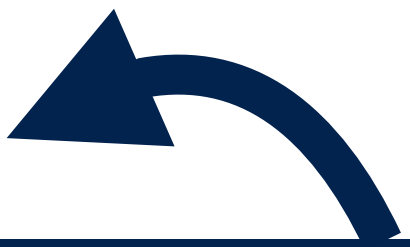
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How long do first-time contributors remain active?

Across their entire activity period…

- **50% work for at least 2 hours total**

- 20% work for at least 9 hours total

- The top 5% work for 50 hours or more!

And…

- **35% contribute to a second project**

- The top 5% contribute to 7 projects or more!

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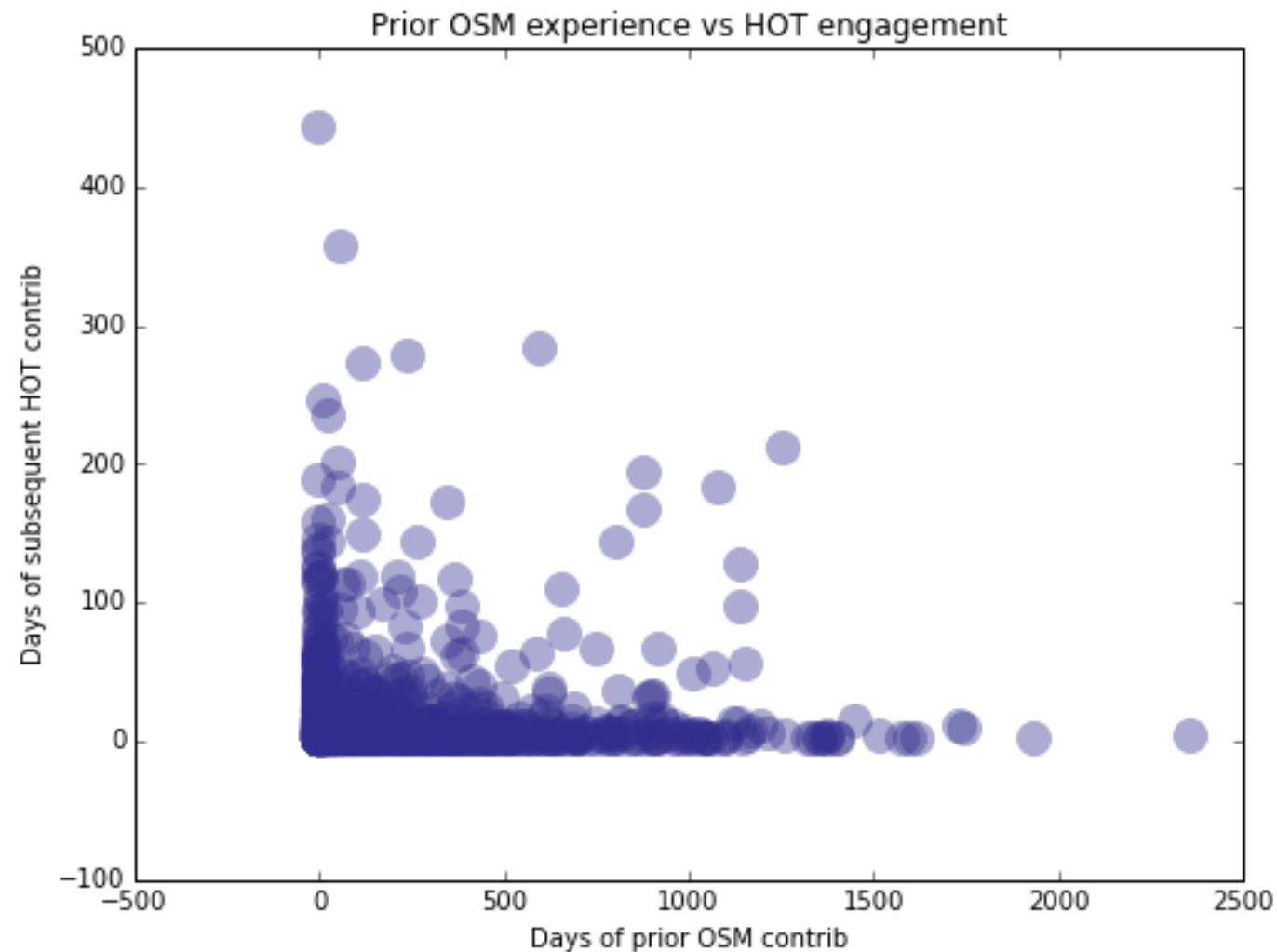
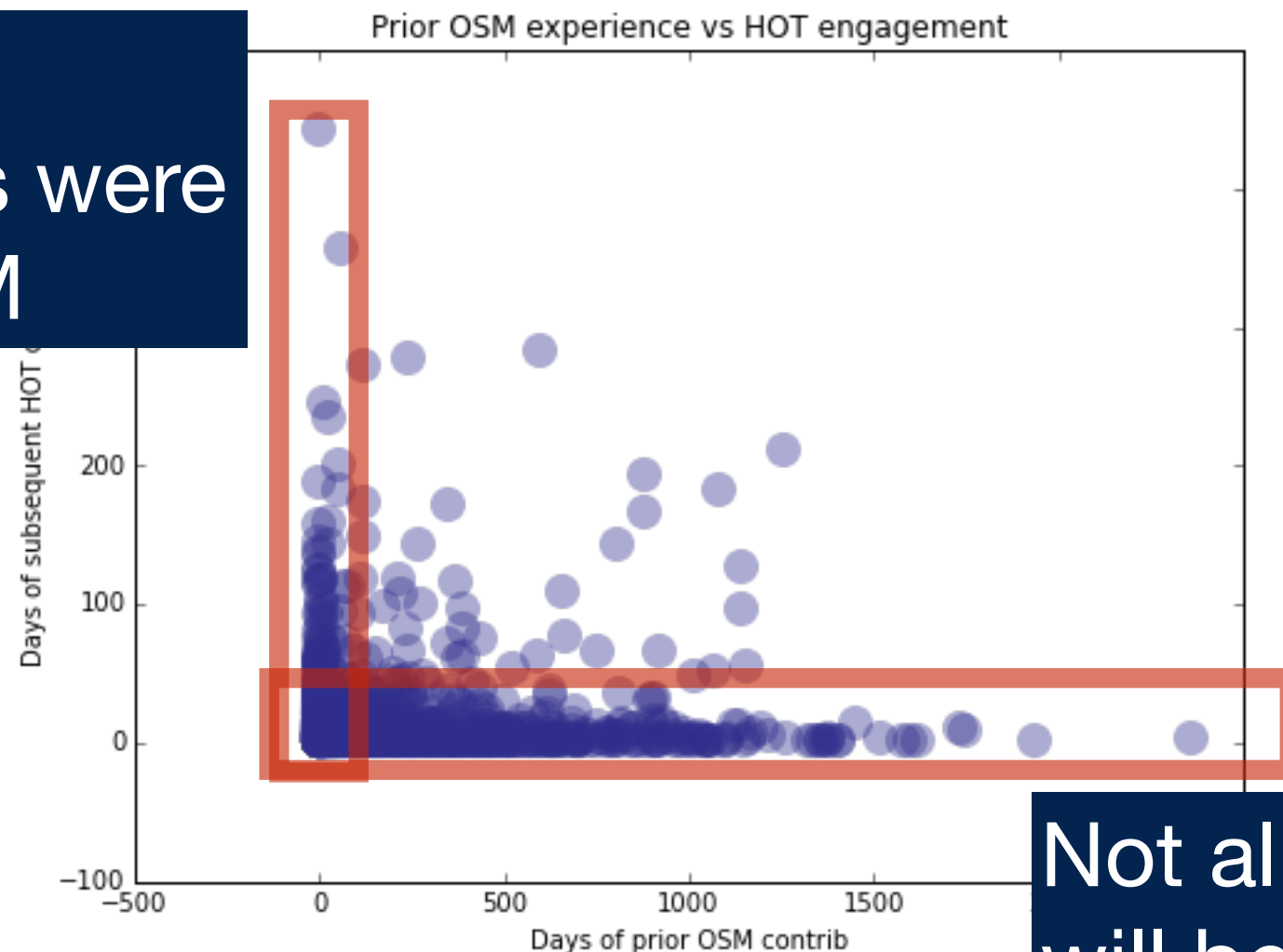May sound small for a volunteer org. For an online community it's massive!

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Do OSM newcomers drop out more quickly than expert mappers?

Prior OSM experience vs HOT engagement

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Do OSM newcomers drop out more quickly than expert mappers?

Many key contributors were new to OSM

Not all OSM experts will become highly engaged in HOT
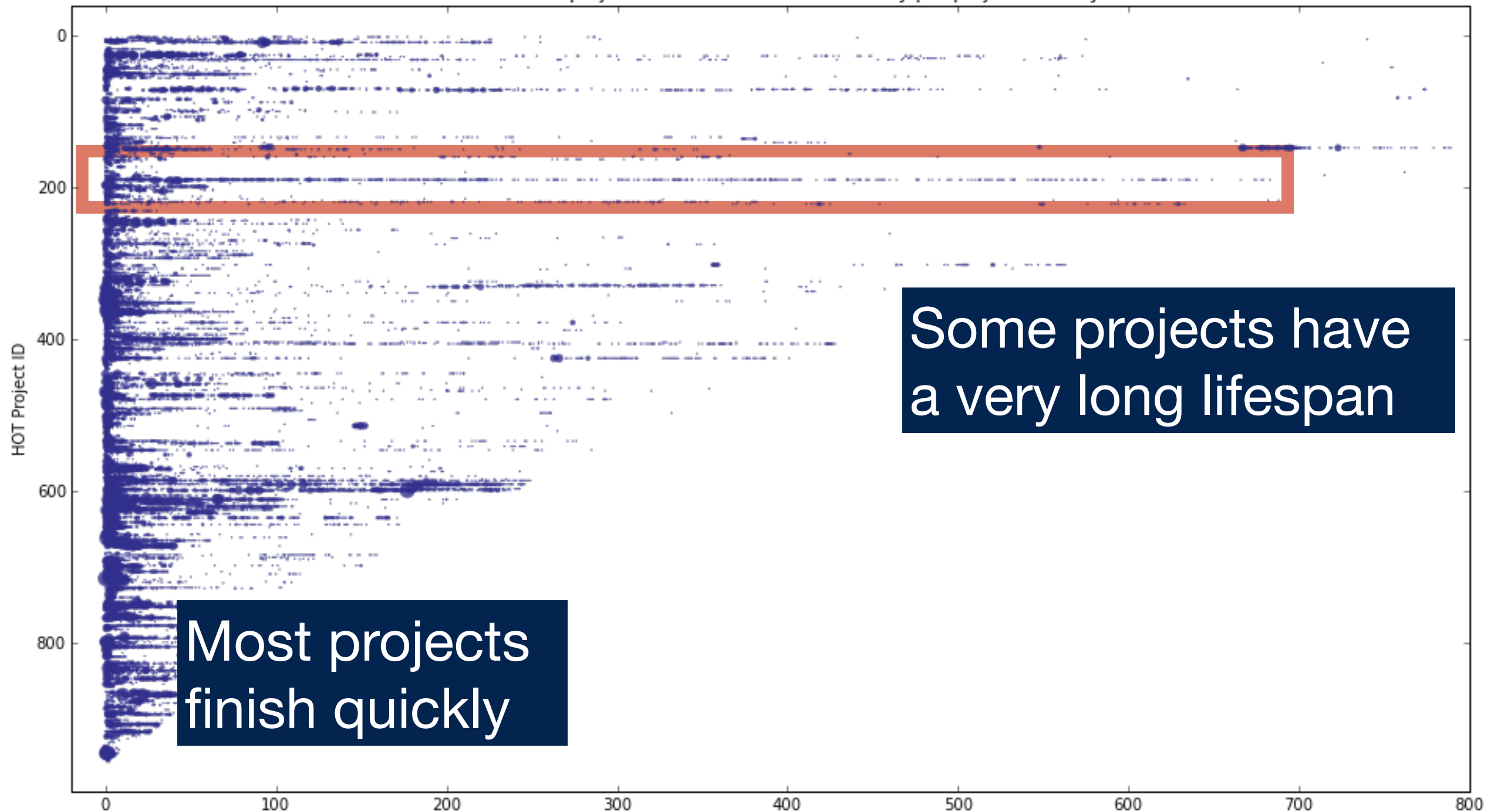
Apparently quite the opposite!
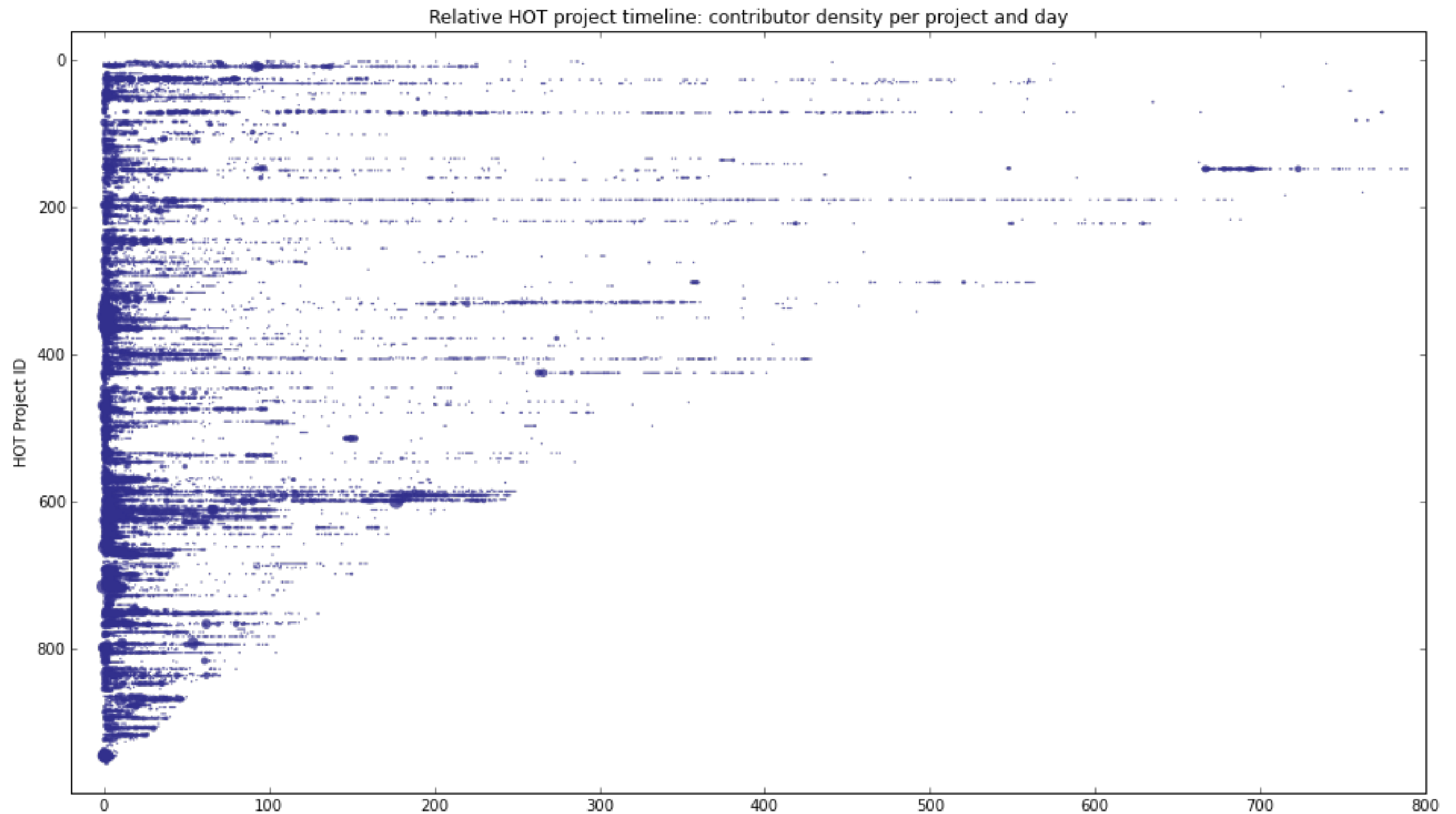
Prior OSM experience vs HOT engagement

Days of subsequent HOT

200

100

0

-100

-500   0   500   1000   1500

Days of prior OSM contrib

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HOT project activity trails

Relative HOT project timeline: contributor density per project and day

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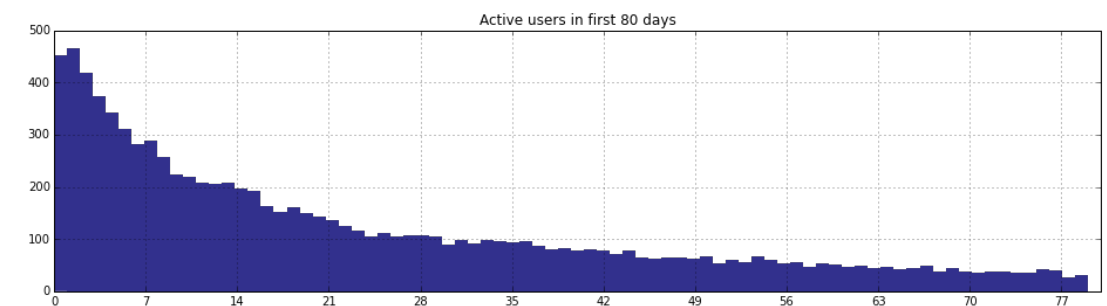

Some projects have
a very long lifespan

Most projects
finish quickly

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Projects are active for longer than contributors...

Contributors
Median activity period: 20 hours
30% are active for >14 days

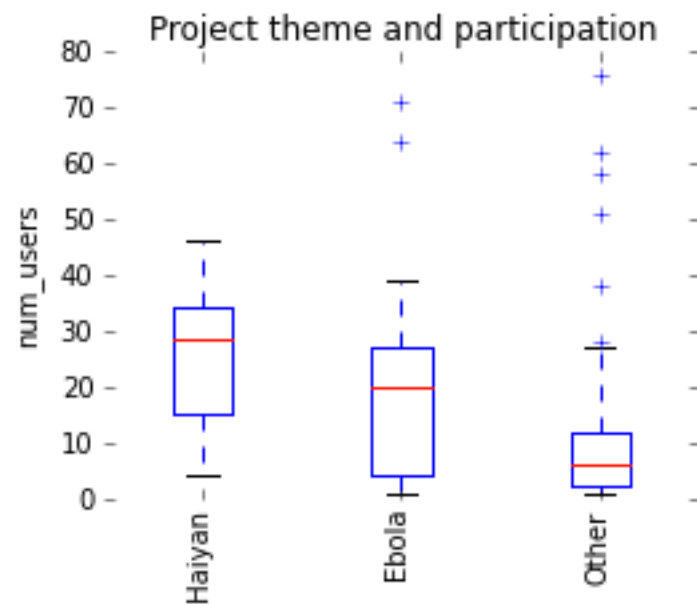Active users in first 80 days
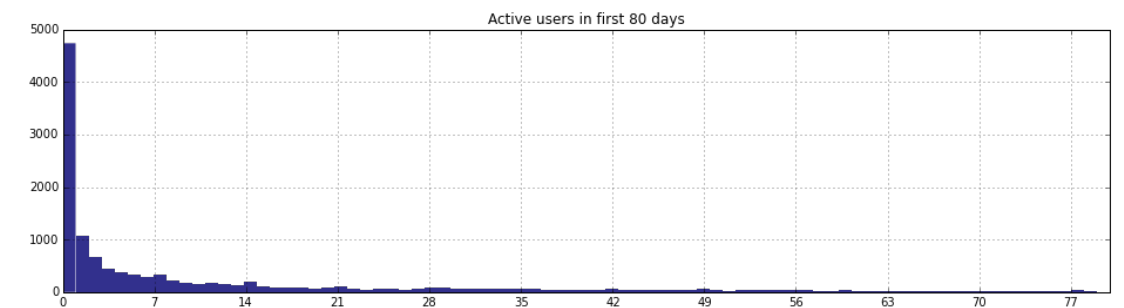
Projects
Median activity period: 140 days
75% are active for >14 days

Active users in first 80 days

In other words, a steady flow of new contributors is extending project lifetimes!

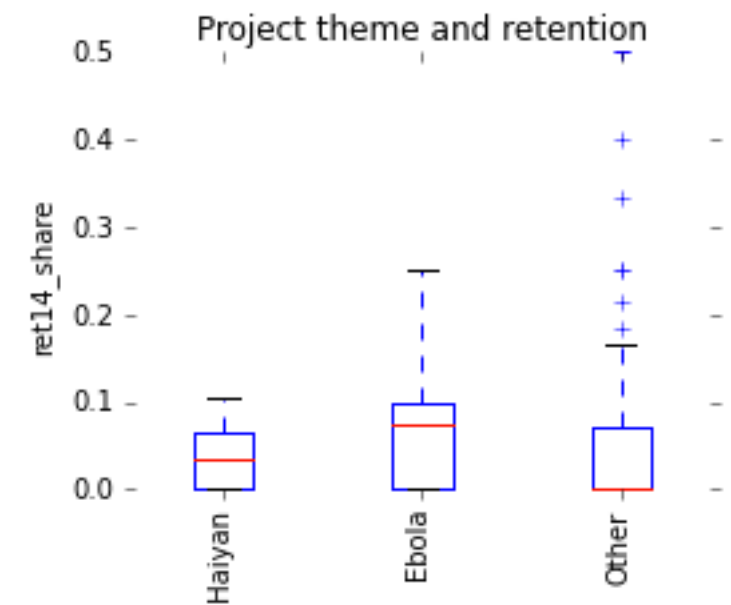Martin Dittus · ICRI Cities, UCL · @dekstop

Different outcomes across different project purposes: typhoon Haiyan vs Ebola response

Haiyan-related projects tended to have more participants
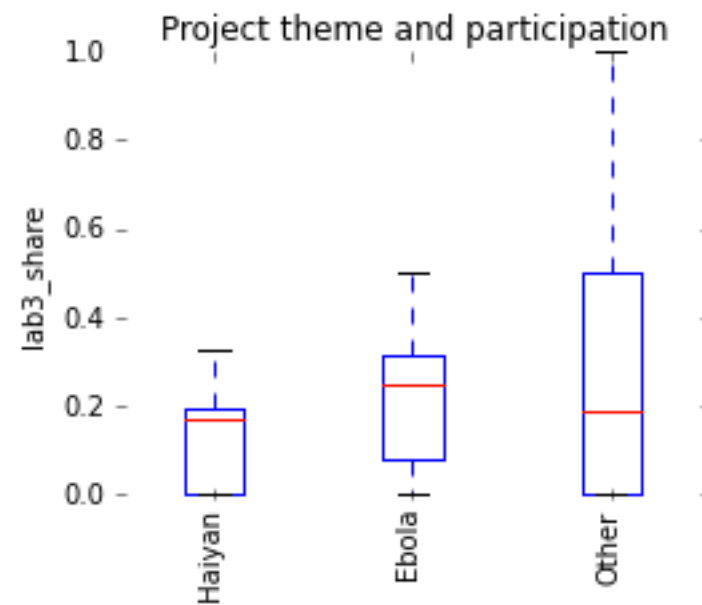
Yet contributors on Ebola-related projects work for more hours…

… and tend to stick around for longer.

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In closing…

- **Be mindful that you're mostly dealing with OSM newcomers**

  - Many highly prolific HOT contributors started out that way

- Extending project lifespans: **burning through volunteers, or building community?**

  - There's a seemingly infinite supply of volunteers…

  - Are we happy with a 2h/contributor average?

  - Ebola response also shows: mapping parties and sustained promotion can increase retention

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(If there's time)
What I'd really like to do…

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Thank you.

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