

photo: <http://sta.mn/sp>

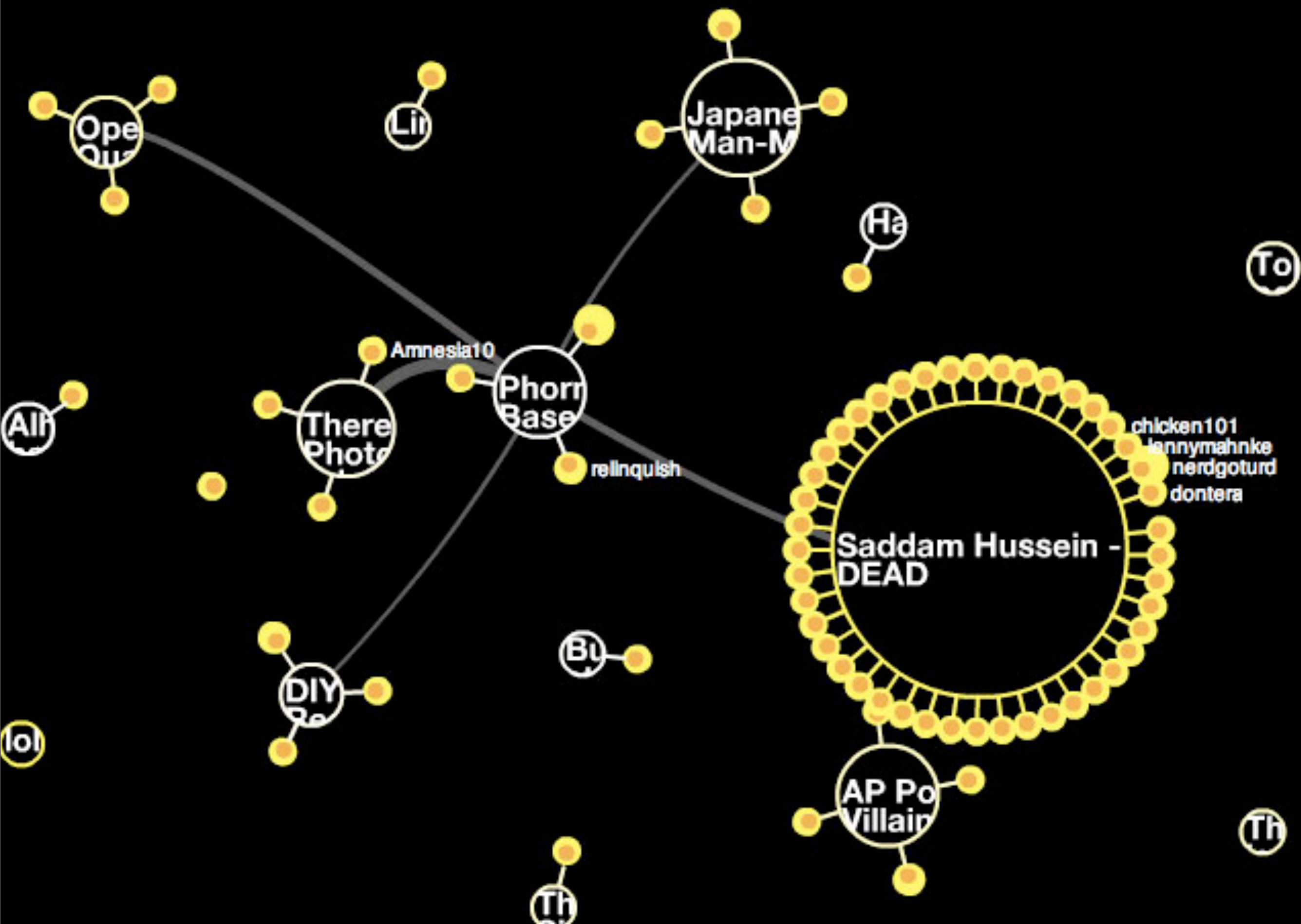
Mapping A Web Of Data

Michal Migurski, Stamen Design



Stamen

Eric Rodenbeck
Michal Migurski (me)
Shawn Allen
Tom Carden
Deborah Monaghan
Geraldine Sarmiento
Sha Hwang
Aaron Cope
Ben Cerveny





SFMOMA ArtScope



SHOW INSTRUCTIONS

Type to Search...

SEARCH

Kenneth Josephson

Chicago

1961

photograph | gelatin silver print

Keywords:

men, women, shadows

8 1/16 in. x 11 15/16 in. (20.48 cm x 30.32 cm)
Acquired 1980

Collection SFMOMA. Gift of the Sidney and Diana Avery Trust
© Kenneth Josephson

SFMOMA main | Credits

Storms Shown

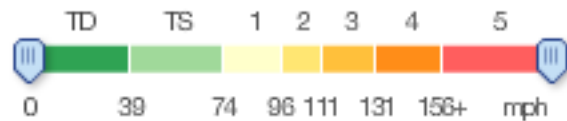
64 storms that occurred between 1851 and 2008 reached a maximum wind speed **between 0 and 196 mph** and **made landfall** in Texas.

Landfall (in continental U.S.)

☒ made landfall
 ☐ no landfall
 ☐ all storms

Hurricane Strength

Saffir-Simpson Scale



Hurricane Name

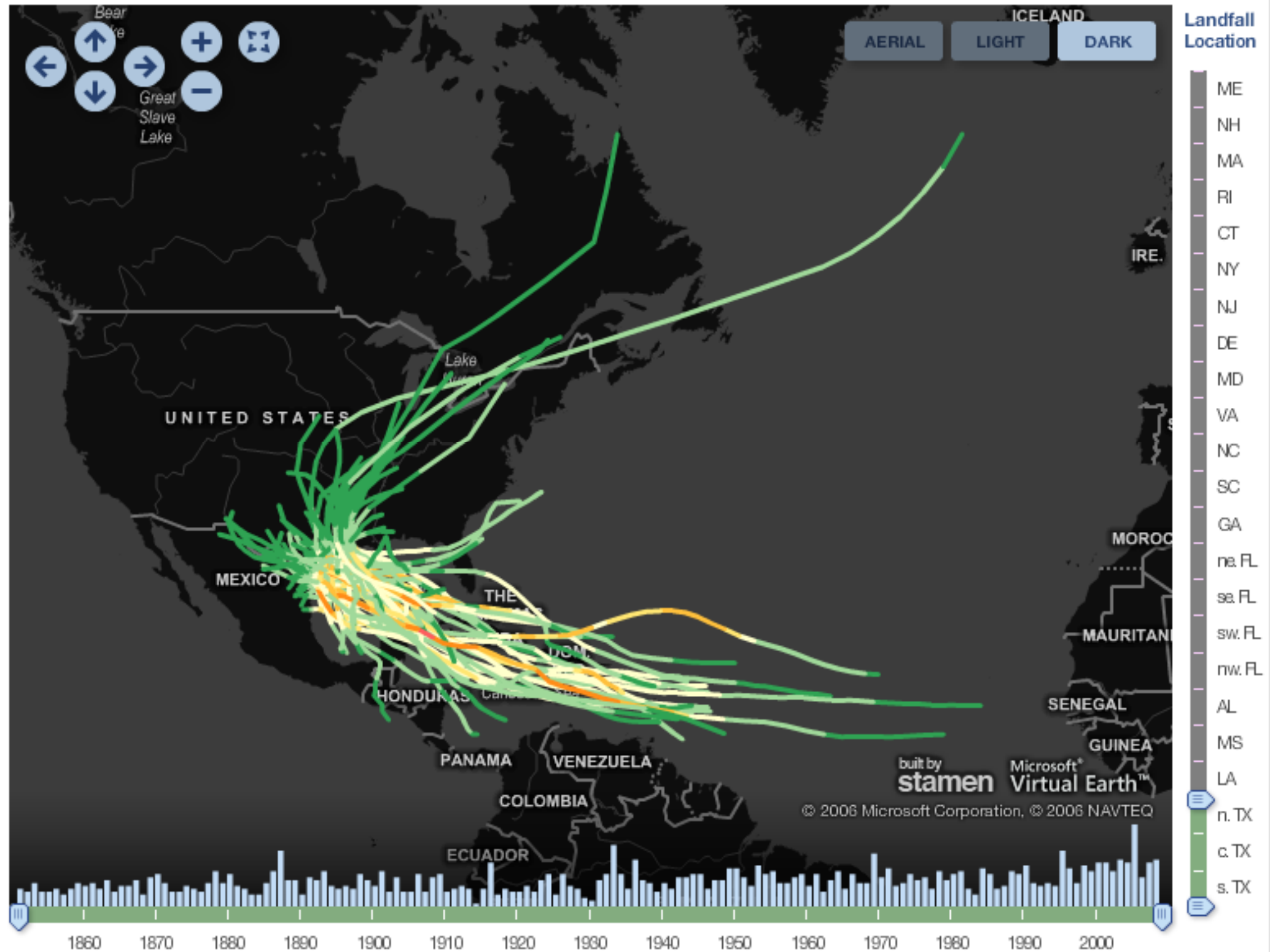
Type a name...

Location Search

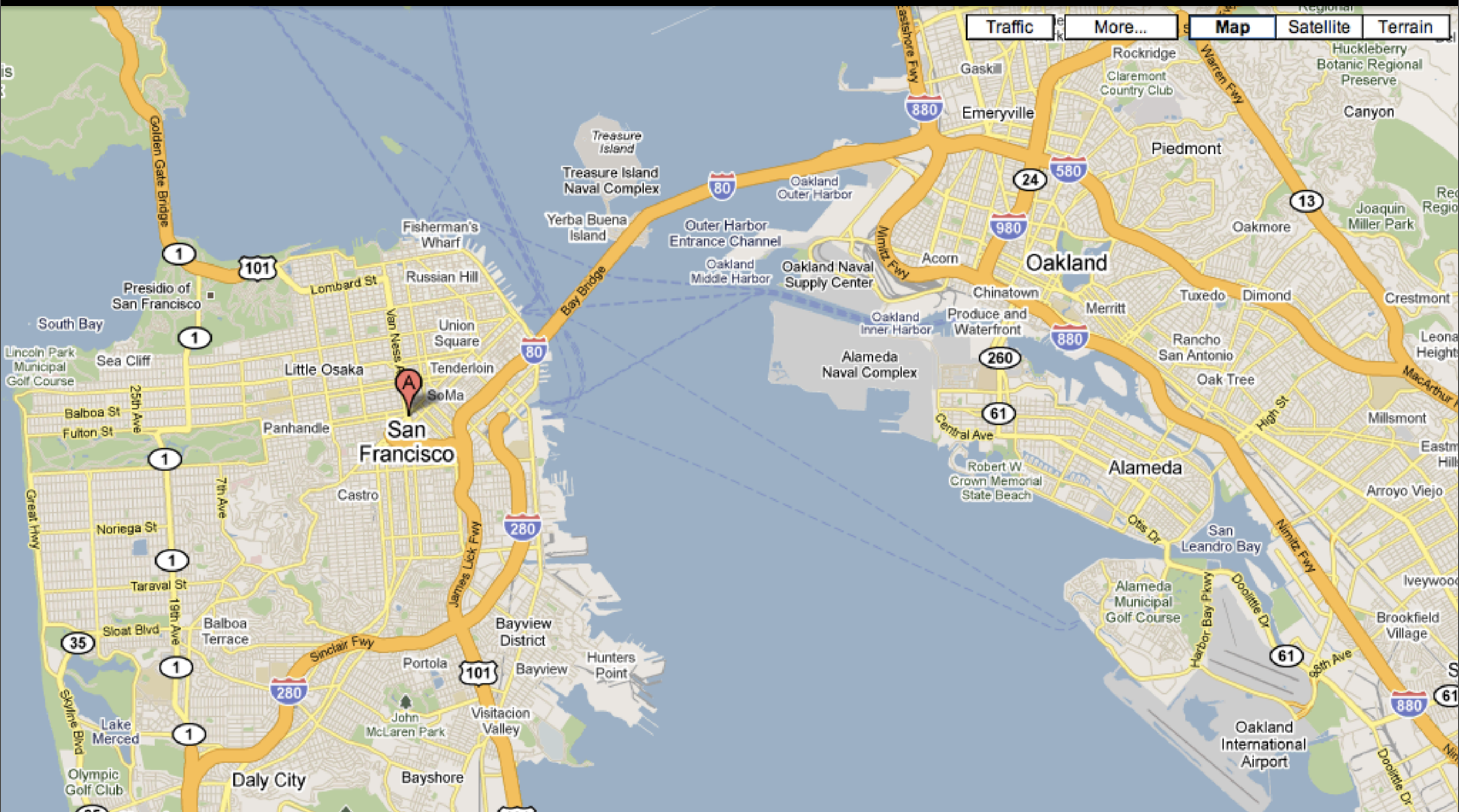
Type an address...

About the Data

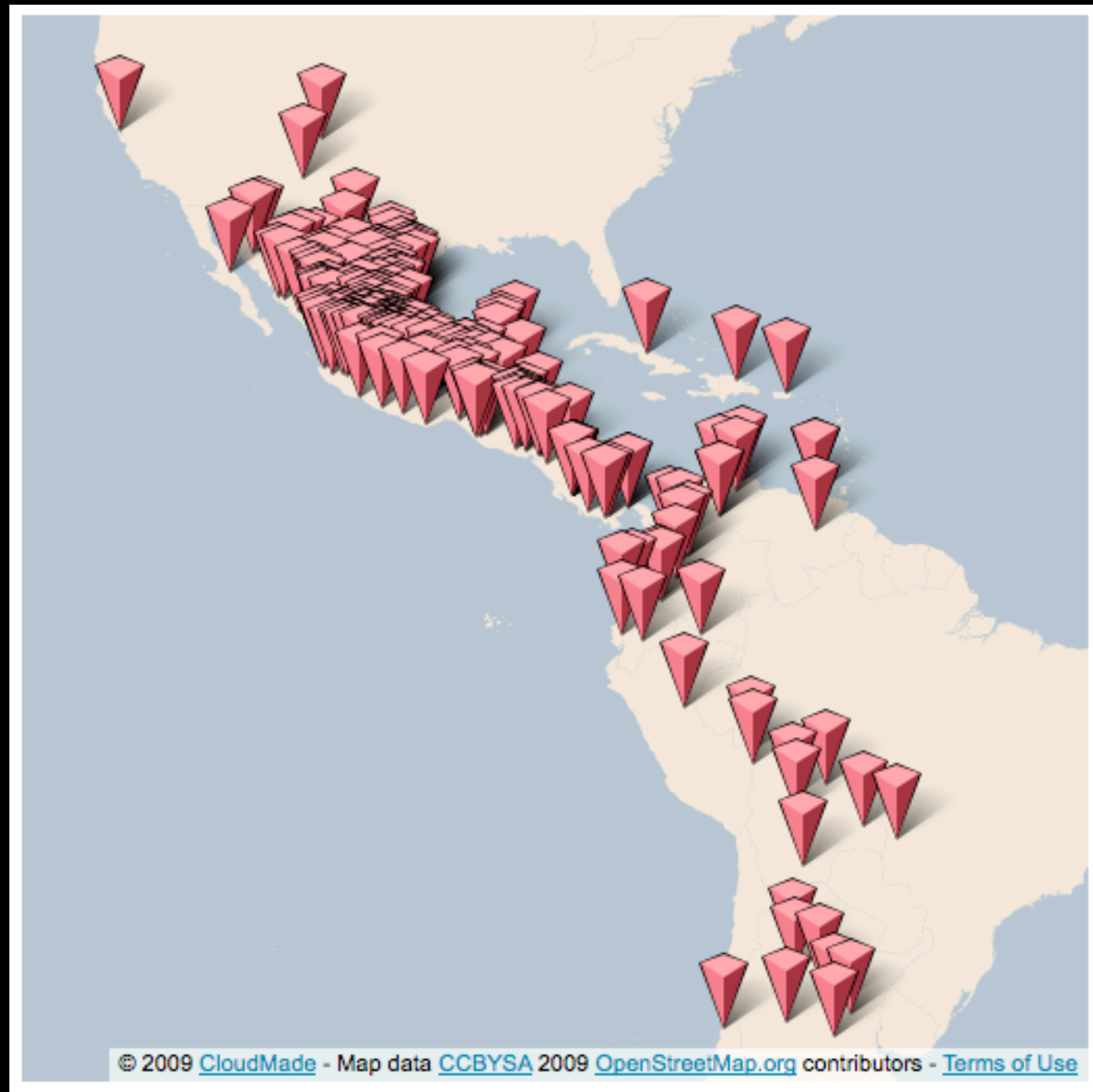
Data shown here are derived from the National Hurricane Center's North Atlantic hurricane database. [Read more...](#)



Year Zero



“Red dot fever”



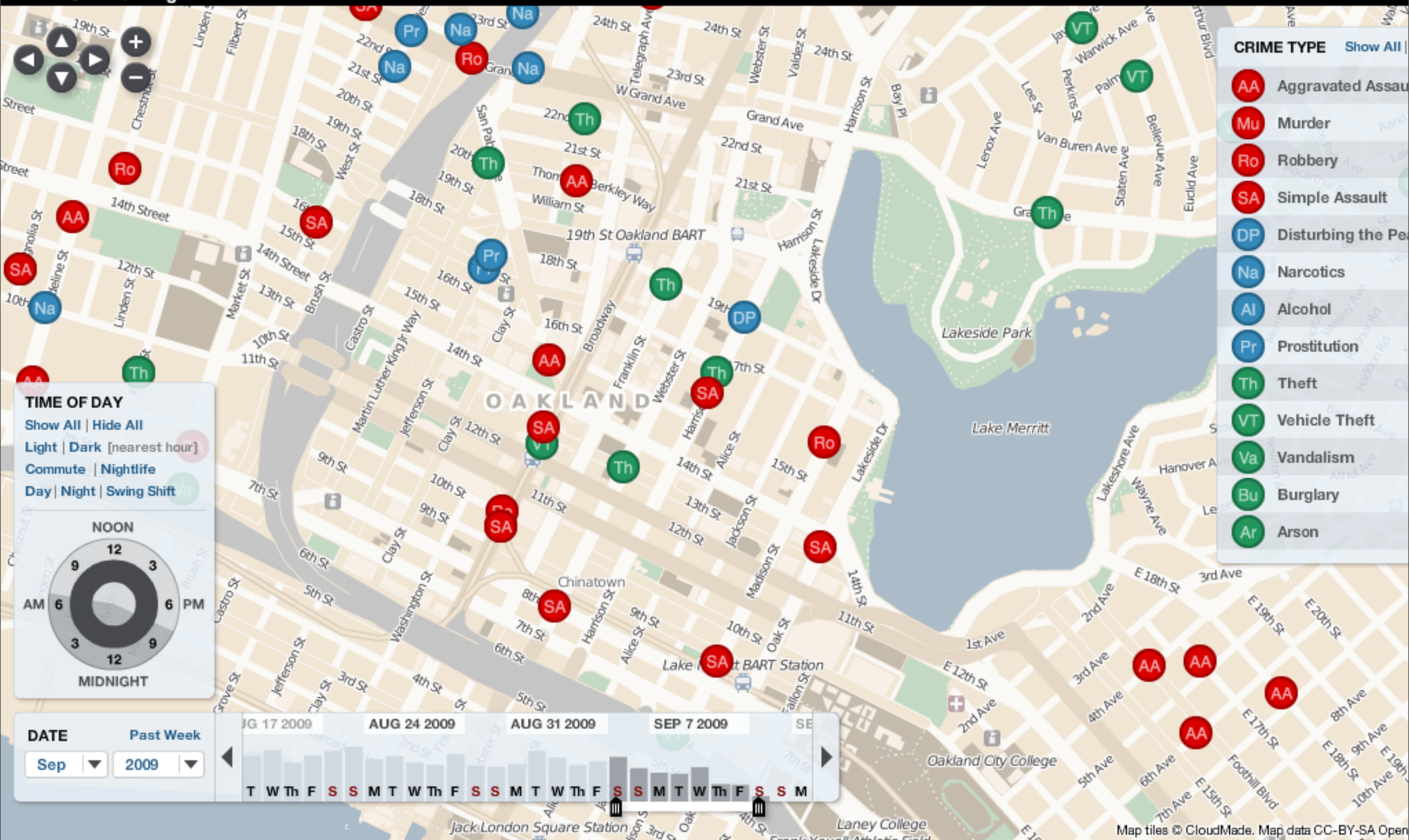
The Interesting Bits

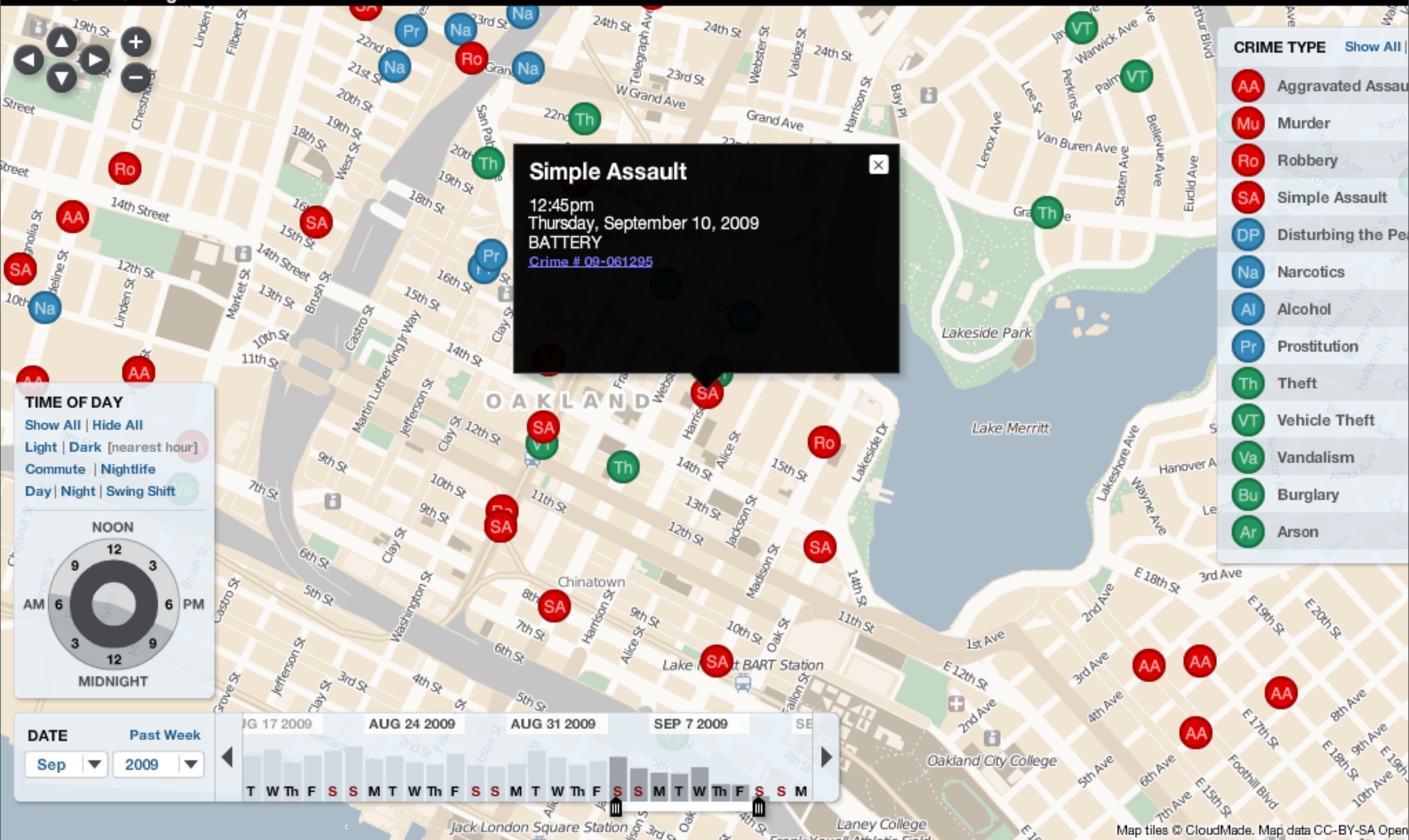
- Using quality data
- Planning for change
- Making it look good

Data

Using quality data







.shp

Shapefile is common, like dirt

[Overview Map](#)

[+ Zoom In](#)

[- Zoom Out](#)

[Identify](#)

[Zoom to State\(s\)](#)

[MAP LAYERS](#)

[MAP KEY](#)

[FIND](#)

[Redraw Map](#)

Your First Map

[Clear Layers](#)

☐ State Names

☐ Streams and Waterbodies

Agriculture

☐ Average Total Farm Production Expenses per Farm 2002

Crops 2002

Farms 2002

Land 2002

Livestock 2002

Operator Characteristics 2002

Value 2002

Vegetables, Fruit and Nut Trees 2002

Biology

Boundaries

Climate

Environment

Geology

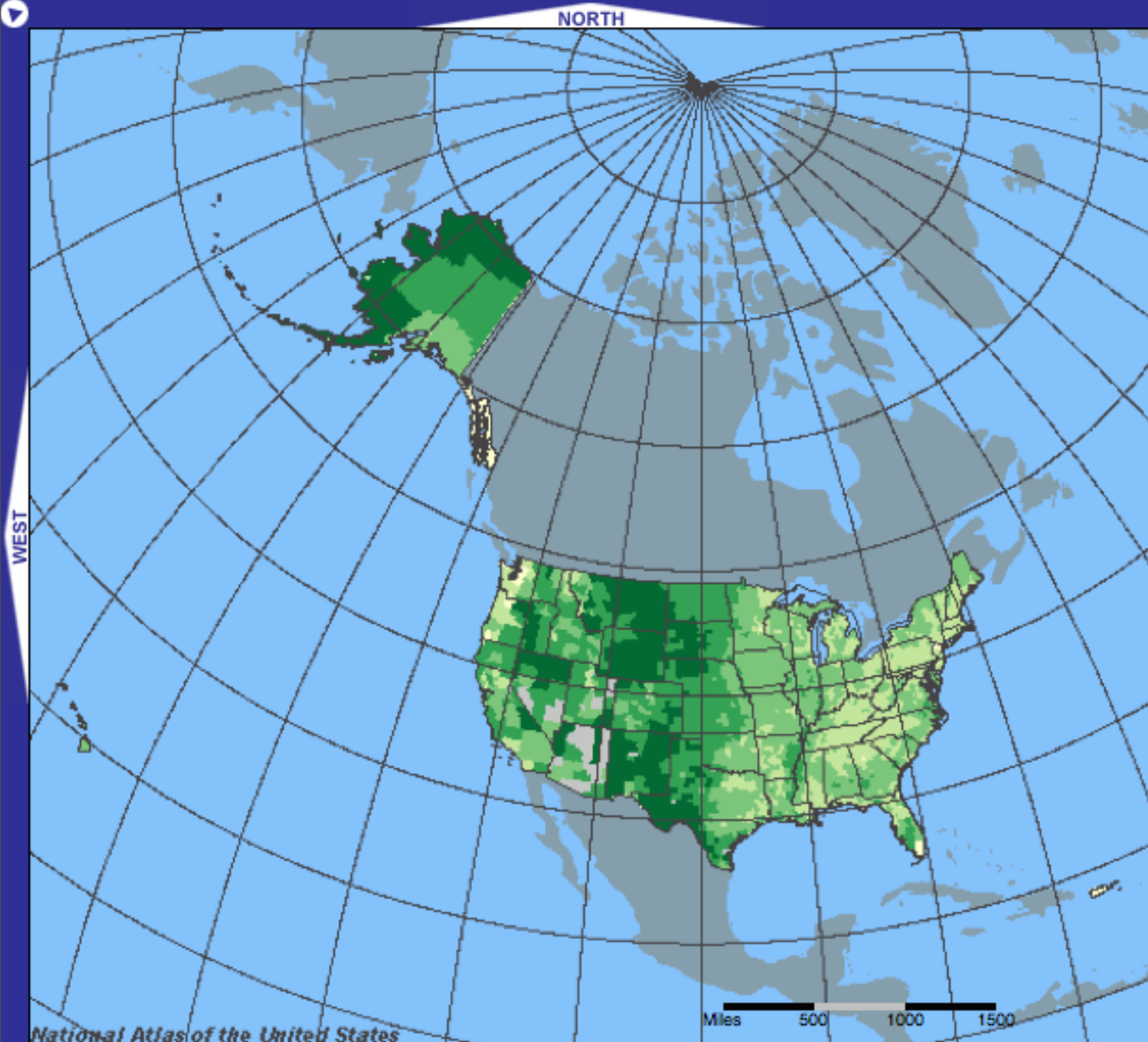
History

Map Reference

People

Transportation

Water



National Atlas of the United States

Let us know what you think:

[Map Key](#)

[Email us your comments](#)

Open "<http://nationalatlas.gov/>" in a new tab behind the current one

Electoral Explorer

[+](#) SHARE [✉](#) E-MAIL

[Big Board](#) | [Map](#) | [Electoral Explorer](#) | [Obama: Victory Speech](#) | [McCain: Concession Speech](#) | [Exit Polls](#)

Population density

Percent black

Percent Hispanic

Percent white

Catholics

Southern Baptists

College graduates

H.S. graduates

Median income

Pct. in poverty

Pct. unemployed

Unemployment chg.

Manufacturing jobs

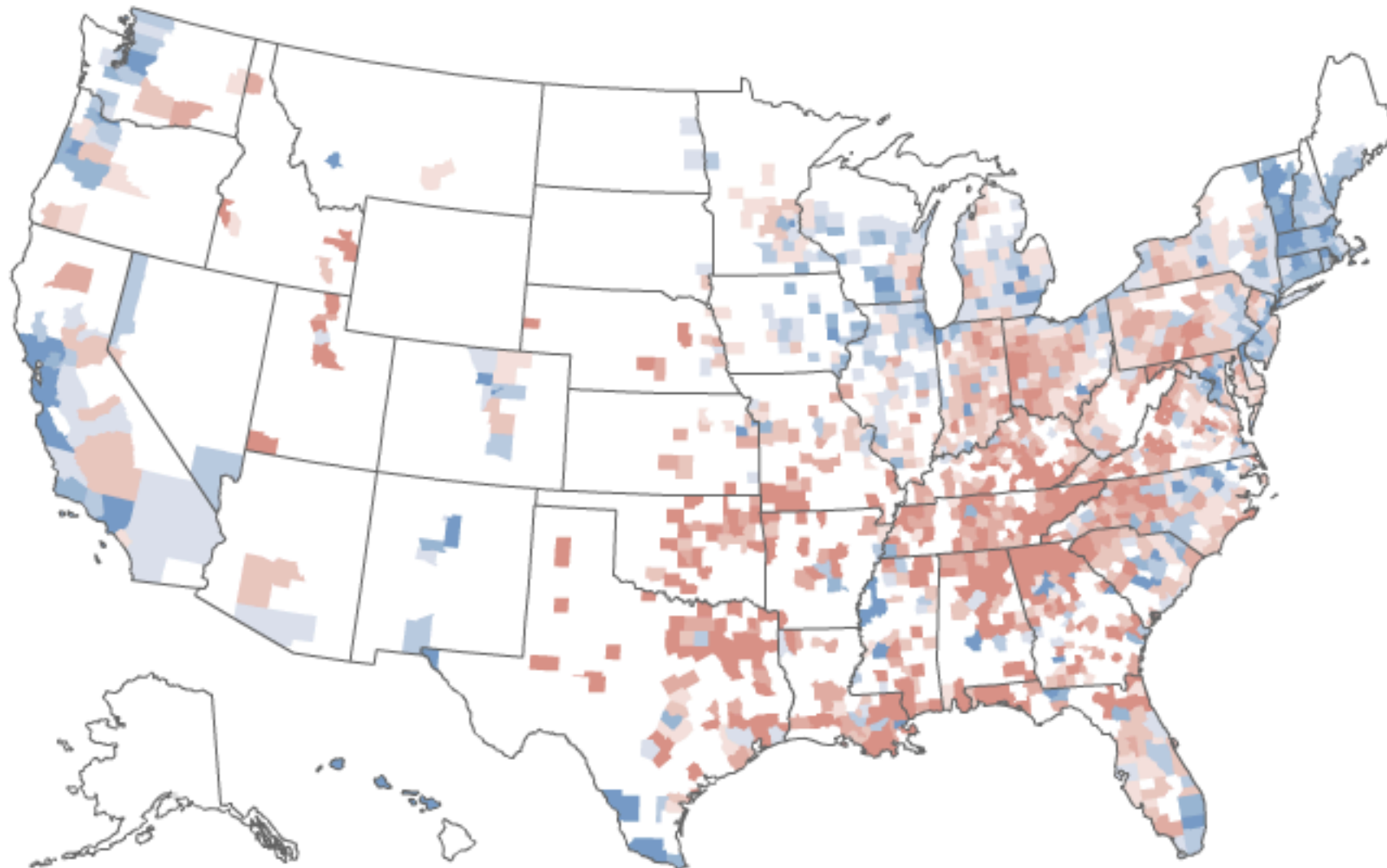
Pct. over 65

The vote in counties where population per square mile is between 45 and 57,173

Flip

45

57,173



Obama ☒

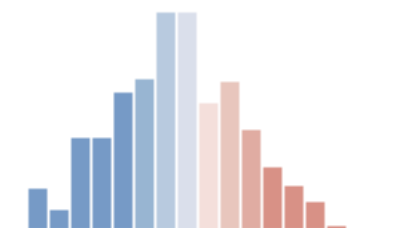
54%

61,926,618 votes

McCain

45%

51,679,354 votes



1,533 counties

Votes in visible counties,
grouped by county-level
margin of victory.

Electoral Explorer

[+](#) SHARE [✉](#) E-MAIL

[Big Board](#) | [Map](#) | [Electoral Explorer](#) | [Obama: Victory Speech](#) | [McCain: Concession Speech](#) | [Exit Polls](#)

Population density

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Catholics

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Median income

Pct. in poverty

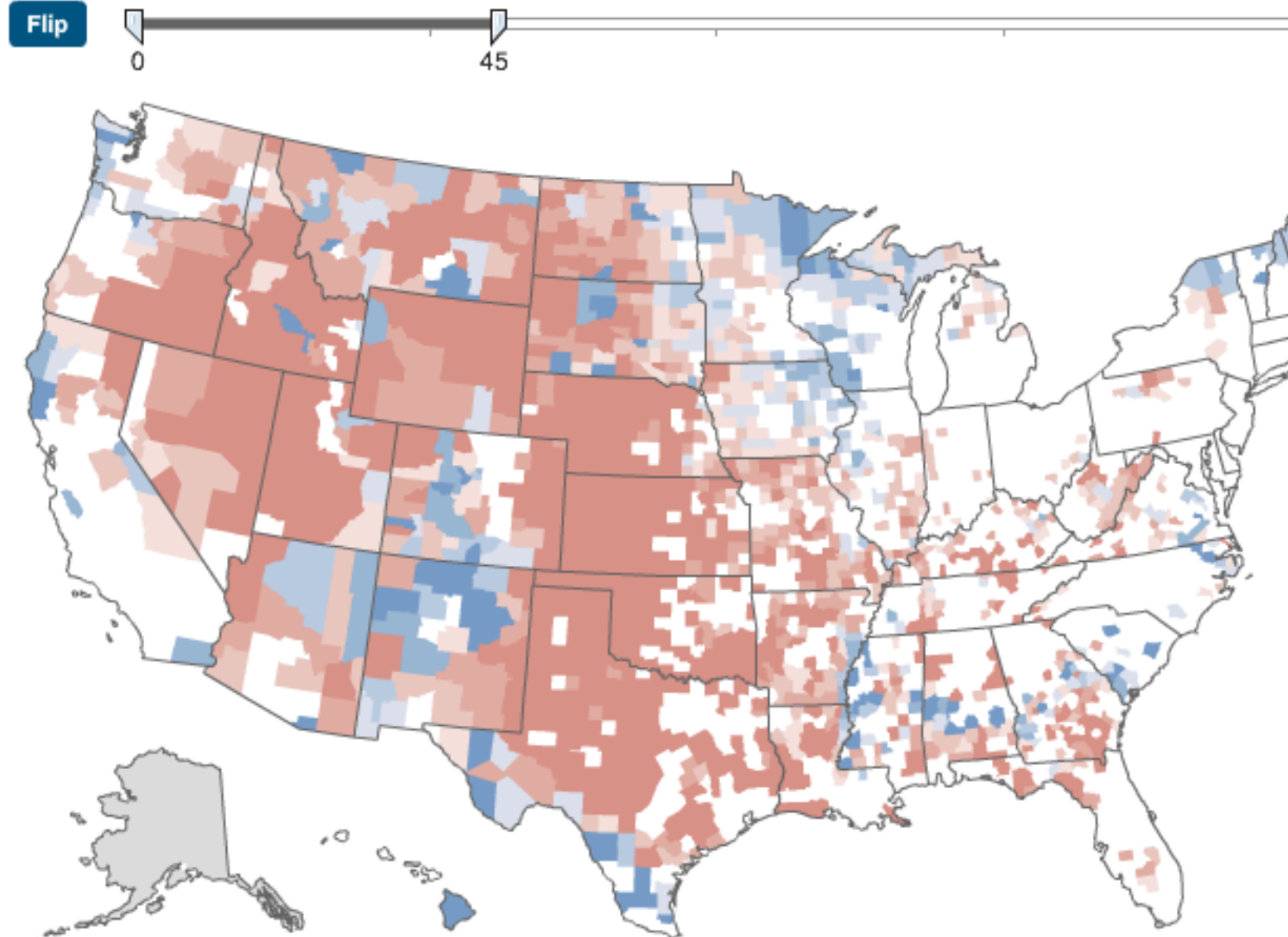
Pct. unemployed

Unemployment chg.

Manufacturing jobs

Pct. over 65

The vote in counties where population per square mile is between 0 and 45



Obama

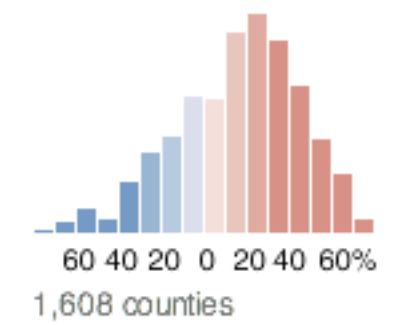
42%

4,801,508 votes

McCain ☒

56%

6,439,676 votes



Votes in visible counties,
grouped by county-level
margin of victory.

Natural Earth Data



OpenStreetMap

Like Wikipedia but with maps



OSM →











Data

- Shapefiles are common and universal, especially at small scales.
- OpenStreetMap is an evolving resource for higher scales.

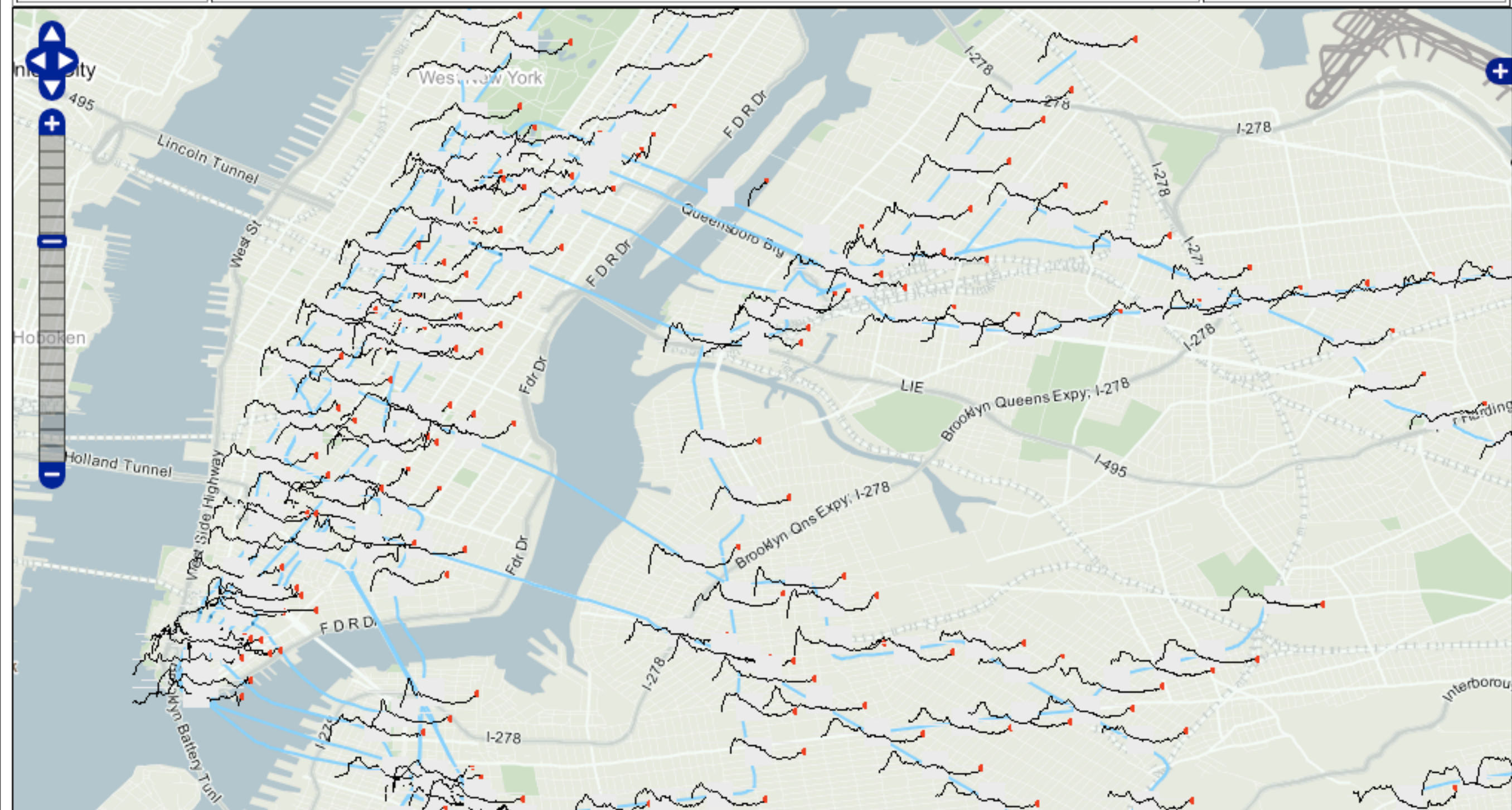
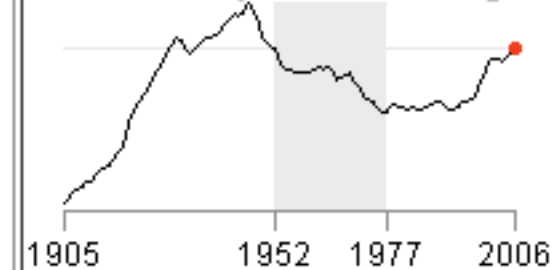
Change

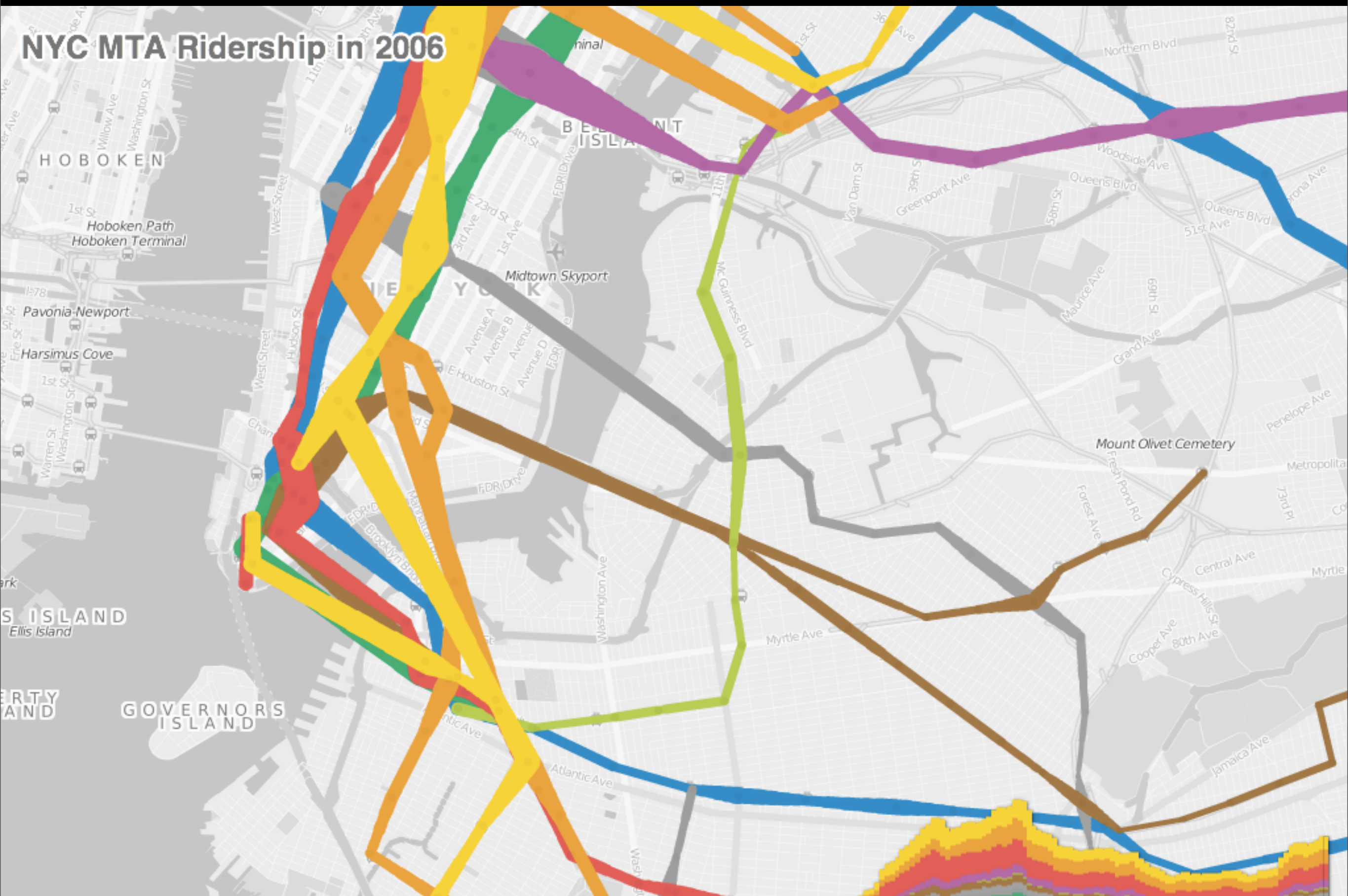
Handling data as resource, data as flow

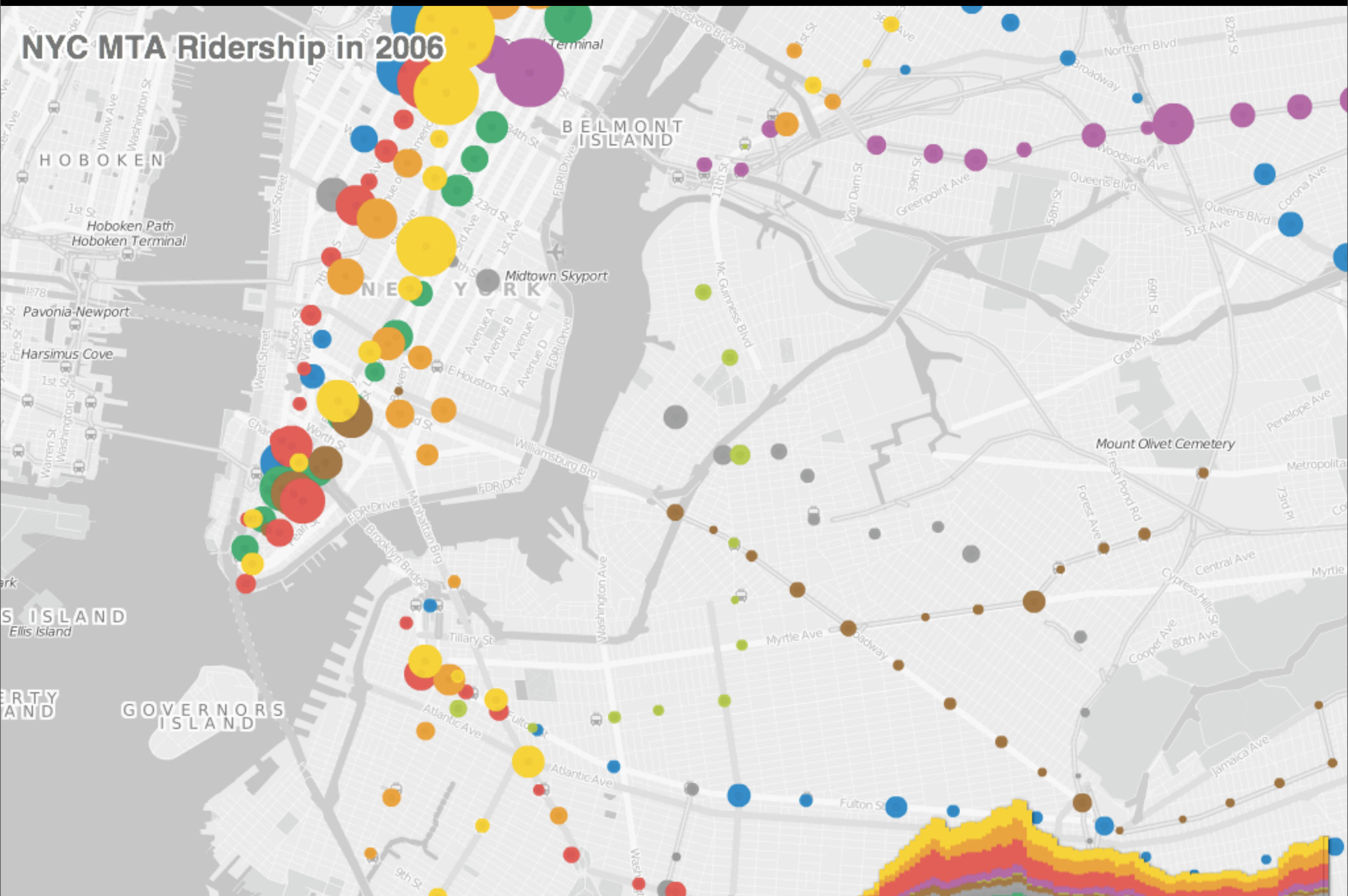
Subway Sparklines

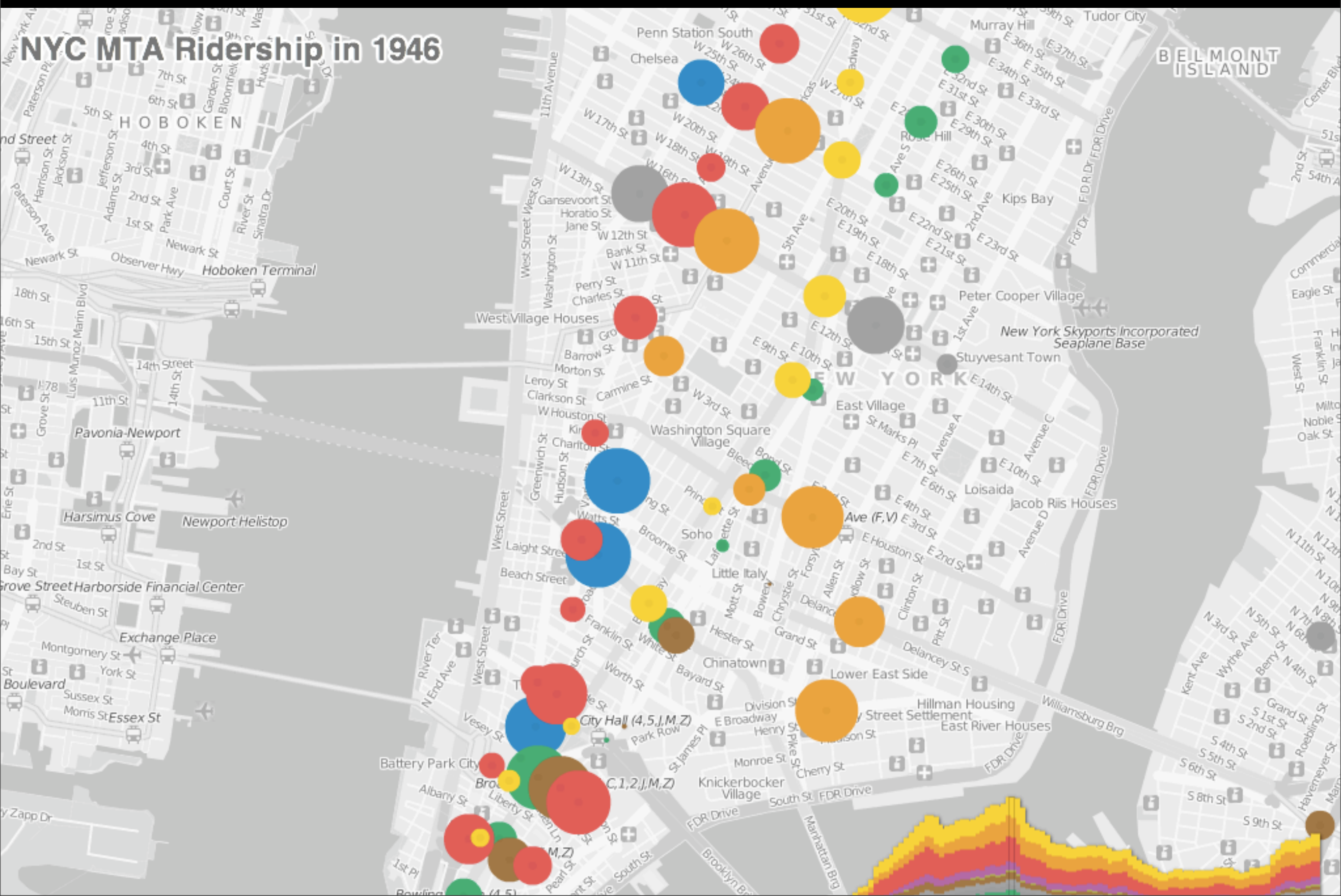
Graphs shows the yearly ridership at each station, with the shaded grey area spanning 1952 (same overall ridership level as today) to 1977 (nadir system-wide). Station names appear as map is zoomed in (eg: [midtown](#), [wall street](#), [south bronx](#), [williamsburg](#), [park slope](#)).

Overall System Ridership









Moveon Conference Map

http://studio.stamen.com/moveon/conference/dev/presentation_av.html

Current ▾ Reference ▾ Daily News ▾ Bills ▾ Usage Stats ▾ tmp ▾ decrement increment Coralize Googlify Add to Snippets Validate

Moveon Conference Map

MoveOn.ORG
Democracy in Action.

Stop 1Kbps 0:00/0:00

Social Security Town Hall Training

MoveOn PAC

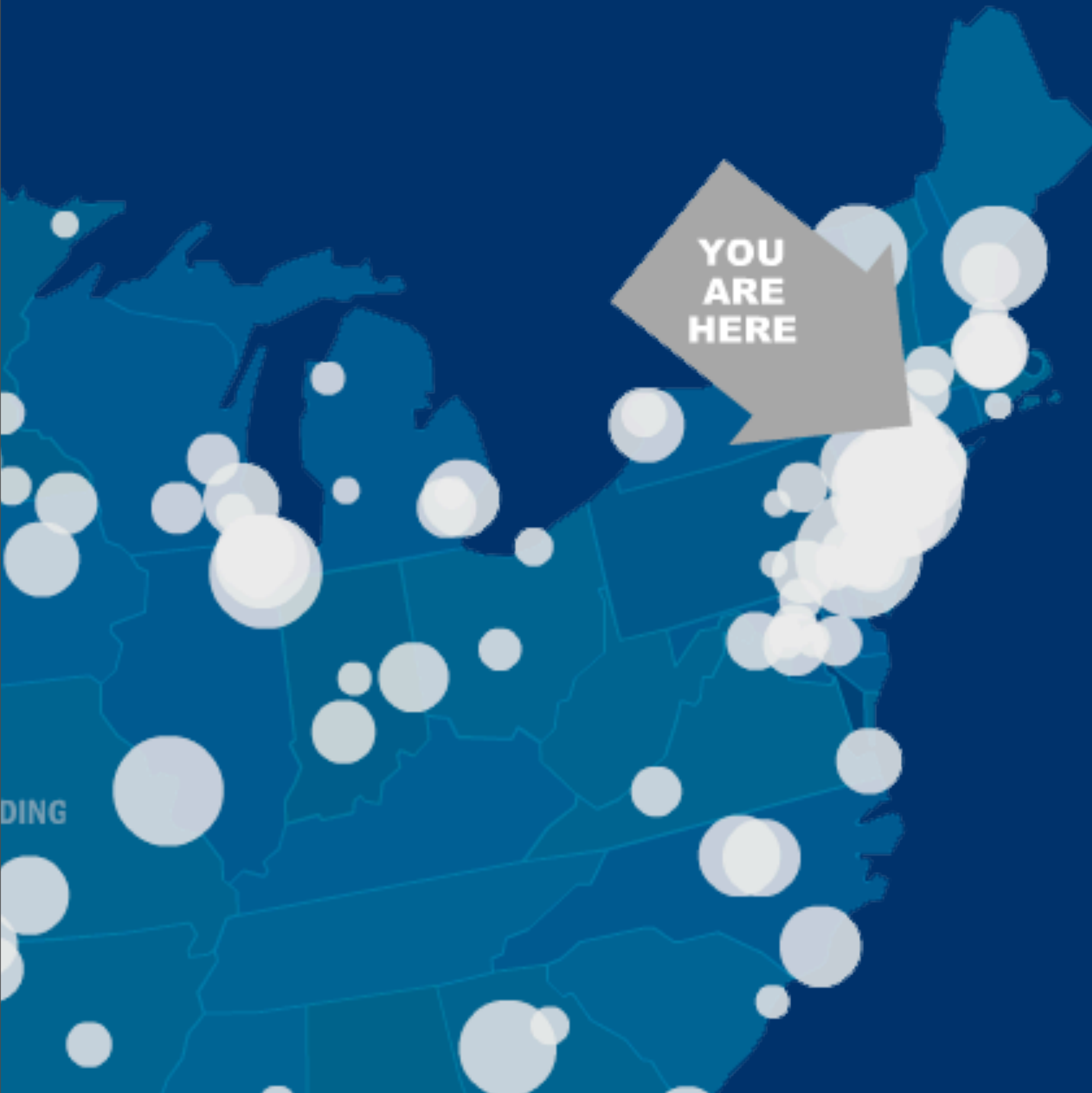
9 4 1 0 3

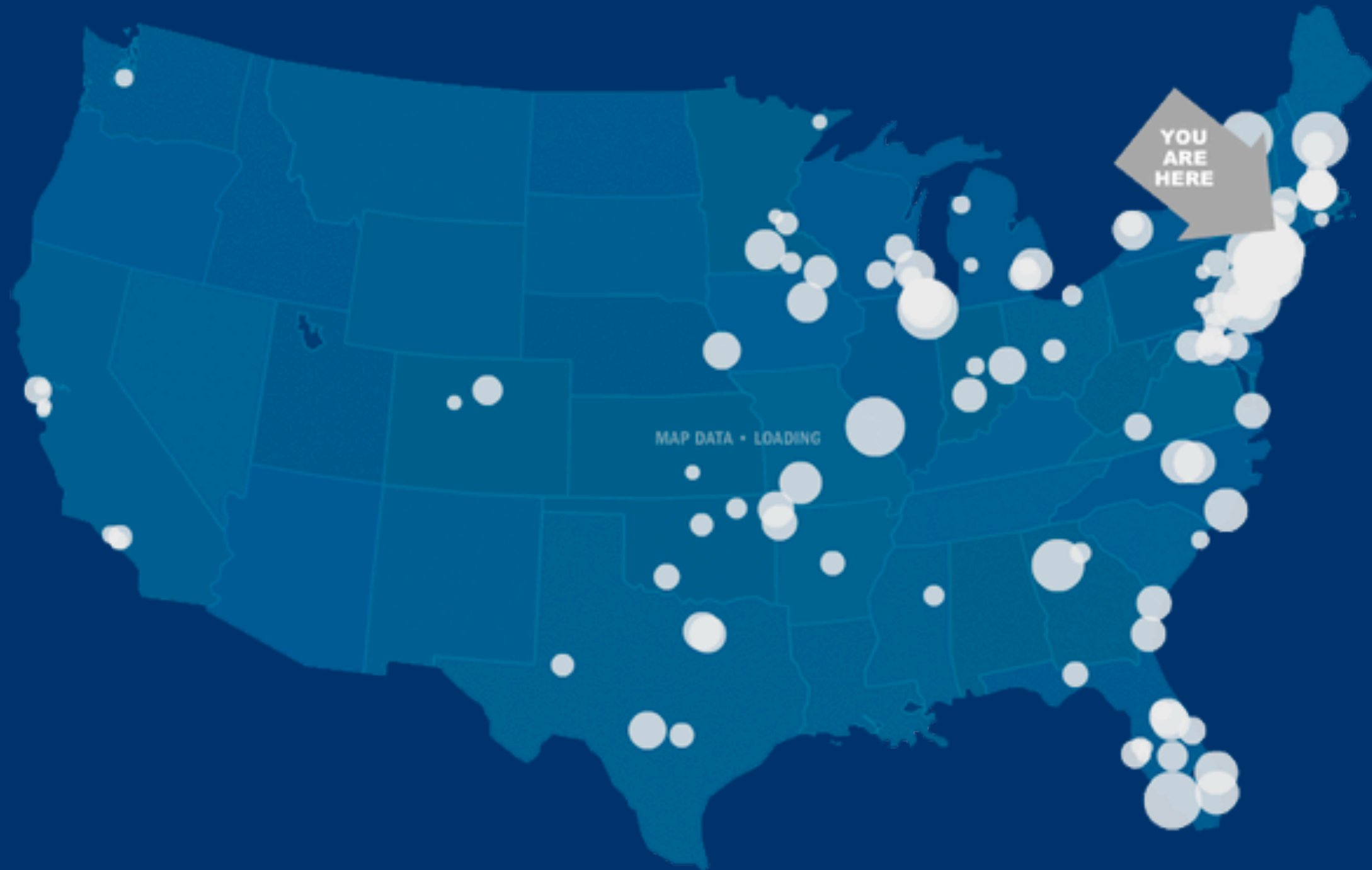
Thanks. Now type the number of people attending, and press Enter.

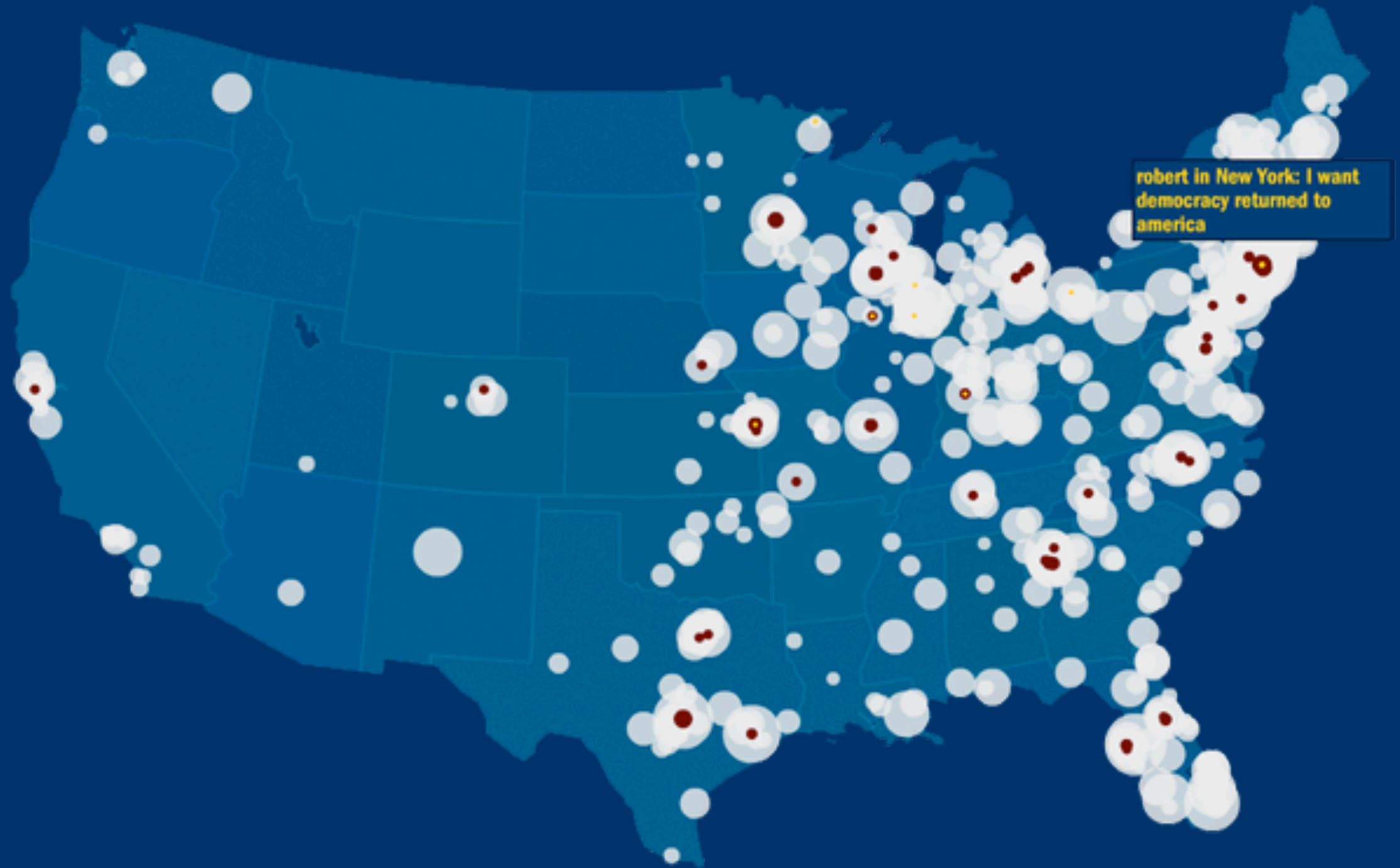
2 3

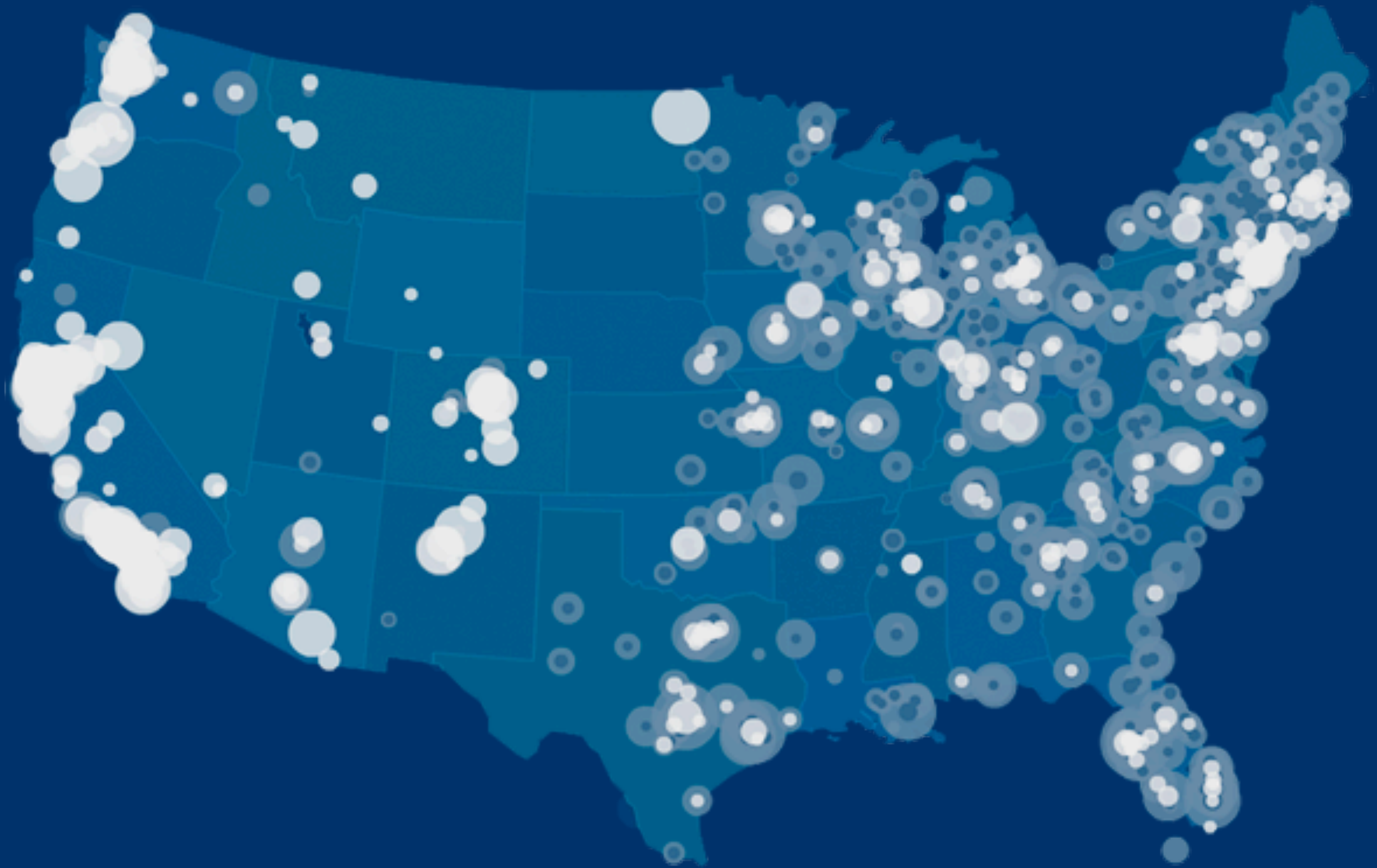
Enter.

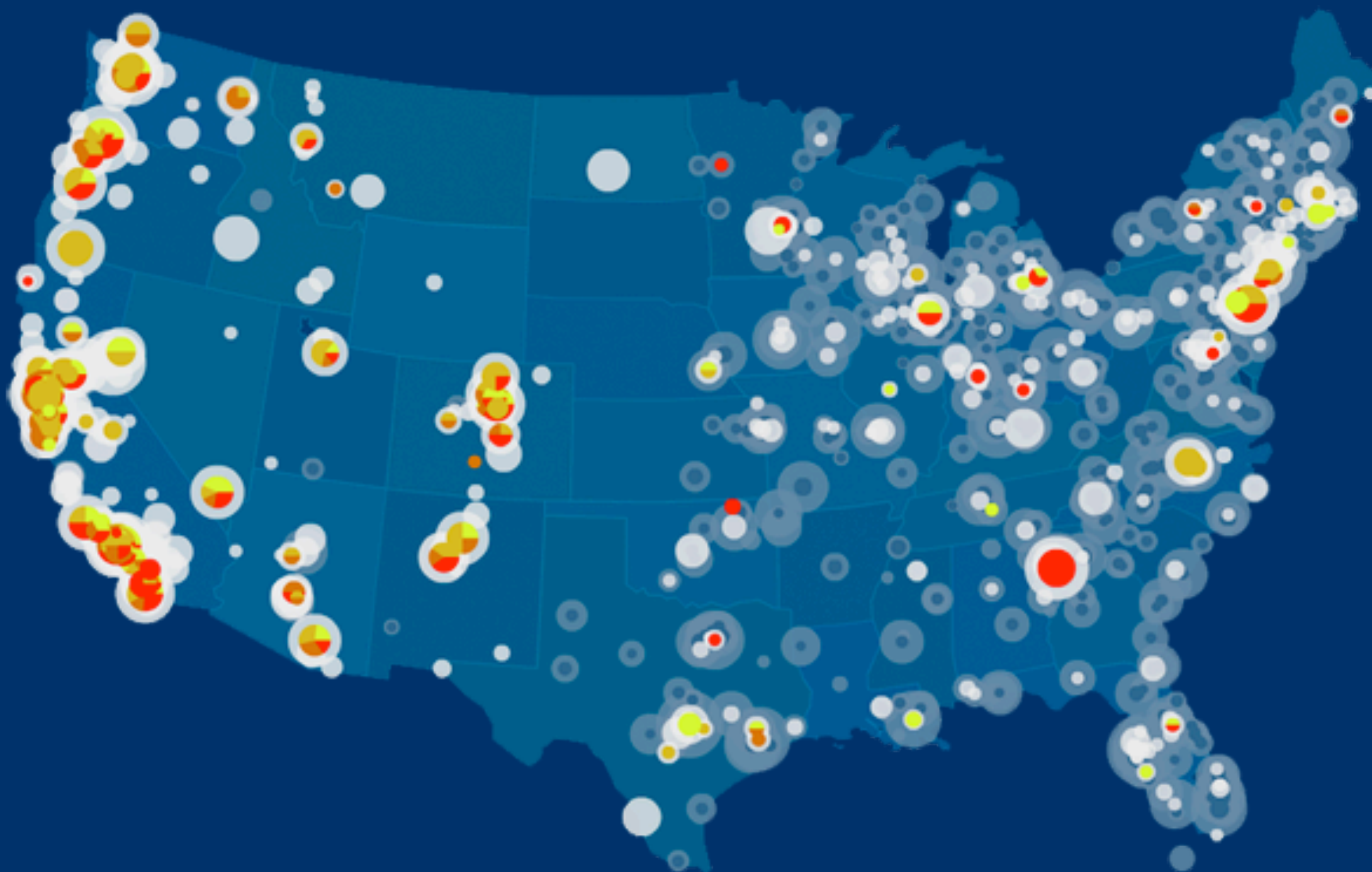
The conference call will begin on the hour.















PINK

VMAS

SHAKIRA

P!NK

OMG

VMA

PINK

DRESS

#VMA

WEARING

#VMAS

 **SOCHAOTIC:**

#vma at least gaga isnt wearing the same dress as shakira and pink.ahhhhhhhh lol



33

LIVE



TAYLOR SWIFT

LOVE

BEYONCE @TAYLORSWIFT13

AWARD PERFORMANCE KANYE

SWIFT WEST #VMAS TAYLOR



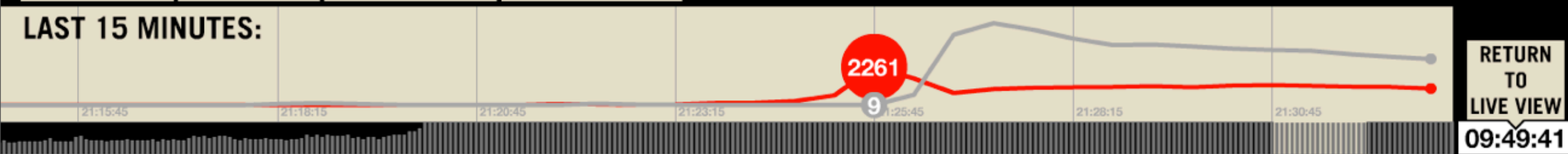
KANYE WEST

LMAO AWARD LOVE

PERFORMANCE WEST BEYONCE

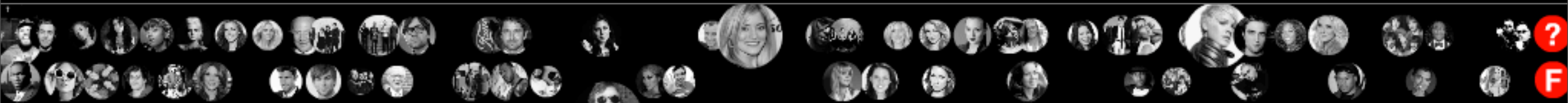
KANYE SWIFT #VMAS TAYLOR

LAST 15 MINUTES:



RETURN
TO
LIVE VIEW

09:49:41



KANYE WEST

LOVE

SWIFT

ASSHOLE

KANYE

BEYONCE

WEST

AMBER

#VMAS

TAYLOR

AWARD

MAIN SHOW 9PM EST

2253

LIVE
IN
NEW YORK

09:44:39

Twitter Chatter During the Super Bowl

As the Steelers and Cardinals battled on the field, Twitter users across the nation pecked out a steady stream of "tweets." The map shows the location and frequency of commonly used words in Super Bowl related messages.



Change

- The web assumes data as a resource, with short-lived requests for bounded things.
- You can fake a stream by cutting it into parts.

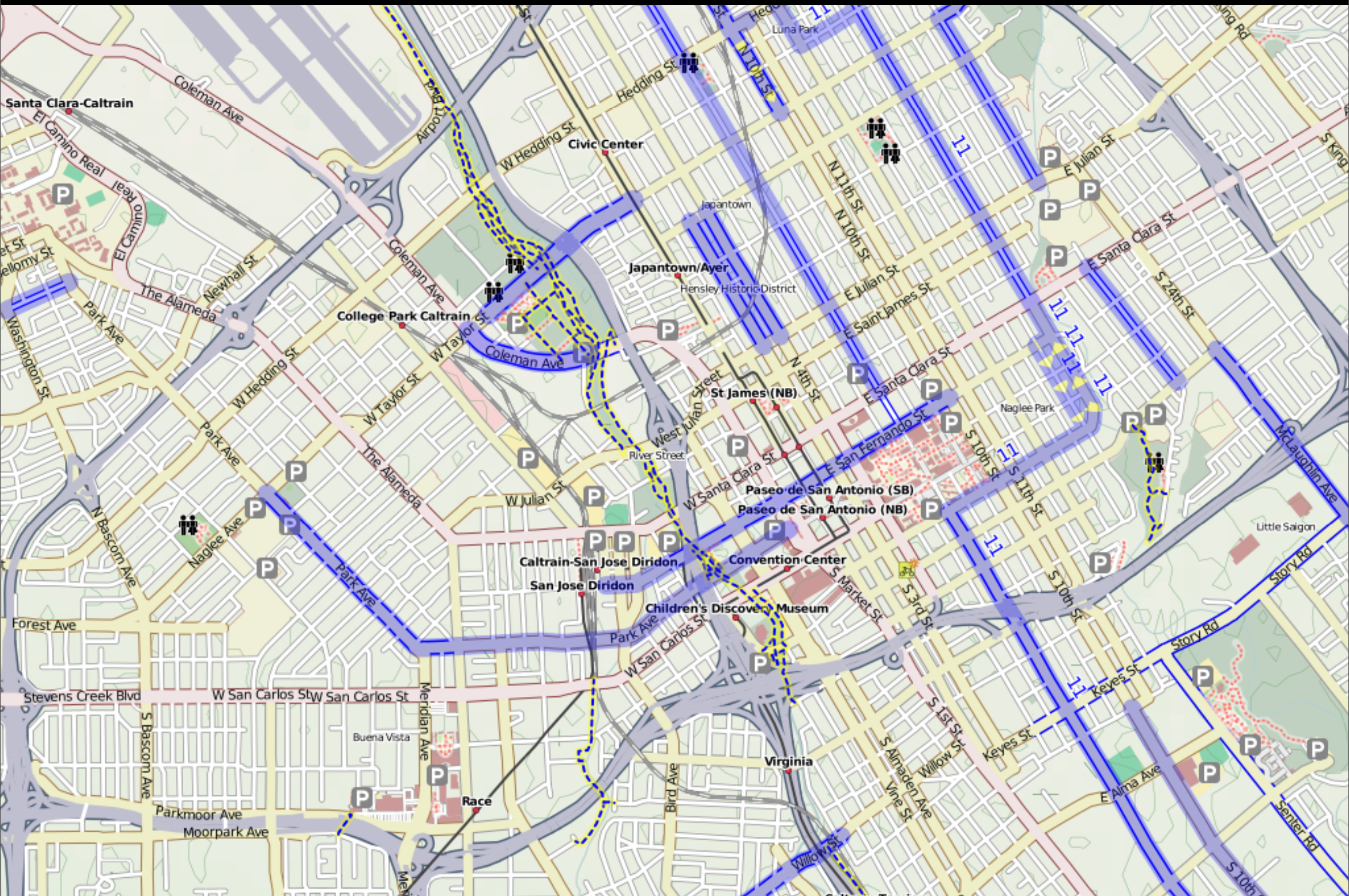


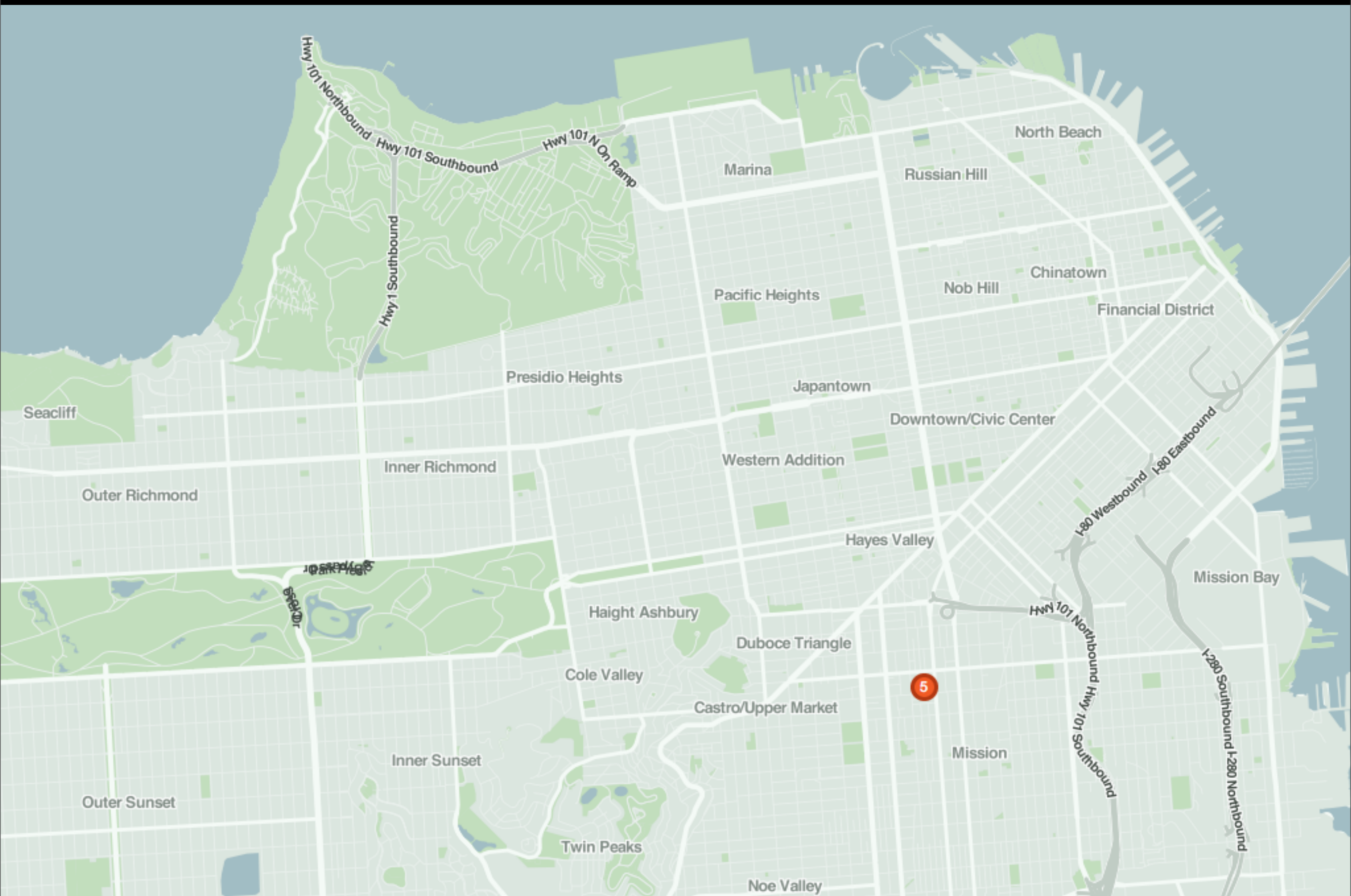
Design

Putting good-looking pixels on the web

Mapnik

High quality, open source rendering

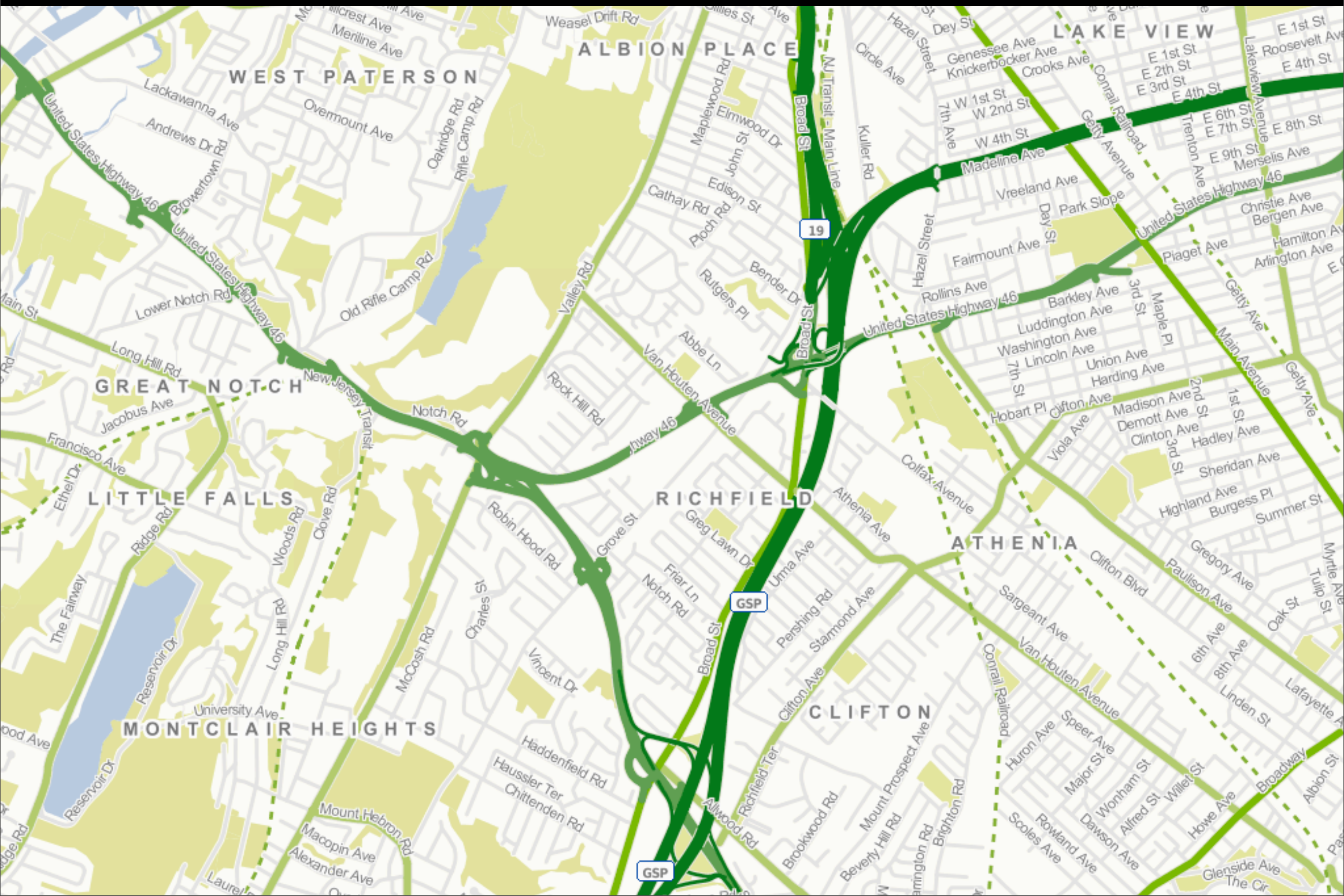




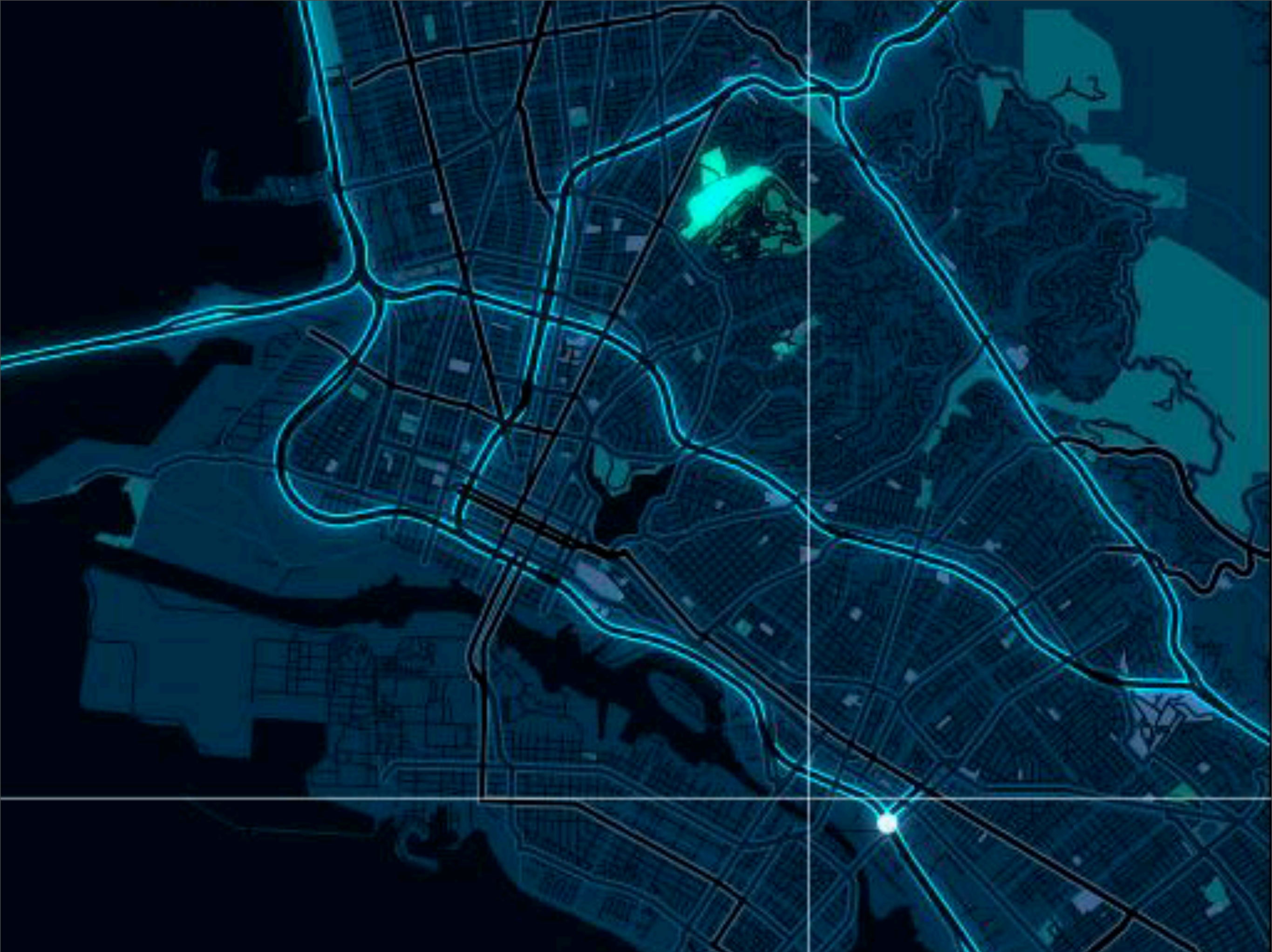
SAN FRANCISCO

changes in elevation **and bike routes**



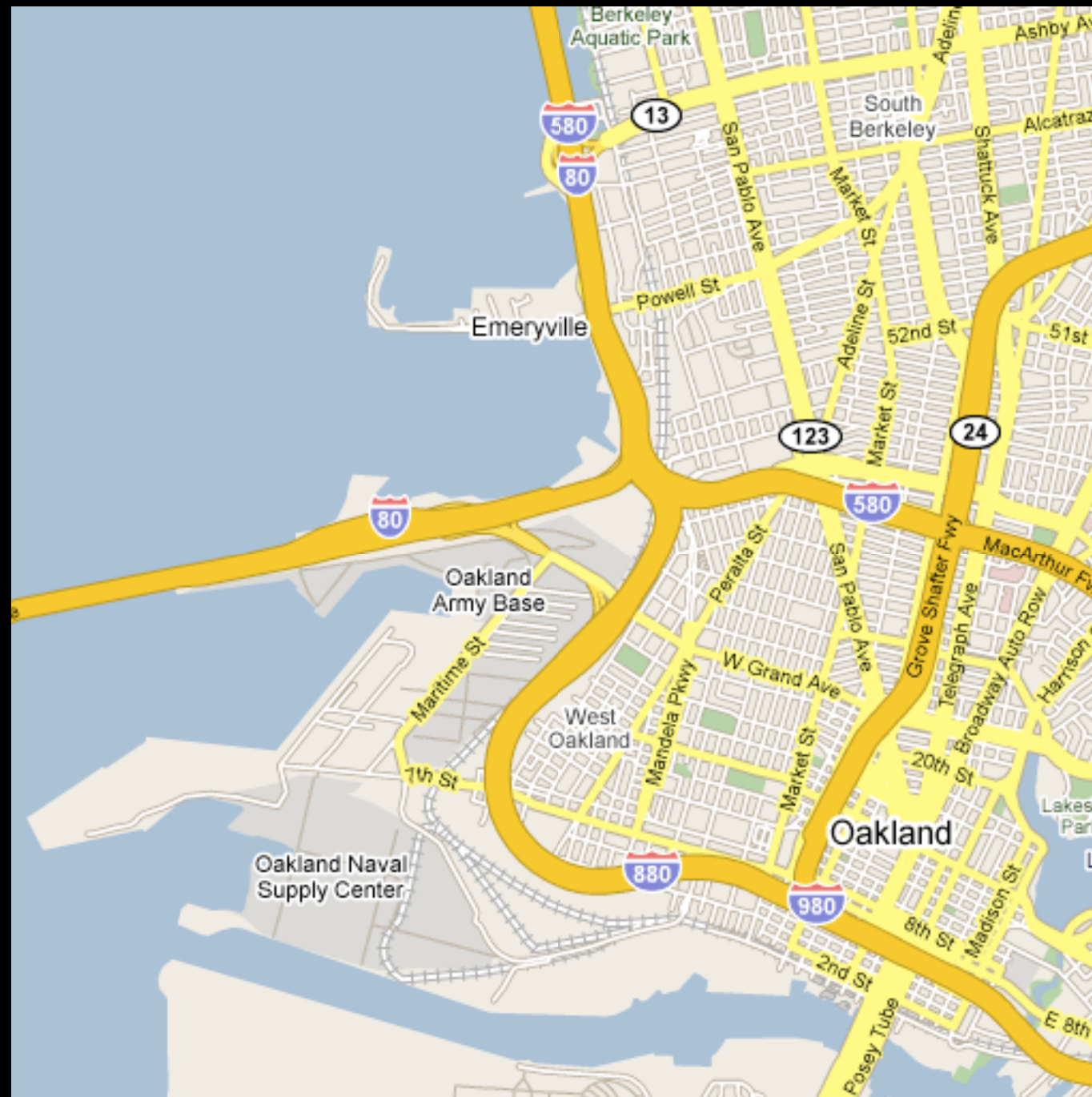


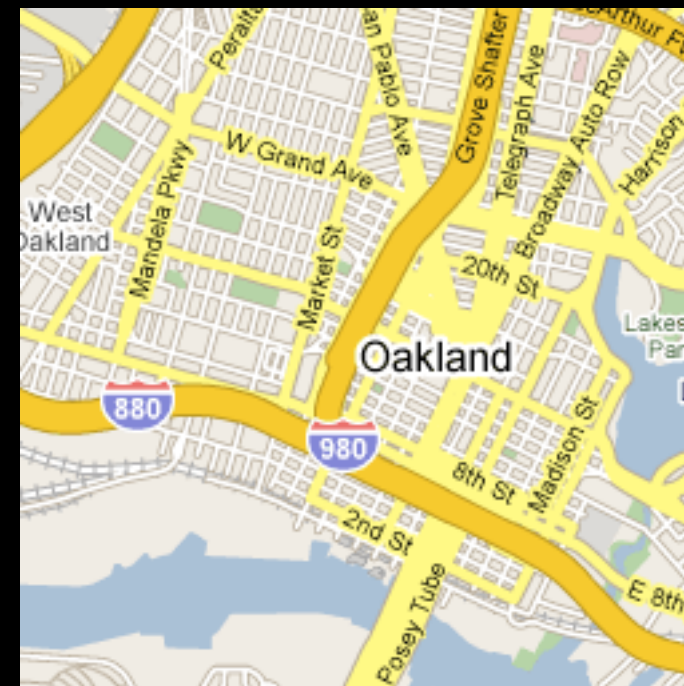
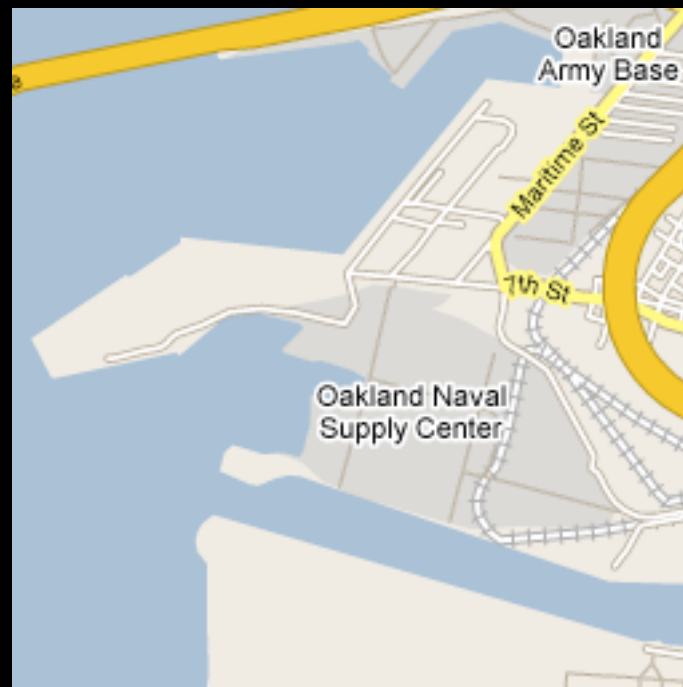
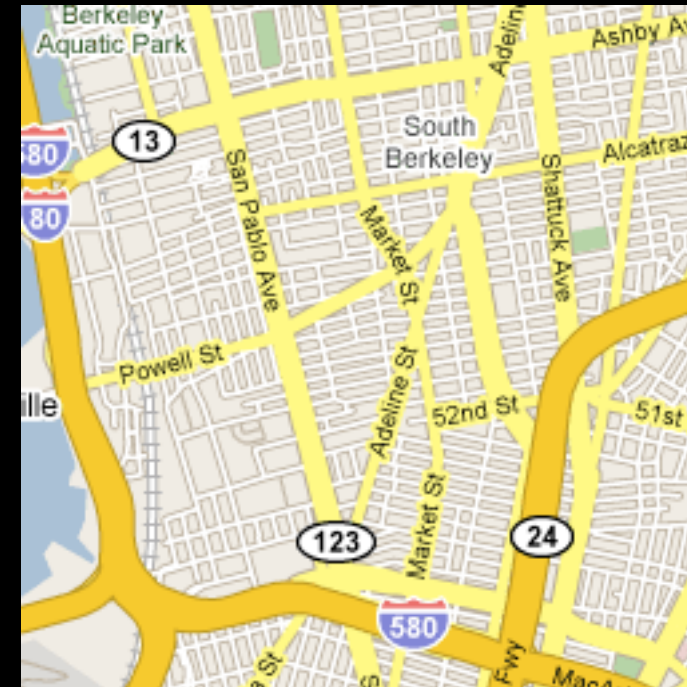
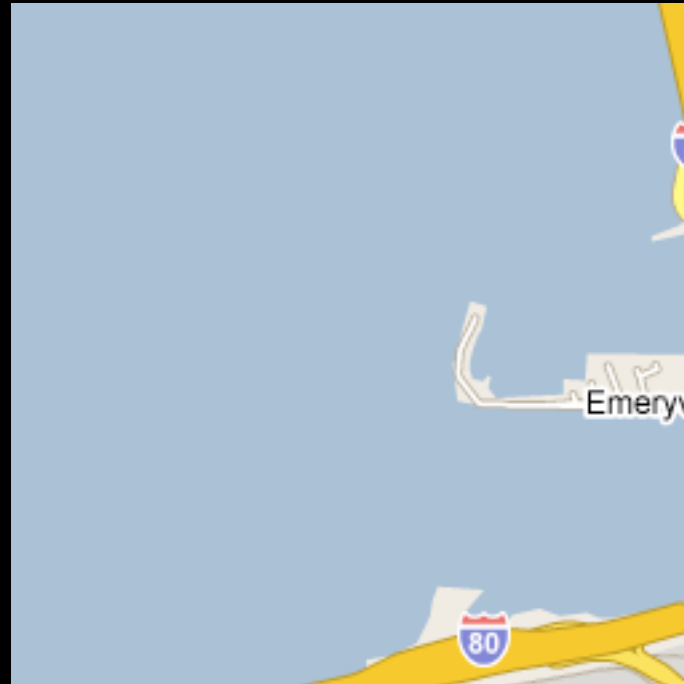




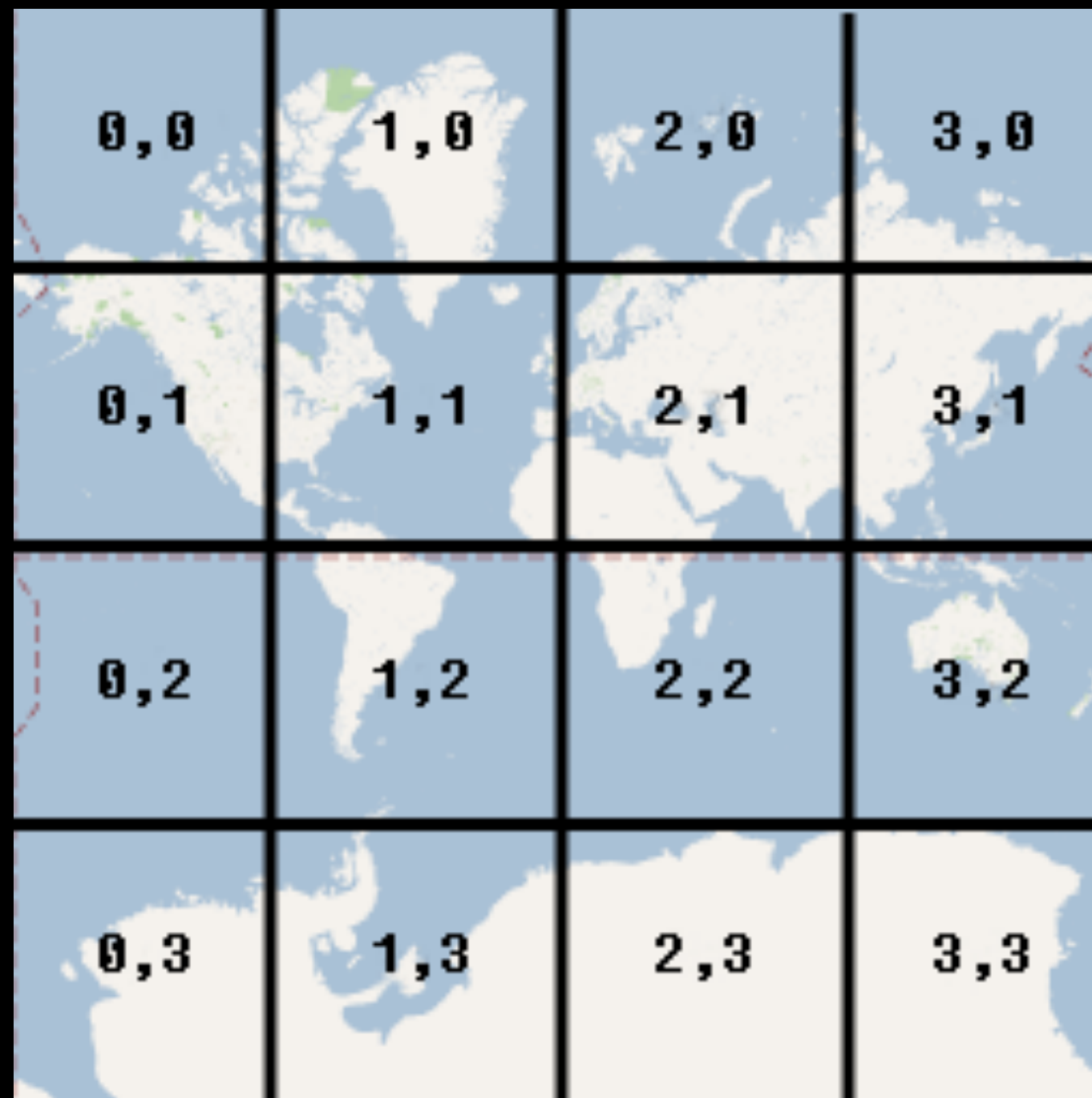
TileCache

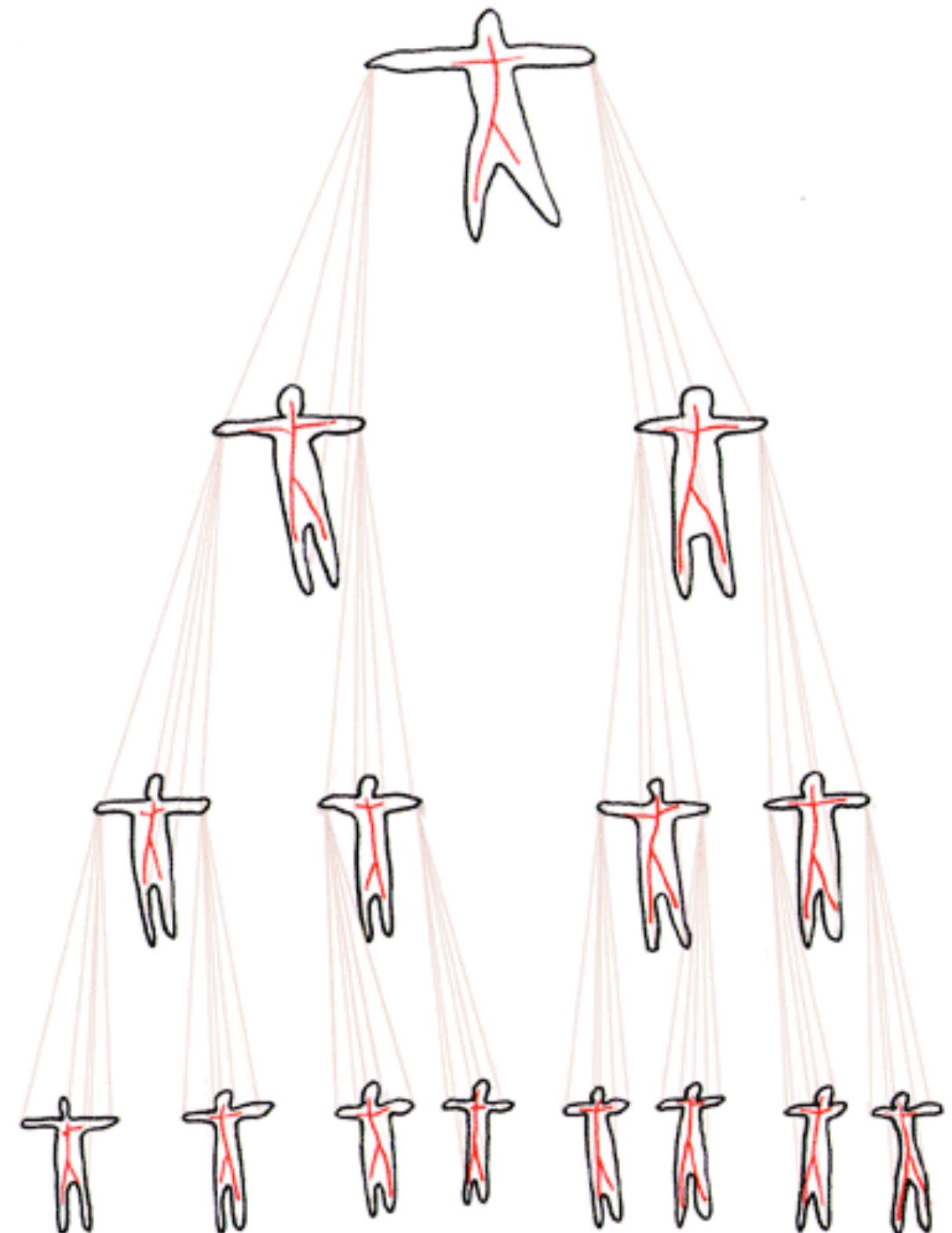
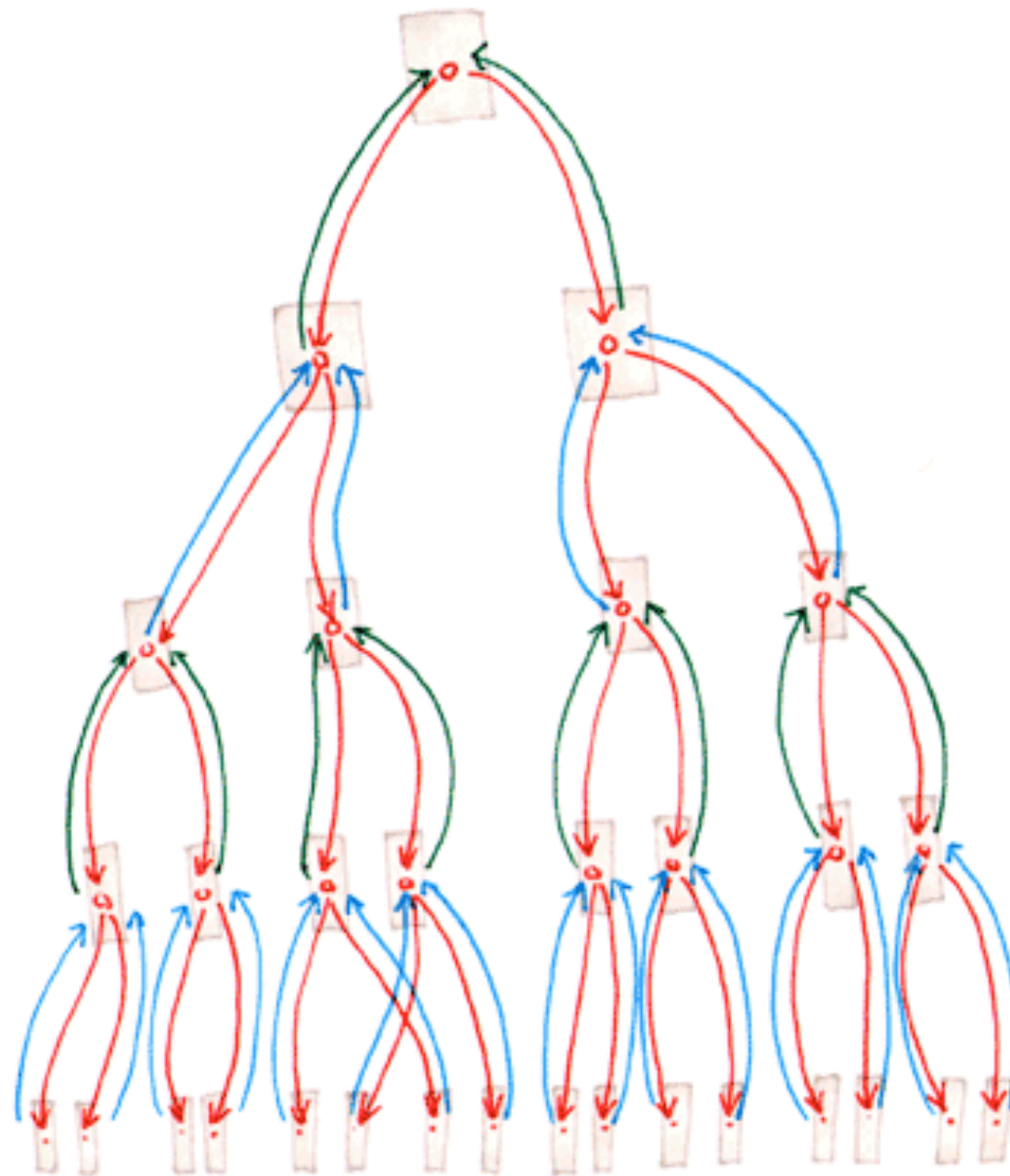
Serving map images







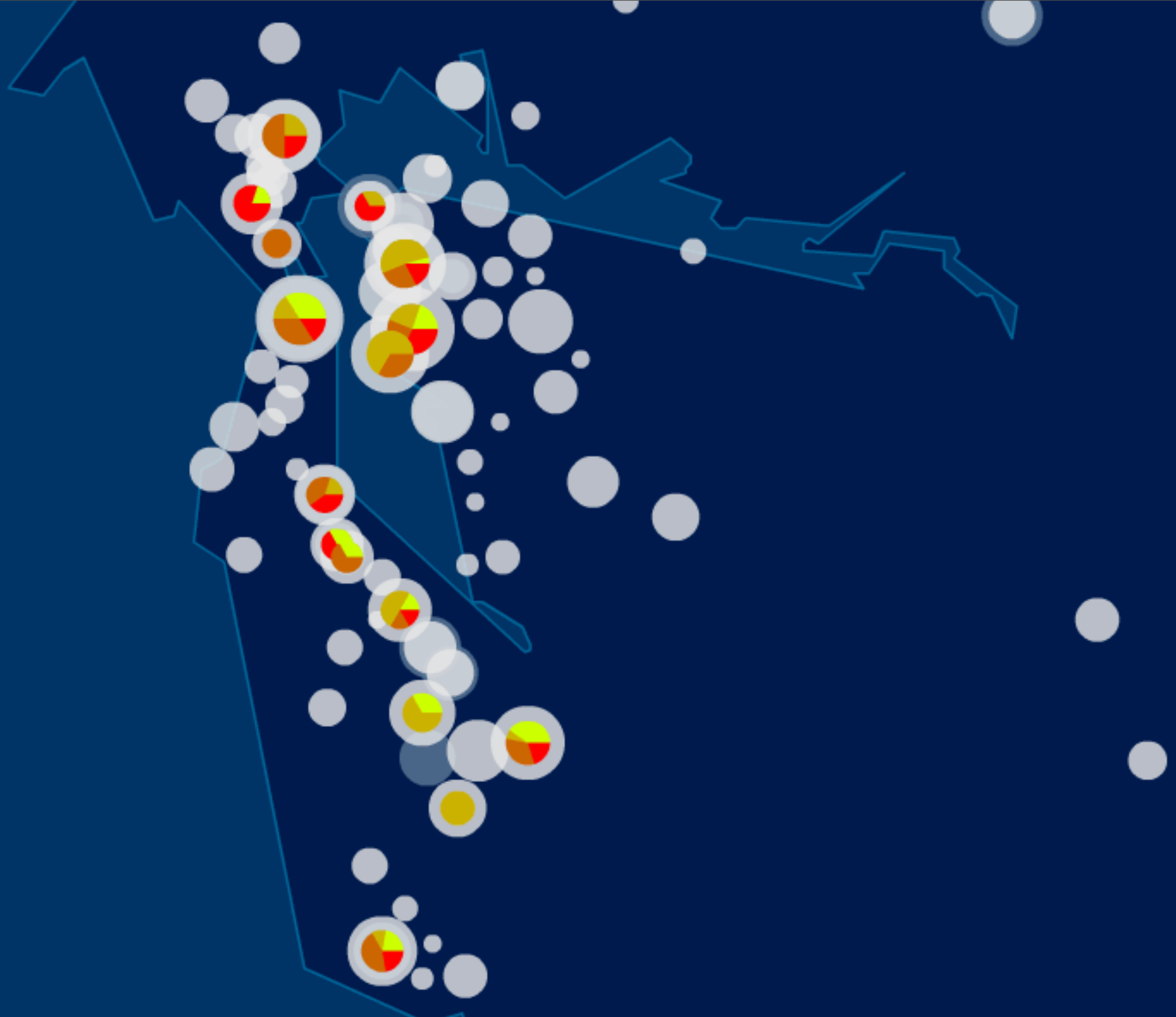




{modest}
{maps}

Protovis

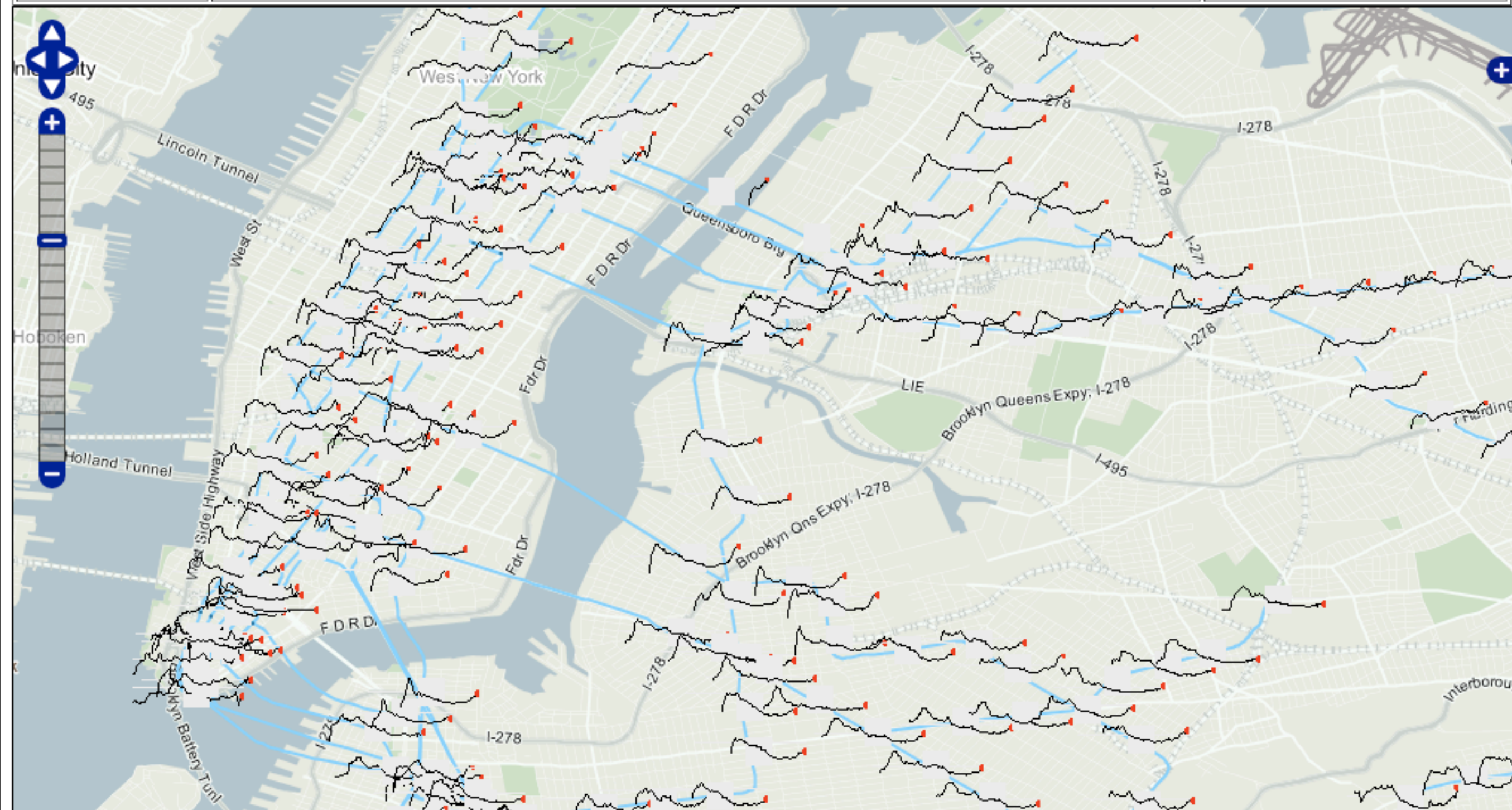
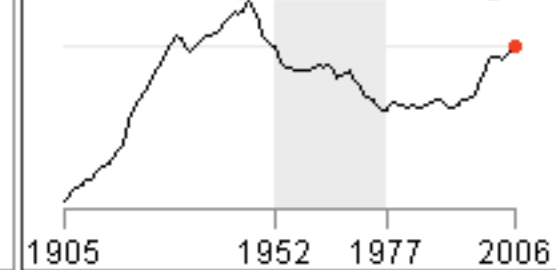
Putting data in your markers

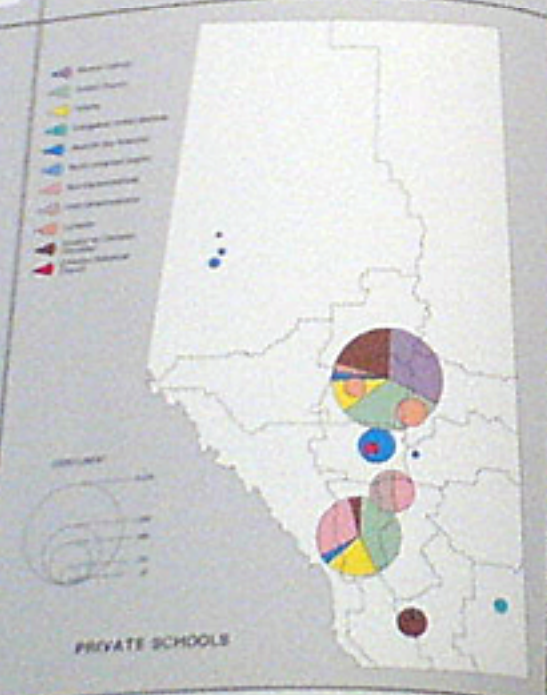
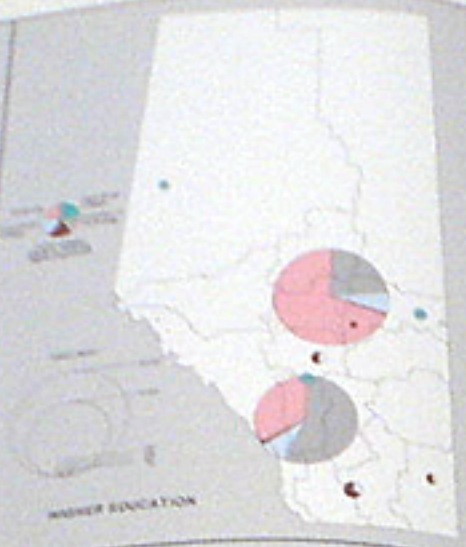


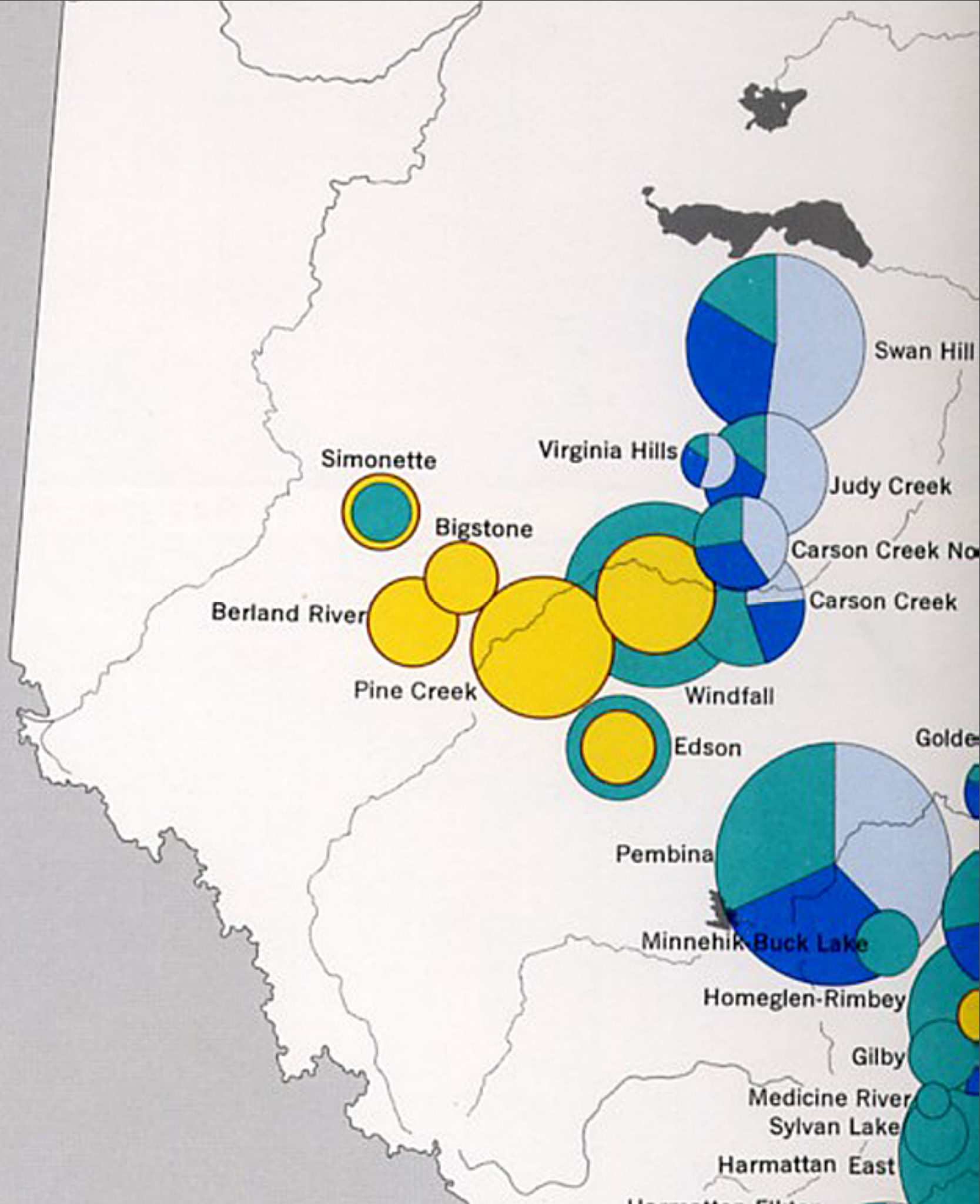
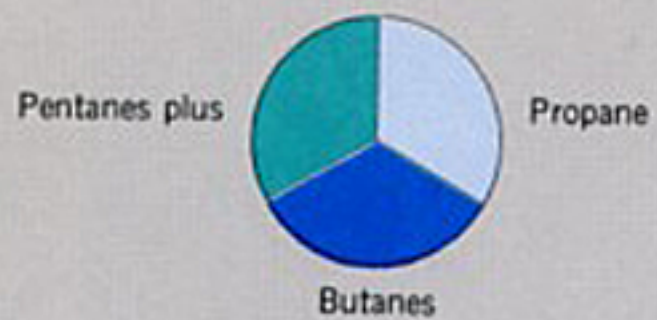
Subway Sparklines

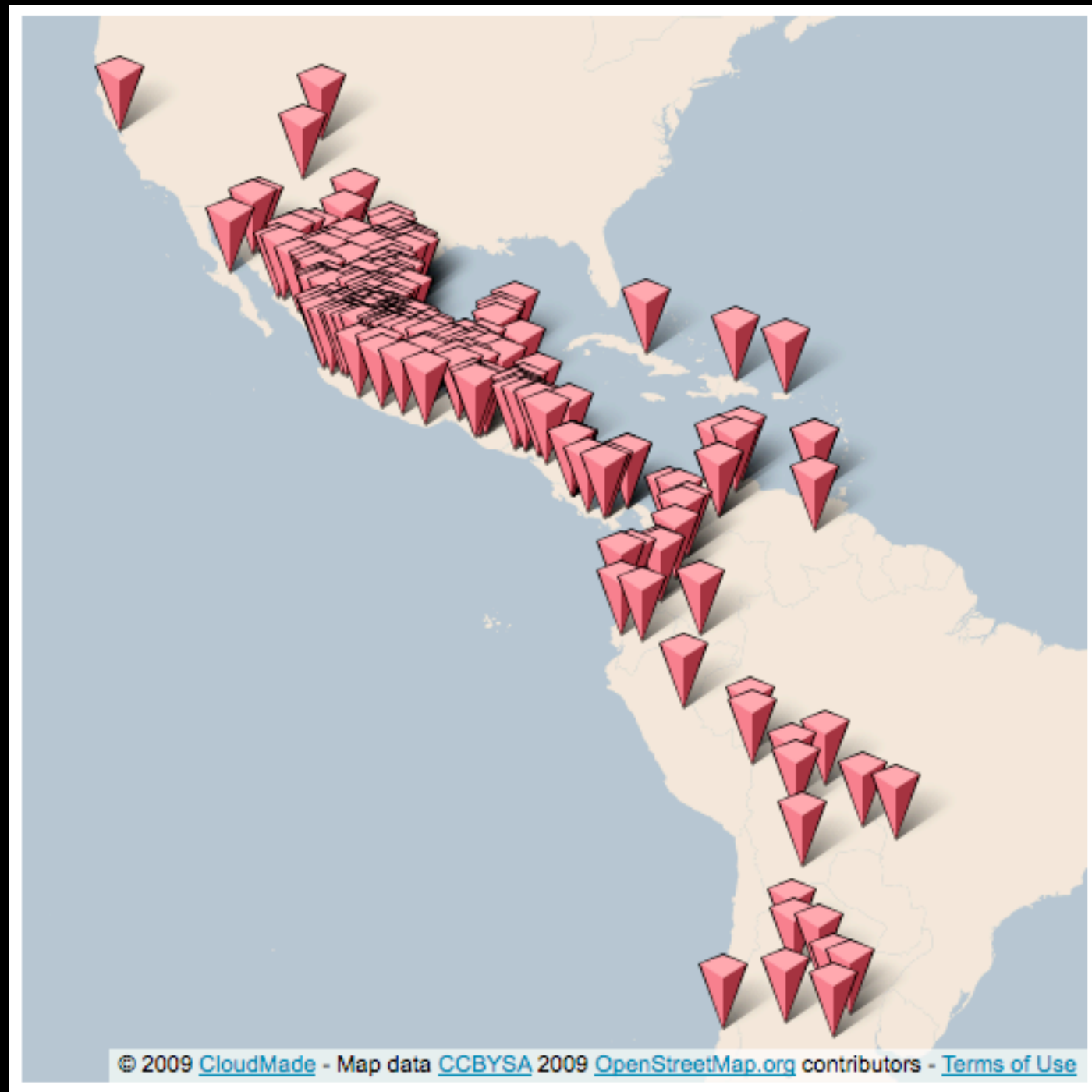
Graphs shows the yearly ridership at each station, with the shaded grey area spanning 1952 (same overall ridership level as today) to 1977 (nadir system-wide). Station names appear as map is zoomed in (eg: [midtown](#), [wall street](#), [south bronx](#), [williamsburg](#), [park slope](#)).

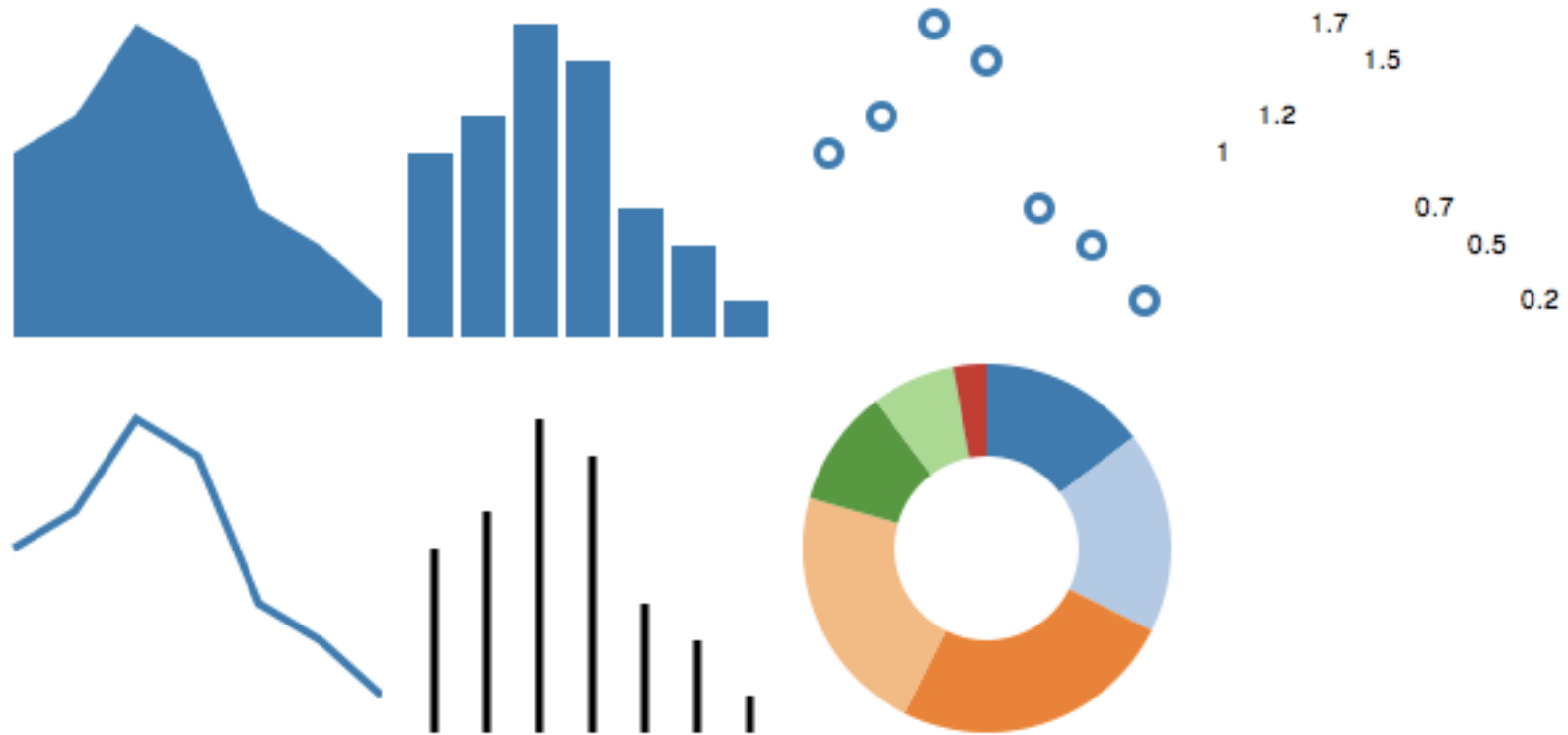
Overall System Ridership












```
var vis = new pv.Panel()
    .width(150)
    .height(150);

vis.add(pv.Bar)
    .data([1, 1.2, 1.7, 1.5, .7])
    .bottom(0)
    .width(20)
    .height(function(d) d * 80)
    .left(function() this.index * 25);

vis.render();
```

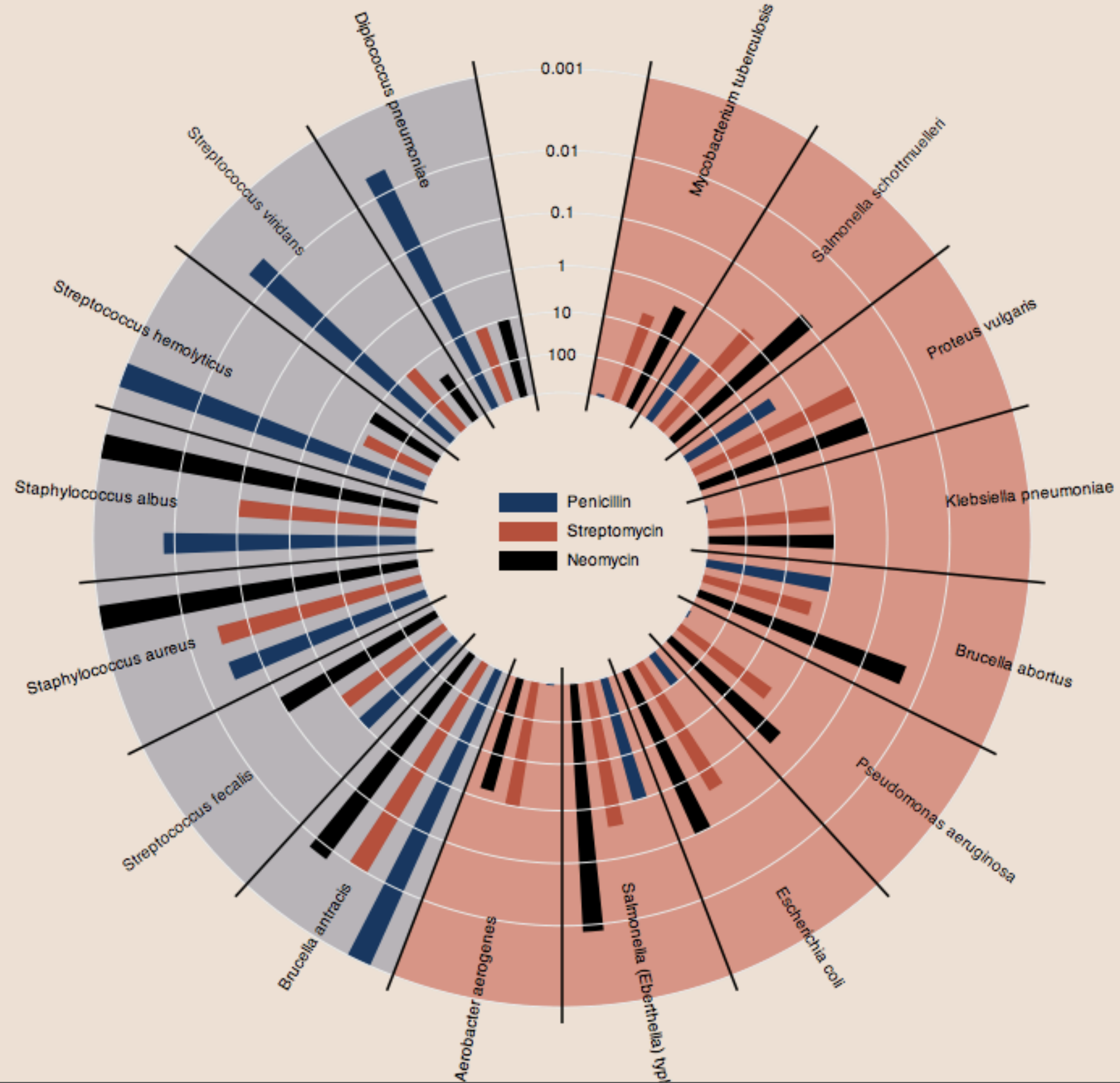
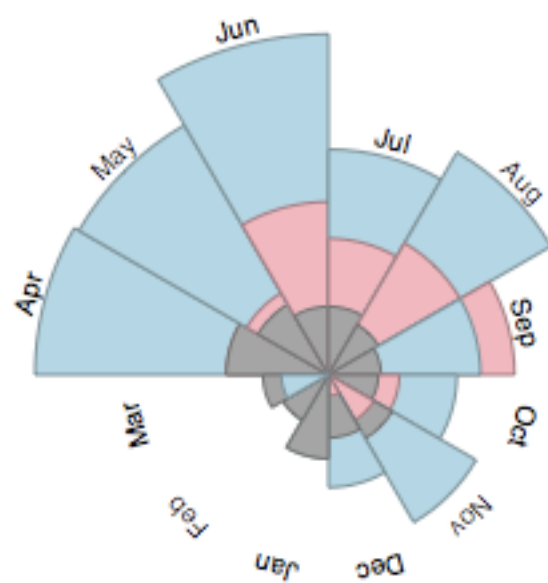


DIAGRAM OF THE CAUSES OF MORTALITY
IN THE ARMY OF THE EAST

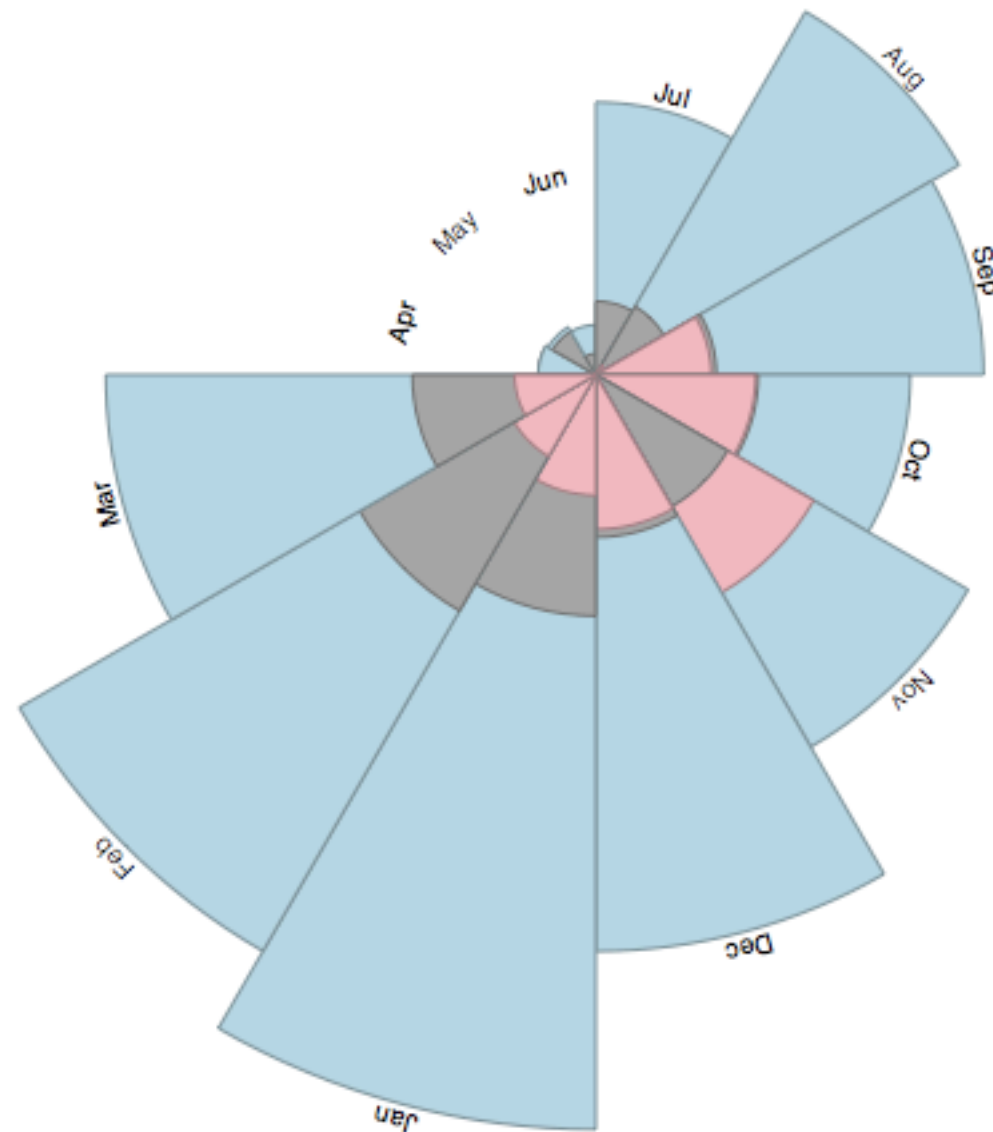


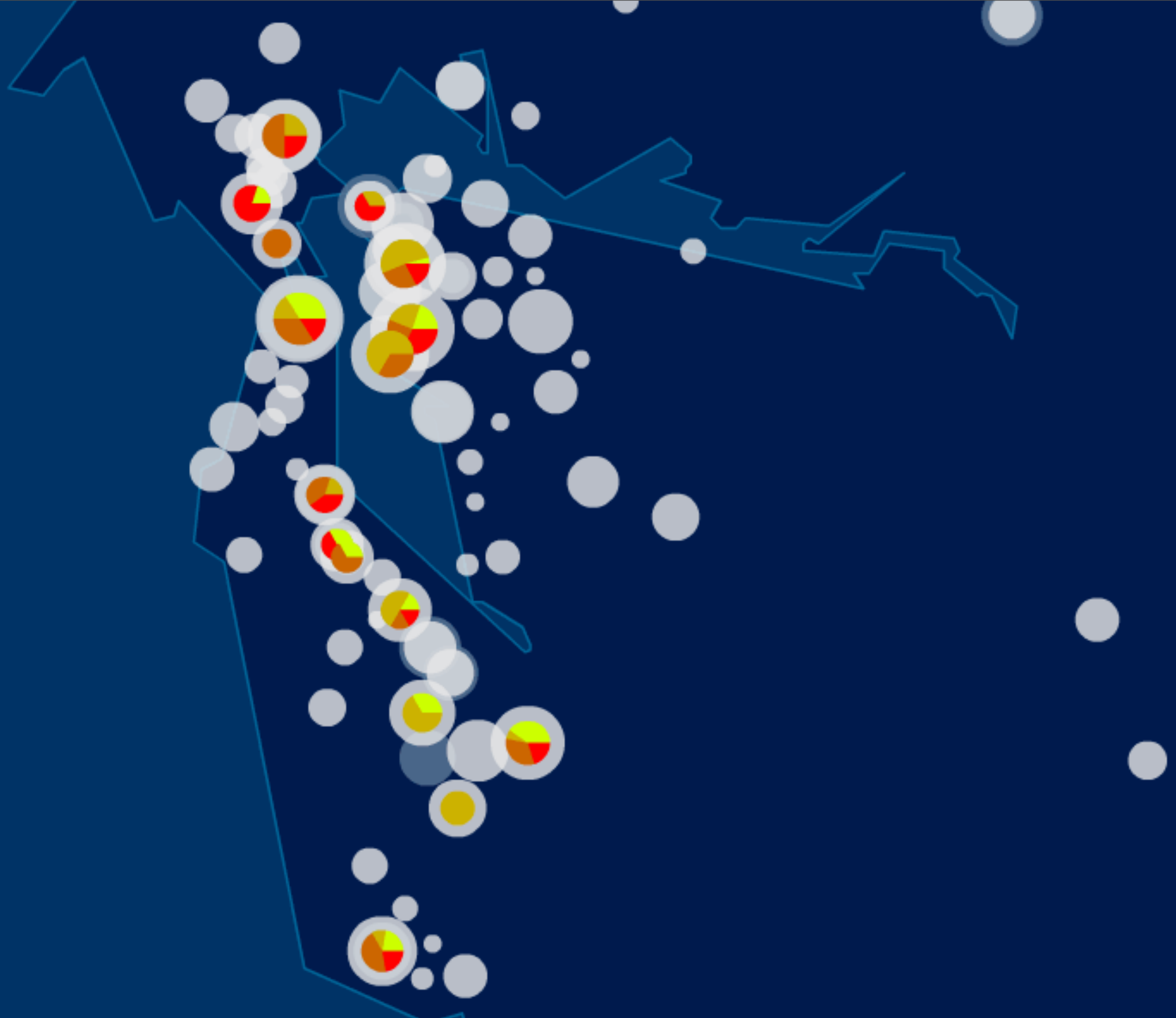
The Areas of the blue, red, & black wedges are each measured from the centre as the common vertex

The blue wedges measured from the centre of the circle represent area for area the deaths from Preventible or Mitigable Zymotic Diseases, the red wedges measured from the center the deaths from wounds, & the black wedges measured from the center the deaths from all other causes

In October 1844, & April 1855, the black area coincides with the red, in January & February 1856, the blue coincides with the black

The entire areas may be compared by following the blue, the red & the black lines enclosing them.





Design

- Draw with Mapnik
- Serve with TileCache
- Make better markers with Protovis

Hurricane Tracker

Putting it all together in a single project

Bill [more storms](#)

Last update
Category 3 Hurricane
Aug. 19, 2009, 11 a.m. EDT
Maximum wind speed **130 mph**
Ground speed **18 mph**
Pressure **950**

Wind speed chart

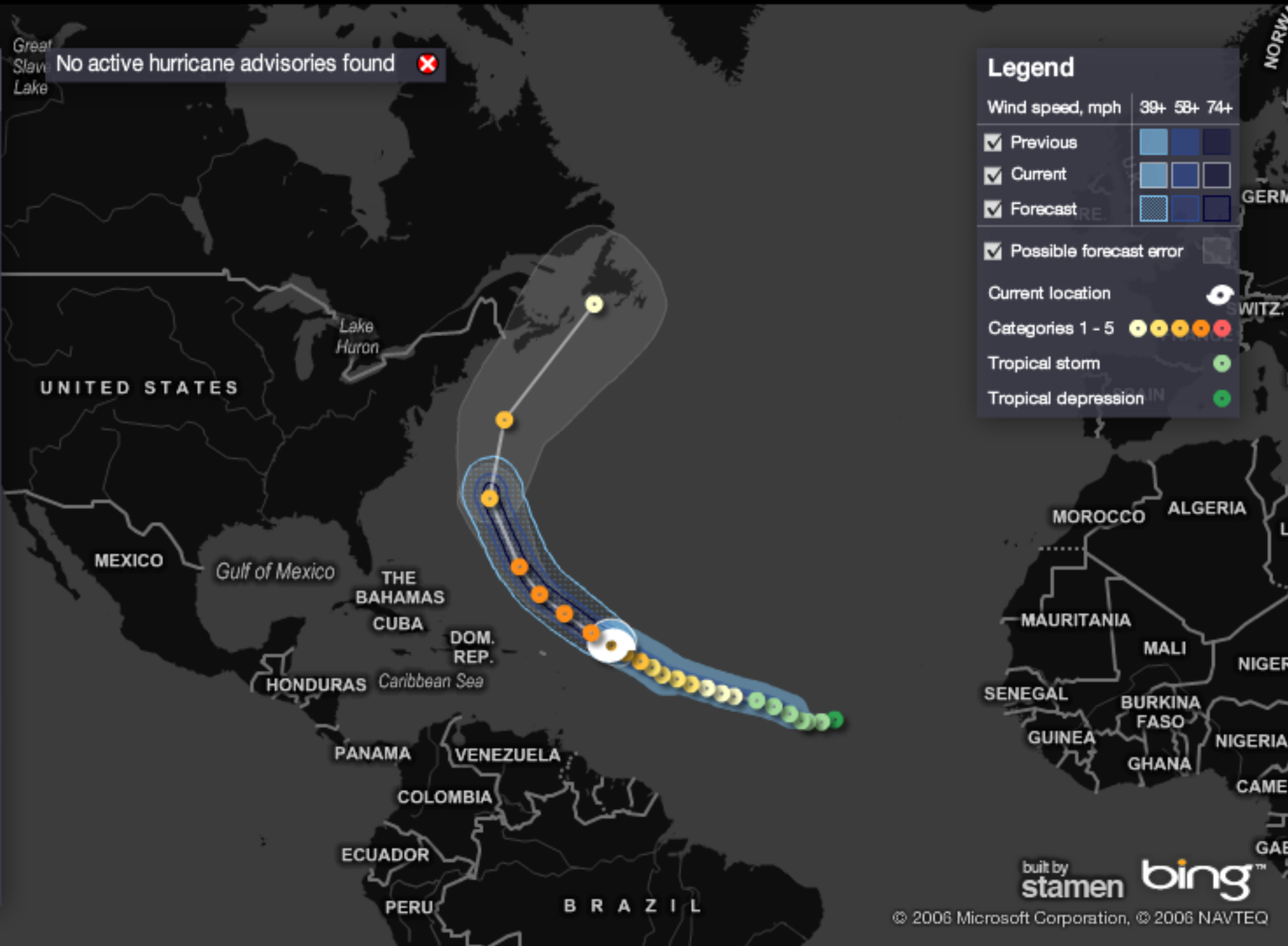
74 mph
145 mph
now
Aug. 15, 2009 Aug. 24, 2009

5-day storm forecast for your home

Type an address... [Search](#)

[DARKEN](#) [LIGHTEN](#)

Navigation controls: Up, Down, Left, Right, Zoom In (+), Zoom Out (-)



Bill

more storms ▼

Last update

Category 3 Hurricane

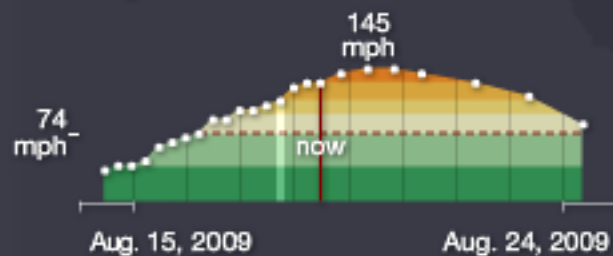
Aug. 19, 2009, 11 a.m. EDT

Maximum wind speed **130 mph**

Ground speed **18 mph**

Pressure **950**

Wind speed chart



5-day storm forecast for your home

Type an address...

Search

DARKEN

LIGHTEN



No active hurricane advisories found ❌

Legend

Wind speed, mph	39+	58+	74+
☒ Previous			
☒ Current			
☒ Forecast			
☒ Possible forecast error			
Current location			
Categories 1 - 5			
Tropical storm			
Tropical depression			

Aug. 18, 2009, 5 p.m. EDT

Category 2 Hurricane

Maximum wind speed **110 mph**

Ground speed **16 mph** | Pressure **962**

Location **16.6°N, 52.2°W**

built by **stamen** **bing**

© 2006 Microsoft Corporation, © 2006 NAVTEQ

Bill

more storms ▼

Last update

Category 3 Hurricane

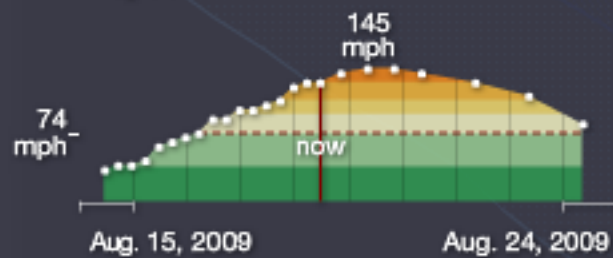
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Wind speed chart



5-day storm forecast for your home

Type an address...

Search

DARKEN

LIGHTEN



No active hurricane advisories found ❌

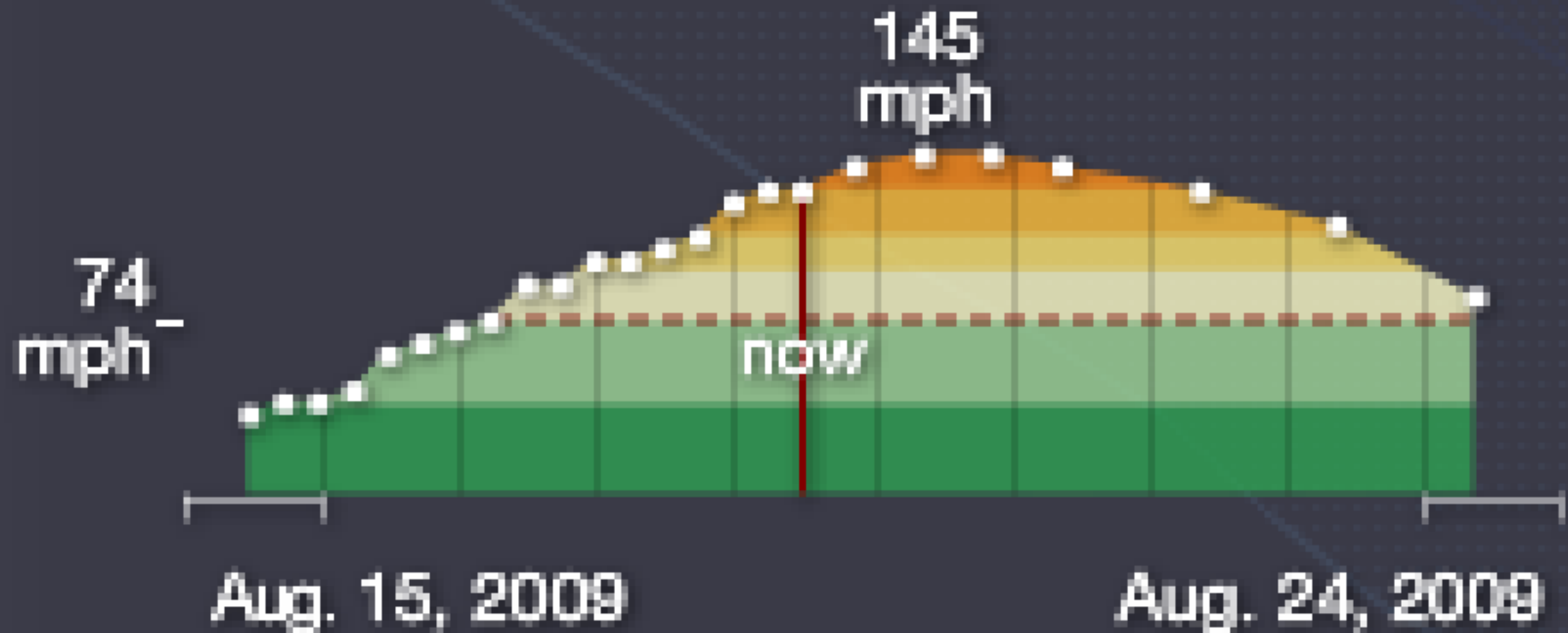
Legend

Wind speed, mph	39+	58+	74+
☒ Previous			
☒ Current			
☒ Forecast			
☒ Possible forecast error			
Current location			
Categories 1 - 5			
Tropical storm			
Tropical depression			

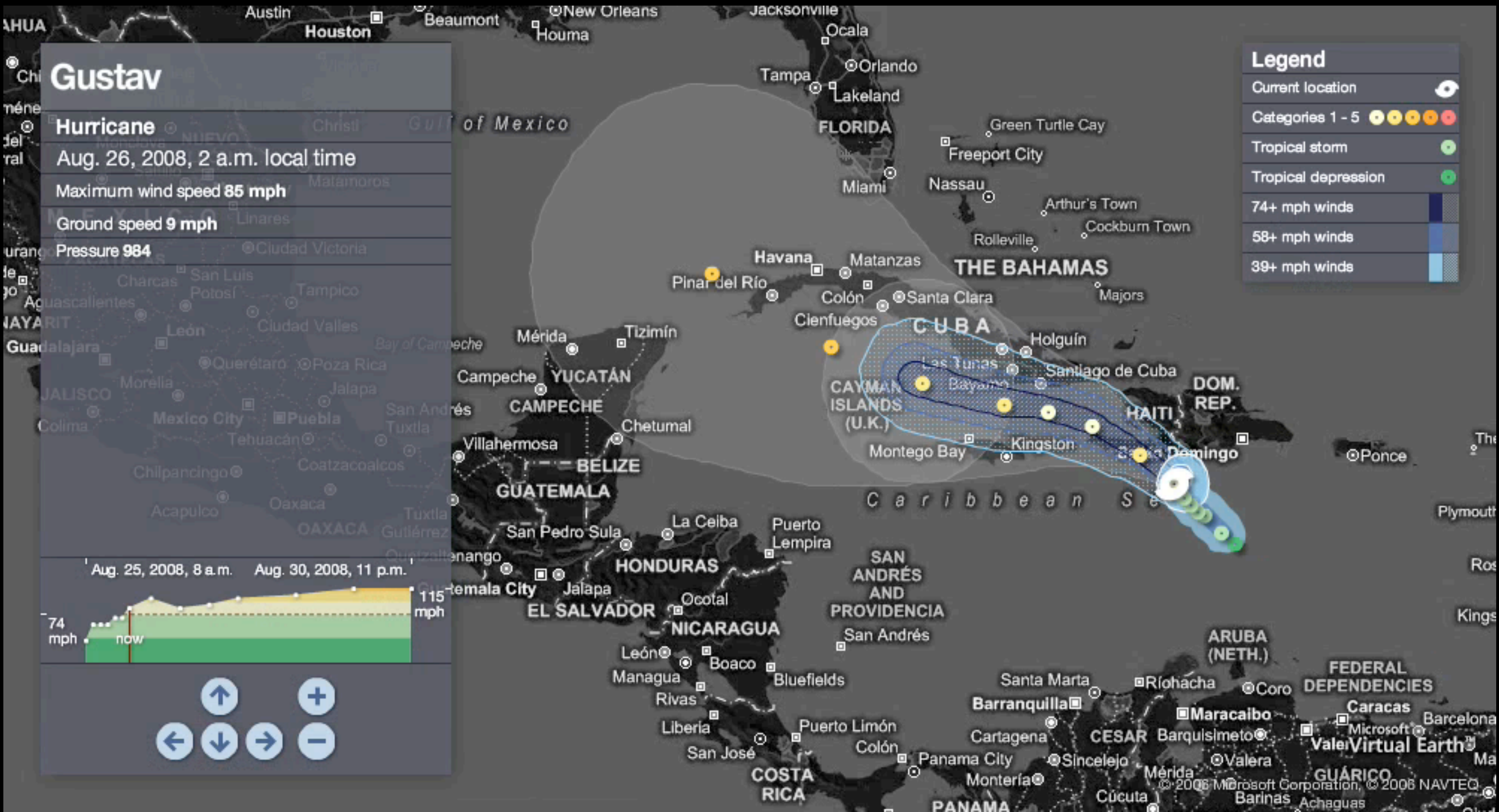
built by
stamen bing™

© 2006 Microsoft Corporation, © 2006 NAVTEQ

Wind speed chart



5-day storm forecast for your home



Storms Shown

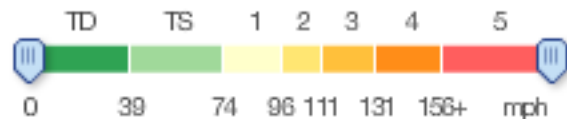
283 storms that occurred between **1851** and **2008** reached a maximum wind speed **between 0 and 196 mph** and **made landfall** in either Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana or Texas.

Landfall (in continental U.S.)

☒ made landfall
 ☐ no landfall
 ☐ all storms

Hurricane Strength

Saffir-Simpson Scale



Hurricane Name

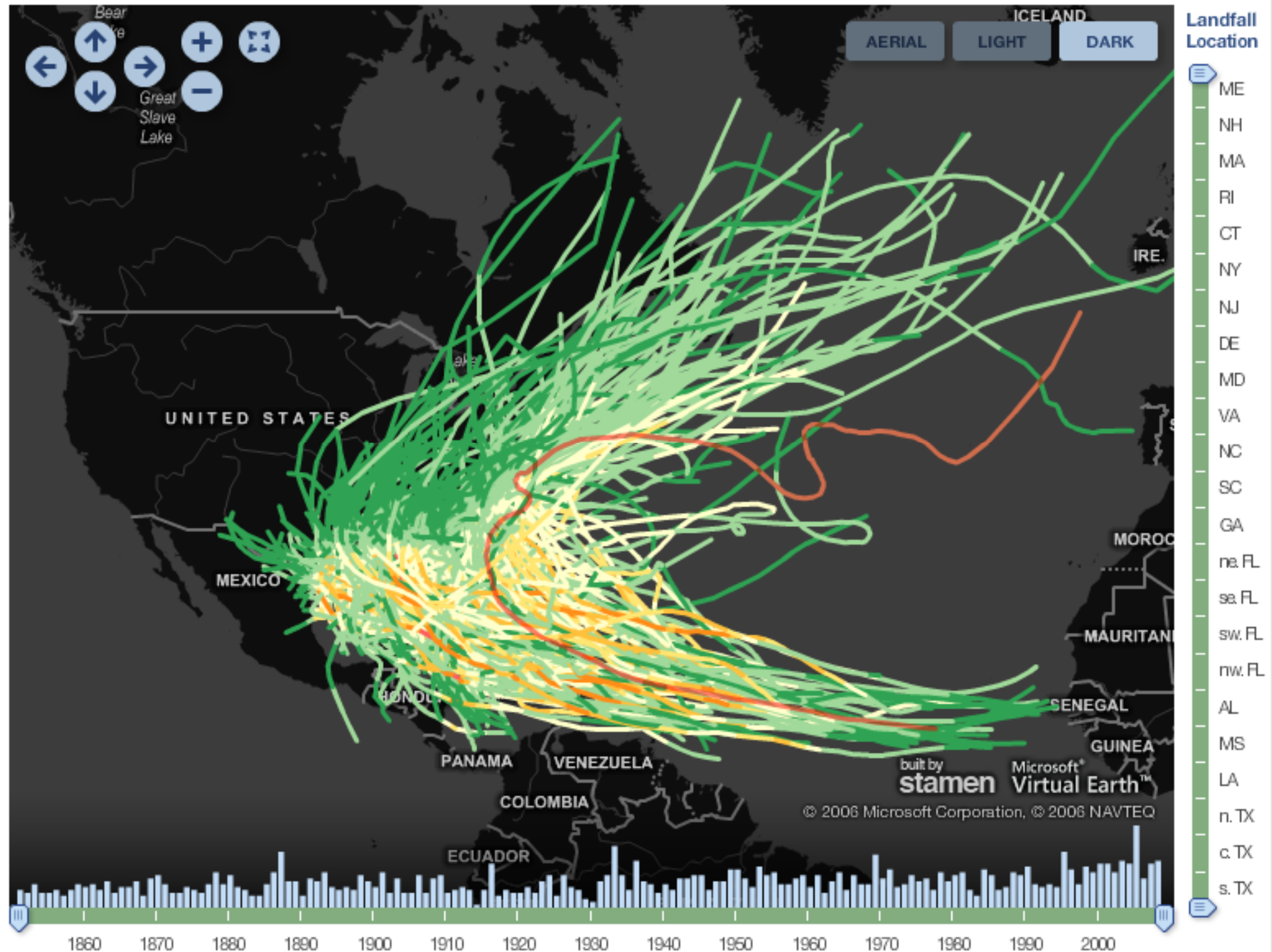
Type a name...

Location Search

Type an address...

About the Data

Data shown here are derived from the National Hurricane Center's North Atlantic hurricane database. [Read more...](#)



Storms Shown

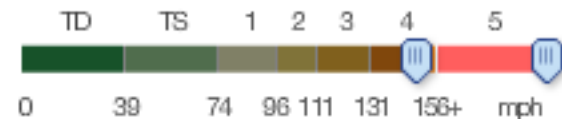
Eight storms that occurred between **1851** and **2008** reached a maximum wind speed **between 147 and 196 mph** and **made landfall** in either Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana or Texas.

Landfall (in continental U.S.)

☒ made landfall
 ☐ no landfall
 ☐ all storms

Hurricane Strength

Saffir-Simpson Scale



Hurricane Name

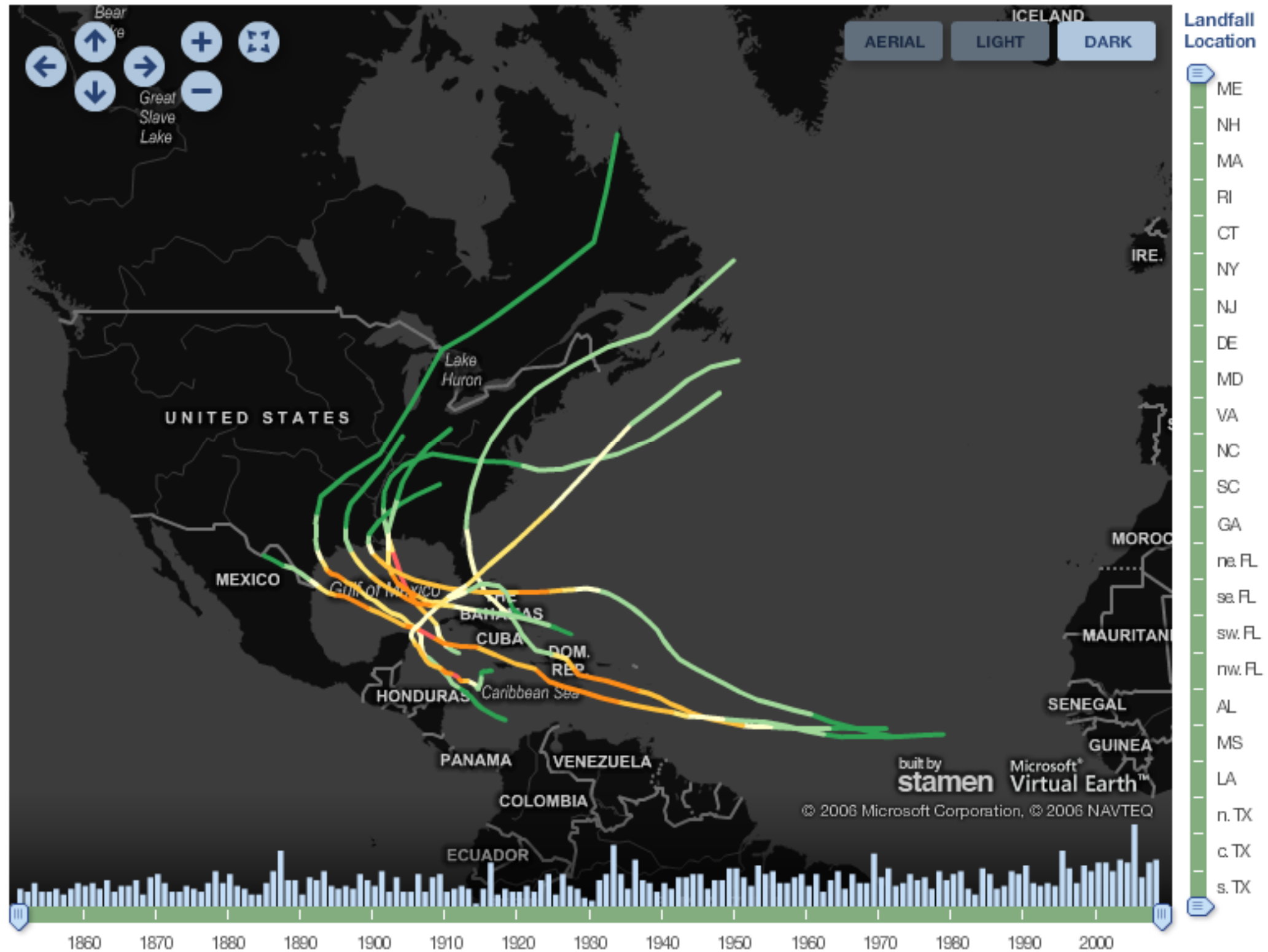
Search

Location Search

Search

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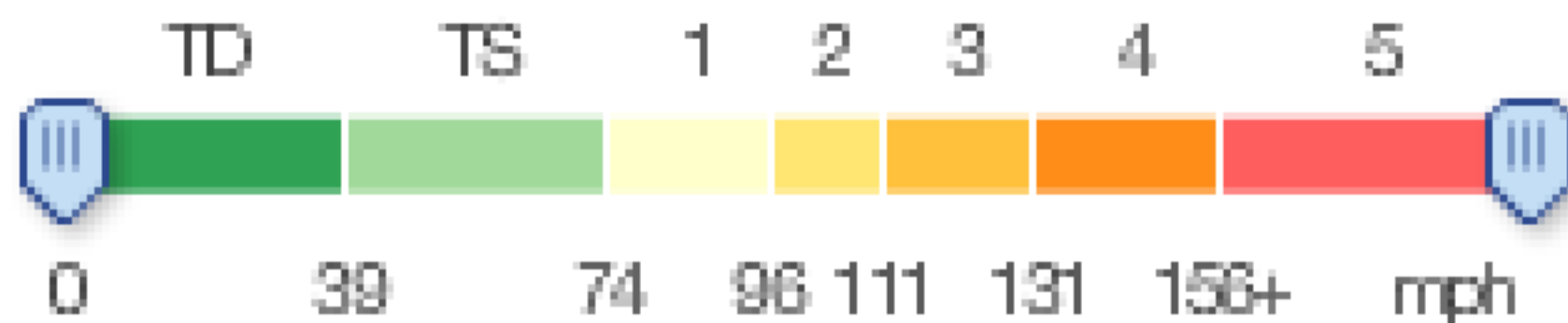


Landfall (in continental U.S.)

 made landfall  no landfall  all storms

Hurricane Strength

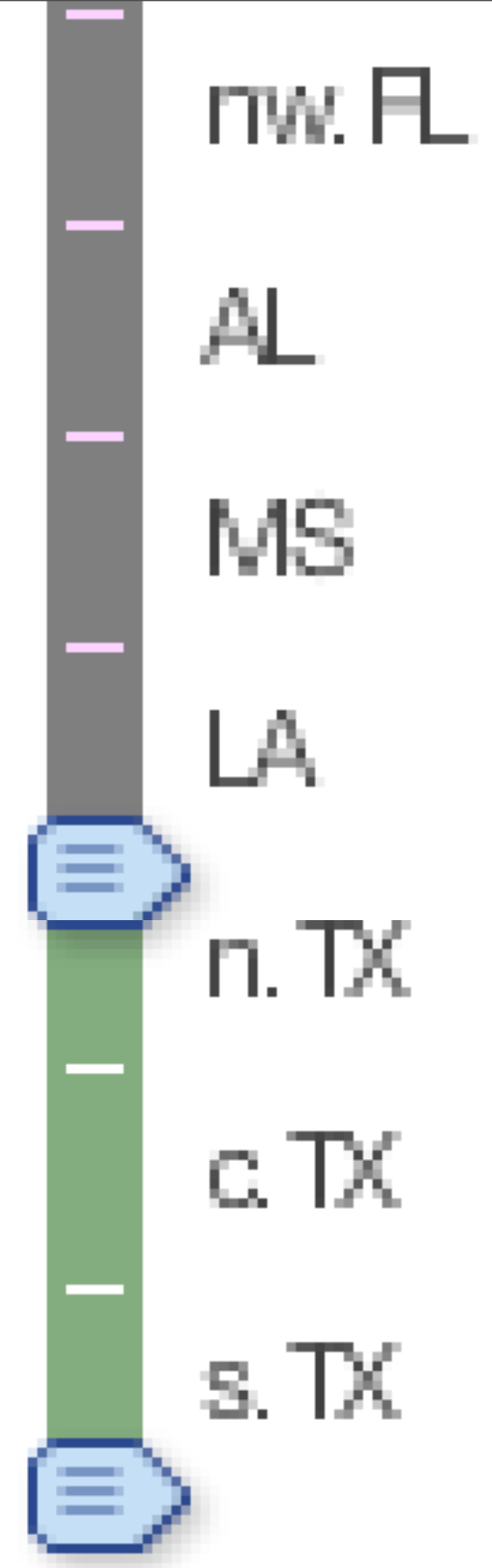
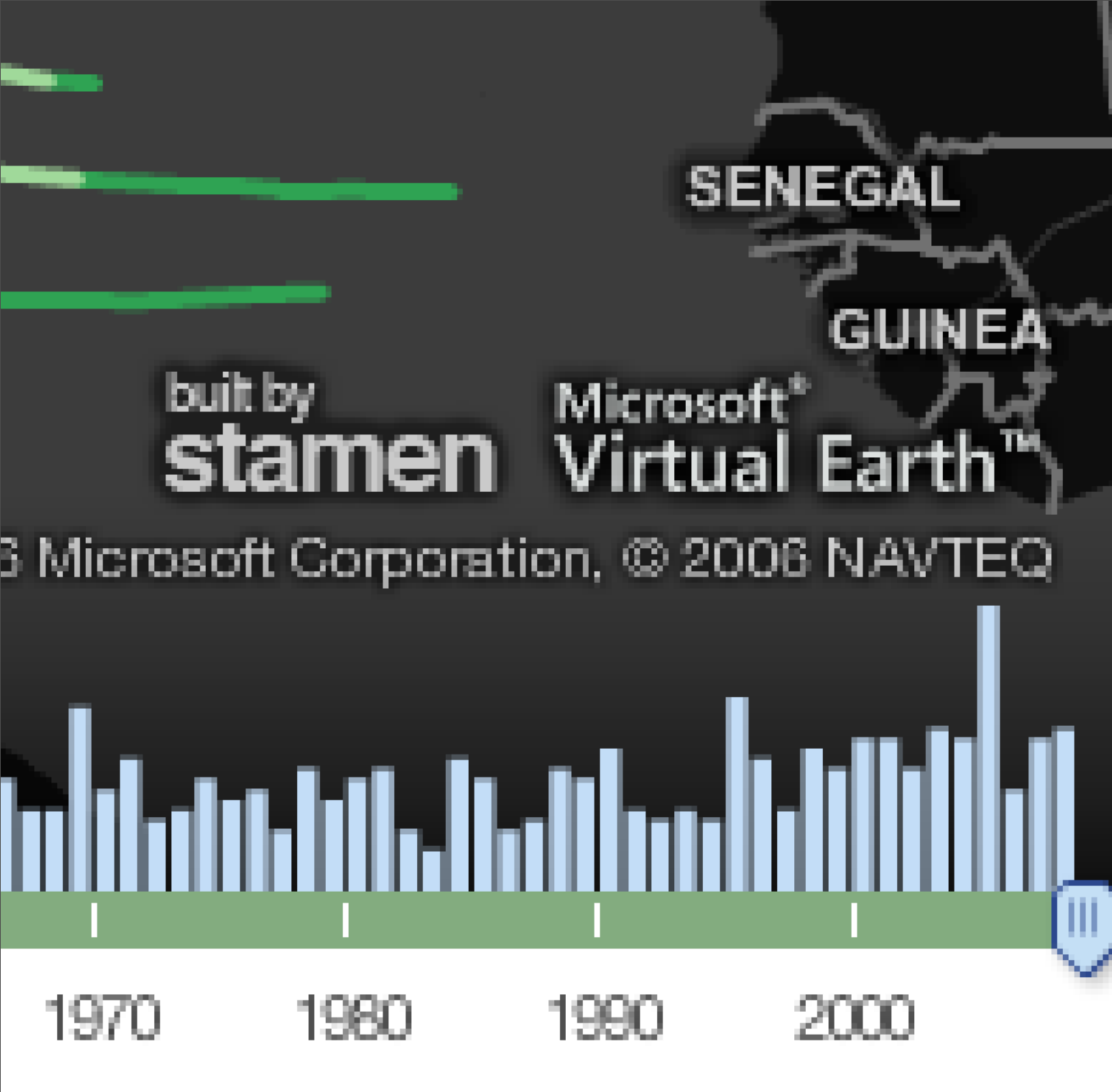
Saffir-Simpson Scale



Hurricane Name

Location Search

UN



Storms Shown

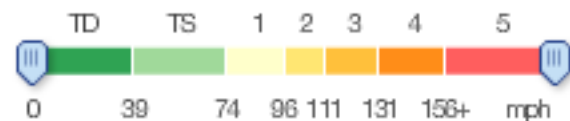
64 storms that occurred between 1851 and 2008 reached a maximum wind speed **between 0 and 196 mph** and **made landfall** in Texas.

Landfall (in continental U.S.)

☒ made landfall
 ☐ no landfall
 ☐ all storms

Hurricane Strength

Saffir-Simpson Scale



Hurricane Name

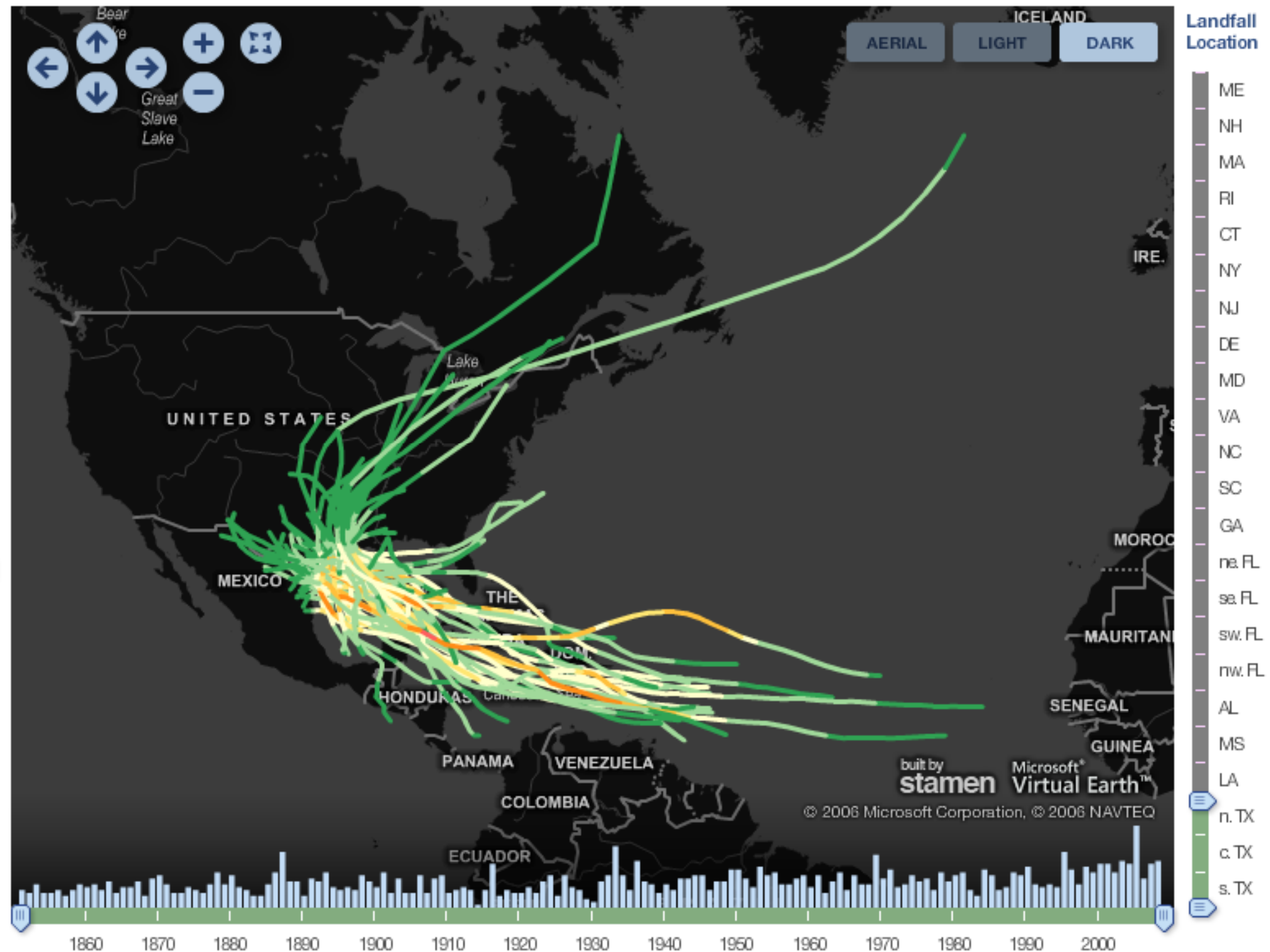
Type a name...

Location Search

Type an address...

About the Data

Data shown here are derived from the National Hurricane Center's North Atlantic hurricane database. [Read more...](#)



Storms Shown

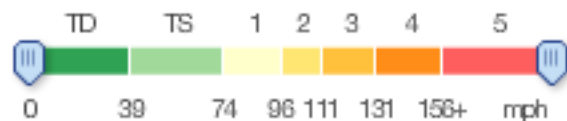
114 storms that occurred between 1851 and 2008 reached a maximum wind speed **between 0 and 196 mph** and **made landfall** in Florida.

Landfall (in continental U.S.)

☒ made landfall
 ☐ no landfall
 ☐ all storms

Hurricane Strength

Saffir-Simpson Scale



Hurricane Name

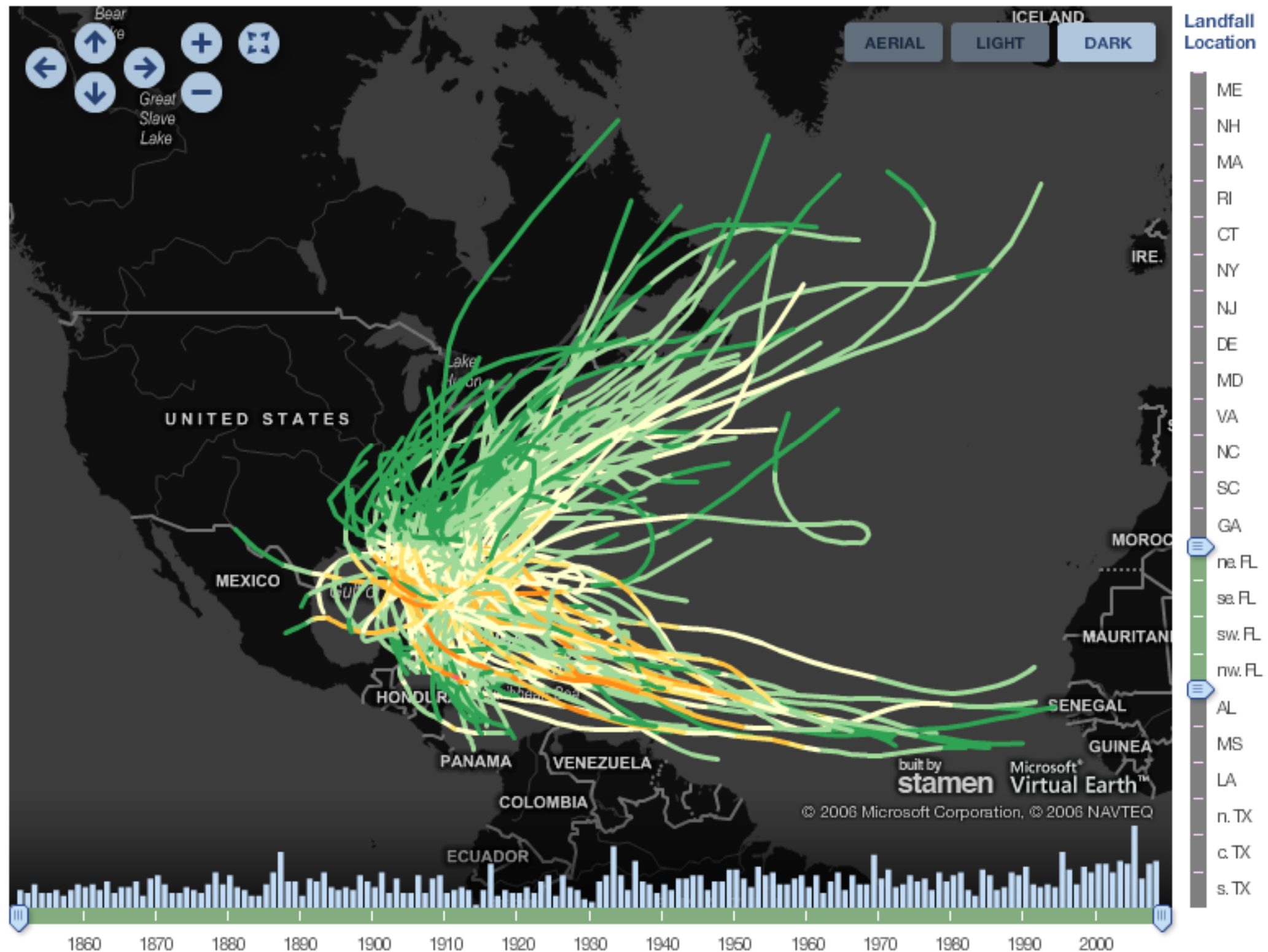
Type a name...

Location Search

Type an address...

About the Data

Data shown here are derived from the National Hurricane Center's North Atlantic hurricane database. [Read more...](#)



Storms Shown

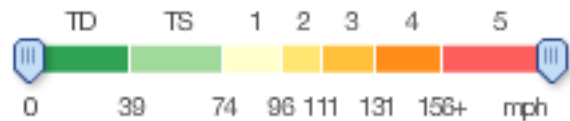
18 storms that occurred between 1851 and 2008 reached a maximum wind speed **between 0 and 196 mph** and **made landfall** in either Maine, New Hampshire, Massachusetts, Rhode Island or Connecticut.

Landfall (in continental U.S.)

☒ made landfall
 ☐ no landfall
 ☐ all storms

Hurricane Strength

Saffir-Simpson Scale



Hurricane Name

Type a name...

Location Search

Type an address...

About the Data

Data shown here are derived from the National Hurricane Center's North Atlantic hurricane database. [Read more...](#)

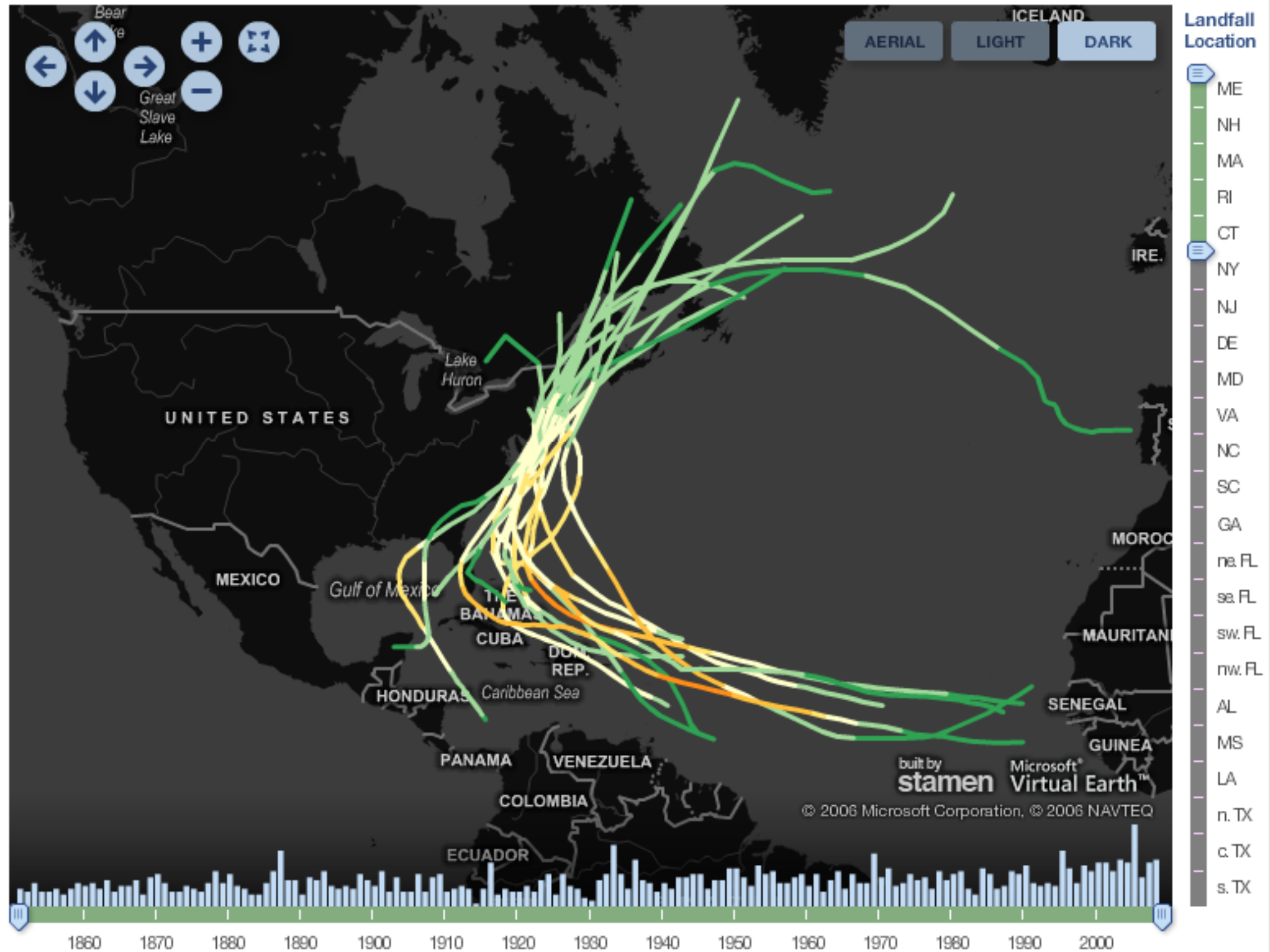


photo: <http://sta.mn/sp>

Thank You

Michal Migurski, Stamen Design

