

Data for Good: Social Media Aiding in Disaster Response and Recovery

Providing Value and Protecting Personal Information
December 2018

Laura McGorman, Facebook Data Leadership



1876

"This 'telephone' has too many shortcomings to be seriously considered as a means of communication."
"

— William Orton, President of Western Union

1981

“Cellular phones will absolutely not replace local wire systems.”

— Marty Cooper, inventor

2007

“There’s no chance that the iPhone is going to get any significant market share.”

— Steve Ballmer, Microsoft CEO.





Nicholas Negroponte, director of the MIT Media Lab, predicts that we'll soon buy books and newspapers straight over the Internet. Uh, sure.



"Most things that succeed don't require retraining 250 million people."



Early questions

- Can Facebook help fill critical data gaps during the first hours of a crisis?
- How do we transmit this information to the right people at the right time while preserving privacy?

Filling data gaps

- **Location:** Where are people located during the crisis compared to where we expect them to be?
- **Connectivity:** Where do people have access to network coverage?
- **Power availability:** Where are people able to charge their phones and access power?
- **Safety Check:** Where are people checking in safe? Where are they not?
- **Long Term Displacement:** How long after a crisis are people still not able to return home?

Privacy preserving approach

- We share data in a privacy preserving way
 - Focus on **aggregation** and **smoothing**
 - Ex. Disaster maps relies on aggregated and smoothed data across very large (360K m²) tiles, roughly equivalent to the size of neighborhoods
- Co-development with partners we trust
 - We make data-driven products that provide insights, **don't passively hand over data**



Hurricane Maria
September 2017



Hurricane Maria, Puerto Rico

Location Density Map



LOWER NUMBER OF FACEBOOK USERS THAN EXPECTED



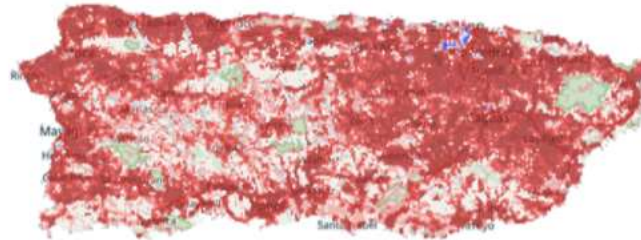
HIGHER NUMBER OF FACEBOOK USERS THAN EXPECTED



2 DAYS BEFORE MARIA
September 4, 2017



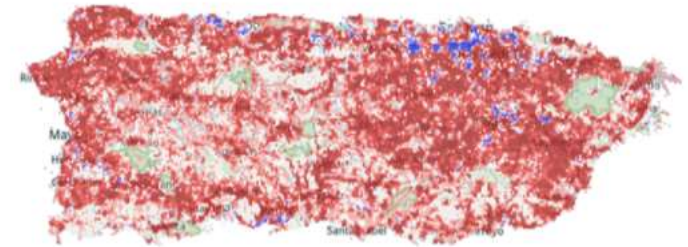
Baseline



3 WEEKS AFTER MARIA
September 28, 2017



Significantly low Facebook
usage in most areas



8 WEEKS AFTER MARIA
October 24, 2017



Facebook usage recovering
to normal in pockets

FB & the American Red Cross



FB & NetHope



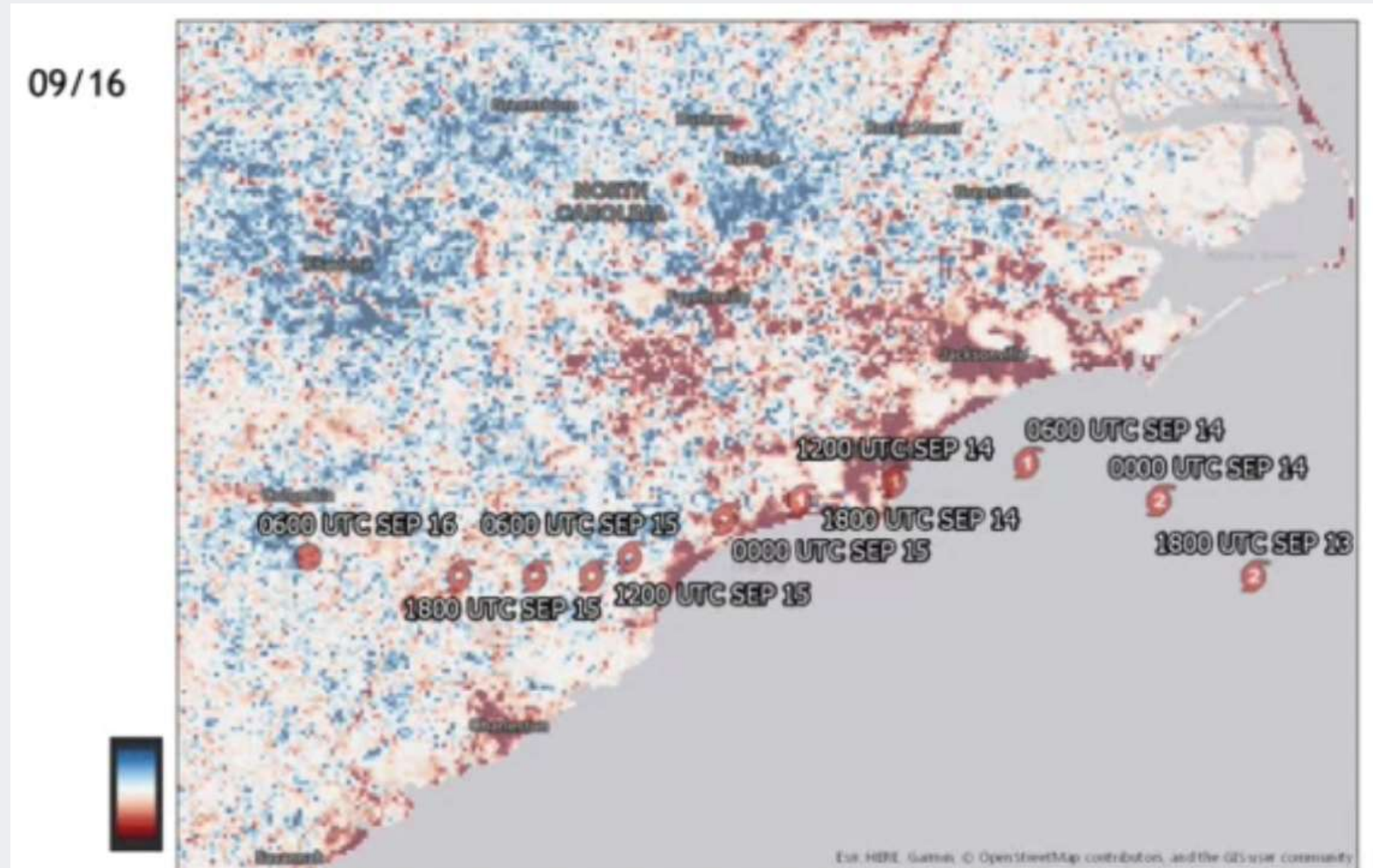
- *Information as Aid – Puerto Rico* Facebook page to provide affected communities in Puerto Rico Within two weeks after launch, 30,000 citizens had accessed the page.
- According to ActionSprout this was the fastest growing Facebook page in history, reaching over 1.3 million users.



Hurricane Florence
September 2018

FB location maps helped verify evacuations

Humanity Road and Direct Relief used FB data to verify where people had evacuated and to send supplies where they were needed most



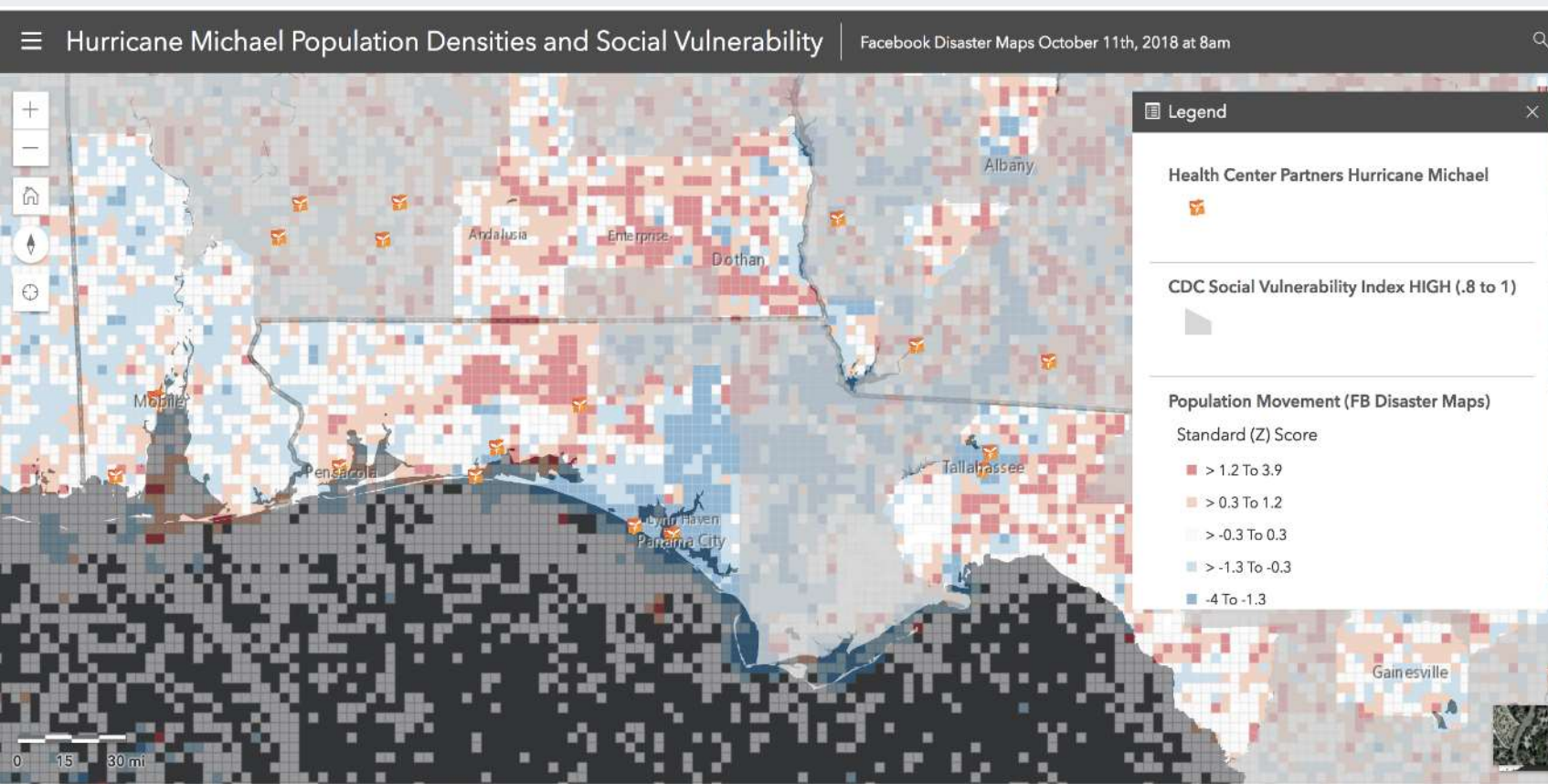
Hurricane Michael

October 2018



FB location maps helped target supply distribution

American Red Cross used our data for its distribution plan, Direct Relief used our data to communicate about surges with its network of health centers



Emergency Response

Pinned Posts Are Now Announcements

You can feature multiple posts as announcements by going to any post and choosing "Mark As Announcement." Members will see the most recent unread announcement at the top of the group as a full post and past announcements in the Announcements tab.

[Visit Help Center](#)

Direct Relief
Published by Andrew Schroeder [?] · 1 min

In this map you can see the coastal areas in the path of Hurricane Michael which are already seeing significant declines in total population as of 8pm ET on October 9th. (Data source: Facebook Disaster Maps)

Card 1

Baseline v. Crisis Pop. $y = 1.01x + 16.7$ $R^2 = 0.999$

Percent Change Pop. $y = -0.01x + 0.001$ $R^2 = 0.001$

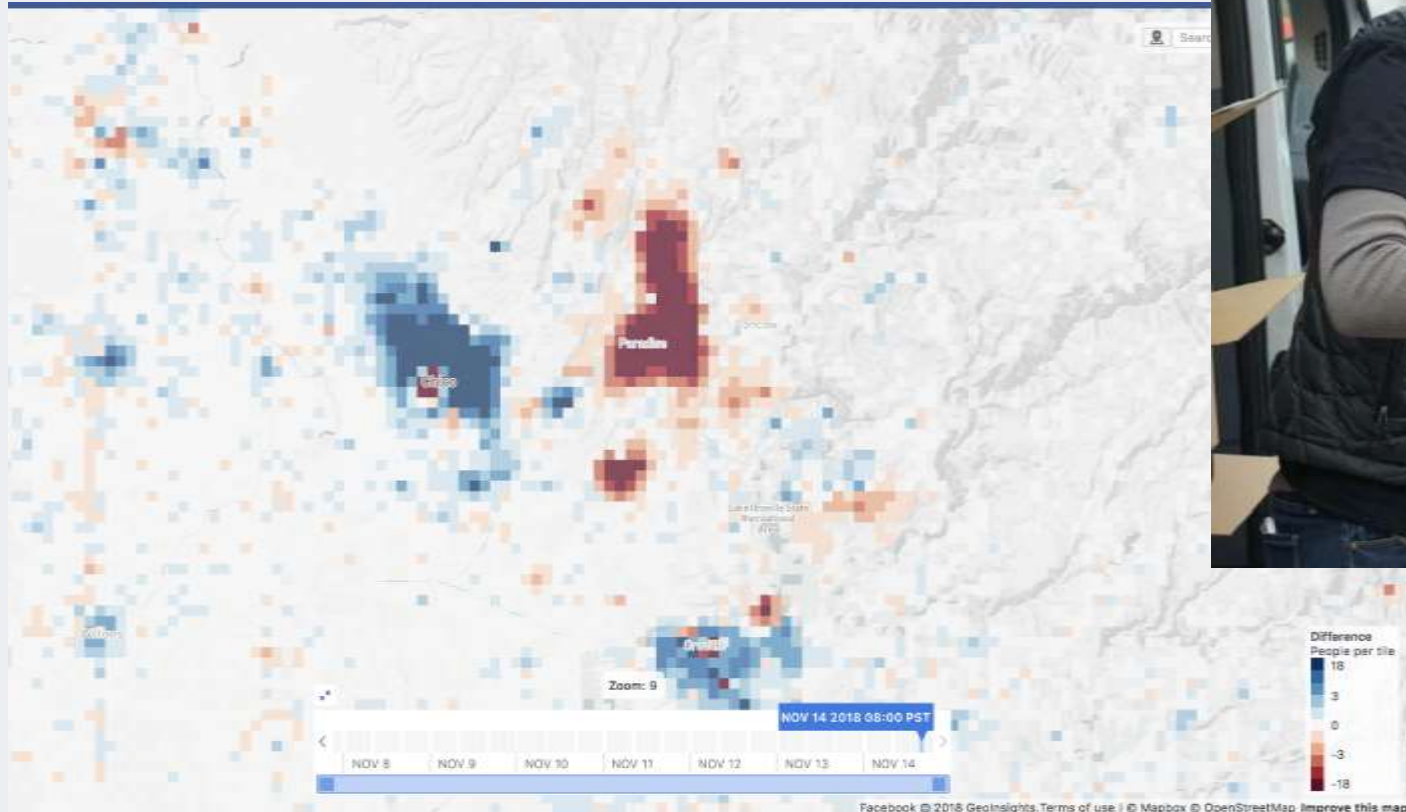
Like Comment



**The Camp and Woolsey Fires
November 2018**

FB location maps helped target mask distribution

American Red Cross used our data for its distribution plan, Direct Relief used our data to distribute over 10K respiratory masks, and CalOES used our maps to monitor evacuations



Results in the past year

- **Partners:** Scaled from working with 6 humanitarian agencies to 30
- **Number of disasters activated for: 100+**, including Hurricanes Maria and Irma, the Thomas fires, the Mendocino Fires, Hurricane Florence, Hurricane Michael, the Camp Fire and many others.



Thank you!