teachOSM

Teach OpenStreetMap Step by Step

Workflow

Case Studies

OpenStreetMap and Community Development

TeachOSM as Tool for Engagement

About

- What is OpenStreetMap?
- What is TeachOSM?
- Why Incorporate OSM into the Classroom?
- Resources for Educators
- Summary

What is OSM?

- OSM = OpenStreetMap
- OpenStreetMap is a crowd-sourced map of the world with an open content license so anyone edit the map and use the data.
- OpenStreetMap is often described as “Wikipedia for maps” as anyone can edit the map.

How does OpenStreetMap work?

- Sign up for an account. Free!
- Point your browser to OpenStreetMap.org
- Search for your elementary/middle/high school
- Not there? Digitize it!
- Tag it with address, website, Wikipedia entry, Facebook page, Twitter account, etc.
- Save and admire your work!

Restrictions? There are some…

- Don’t use proprietary source data
  - Violates terms of copyright
  - No copying from Google!
- OpenStreetMap is a ‘live’ database
  - No fantasy mapping!
  - Enter real, factual data

It’s more than a map

- It’s an open ecosystem of
  - Data
  - Infrastructure
  - Governance
  - Communities of Interest
  - Services
- Event driven
  - Mobilization, mapathons and community events, street surveys
  - HOT Activations, humanitarian response
  - MissingMaps and MapGive requests

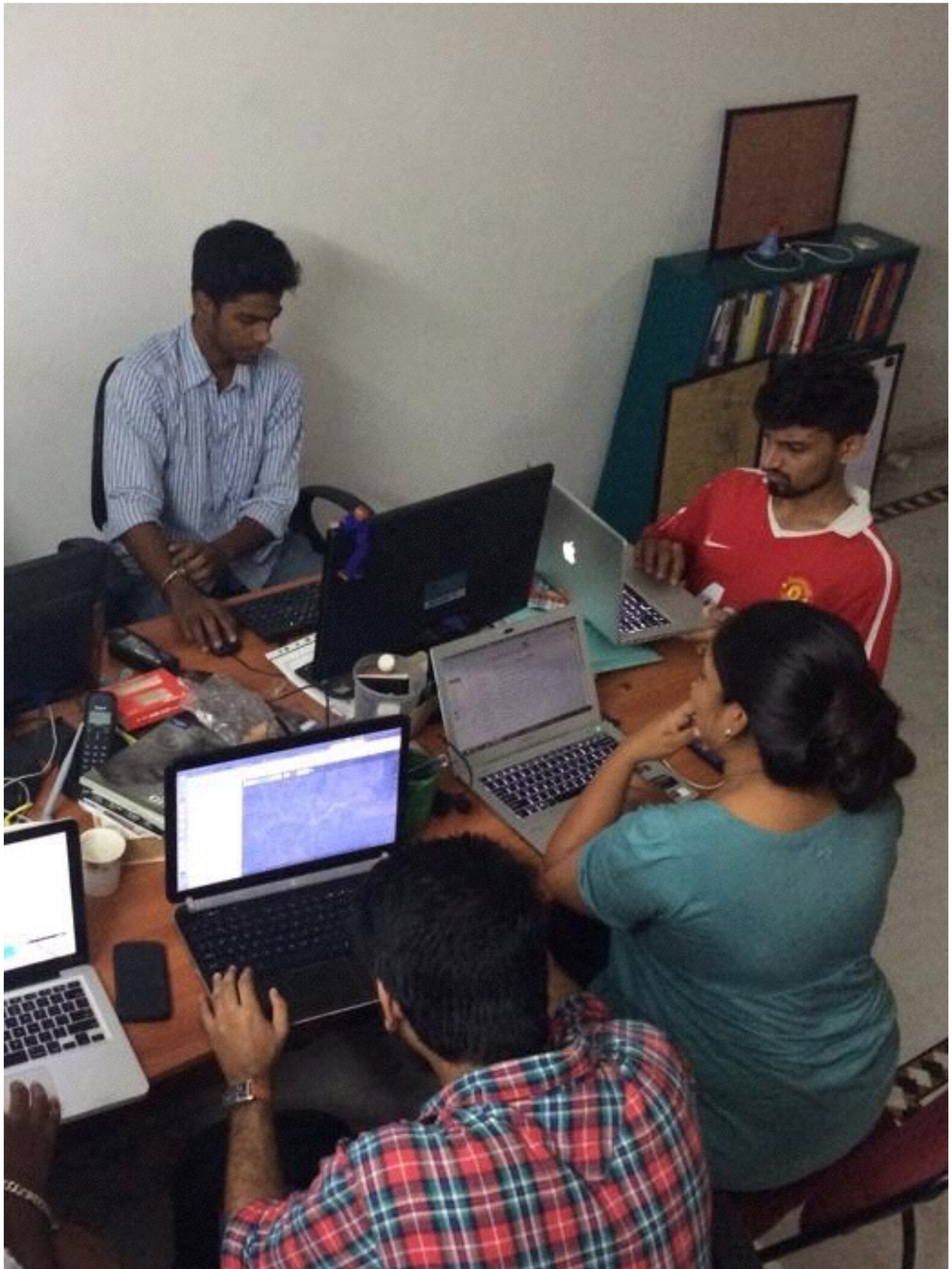


Photo: Students in India digitizing for Nepal earthquake recovery.
Credit: Gopinath Parayil

Evolving ecosystem of tools

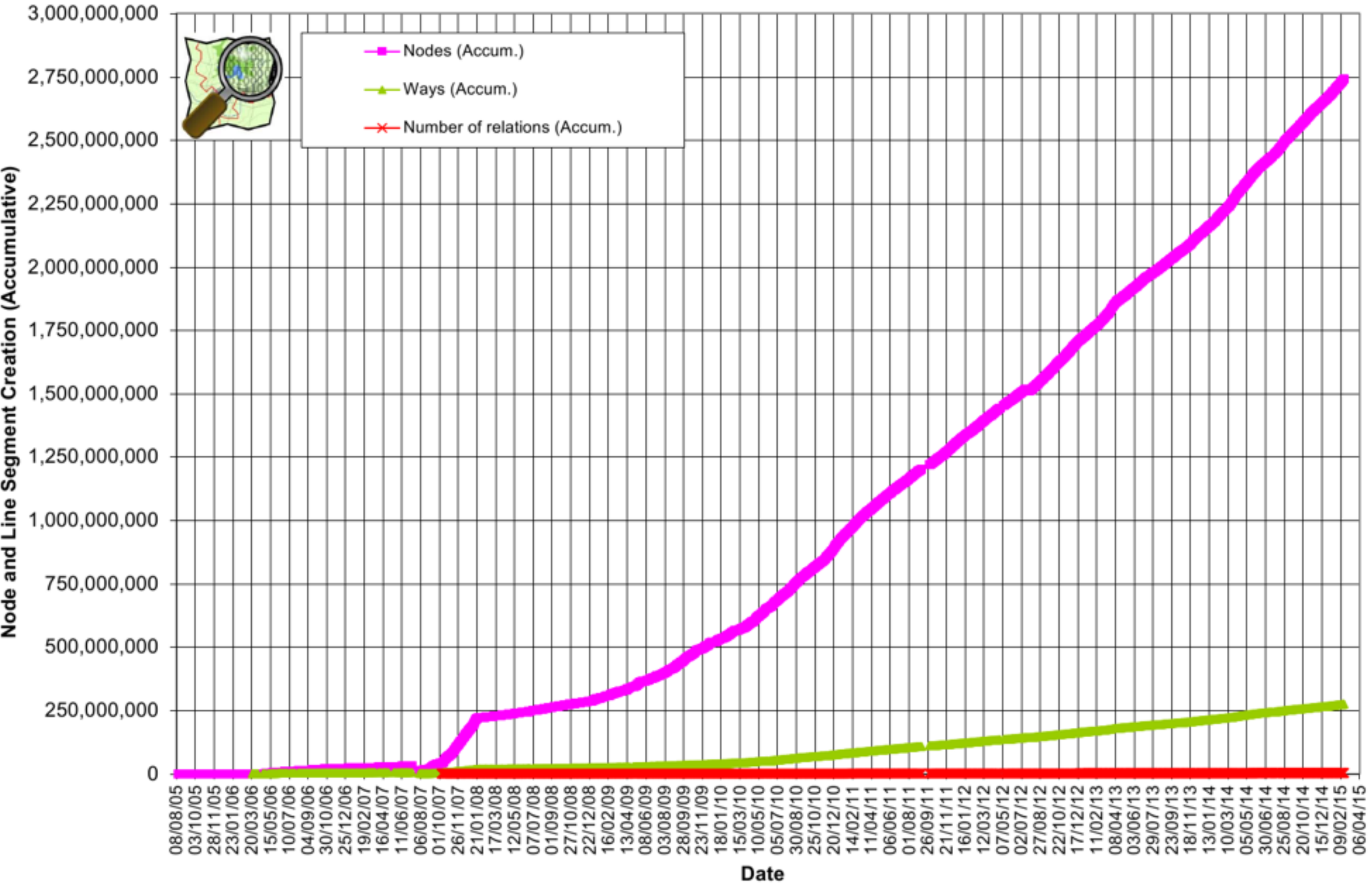
- Editors: iD, JOSM
- Renderings: Mapnik, CSS, Mapquest, OpenCycleMap
- Data Collection: Field Papers
- Streetview: Mapillary photo app
- Scheduling: Tasking Manager
- Data quality: Overpass Turbo, MapRoulette
- Export: XAPI, MapTiles

Milestones in OpenStreetMap History

- 2004 - OpenStreetMap.org registered by Steve Coast
- 2005 – Map Limehouse, 1st OpenStreetMap mapping party
- 2005 – 1000 registered OpenStreetMap users
- 2006 – OpenStreetMap Foundation established
- 2007 – 5 million ways in OSM database
- 2007 – 10,000 registered OpenStreetMap users
- 2008 - TIGER data import for the US completed
- 2009 - 100,000 registered OpenStreetMap users
- 2010 - 200,000 registered OpenStreetMap users
- 2013 - 1,000,000 registered OpenStreetMap users
- 2015 - 2,000,000 registered OpenStreetMap users

OpenStreetMap Database Statistics

Node, Way and Relation Creation



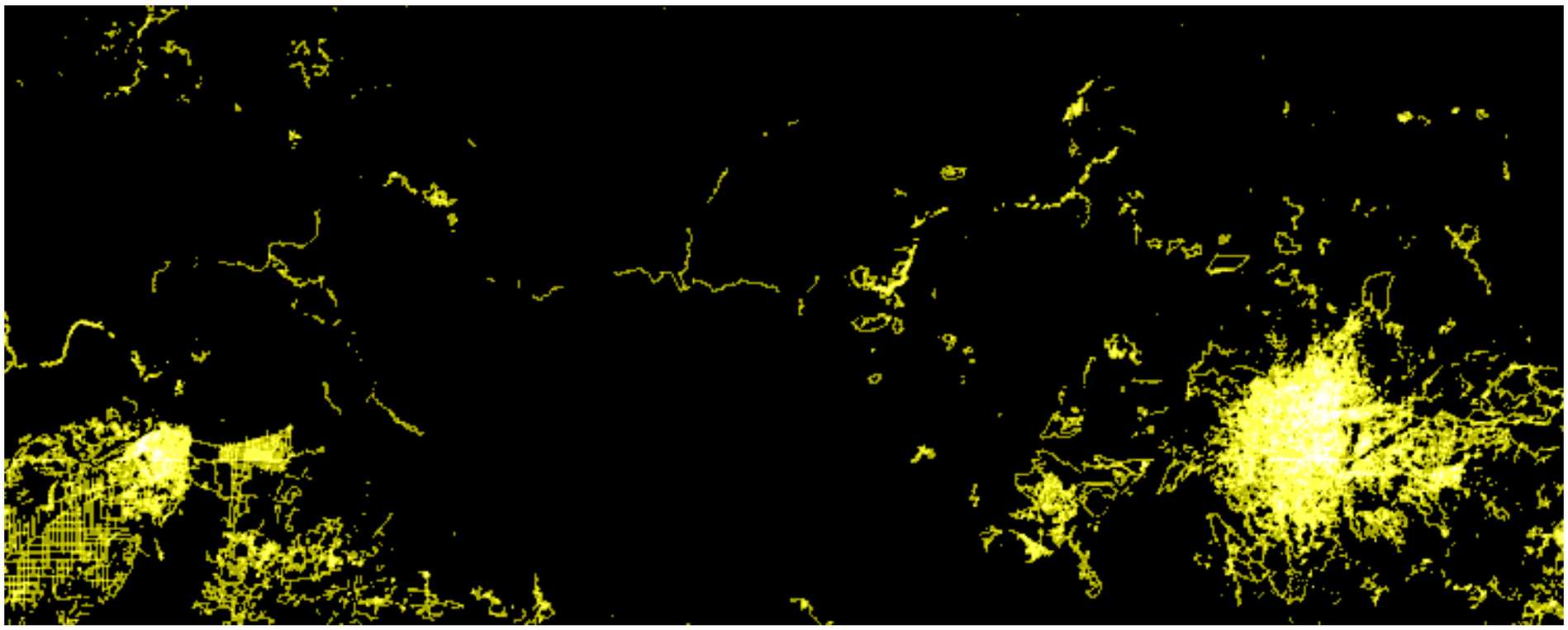
Highlight: OpenStreetMap and Nepal Earthquake

OpenStreetMappers in Nepal one day after quake.
Credit: PierZen

OpenStreetMap Plays Key Role in Disaster Relief

- Mobilization began on 25 April within hours of quake
- ~2300 mappers actively mapping around the world
- 71786 edits to highways, 143372 edits to buildings, 33806 changesets since April 25, 2015.
- Maps used by rescue & recovery specialists, NGOs, government agencies

Photo: OpenStreetMappers at Kathmandu Living Labs one day after the quake.
Credit: KLL



Post-quake edits to OpenStreetMap in Nepal

Credit: Eric Fischer
https://www.mapbox.com/blog/nepal-earthquake-animation/

TeachOSM: A Resource for Educators

Getting Youth Involved

Photo: middle-school school students learning to map.
Credit: MaptimeLex/Lyzi Diamond

What is TeachOSM?

- TeachOSM is a growing resource for educators at all levels to introduce open source mapping in their classrooms and training sessions.

- TeachOSM offers modular lessons that teach basic geographic concepts through applied mapping on OpenStreetMap.

- TeachOSM has resources to help instructors to identify, assign, manage and grade a mapping assignment.

Photo: Mapping peaks using GPS.
Credit: SEJohnson

TeachOSM Activities

- Established a web site
- Create repository of case studies
- Planned half-day workshop for educators - “OSM Summer Camp”
- Outreach to teachers, educators, youth leaders
- Established micro credential initiative to award credit for service hours

Photo: middle-school school students learning to map.
Credit: SEJohnson

For Students…

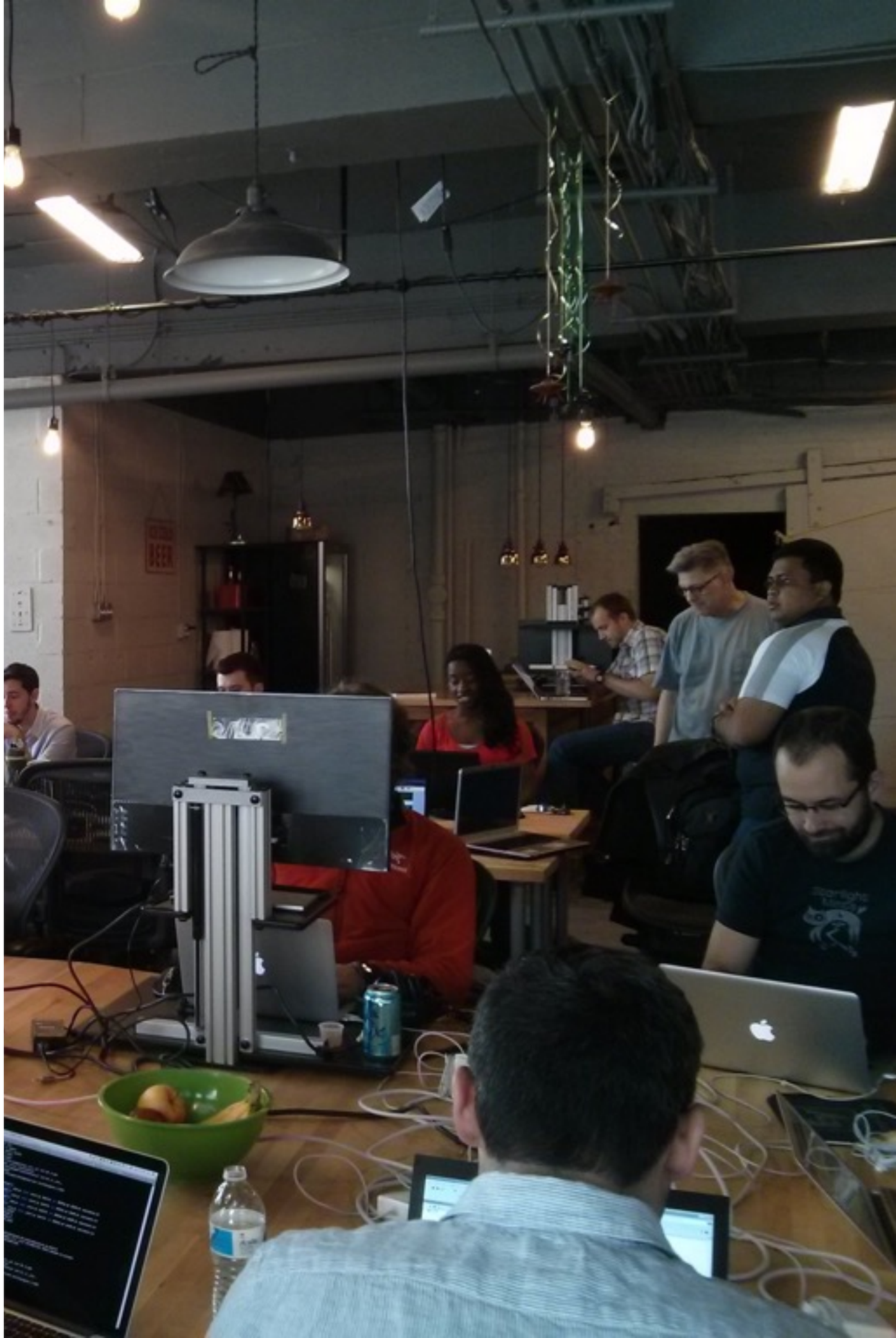
- Teach basic digital mapping skills
- Provide opportunity for vocational learning
- Offer service learning opportunities
  - Humanitarian OpenStreetMap Team (HOT)
  - MapGive
  - MissingMaps
  - DC Great Streets
- Cultivate geo-literacy through guided mapping projects

Photo: middle-school school students learning to map.
Credit: SEJohnson

For educators…

- Basic map editing skills
- How to manage student accounts
- Organizing & managing your mapping event
- The Tasking Manager, for assigning blocks of work
- Quality control, assessment, grading
- Ready-made projects for you to adapt

Photo: Mapathon, Spring 2014.
Credit: Brian DeRocher



GeoBadges: Micro-credentials for Service Learning

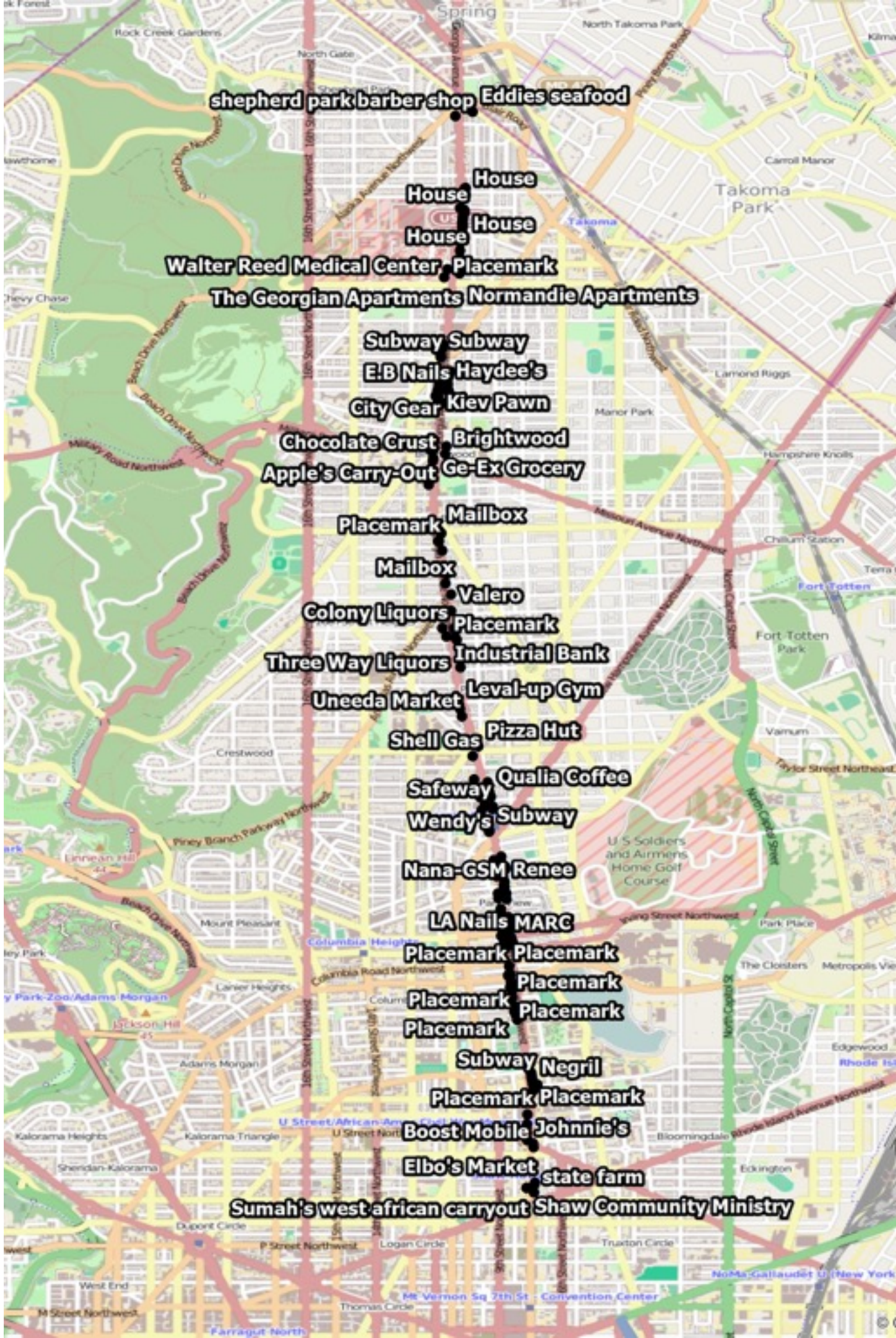
- A new initiative to give credentials to students and teachers for contributions to OpenStreetMap
- Expectations:
  - Contribute to the map & foster community
  - Be a Resource for Peers
  - Develop an Understanding of Basic Digital Mapping Constructs
  - Contribute to Community Mapping Goals (local, HOT, MapGive, MissingMaps)
- Web: http://geobadges.org/

Highlight: TeachOSM and the Georgia Avenue Project

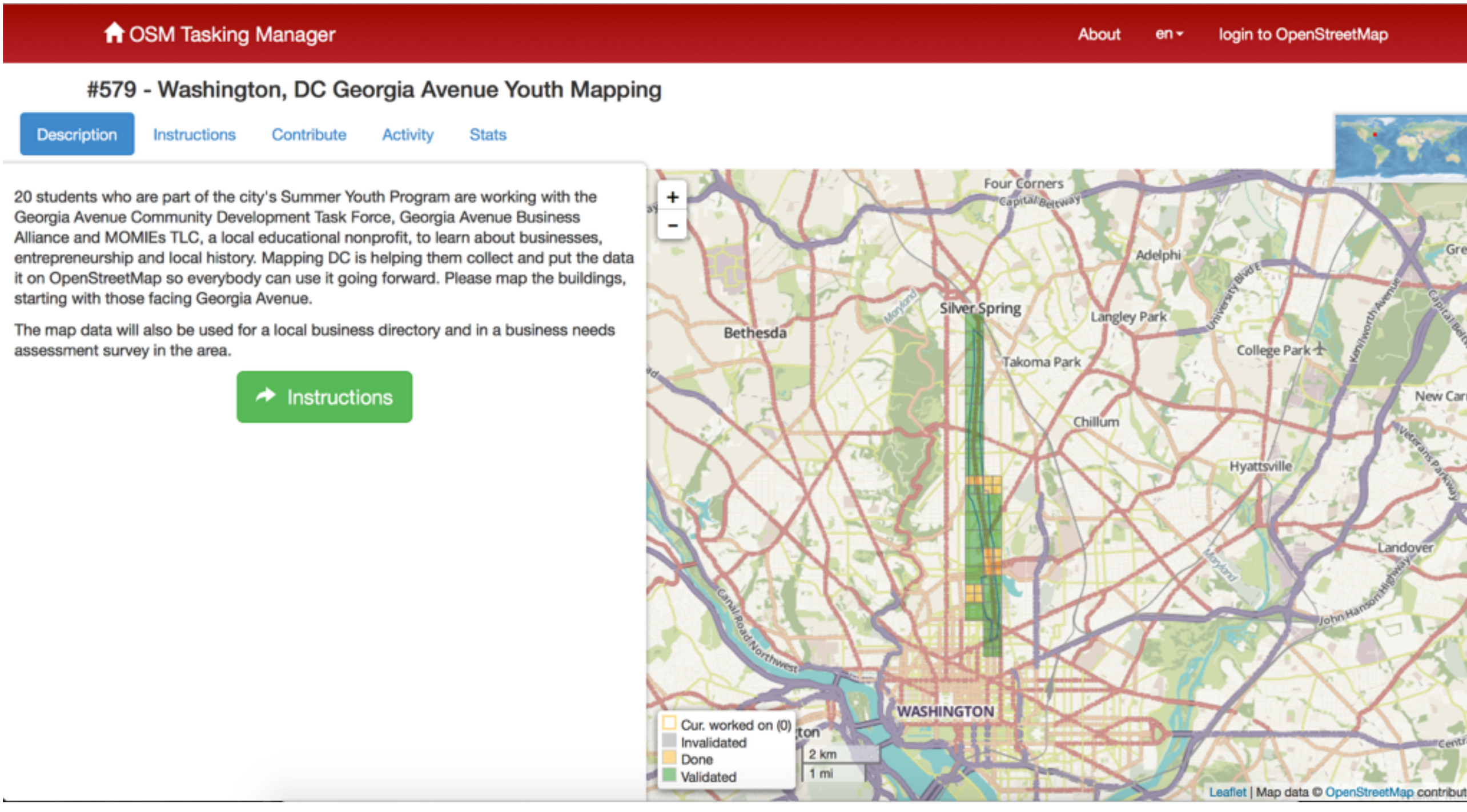
Training Young Adults to Map

Georgia Avenue Mapping Project

- Youth Ambassadors used Georgia Ave data gathered for street-level survey
- We trained ~15 Youth Ambassadors in how to edit in OpenStreetMap
- Results:
  - Over 270 features added to the OpenStreetMap
  - Survey data visible on the map!
- http://wiki.openstreetmap.org/wiki/Georgia_Avenue_Youth_Ambassadors_Mapping_Project



Using the OSM Tasking Manager to control workflow




shepherd park barber shop
Eddies seafood
House
House
House
House
Walter Reed Medical Center
Placemark
The Georgian Apartments
Normandie Apartments
Subway
Subway
E.B Nails
Haydee's
City Gear
Kiev Pawn
Chocolate Crust
Brightwood
Apple's Carry-Out
Ge-Ex Grocery
Placemark
Mailbox
Mailbox
Valero
Colony Liquors
Placemark
Three Way Liquors
Industrial Bank
Uneeda Market
Leval-up Gym
Shell Gas
Pizza Hut
Safeway
Qualia Coffee
Wendy's
Subway
Nana-GSM
Renee
LA Nails
MARC
Placemark
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Subway
Negril
Placemark
Placemark
Boost Mobile
Johnnie's
Elbo's Market
state farm
Sumah's west african carryout
Shaw Community Ministry

Highlight: HOT Indonesia

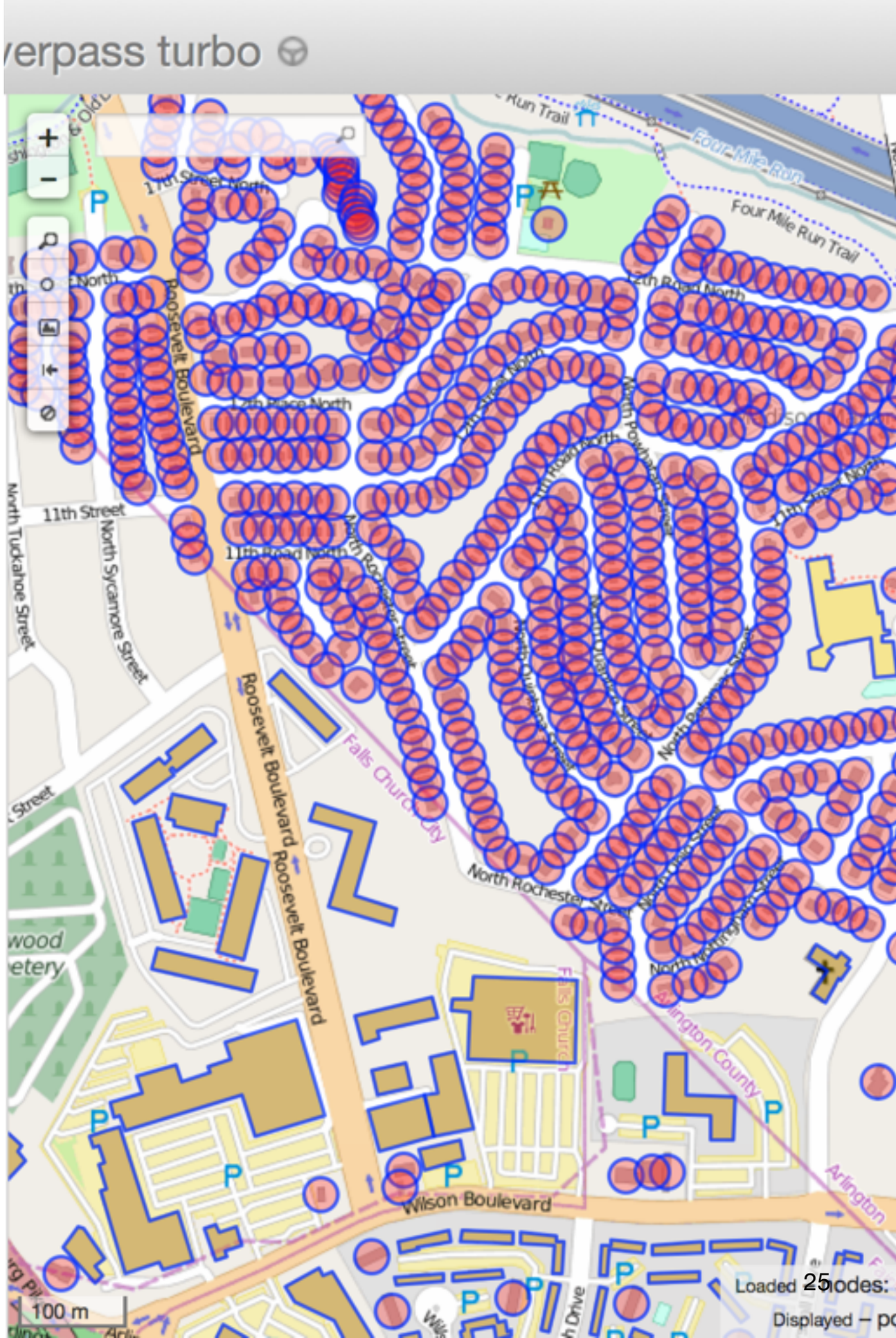
University Outreach Program

University Outreach & Contingency Planning

- Focus is disaster preparedness and contingency planning for vulnerable areas
- Working with local communities to identify & map exposure and risk
- Using QGIS & InaSAFE plugin for downstream analysis
- Over 4 years, conducted 86 trainings, 2300 people trained, ~2m buildings, ~14500 schools

Why TeachOSM?

Six Reasons why OpenStreetMap is an effective tool for community development



OpenStreetMap Gives Students Immediate Experience

- Direct Learning - Young adults gain direct experience of space, place, and location
    - Geography at a 1:1 Scale
    - The terrain *is* the map
    - Nurture and understanding of how to read the landscape

OpenStreetMap Reinforces Social & Historical Literacy

- Provides meaningful engagement for children that can broaden academic & career options
    - History-shaping events often happen at certain places for geographic reasons.
    - Contributing to OSM, -through site surveys, editing, & meeting other citizens, helps us understand geographic processes that underpin social events.

OpenStreetMap Supports Collaborative Learning

- Mapathons help students establish positive relationships with other mappers in the community
    - Collaborate with your fellow citizens to record features of interest
    - Share observations about your community
    - Give visibility to community landmarks

OpenStreetMap Provides Opportunities for Service-based Learning

- Opportunities to engage in ongoing community service projects & service learning engagements

  - Contribute to humanitarian relief efforts through Humanitarian OpenStreetMap Team

- Use MapRoulette ‘micro-tasking’ to help improve map quality

- Give young adults a meaningful stake in maintaining map data in their neighborhood

OpenStreetMap Supports Self-directed Learning

- The open platform encourages self-guided learning and allows students to challenge themselves.

- Mapping projects encourage collaboration & teamwork

- Students learn how to think critically about geographic features and how to model their world.

- Active mapping nurtures the young adult's natural inquiries into the world.

OpenStreetMap Requires No Special Resources

- No software required - works in the browser
- No permission required - OSM is a do-acracy: DO IT!
- Data are free and can be exported for downstream use in desktop GIS packages (e.g. QGIS, ArcGIS)
- No fees, licensing charges, royalties, paywalls, subscriptions, etc.

Sample Ideas for Projects

- Conduct a street survey in your neighborhood:
  - http://teachosm.org/en/cases/DCGreatStreets_survey_casestudy/
- Map for disaster relief/preparedness:
  - http://mapgive.state.gov and http://missingmaps.org/
- Add historical features to OpenHistoricalMap:
  - http://ow.ly/MfhZw
- Map local food resources:
  - http://teachosm.org/en/cases/farmers-market/
- Start a student mapping society:
  - https://www.facebook.com/GWHMS

Ready to Map?

- Where do I get started?
  - Subscribe to the TeachOSM mailing list
  - Send an inquiry to info@teachosm.org
- How do I contribute?
  - Draft a case study for the web site
  - Organize a mapping project (Yes, we can help!)
  - Help refine our materials

Photo: middle-school school students learning to map.
Credit: MaptimeLex/Lyzi Diamond

Summary

- As an open freely editable map of the world, OpenStreetMap is an excellent platform for teaching geography and for community engagement

- OpenStreetMap offers students geo-literacy, social ties, service learning, and independent learning opportunities.

- OpenStreetMap is free and requires no special equipment

- Use TeachOSM and help us make it better

Resources for OpenStreetMap-based projects

- TeachOSM - http://teachosm.org/
- LearnOSM - http://learnosm.org/
- MapGive - http://mapgive.state.gov
- MissingMaps - http://www.missingmaps.org/
- Humanitarian OpenStreetMap Team (HOT) - http://hot.openstreetmap.org/
- QGIS - http://qgis.org/
- GeoBadges - http://geobadges.org/
- Real-time contributions to OSM in Nepal: http://osm.townsendjennings.com/nepal/
- OSM wiki page on Nepal earthquake: https://wiki.openstreetmap.org/wiki/2015_Nepal_earthquake

Thank You!

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