Carpe Geo
&
The Case for GIS Strategic Planning

Bill
~~William F.~~ Johnson

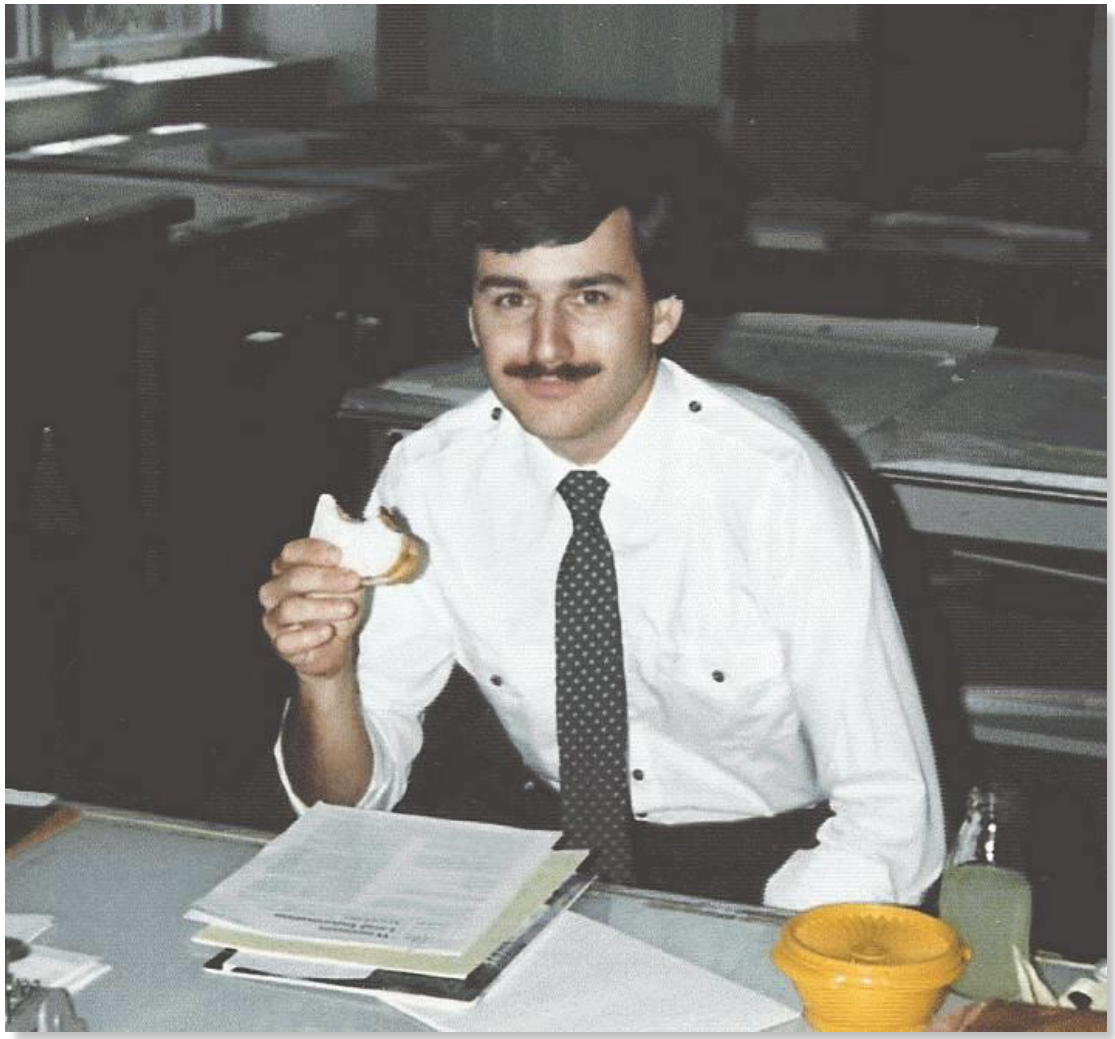
Carpe Geo Evangelist

AppGeo

February 25, 2019

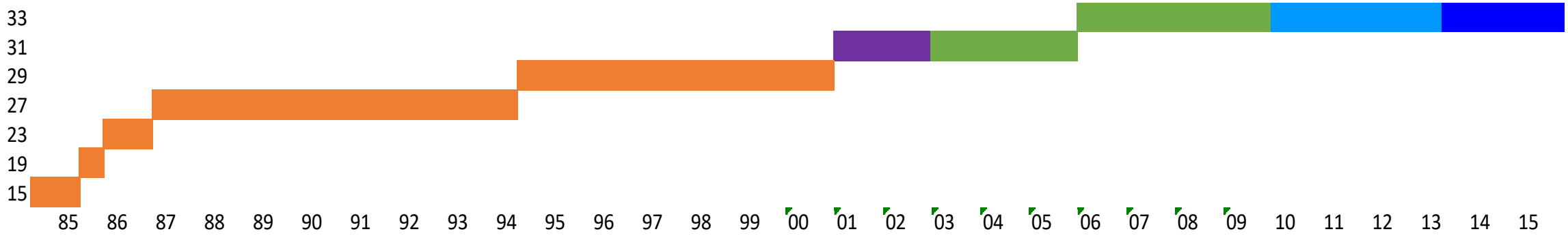
GISMO meeting

My first “real” job; DOT



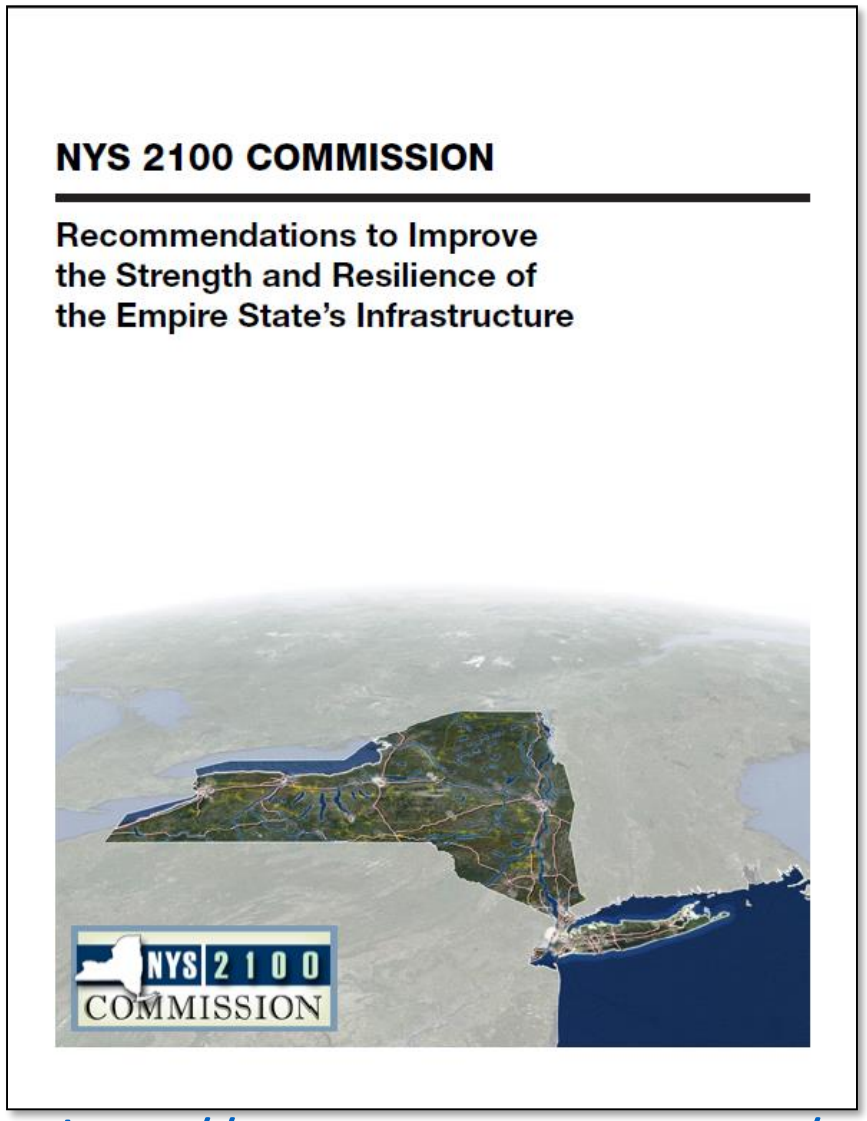
31 year GIS career in State of NY

- Initially at the **Dept of Transportation (DOT)**
- Then the **Office For Technology (OFT)**
- Then **Cyber Security and Critical Infrastructure Coordination (CSCIC)**
- Then **Homeland Security & Emergency Svcs (DHSES)**
- Finally **Information Technology Services (ITS)**



Carpe Diem

Carpe Geo Diem



http://www.governor.ny.gov/assets/documents/NYS2100.pdf

or just Google "**NYS 2100**"

The New York Shoreline

What do four centuries in the historic record show?

Bill ~~William F.~~ Johnson

NYS Division of Homeland Security and Emergency Services

NYS Office for Information Technology Services

December 18, 2012

Ratzer, *Plan of the city of New York*, 1766, New York Public Library, http://maps.nypl.org/warper/maps/15264

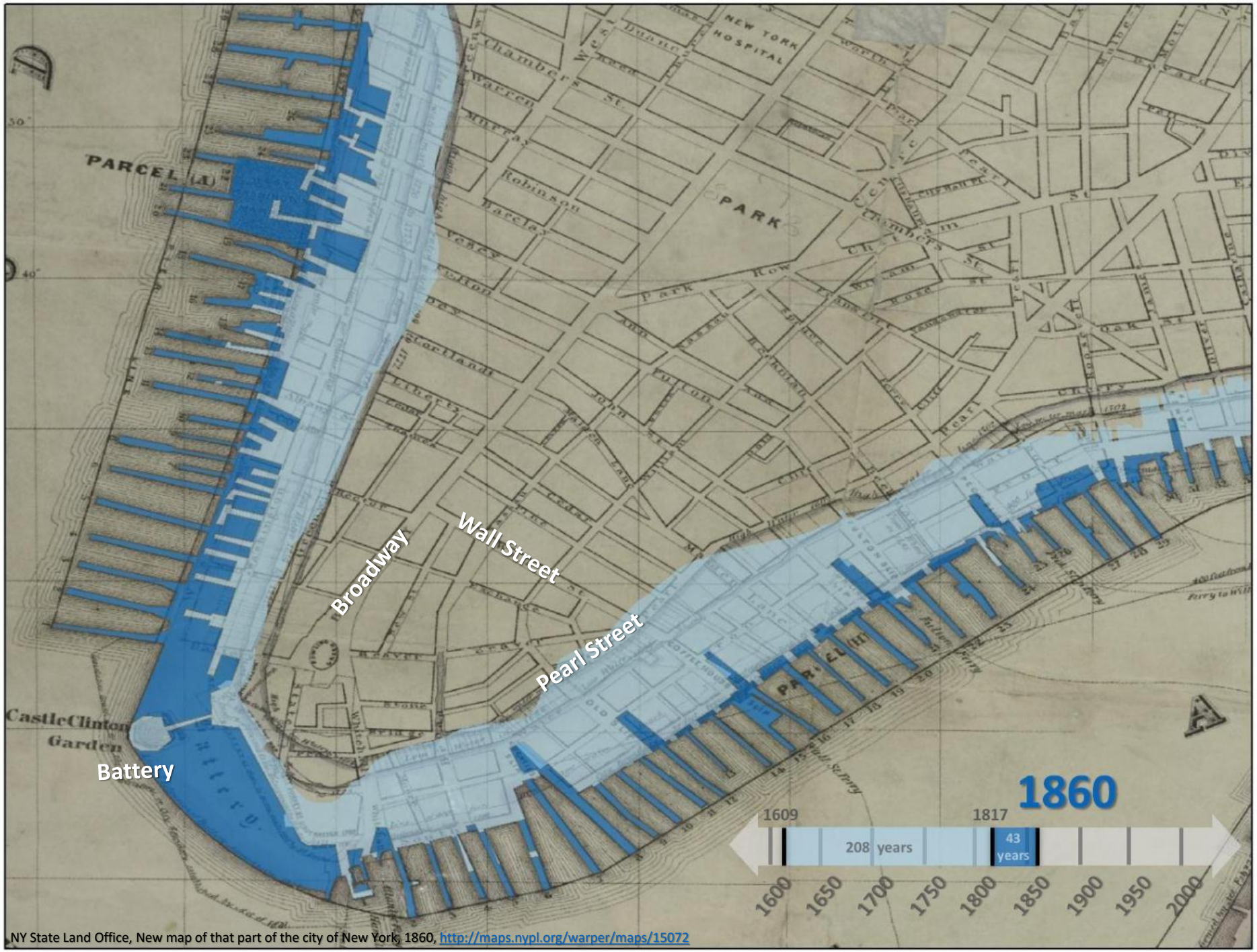
Lower
Manhattan
Bronx
New York
Queens
Kings
Richmond
Nassau
Suffolk

Map visualization from the Mannahatta Project:
http://welikia.org/ and http://www.oasisnyc.net/

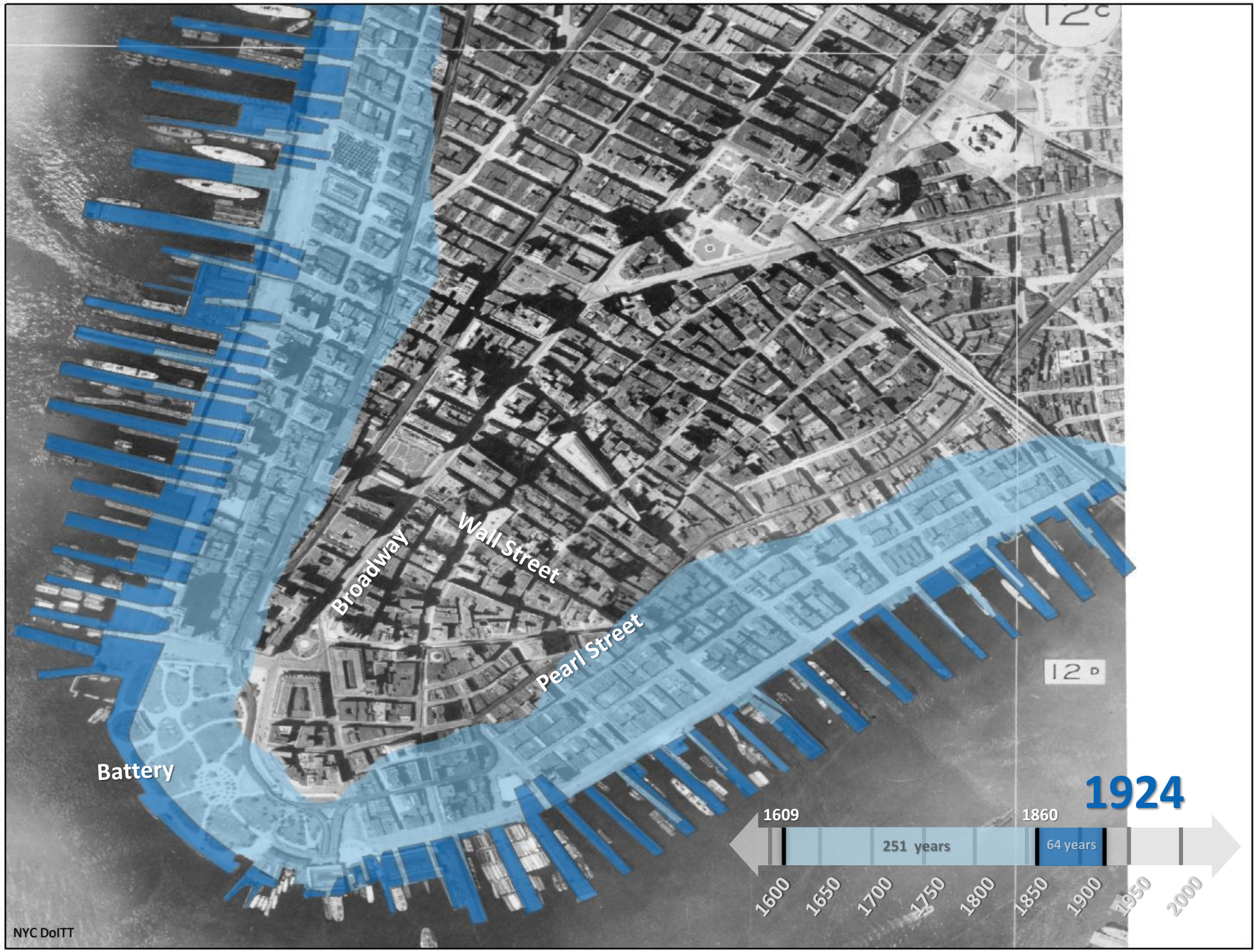
Map visualization from the Mannahatta Project: http://welikia.org/ and http://www.oasisnyc.net/;
Cortelyou, *Castello plan,* 1660, New York Public Library, http://maps.nypl.org/warper/maps/13913

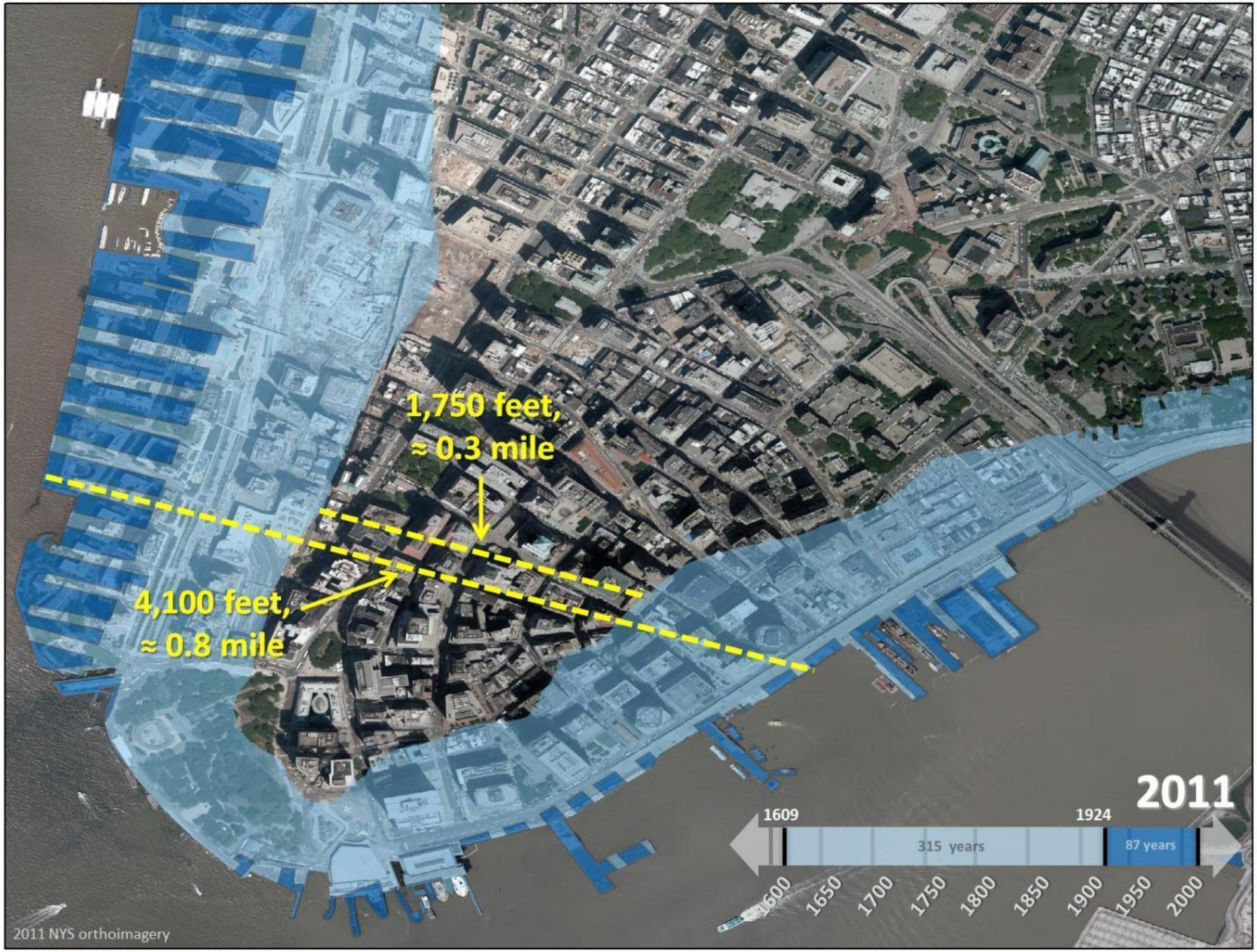
Ratzer, *Plan of the city of New York*, 1766, New York Public Library, http://maps.nypl.org/warper/maps/15264

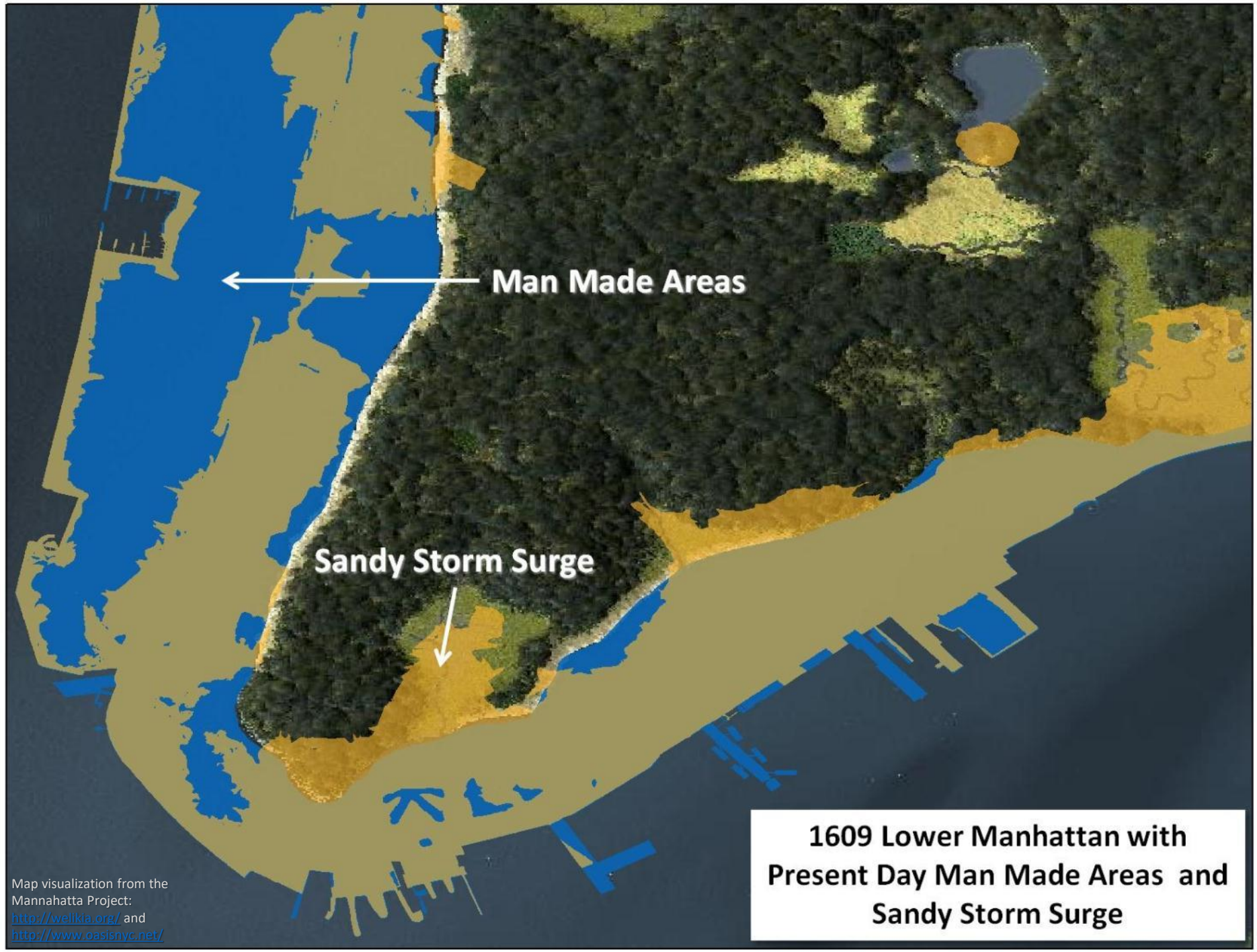
Poppleton, Plan of the city of New-York, 1817, New York Public Library, http://maps.nypl.org/warper/maps/15128



NY State Land Office, New map of that part of the city of New York, 1860, http://maps.nypl.org/warper/maps/15072


12c
12d
Broadway
Wall Street
Pearl Street
Battery
1924
1609
1860
251 years
64 years
1600
1650
1700
1750
1800
1850
1900
1950
2000
NYC DoITT


1,750 feet,
≈ 0.3 mile
4,100 feet,
≈ 0.8 mile
2011
1609
1924
315 years
87 years
1600
1650
1700
1750
1800
1850
1900
1950
2000
2011 NYS orthoimagery


Man Made Areas
Sandy Storm Surge
1609 Lower Manhattan with
Present Day Man Made Areas and
Sandy Storm Surge
Map visualization from the
Mannahatta Project:
http://welikia.org/ and
http://www.oasisnyc.net/

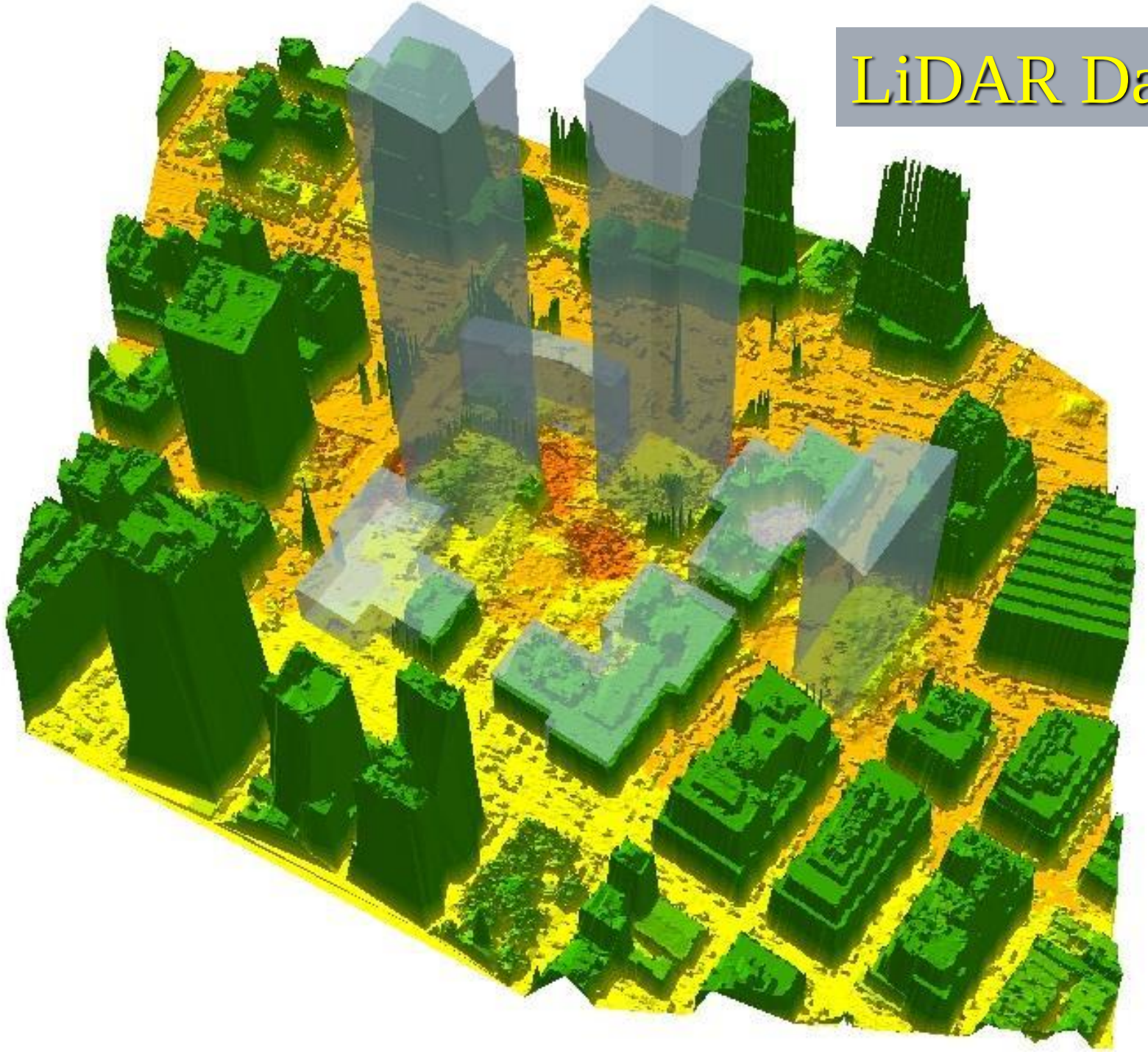
Policy discussion pivot

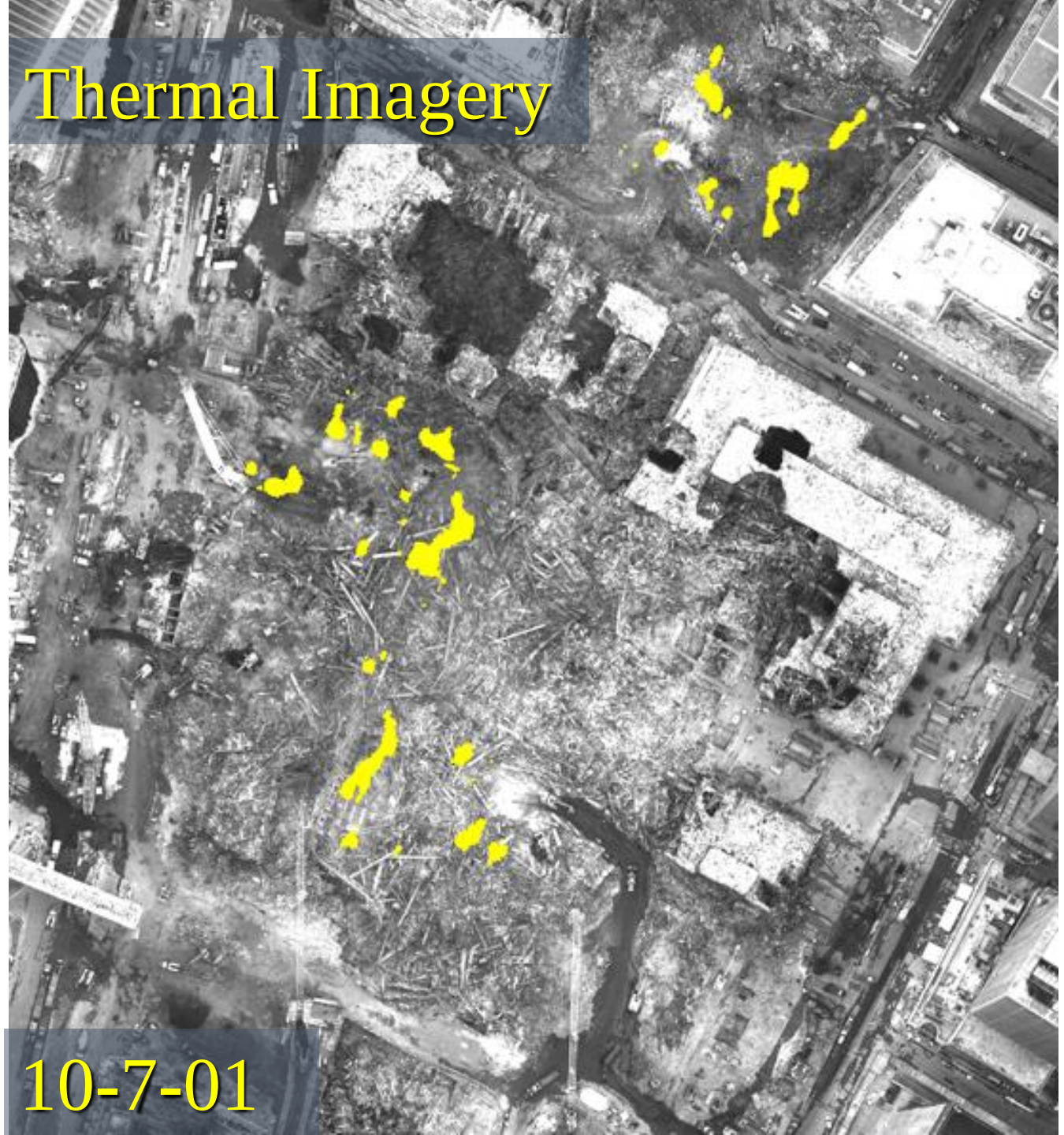
Parvum Momentum

Digital Orthoimagery
9-13-01

Digital Orthoimagery
9-30-01

LiDAR Data



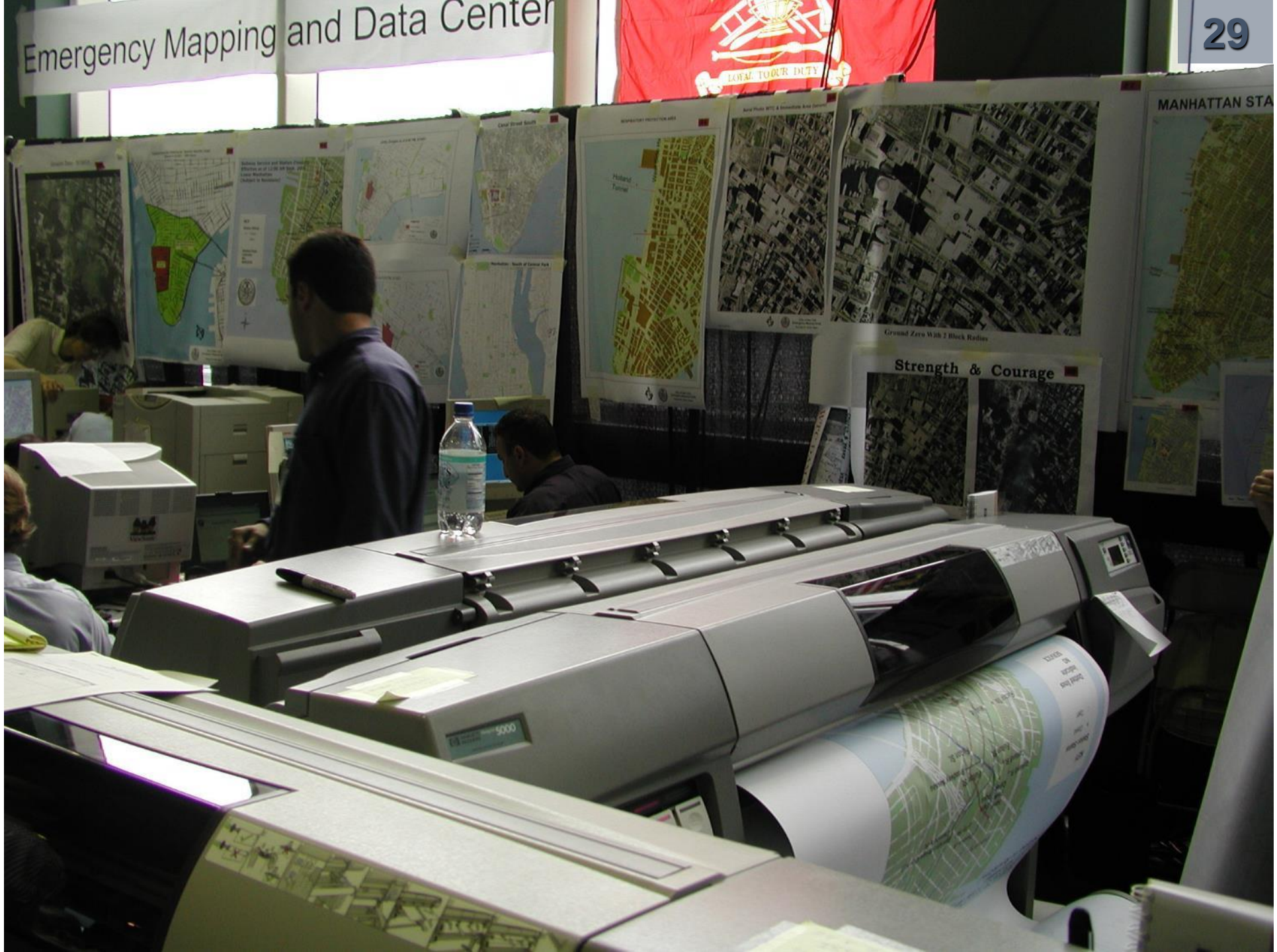

Thermal Imagery
10-7-01

N62912
N8327W

MAXIMUM
OCCUPANCY
4i
Skylin
Displays & Grap

NYC Emergency Operations Center

Emergency Mapping and Data Center
Cells
World Trade Center
Restricted Area Access Points
Ground Zero - 9/15/2001
Ground Zero - 9/17/2001


Emergency Mapping and Data Center
LOYAL TO OUR DUTY
MANHATTAN STA
Ground Zero With 2 Block Radius
Strength & Courage

NY1
CBS
NBC
LIVE
11:42 68°

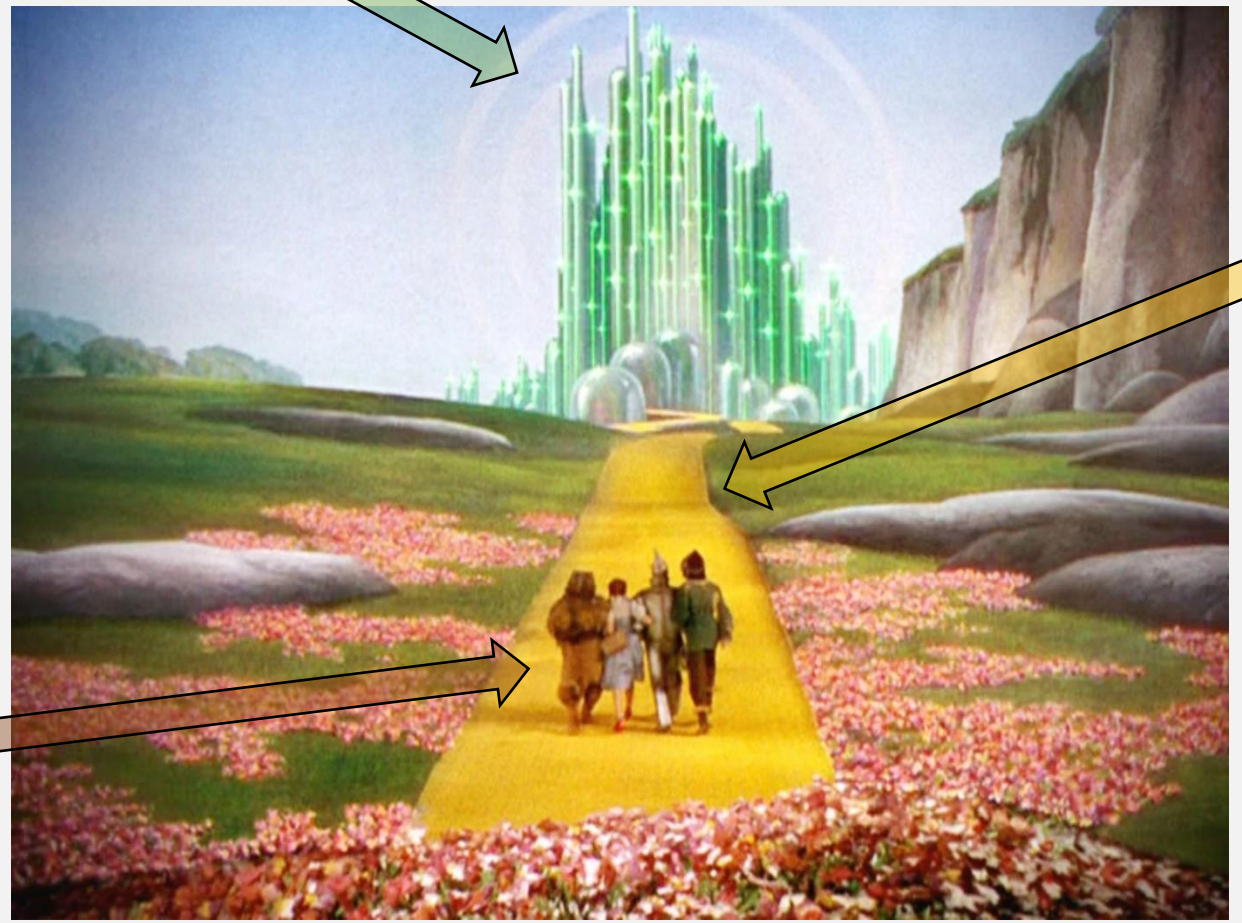
6
New York City
Ground Zero Conditions- 09/30/01
City of New York
Emergency Mapping Center
Rudolph W. Giuliani, Mayor
46
#11
DOWNTOWN AND FINANCIAL SECTION
BATTERY PARK CITY
Street Centerlines
N
Ground Zero with 2 Block Radius
27

What were the outcomes?

Where are we now?

What if…

The Vision

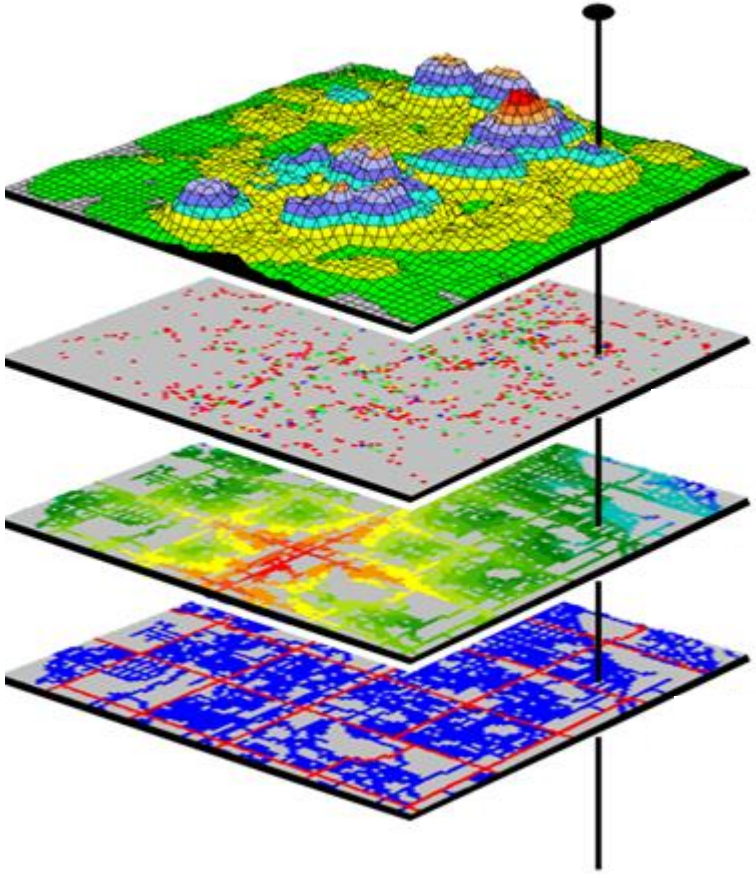


The Strategic Plan

The Stake-holders

Baum, L. F. (1939). The wizard of Oz. Hollywood, Calif.: Metro Goldwyn Mayer.

Let's think of your career in GIS terms

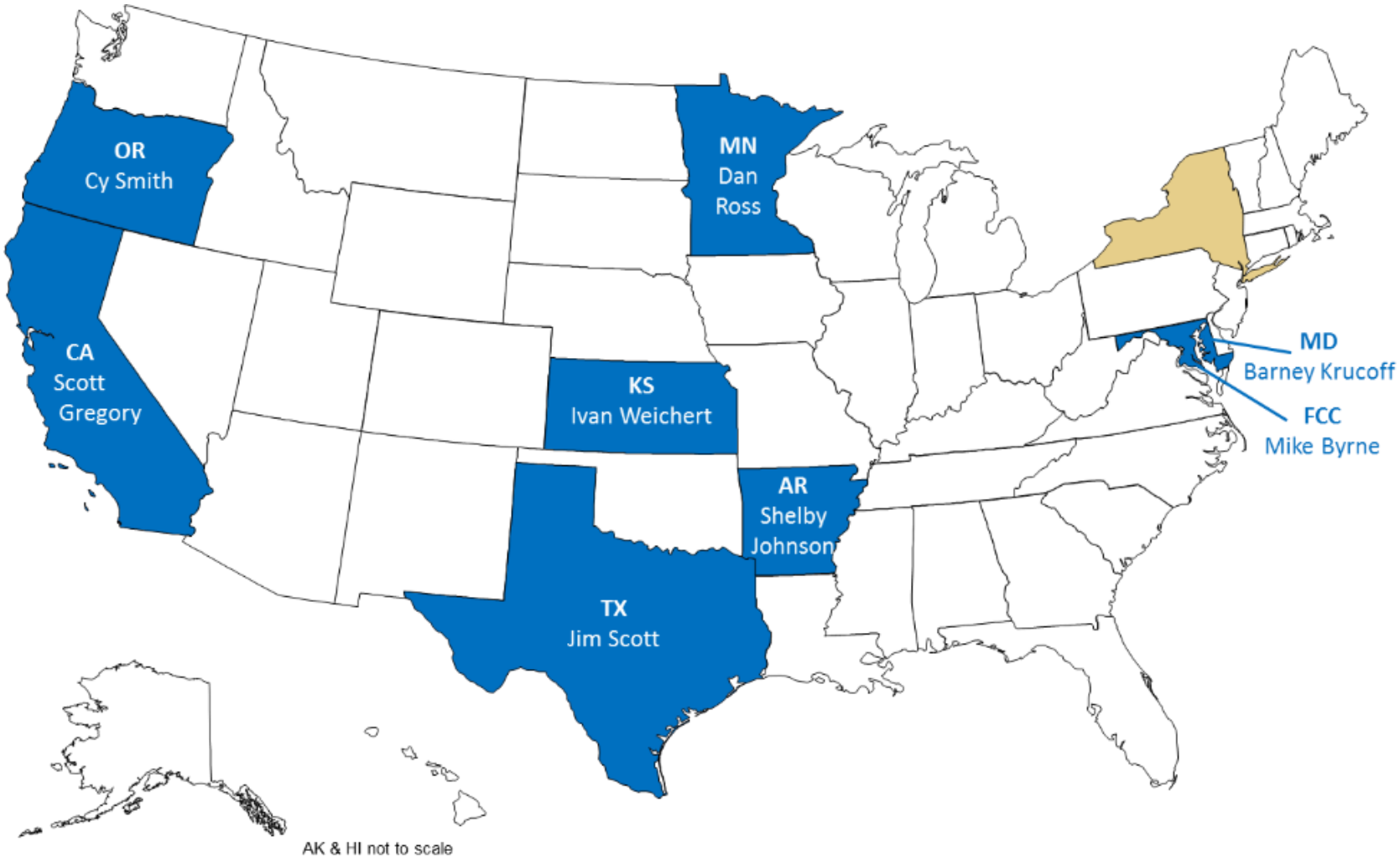


- *Carpe Geo* **Overlays** on top of the base layers:
  - Approach to solving problems
  - Political savvy
  - Ability to engage partners
  - Cat-herding

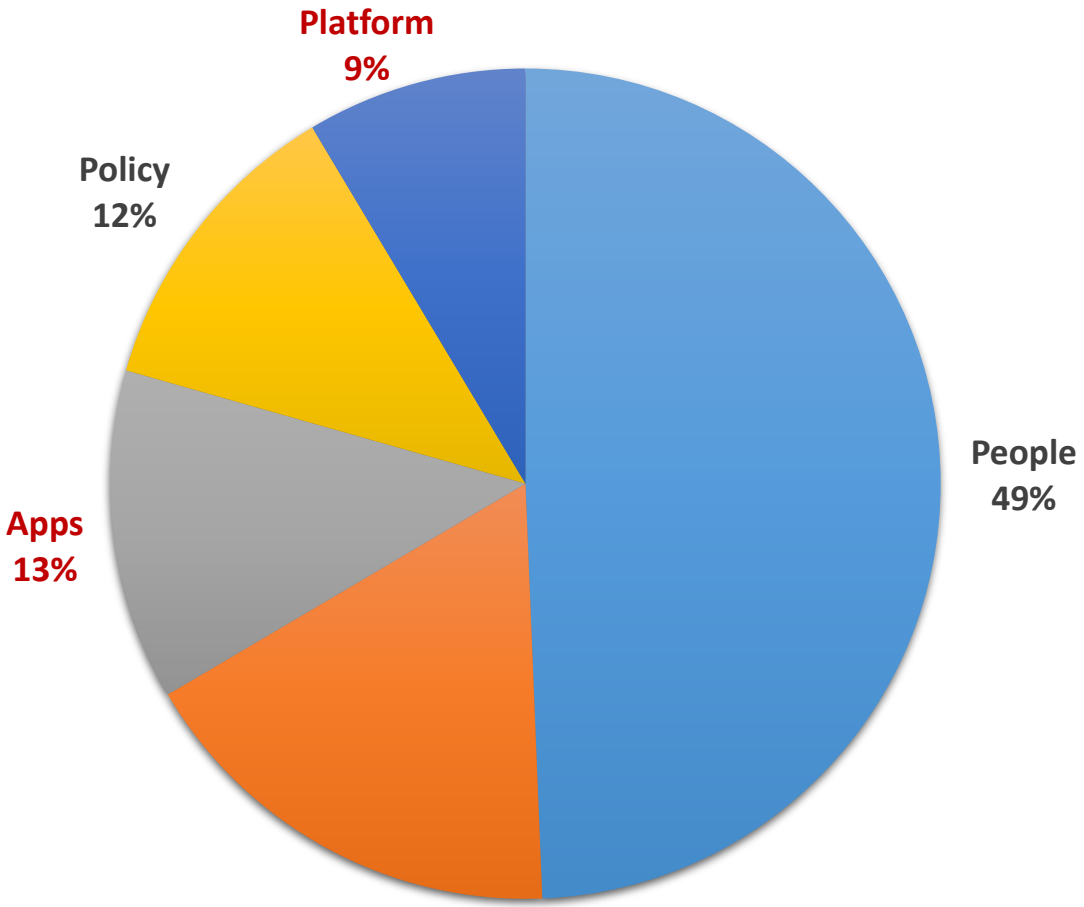
- **Base Layers**:
  - GIS fundamentals
  - Written and verbal communication
  - Organization
  - Analytics

1. GIO Time Allocation Model

GIO Peer Benchmarking, circa 2013



GIO Priorities

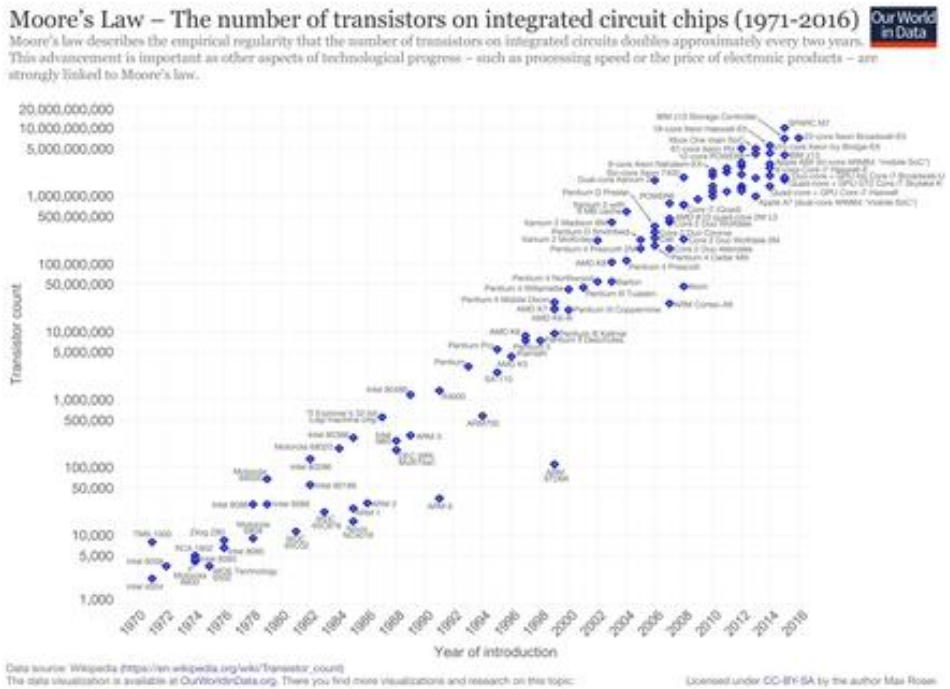


- Emphasis on People skills
  - Communication
  - Consensus-building
  - Gaining “buy-in”
  - Leadership
- Tech
  - All had tech backgrounds, are drawn to tech
  - Cited as a weakness; detracts from strategic priorities
- Policy
  - Range of opinions
  - Not enough attention

2. GIO Career Maturity Model

3. GIS Half-Life Model

- A decay function - the time required for any specified property (radioactivity of a specific isotope) to decrease by half.
- *Which elements of enterprise GIS decay most slowly? (i.e. have the most lasting value):*



- Tech (hardware/software)
- Data
- Partnerships
- Policies
- Training & Methods

How about it, NYC?

Baum, L. F. (1939). The wizard of Oz. Hollywood, Calif.: Metro Goldwyn Mayer.

Thank You

Effective Geospatial Strategic Planning

~

NYC GISMO Meeting
February 25, 2019

Kate Hickey
VP Consulting Services
AppGeo

How do you make a strategic plan meaningful?

“Planning is everything. Plans are nothing.” – Dwight Eisenhower

“In reality, most plans are rendered useless almost as soon as they are put in motion.” – Simon Sinek

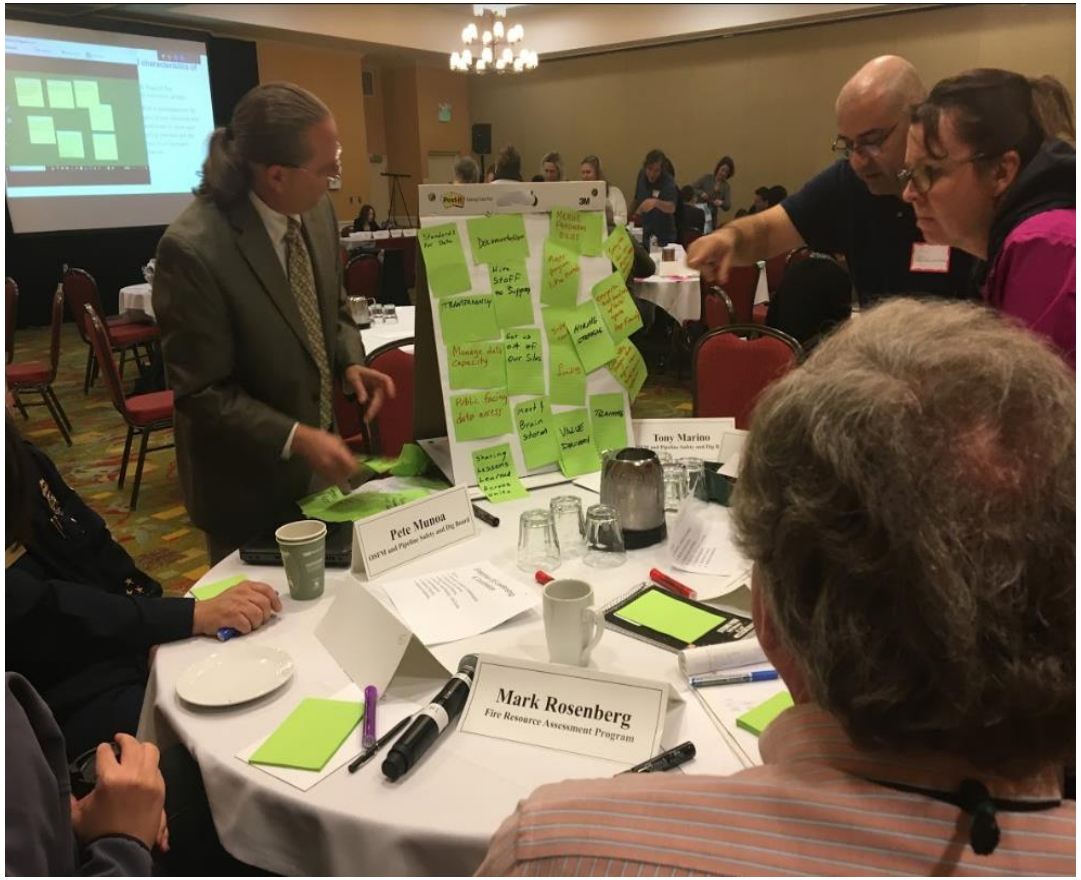
What should the GIS strategy be for the next 5 years?

How will you accomplish the goals (phasing, staffing, organizational structure, technology, data, budget, etc.)?

Geospatial Strategic Planning: 5 Key Success Factors

Key Success Factor #1:
Engage Your Stakeholders Effectively

To capture varied perspectives and needs, facilitate an open and participatory information gathering process.



Key Success Factor #2: **Assess Honestly**

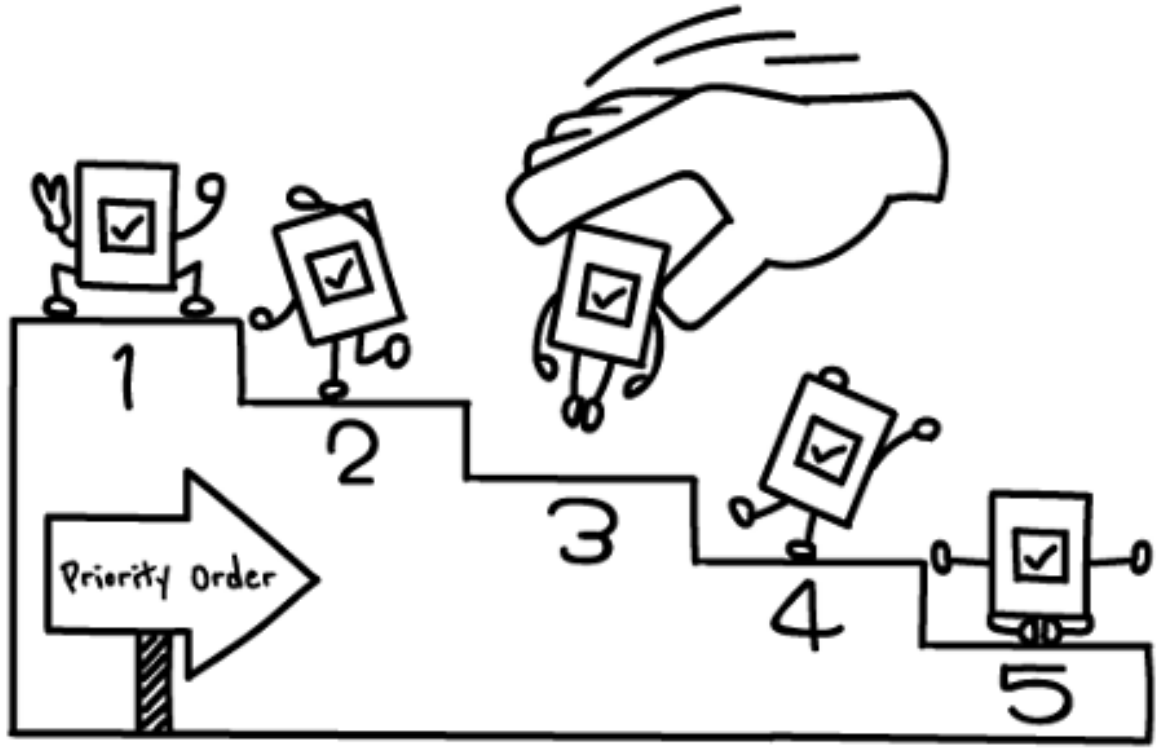
Assess the current situation, objectively.

Key Success Factor #3: **Articulate a Strong Vision**

Establish a Vision that will serve as a guide and keep the plan on track.

Key Success Factor #4: **Prioritize**

Articulate programmatic goals that will guide decisions, prioritization, investments, divestments, over the coming 5 years.



Key Success Factor #5:
Measure Your Progress

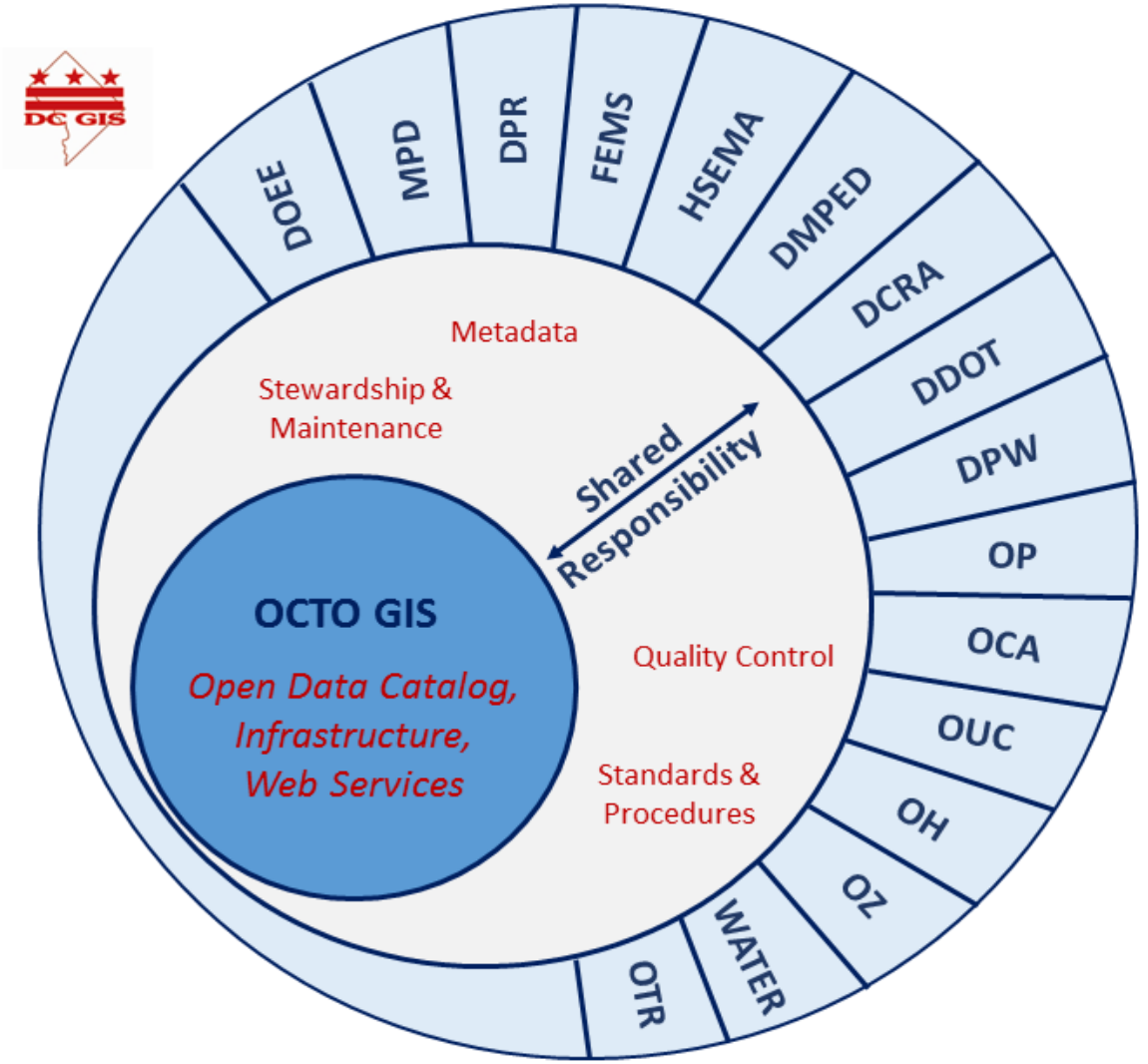
Status
Red = Not Started/Not Successful
Yellow = Partially Complete/Partially Successful
Green = Complete/Successful

Programmatic Goals	Success Factors	Success Factor Status
Goal 1: **Align with District Priorities: Ensure that state and local needs are met by focusing resources on geospatial data, systems, and program activities that are in alignment with District priorities.**	□ Focus on desired outcomes in support of CapStat	
	□ Further the transparency of District Government	**Ongoing**
	□ Support educational initiatives	**Ongoing**
Goal 2: **Enterprise GIS: Develop and operate enterprise mapping data, geospatial applications, and Web services that enhance the utility, reduce the cost, and expand the interoperability of citywide and agency IT systems.**	□ Develop and maintain mapping programs	**Ongoing**
	□ Deploy high-demand applications	**Ongoing**
	□ Continue to develop Web Services	**Ongoing**
	□ Expand and enhance DC GIS available data	**Ongoing**
	□ Deploy mobile laptop apps for First Responders	
	□ Adopt a standard for feature-level metadata	

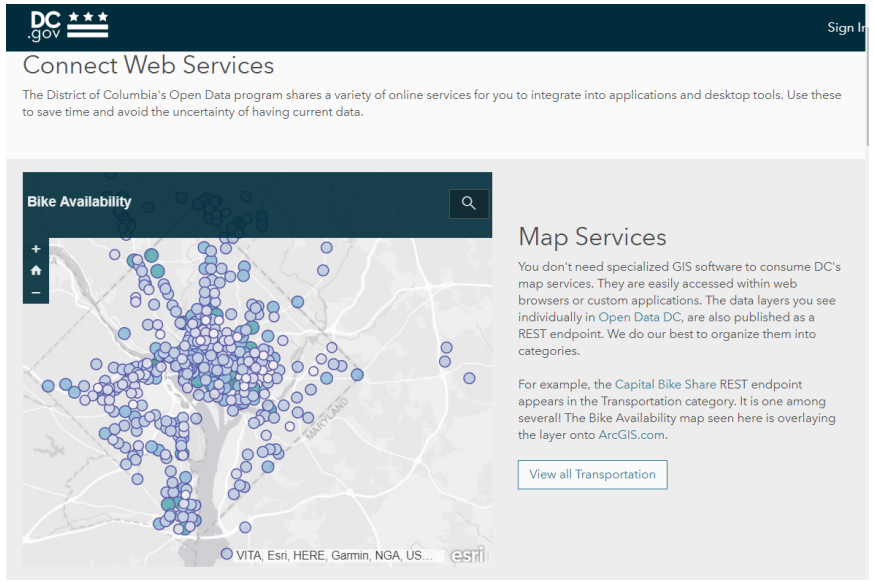
Washington D.C.

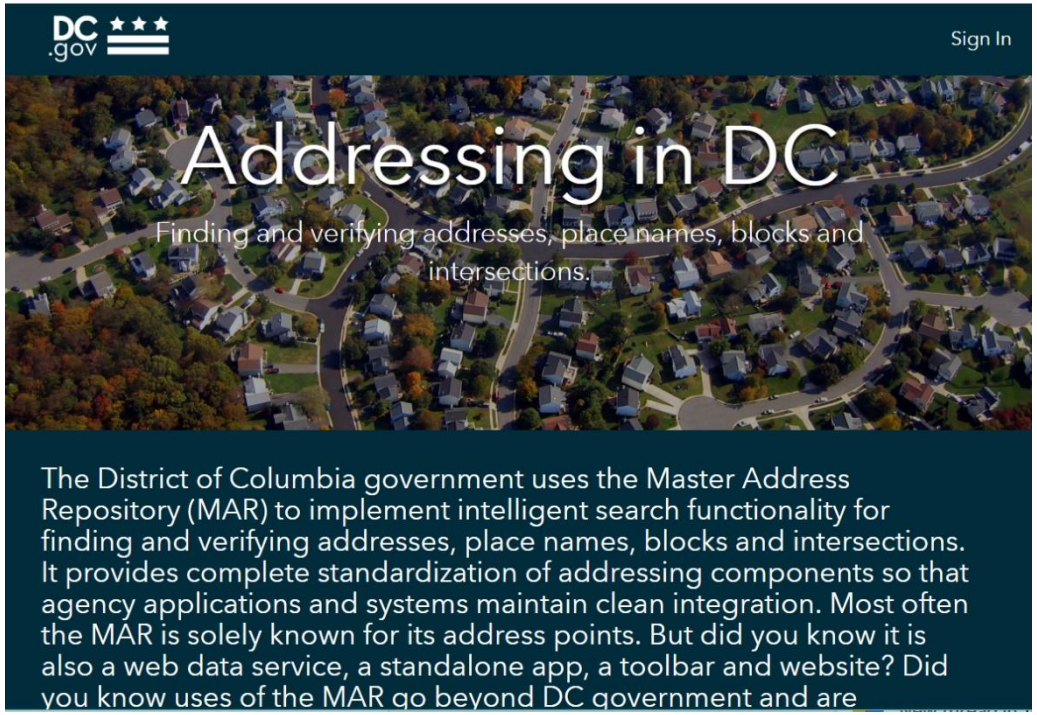
A Little History of Geo in the District

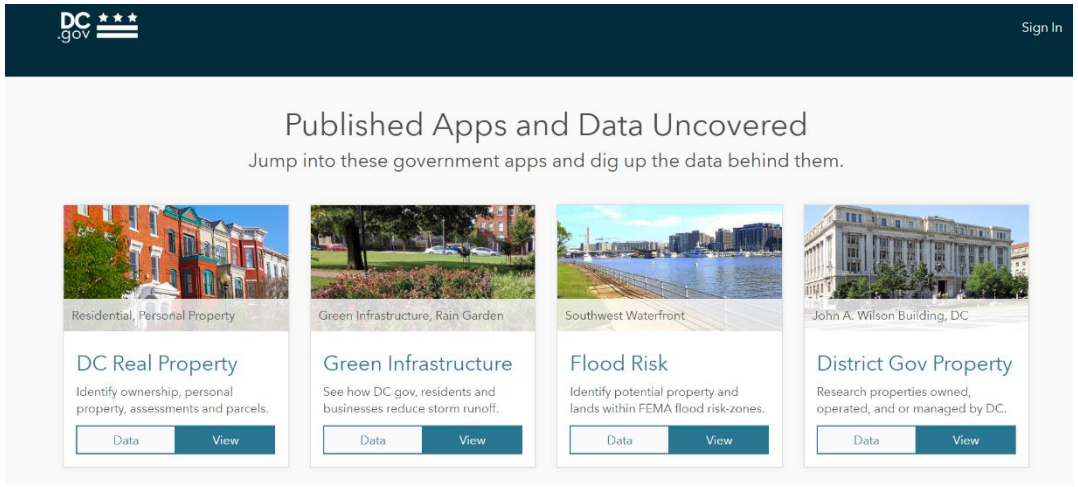
- Long history of GIS services for citizens, government, businesses
- Federation of departments, each collecting/maintaining data for unique mission requirements
- Each responsible for particular content as “authoritative” steward
- GIS Group coordinates base data maintenance, distribution of data, licensing, technical/project support

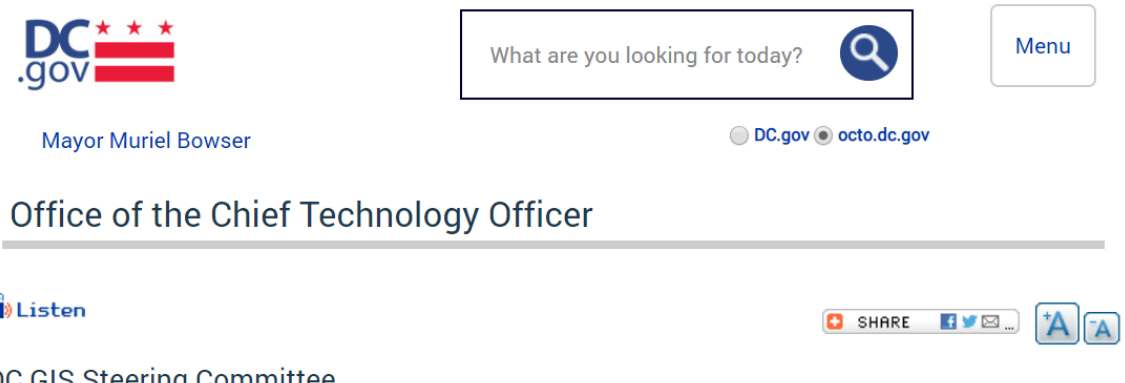


A thriving, continuously evolving program









What's their secret weapon?

Portfolio Management

- First geospatial example in the nation
- IT portfolio management applied as a method for classifying investment
- Both current and future

CAL FIRE

Case Study #1 – CAL FIRE

CAL FIRE Budget (2018-2019)..... $2.3 billion

Personnel (numbers approximate)

Permanent	6,100
Seasonal	2,600
Inmates, Wards, Conservation Corps Members	3,500
Volunteers In Prevention (VIPs)	600

Facilities

Region Operations Centers	3
Emergency Command Centers	21
CAL FIRE Units	21
CAL FIRE Fire Stations	234
Local Government Fire Stations (operated via contract)	568
Conservation Camps (including fire centers)	42
Air Attack Bases	12
Helitack Bases	10
State Fire Marshal Offices	4
Demonstration State Forests	8 forests/71,000 acres
Seed Bank/Nursery	1
Lookouts	16

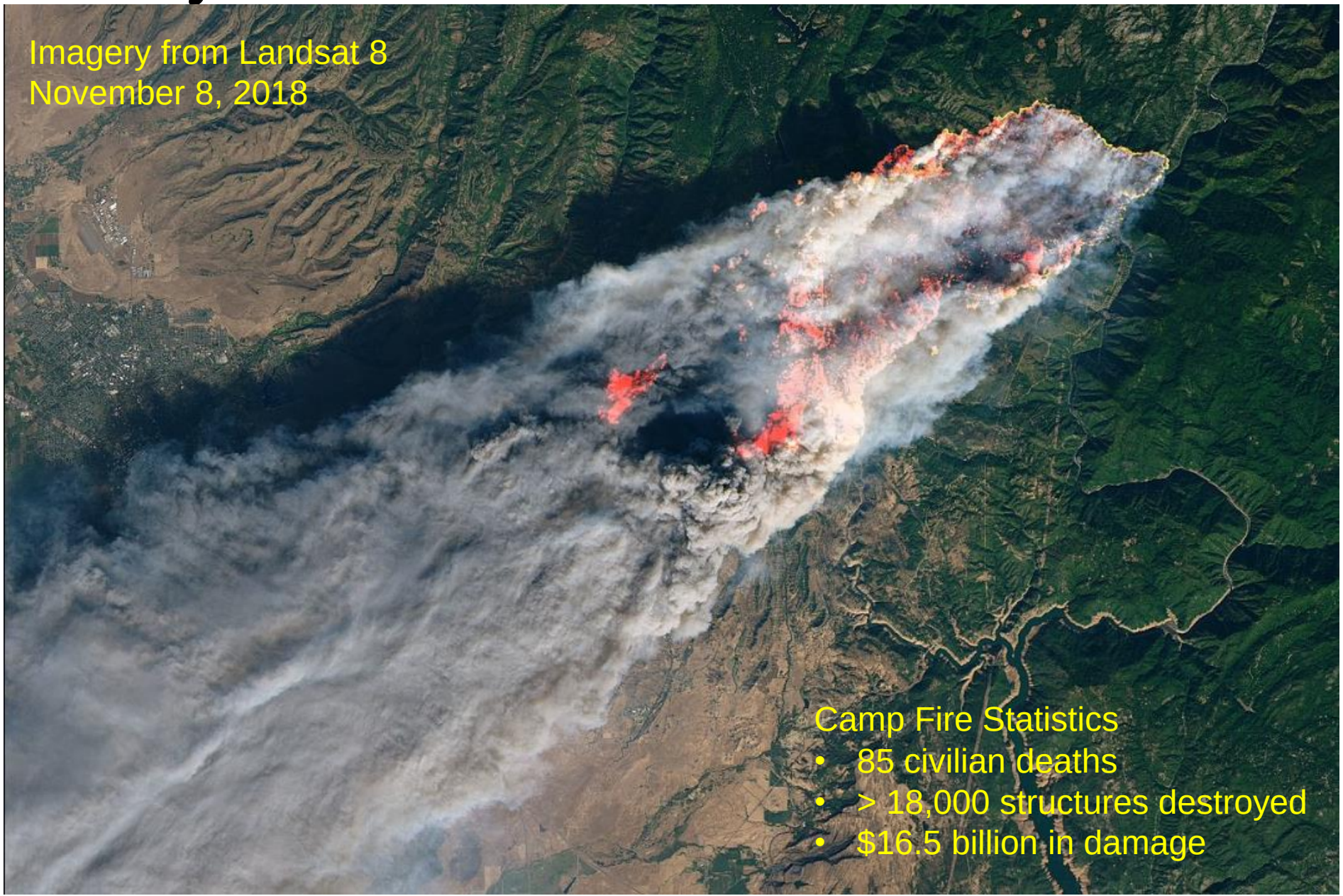
CAL FIRE Equipment

Fire Engines	343
Bulldozers	58
Mobile Communications Centers	6
Mobile Kitchen Units	11
Airtankers	23
Airtactical Planes	17
Helicopters	12
Firefighting Hand Crews	196
Fuels Reduction Crews	6

Fire and Emergency Responses (5-year average 2013-2017)

Wildland Fires (including SRA & LRA)	over 5,750
Wildland Acres Burned (including SRA & LRA)	over 265,000
All Emergency Incidents (including wildland, structure and vehicle fires, medical aids, hazardous material spills, etc.)	over 460,000

Case Study #1 – CAL FIRE



Case Study #1 – CAL FIRE

- Cal Fire has BIG problems!
  - GIS grew organically in a “can do” environment
  - Lack of coordination is really, really risky in their business
  - Rapid change is happening! Potential for “data saturation”
- We’re writing an enterprise strategic plan to get them on track
  - It can be a BIG, complicated, messy, challenging process
  - They know their business but we bring structure, experience, perspective
- It will have an enormous impact on their planning and operations

What's next for NYC?

YOU HAVE REACHED THE SUMMIT
✓ Aligned
✓ Accessible
✓ Aware
✓ Supported
✓ Assessed (Continuously)

Thank You