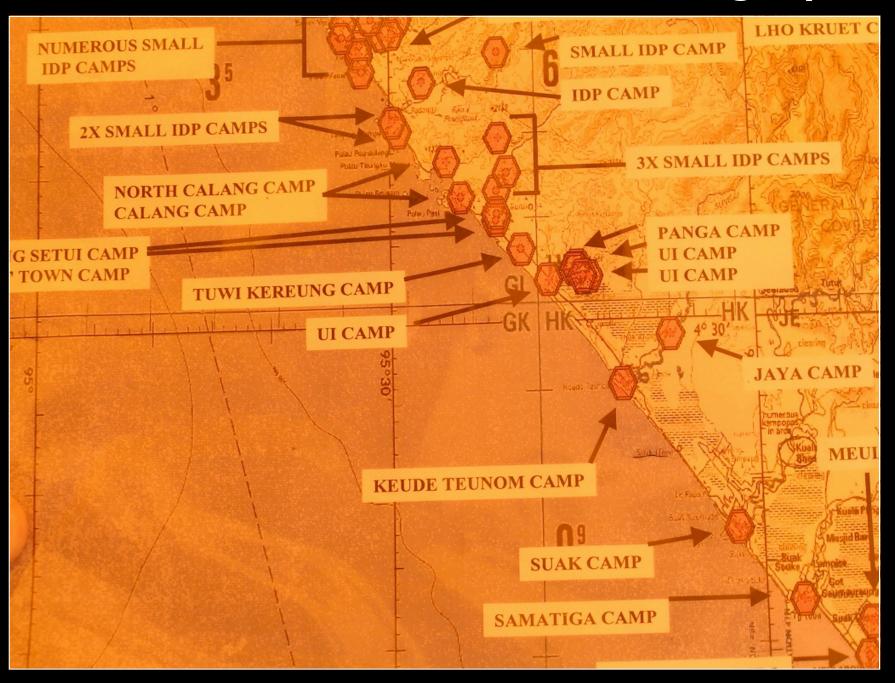
# Haiti Earthquake: How Disaster Response Has Been Changed Forever

John Crowley Schuyler Erle Jeff Johnson

## 2004 Indian Ocean Tsunami



## We waited 3 weeks for imagery



## 2010 Haiti Earthquake: We waited one day

#### Haiti imagery layer now available

Wednesday, January 13, 2010 at 7:05 PM

We've worked closely with GeoEye throughout the afternoon to make their most recent satellite imagery of Haiti, taken at approximately 10:27am EST today, available as a KML overlay for Google Earth. You can <u>download the KML here</u> and open it in Google Earth, or look at it via the browser plug-in below. As you'll see, the imagery shows a powerful glimpse into the destruction in Haiti. Here are before-and-after screenshots of the Presidential Palace and an area of Port-au-Prince:



# Texts from the Rubble

Mwen se carline pierre mw poko mori mwen anba dekonb nan universite caraibes ki sitye nan delma 29 la tanpri map tann pou yo vini sove m.

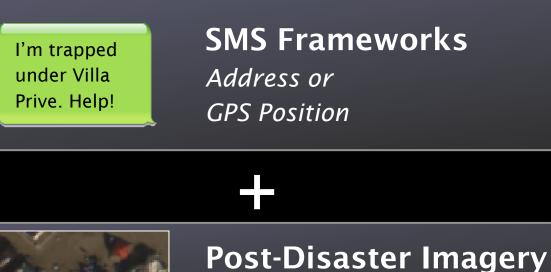
My name is Carline Pierre **I'm not dead**. **I am under the rumbles** in University Caraibes, which is in Delmas 29. **Please come and get me!** *I'm waiting for you.* 

18.5546 -72.314



Ushahidi @ Tufts Fletcher School

Imagery enables Collective Action



Sub 1m within 1 day

+



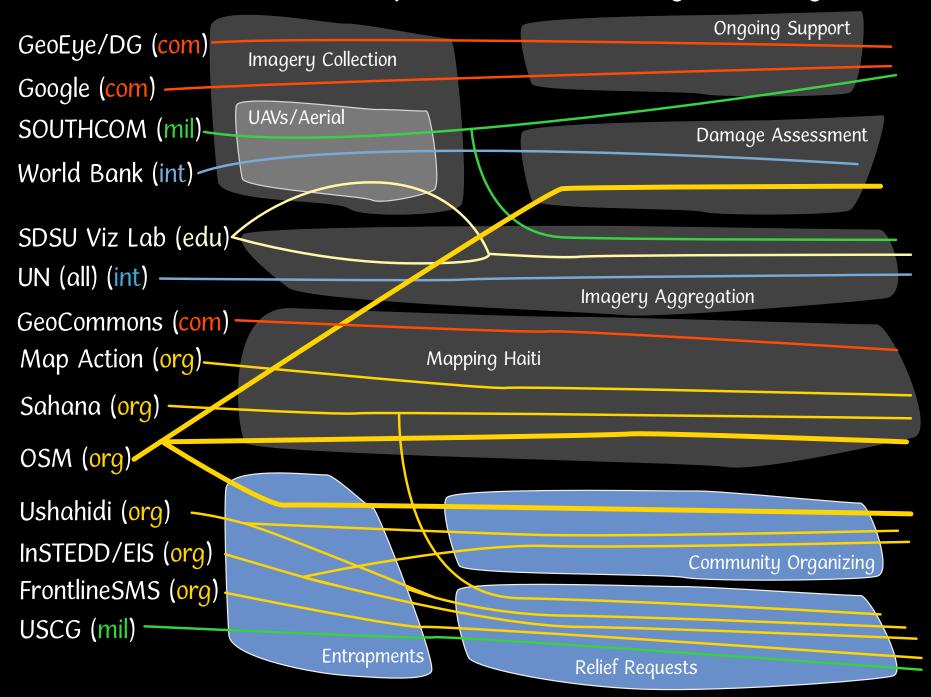
Fast-cycle Maps Wiki for Maps

Crisis Camp Crisis Mappers OpenStreetMap Random Hacks of Kindness



Preconditions for Collective Action

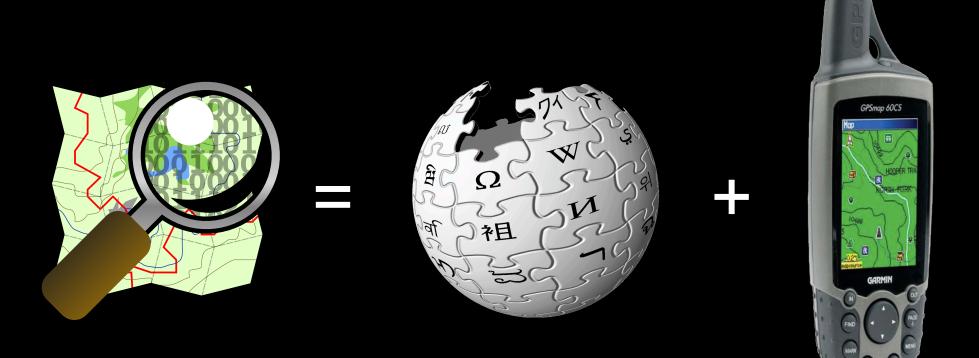
#### Haiti Narrative: Responders' Paths through Challenges

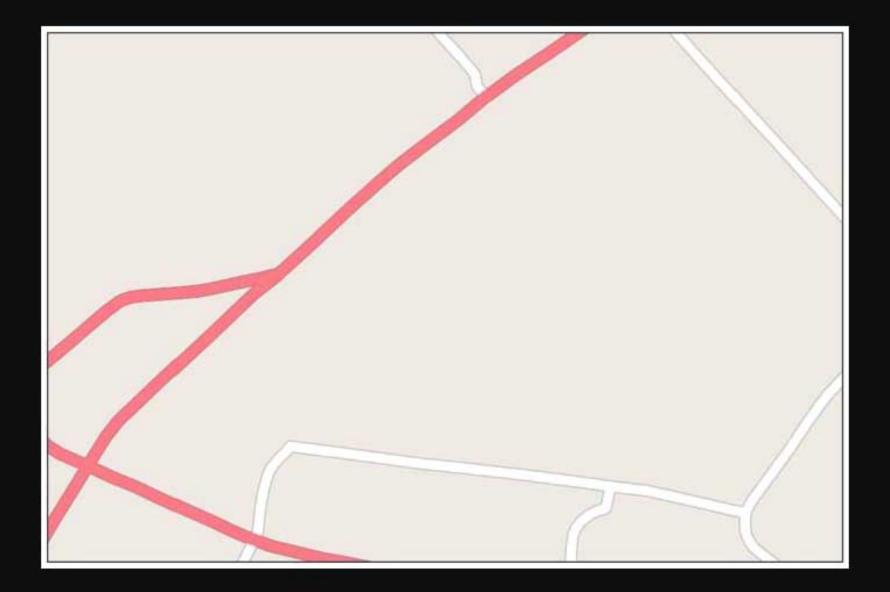


Without a doubt, OpenStreetMap has helped save lives.

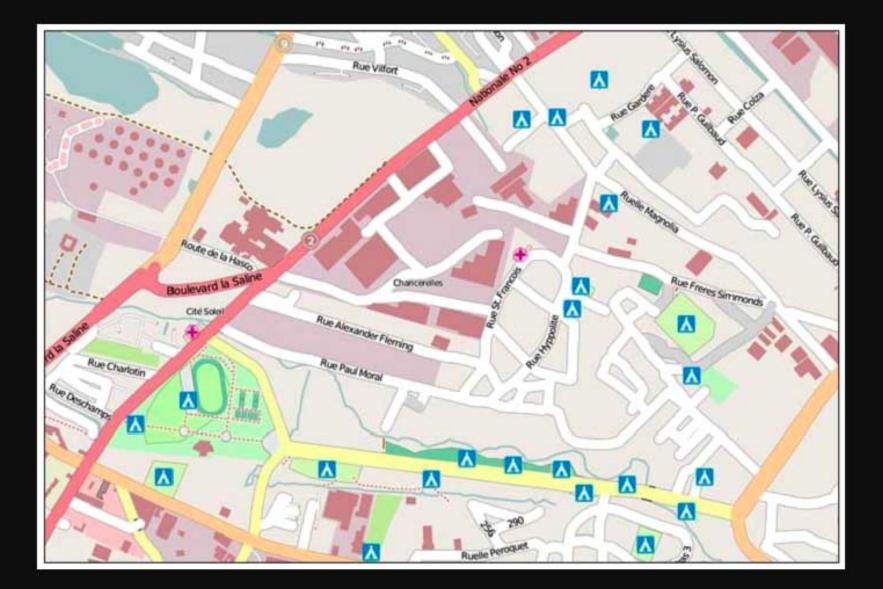
MapAction

### OSM is the Wikipedia of Maps



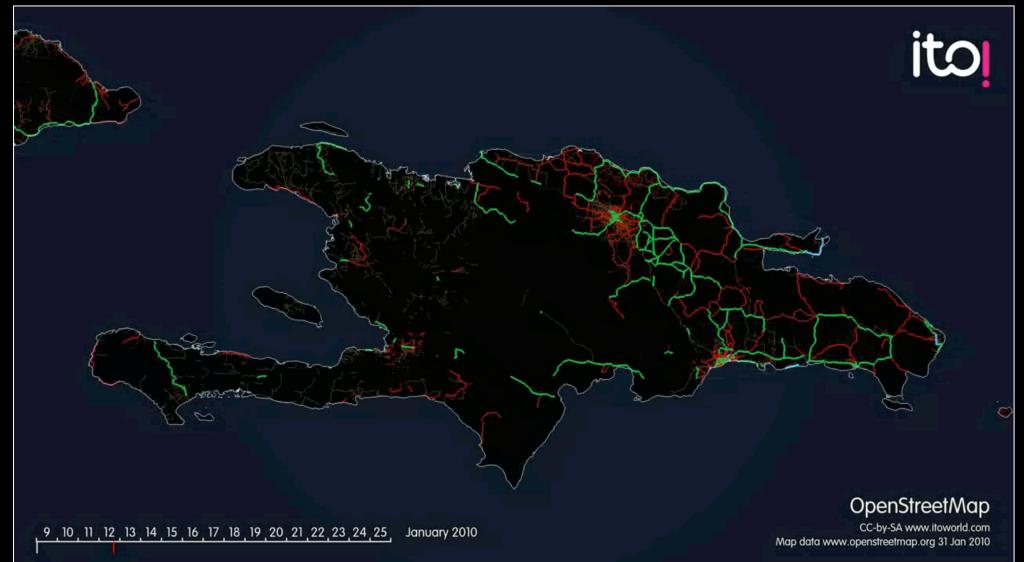








#### OSM in Haiti ITO Animation





OSM required *four* Technical Enablers



#### Imagery Unprecedented Release

## 2

#### **Datasets** Imports of Existing Data

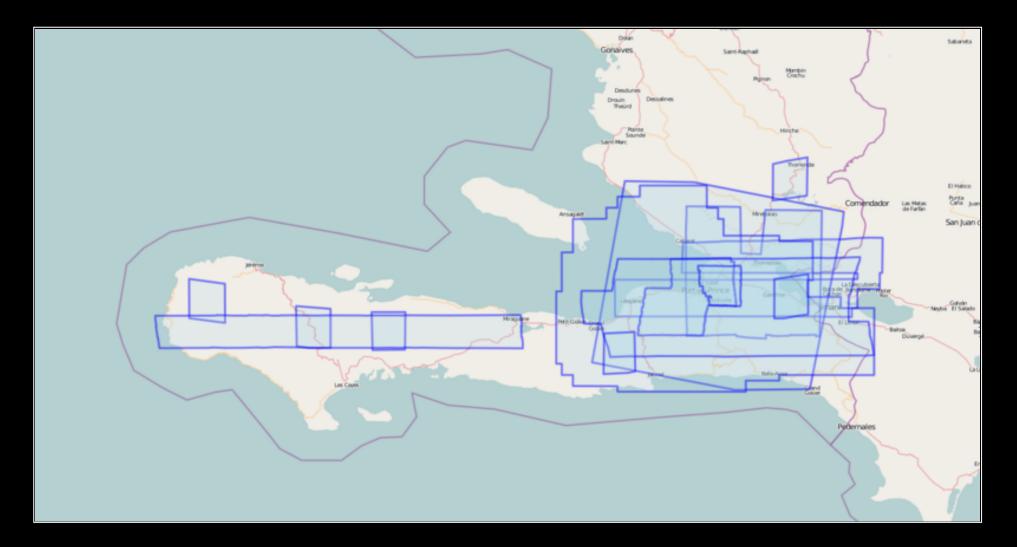
3

#### Data Schema

Flexible Evolving Models

**Toolset** Open-source stack

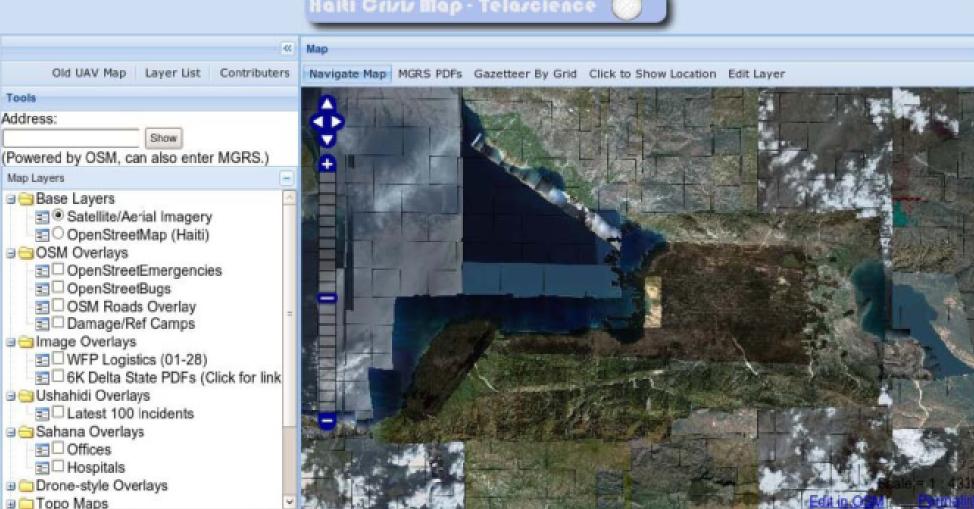
#### Imagery Coverage of Haiti Post-Quake



### Making the Imagery Usable

#### Collection & Release

Processing



Publication

## Datasets: Collecting Everything



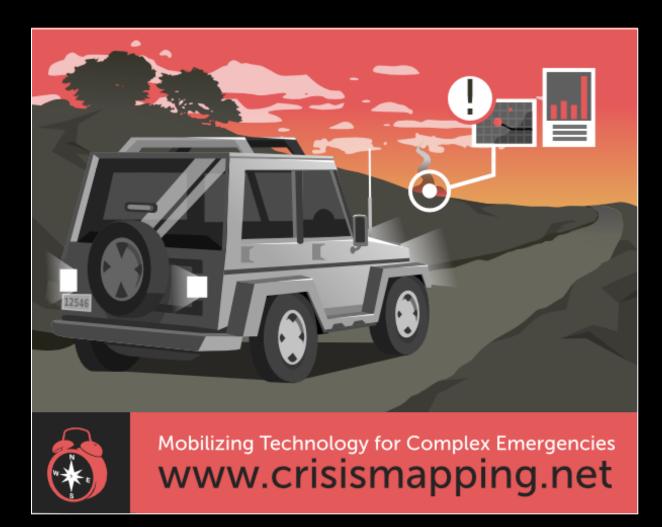
## First Time: P3 & GlobalHawk Imagery



NOT FOR COMMERCIAL PURPOSES

UNCLASSIFIED

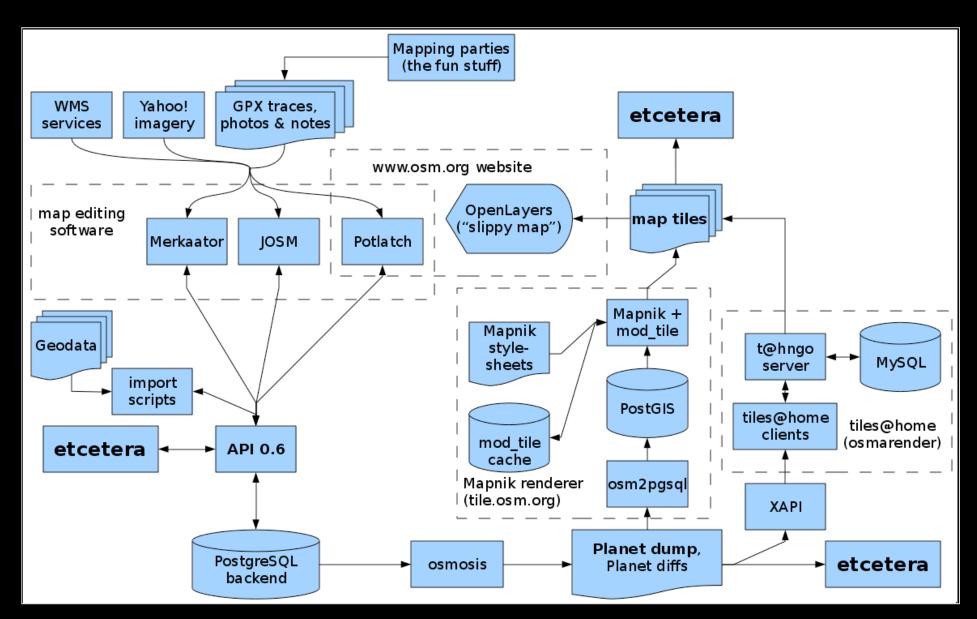
#### **Crisis Mappers**



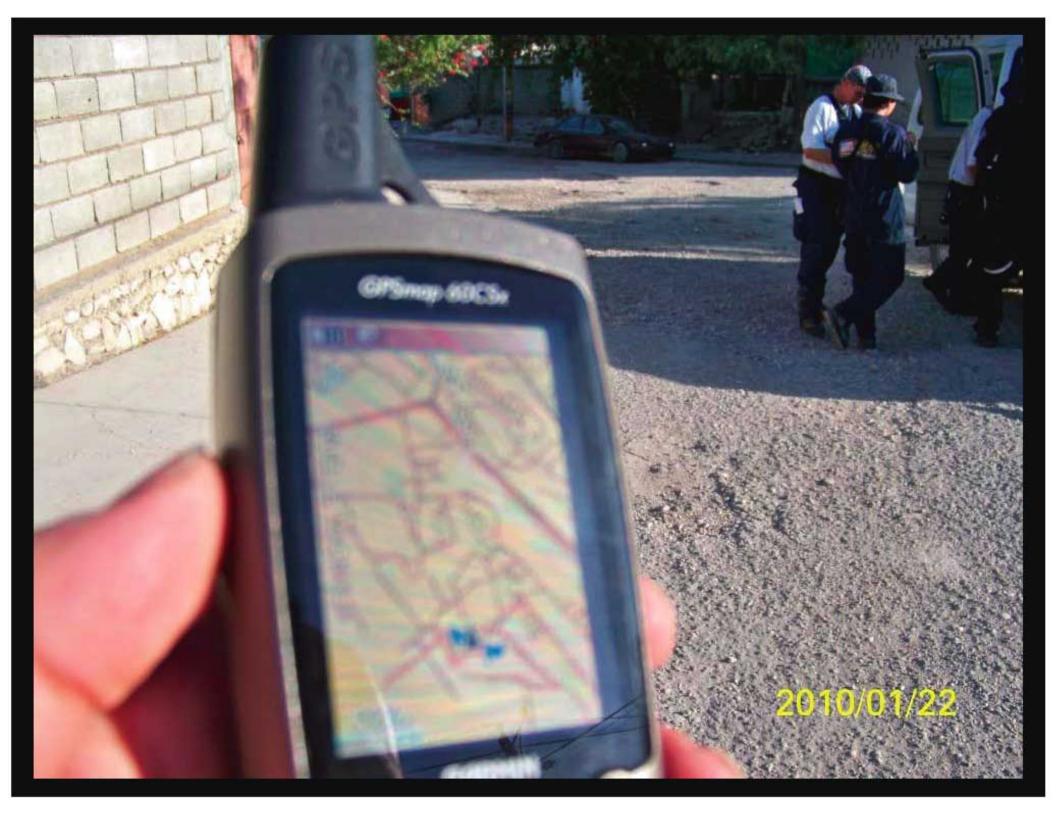
## Data Schema

## Flexible Tagging

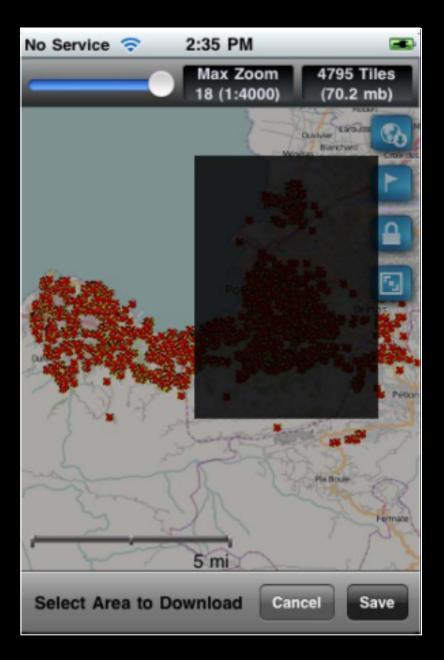
#### Toolset: OSM Stack



# Maps on the Ground



#### iPhone OSM App for Haiti





# I'm looking for a map...



# Coase's Penguin

Yochai Benkler Commons-based Peer Production

Non-monetary Motivation

Discrete, multi-sized pieces

Low-cost integration

# Coase's Penguin

Yochai Benkler Commons-based Peer Production

#### Fun

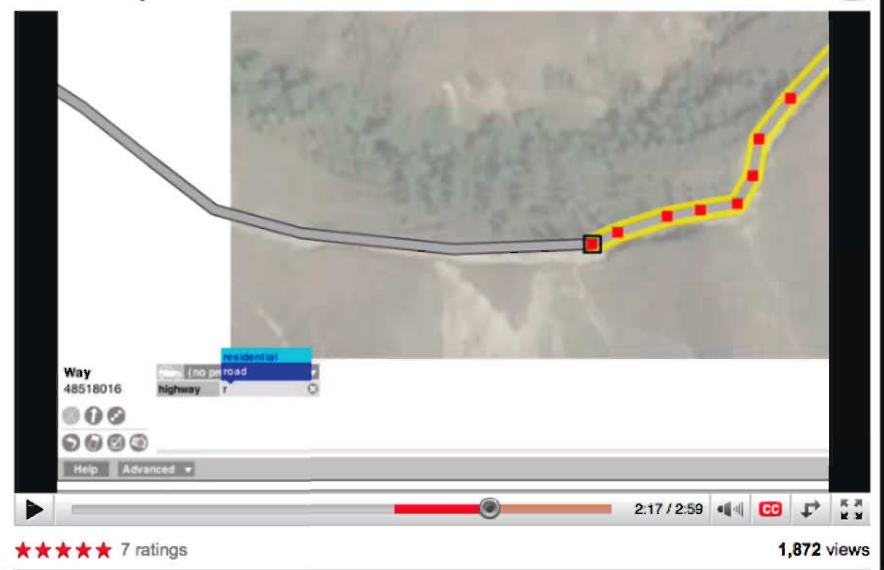
Takes as little as 5 minutes

Easy (enough)

You Tube					Search
Broadcast Yourself ™	Home	Videos	Channels	Shows	

2

#### How to Map Roads in Haiti for OSM



# Coase's Penguin

Yochai Benkler Commons-based Peer Production

Rewarding

Takes as little as 5 minutes

Easy (enough)

#### UNOSAT

We used OSM on a daily basis... every day it was possible to improve our maps with new information.

Usually it is *impossible* to get this information... so thanks to this volunteer platform, it has been fantastic for us...

#### UN OCHA

It's the best source of transportation information that we have for Haiti... it's the most comprehensive one, and the most up to date... There is a big GIS group here for this humanitarian response, and everybody is using OSM.

New Capabilities generate Ethical Questions

# Communities have *carrying capacities*.

### Do big players grok our needs?

# Collective action is more than a tech stack.

# It's mobilizing relational power.

# Iterative *versus* Comprehensive

If we can open ourselves to cooperation, we can leverage each other's strengths.

# Call for an ETHICAL CODE OF CONDUCT

#### Sustainable Approaches

#### Protocols & Processes

#### Privacy & Protections

#### Build the Ethical Code *with us*

WRITING ETHICAL CODE

STAR-TIDES @ Camp Roberts

CrisisMappers @ Google Groups

CrisisCommons

Humanitarian OSM Team

#### Contact Us

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