

Twitter for Crowd Sourced Location Information

Jan 19, 2011

www.safe.com



Drew Rifkin, Safe Software





- Overview
 - Geo-Social Media
 - Crowd Sourcing
- Case Studies
 - State of Arkansas – Tornado Tracking
 - Safe Software Tweet Map
- Conclusion

Tweet @ #SafeSoftware



foursquare



Crowd Sourcing

www.safe.com





- Active:
Asking the crowd and awaiting an answer
- Passive:
Finding the answer in the crowd

Potential Municipal Use Cases

www.safe.com



- Non-authoritative voting
- Emergency & non-emergency communication
- 311 incident reports
- Just about any type of public communication

311 example

www.safe.com



twitter

Have an account? [Sign in](#)

twitter

Have an account? [Sign in](#)

Get short, timely message

Twitter is a rich source of instantly up to date information on an incredibly wide variety of topics. [Join](#)

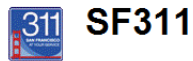
[Sign Up](#)

[@DPClean](#) Please provide an address or cross street and corner for this mailbox. Thank you. ^DM

about 17 hours ago via CoTweet in reply to DPClean

on an

212 in Canada
other countries



[@DPClean](#) The original service request shows graffiti removed on 12/8/10. The new service request is 807191. ^DM

about 16 hours ago via CoTweet in reply to DPClean

[@DPClean](#) The City's goal is to respond to these types of requests within 3 days. Service request number is 807187. ^DM

about 16 hours ago via CoTweet in reply to DPClean

[@DPClean](#) The City's goal is to respond to these requests and remove the posting within 3 calendar days. Service request number is 807183 ^DM

about 16 hours ago via CoTweet in reply to DPClean

[@DPClean](#) Please provide an address or cross street and corner for this mailbox. Thank you. ^DM

about 17 hours ago via CoTweet in reply to DPClean

[@DPClean](#) The City's goal is to respond to these requests and remove the posting within 3 calendar days. Service request number is 807179 ^DM

about 17 hours ago via CoTweet in reply to DPClean

[@DPClean](#) - The City's goal is to respond to these requests within 48 hours. SR# 807172. Thx, ^BM

about 17 hours ago via CoTweet in reply to DPClean

MLK Jr March & Parade on Monday at 11am. Parade begins at 4th & Townsend to Yerba Buena Center for the Arts.

<http://cot.ag/eTsp6u> ^MT
10:00 AM Jan 16th via CoTweet

[@Jess031083](#) Noise complaints created by neighbors between 10pm & 7am should be directed to non-emergency police 553-0123 ^RT

12:20 AM Jan 16th via CoTweet in reply to Jess031083

Verified Account

Name SF311
Location San Francisco, CA
Website twitter.com/sf311

Want to follow you?
Go to <http://bit.ly/70sZo>

7,505 following
7,167 followers
426 listed

Tweets 4,104

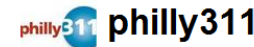
Favorites

Lists
[@SF311/citytweeters](#)
[View all](#)

Following

[View all...](#)

RSS feed of SF311's tweets



[@MichaelFerris](#) is there a particular request you would want me to check for you? I would be glad to provide the status for you now. DM me?

3:49 PM Jan 14th via web in reply to MichaelFerris

Why not join us at Facebook?
<http://www.facebook.com/pages/Philly311/50467357307>

3:16 PM Jan 14th via web

[@echobravo1119](#) thank you for the retweet.

2:58 PM Jan 14th via web in reply to echobravo1119

[@MichaelFerris](#) [@PhillyWhiteBoy](#) we sometimes do not have the telephone number and name. One can check the status online at phila.gov/311

2:58 PM Jan 14th via web in reply to MichaelFerris

Join others at Girard College, the signature site, for a kid's carnival, a civic engagement expo, and a health and wellness fair.

2:45 PM Jan 14th via web

City of Philadelphia offices will be closed on Monday, January 17, 2011 in observance of Dr. Martin Luther King Jr Day.

2:38 PM Jan 14th via web

Rubbish and recyclable collection is one day late this week and residents with rear collection are asked to place trash curbside.

2:35 PM Jan 14th via web

Customer Testimonial: It was great. Everything worked out and I do appreciate everything. -Anonymous 1/14/2011 3:01PM

1:44 PM Jan 14th via Ping.fm

Farrow receives the award during a gala concert at the Kimmel Center on May 10th.

1:08 PM Jan 14th via web

[Philly311](#) Actress Mia Farrow to win Marian Anderson Award

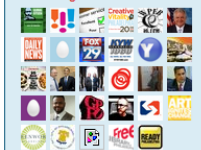
Name Philly311
Location Philadelphia, PA
Web <http://www.phila.gov>
Bio Philly311 will revolutionize the way you get information from your City government.

29 following
512 followers
47 listed

Tweets 890

Favorites

Following



RSS feed of Philly311's tweets



- Overview
 - Geo-Social Media
 - Crowd Sourcing
- Case Studies
 - State of Arkansas – Tornado Tracking
 - Safe Software Tweet Map
- Conclusion

This Was Just a Test...

www.safe.com



Prepared by:
Arkansas Geographic Information Office
www.gis.arkansas.gov

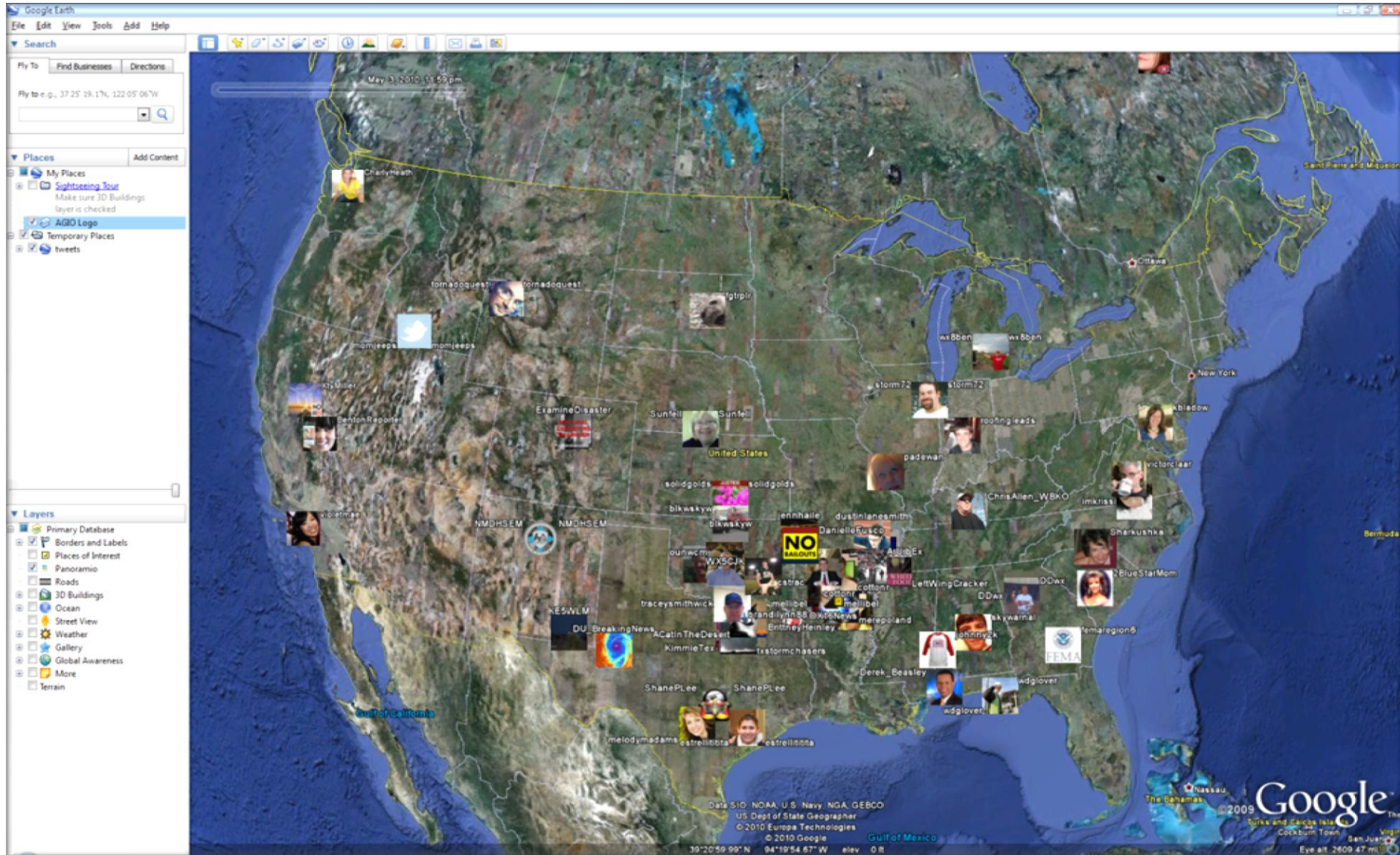


***All pictures shown & tweeted with #Arwx
A KMZ can be downloaded from
<http://bit.ly/bKzf5T>
Still working on date/time format***

9

Tweets: Geographic Component

www.safe.com

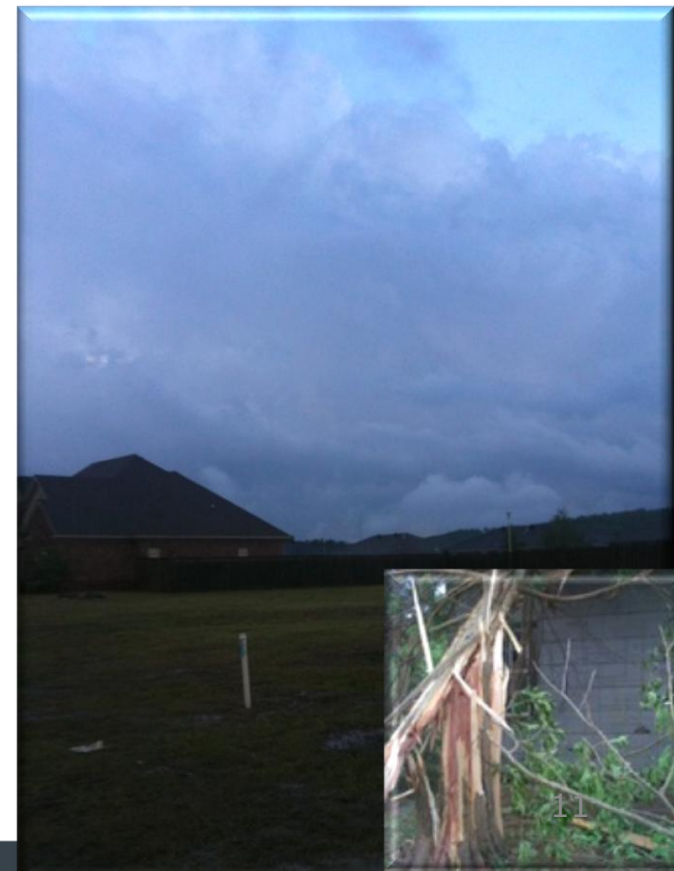
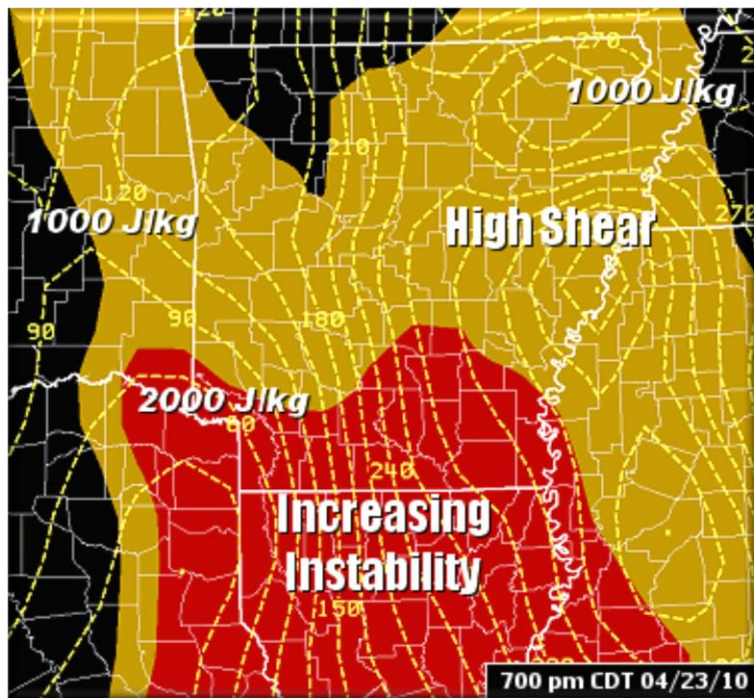


Purpose of Test

www.safe.com



- Determine twitter use for an event
- Determine acceptance of a hashtag
- Determine acceptance of geo-enabled tweets
- Determine if this is useful



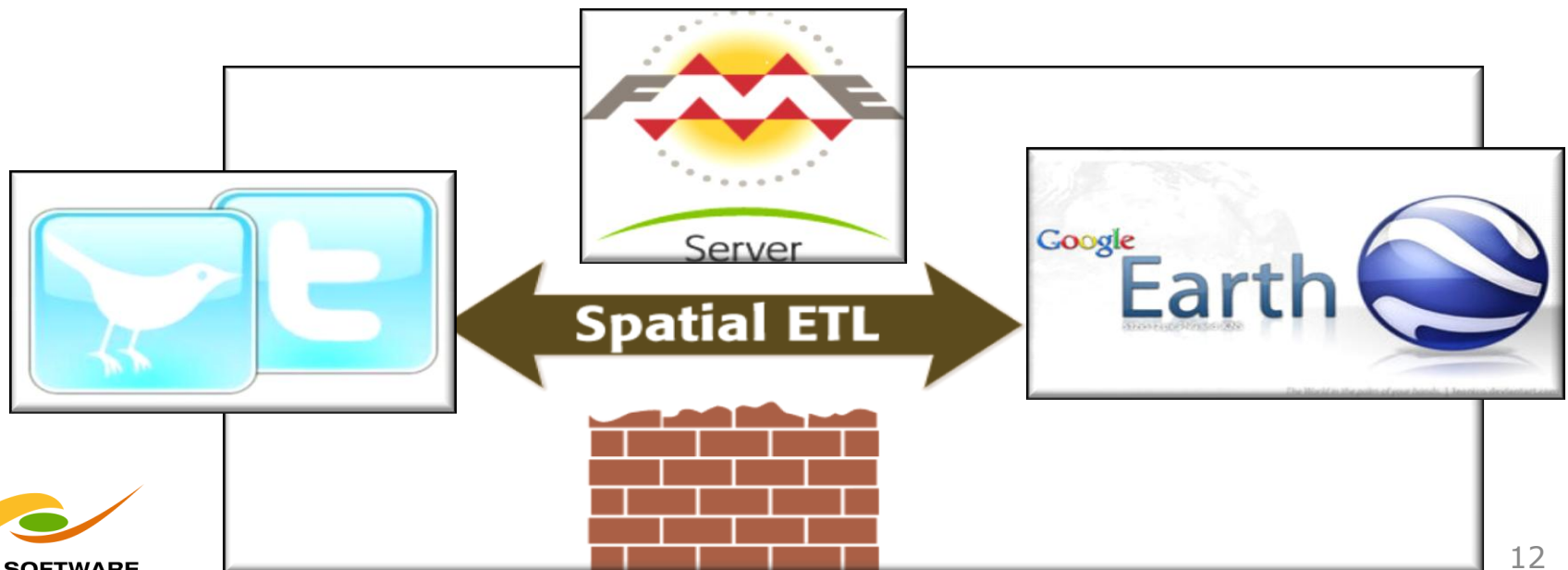
Order of events

LR NWS reports strong thunderstorms, and possible tornadoes for the weekend

AGIO implements an API that will capture Tweet information with the hashtag #ARwx

AGIO tweets "Pls consider enabling geo-tagging, and using the #ARwx hashtag"

RT by several individuals, ADEM, and Arkansas.gov





- Real-time Twitter harvesting worked
 - Data was captured and stored in a database
 - Data can be viewed in Google Earth
- Tweets
 - 32 unique users
 - 10 geo-tagged (lat/long)
 - 77 profile was used to locate
 - 9 could not be located
 - 96 total number of tweets during this event





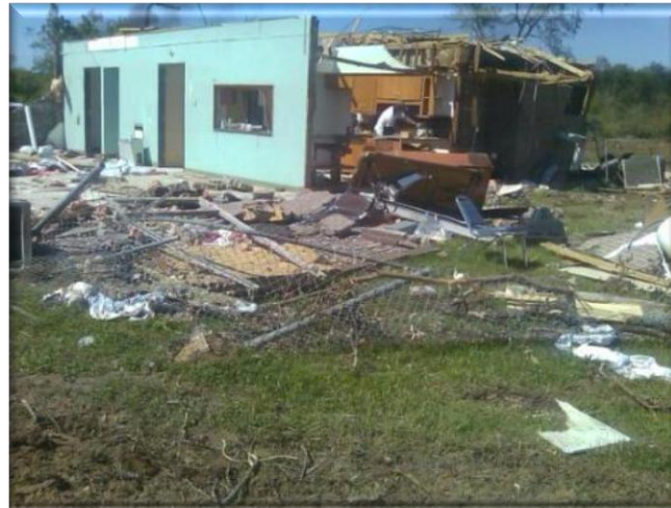
- Real-time Twitter harvesting failed
 - A number of tweets were not captured
 - Issues identified:
 - Number of Twitter API calls per hour
 - Configuration of scripts
 - Each of these are being addressed for next test



- An export from Twapper allowed analysis
 - Captured Tweets
 - Geo-referenced using profiles captured from failed test
 - Manually inserted several based on profile description
 - Exported to KML

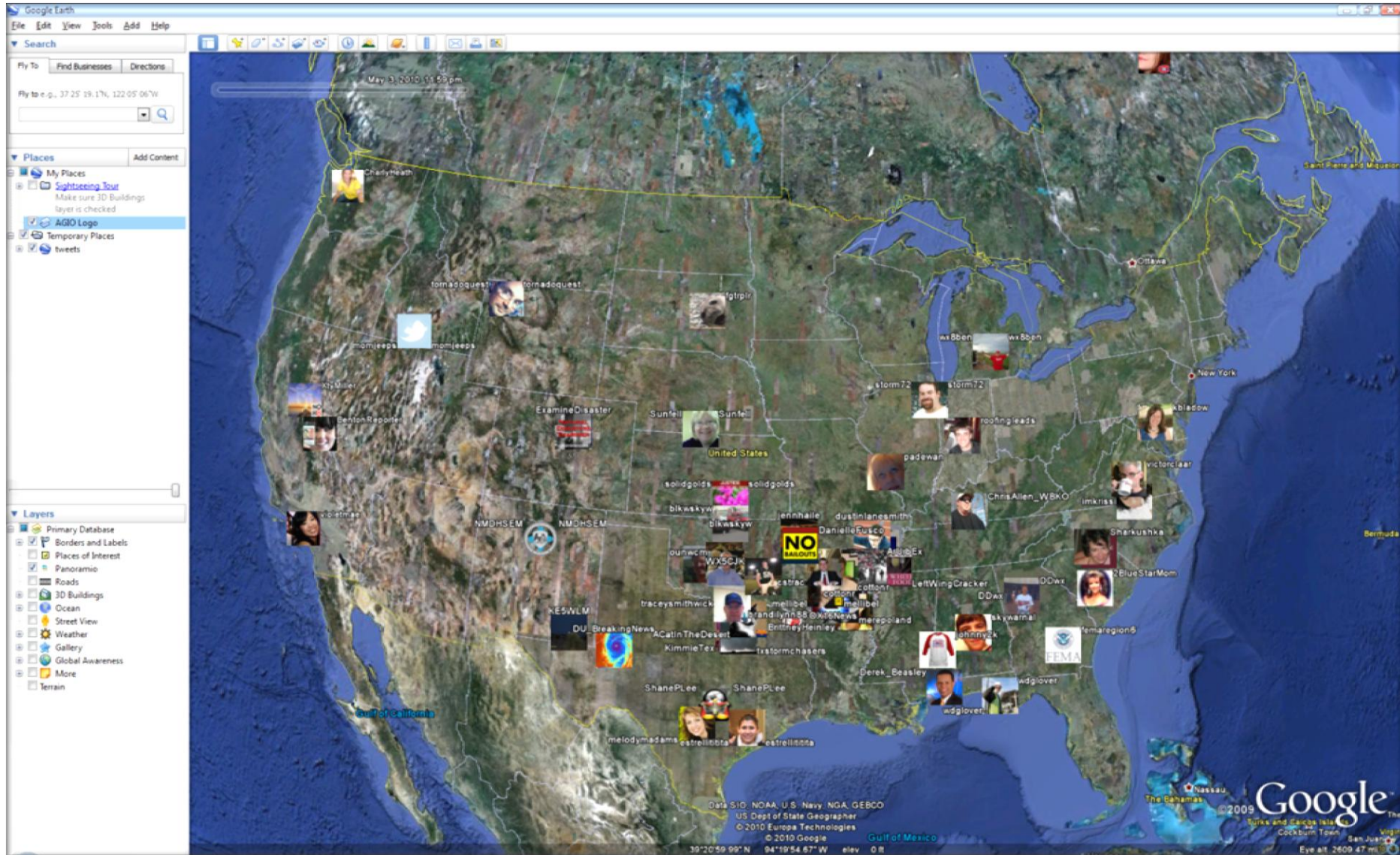


- Tweets
 - 219 unique users
 - 19 geo-tagged (lat/long)
 - 1,425 profile was used to locate
 - 135 could not be located
 - 1,579 total number of tweets during this event



General Results

www.safe.com



General Observations

www.safe.com



The screenshot shows a Google Earth interface with a map of Arkansas. A dashed black line runs diagonally across the state. Numerous social media profile pictures and names are overlaid on the map, including: jennhaile, DanielleFusco, dustinlanesmith, ParagouldTweets, sogroovynow, drkye, ryanvaughan, cstrac, NicholasHHorton, ArUrbEx, mackmcf, cotton, DavidMeeks, NicholasHHorton, LeftWingCracker, bpmore, Chad_Gardner, StephanieSimon, JeffBeckinFOX16, bkduggins, markwhite, AaronBREddin, AaronBREddin, mellibel, seanjclarke, seanjclarke, FOX16News, arkbear, arkbear, brandlynn88, brandlynn88, merepoland, merepoland, BrittneyHeinley, and BrittneyHeinley. A 'NO MAILOUTS' sign is visible in the upper left. The interface includes a search bar, a 'Places' list on the left, and a 'Layers' list at the bottom left. A circular logo for the Arkansas Geographic Information Office is in the bottom left corner. The bottom right corner shows the Google logo, the year 2009, and the number 18.



- Determine twitter use for an event
 - Twitter proved useful for communicating the events as they unfolded
 - Tweets provided on the ground information and pictures
- Determine acceptance of a hashtag
 - The hashtag was generally accepted, but took roughly 18 hours for uptake



- Determine acceptance of geo-enabled tweets
 - The majority of tweets were not geo-tagged
 - Several profiles did not allow for any location information to be identified
- Figure out if this is useful
 - No doubt twitter is useful for communicating events
 - The next step will be evaluating protocols needed for real-time analysis and bi-directional communication

Safe Tweet Map

www.safe.com



tweets - Google Ma... x

www.google.com/maps?q=http://fmeserver.com/fmedatastreaming/Demos/D008-tweet-kml.fmw&t=p

food blogs safe mortgage rates stuff trip

Web Images Videos Maps News Shopping Gmail more

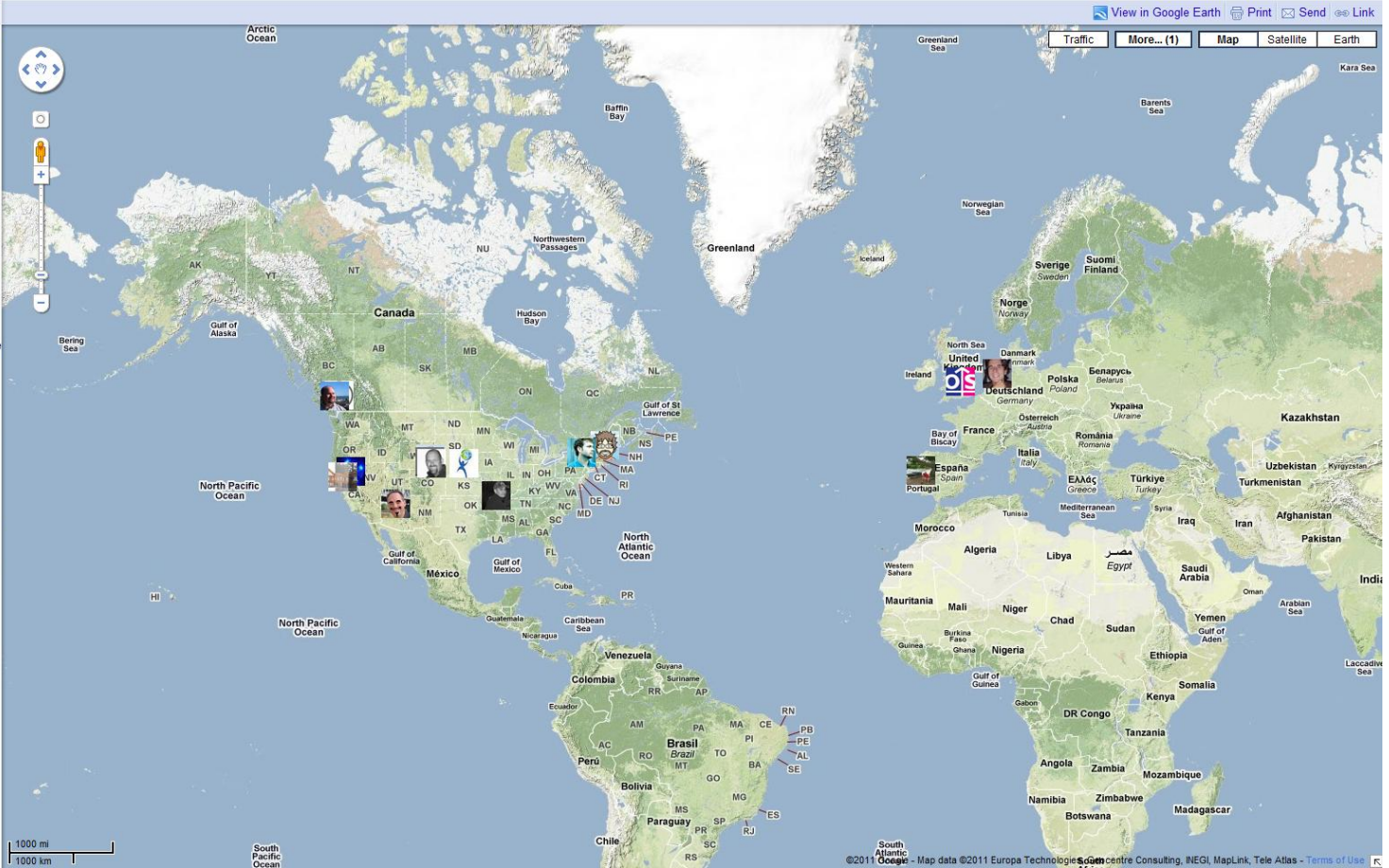
drewrifkin@gmail.com | My Profile | News | Web History | My Account | Help | Sign out

Google maps Search Maps Show search options

Get Directions My Maps Save to My Maps

Displaying content from fmeserver.com
The content displayed below and overlaid onto this map is provided by a third party, and Google is not responsible for it. Information you enter below may become available to the third party.

- Profile
- GuidoS @FMEDoctors Just looking to make a point at the center of the line so I can then
- FMEDoctors @safesoftware Please send details about your desktop and sever OS and FME build gletham
- The GIS companies Daily is out! http://bit.ly/9TpeFx u25b8 Top stories today by ON3Z3RO
- Another day of trying to make @SafeSoftware FME Server run multi-threaded & jasonbirch
- @SafeSoftware do you have a slide showing the size of the desktop installer over
- Mapiator @FMEDoctors Can't i insert 2 features_types identical schemas from 2 different .
- gisuser The GIS companies Daily is out! http://bit.ly/9TpeFx u25b8 Top stories today by DruidSmith
- @mwiseman Would have been sweet. could you have done telecommute with @SafeSoftw cagygyames
- wonder if @SafeSoftware is adding a @mwiseman reader to assist with the succes
- LearnDalby @mwiseman Wow... I must have missed that move. @SafeSoftware loss. Your a great
- ordnancesurvey RT @ON3Z3RO: GIS #ff @openstreetmap @OrdnanceSurvey @opengeospatial @geocommunit
- boulderalf sworldwatch: Exporting Node Coordinates via #FME http://bit.ly/fk74Nf #swgis @S
- IDEAbuilder RT @spatialustain: RT @SafeSoftware "What's Next for Geo in 2011: My 5
- spatialustain RT @SafeSoftware "What's Next for Geo in 2011: My 5 Predictions&quo
- nickklooster RT @SafeSoftware: "What's Next for Geo in 2011: My 5 Predictions&qu





- This example demonstrates:
 - A search for tweets with specific text, hash tags or users
 - Provides location by
 - Using the new Twitter geo-tagging capability if provided or
 - Geo-coding the tweeter's profile location.
 - Finally, writing the spatially aware tweets out as KML



- If you tweet @ any of the following Safe Software twitter accounts, your tweet will appear in the KML within 10 minutes

[@safesoftware](#)

[@fmedoctors](#)

[@fmeevangelist](#)

[@betabuilder](#)



- [fmepedia](#)
- [Google Map](#)



- See areas of active FME users
 - Determine where to host trainings
 - Determine where to host regional user meetings
 - Determine geographic need for partners
- Mainly it is the cool factor



- Overview
 - Geo- Social Media
 - Crowd Sourcing
- Case Studies
 - State of Arkansas – Tornado Tracking
 - Safe Software Tweet map
- Conclusion



Twitter for Crowd Sourced Location Information?

- Well on its way
- Great for:
 - Static information
 - Non-emergency situations
- Potential for acute / emergency real-time data amalgamation
- Trusting the system will take time
- Standards are not there yet
- Only a few users currently geo-enable Twitter

Thank You!

www.safe.com



- Questions?
- For More Information
 - Drew Rifkin
 - drew@safe.com
 - www.safe.com
 - 604-501-9985 ext. 294