Homes Underwater

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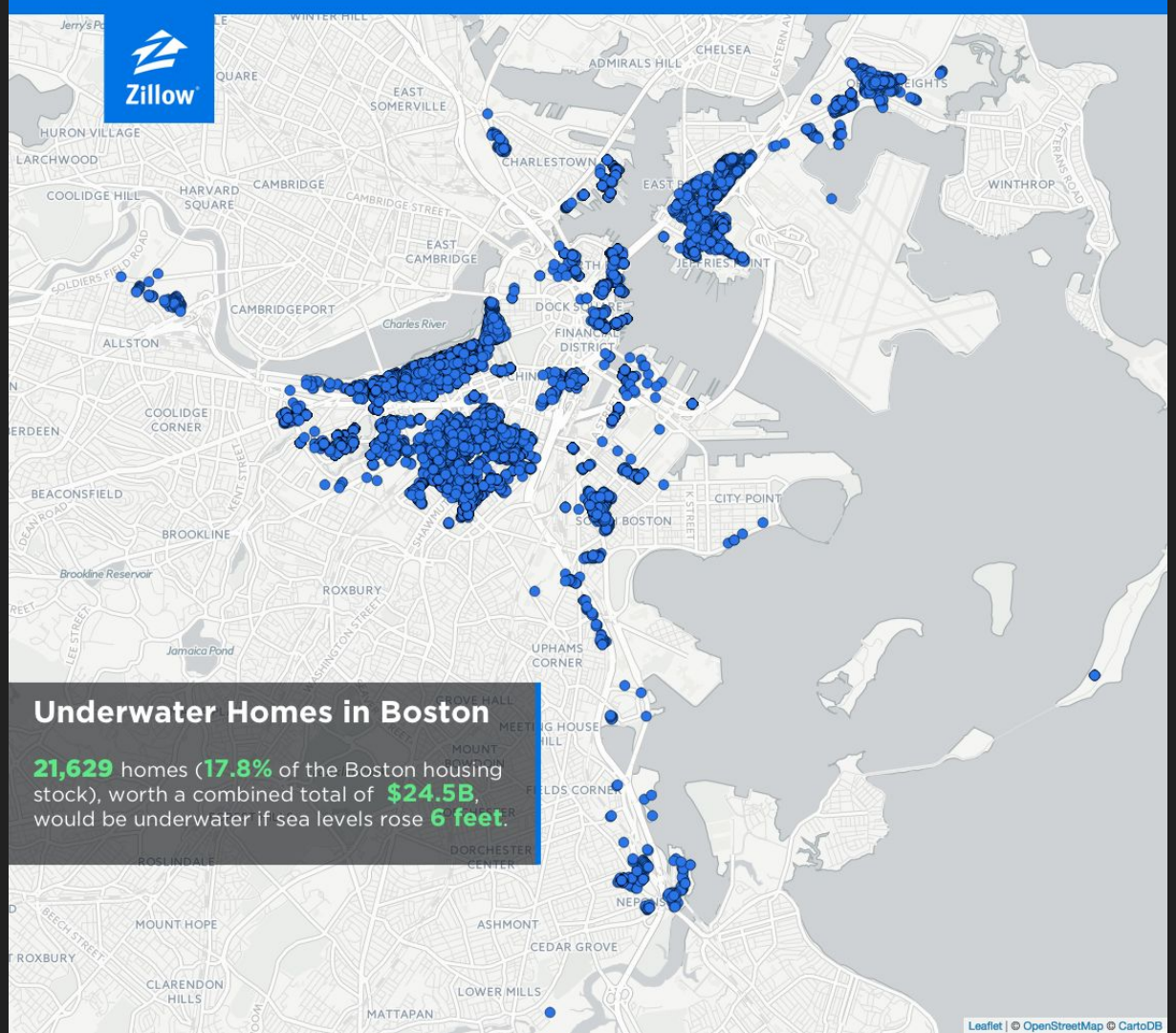
What is at risk to flooding and sea level rise in Boston?

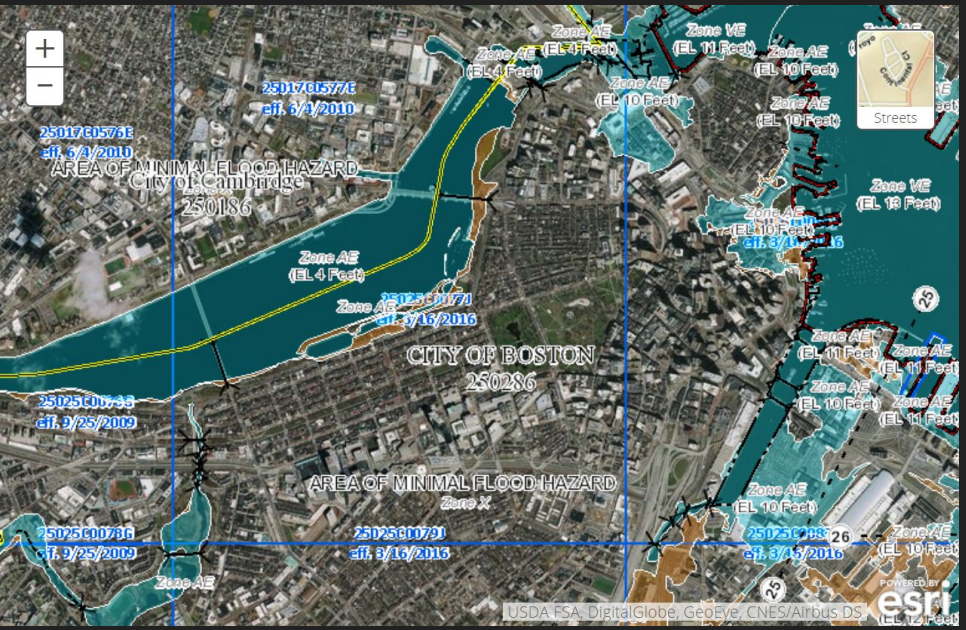
- Number of residential properties
- Value of residential properties
- Fraction of housing stock

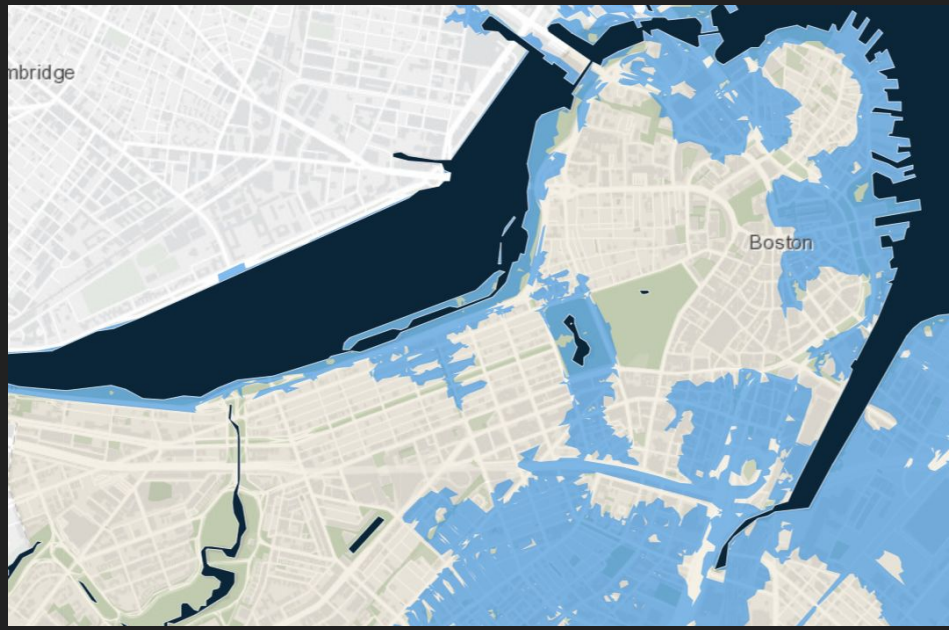
Additional considerations:

- Demographics in areas at risk
- Past trends in property values in areas at risk


Zillow
Underwater Homes in Boston
21,629 homes (17.8% of the Boston housing stock), worth a combined total of $24.5B, would be underwater if sea levels rose 6 feet.
CHELSEA
ADMIRALS HILL
EAST SOMERVILLE
HURON VILLAGE
LARCHWOOD
COOLIDGE HILL
HARVARD SQUARE
CAMBRIDGE
CHARLESTOWN
WINTHROP
EAST CAMBRIDGE
CAMBRIDGEPORT
Charles River
ALLSTON
COOLIDGE CORNER
BEACONSFIELD
BROOKLINE
Brookline Reservoir
ROXBURY
Jamaica Pond
UPHAMS CORNER
CITY POINT
FIELDS CORNER
DORCHESTER CENTER
ROSLINDALE
MOUNT HOPE
ASHMONT
CEDAR GROVE
LOWER MILLS
CLARENDON HILLS
MATTAPAN
Leaflet | © OpenStreetMap © CartoDB

Flood models for comparison of risk





Sea level rise scenarios

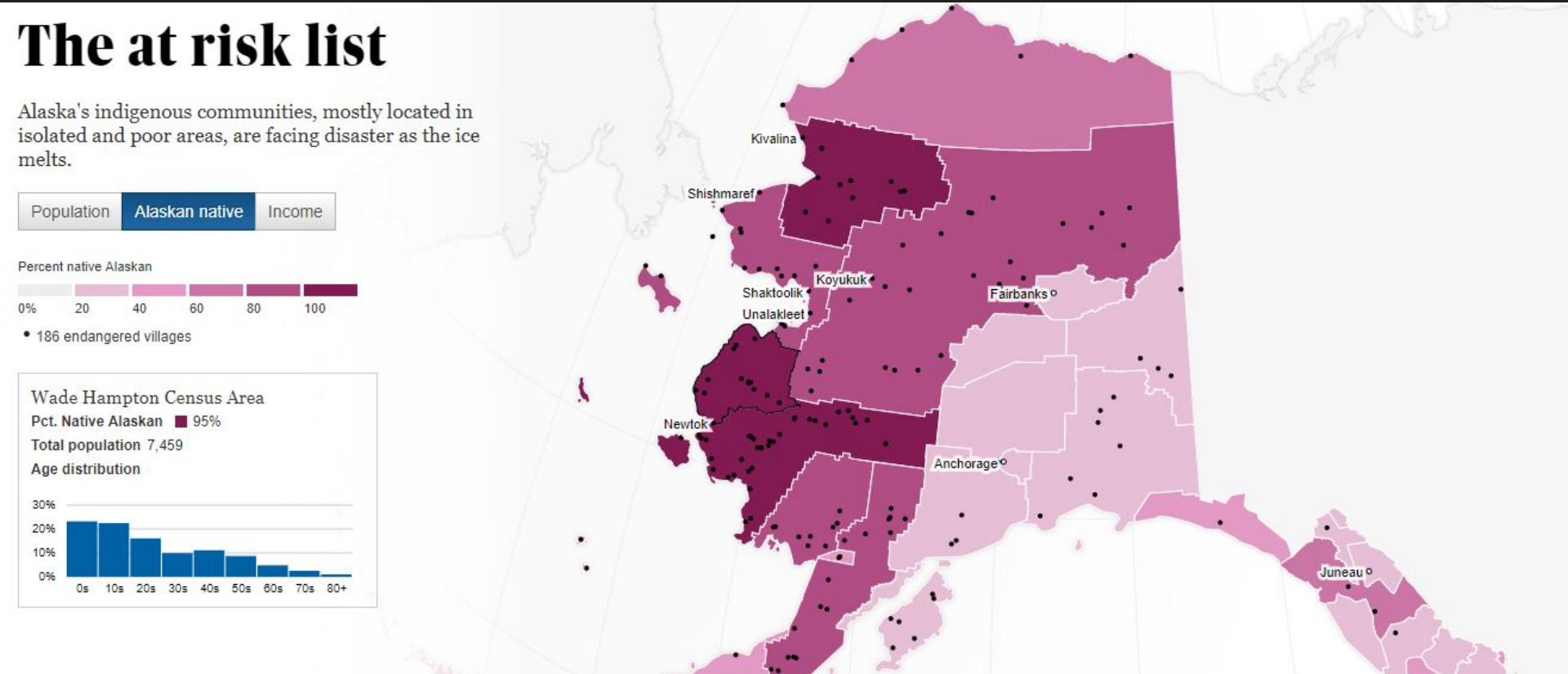
Sea level rise (inches)	Timeframe	Data Source
0	Current	FEMA
9	2030	BH-FRM
21	2050	BH-FRM
36	2070	BH-FRM

Residential real estate

Data Source	Description
Zillow	Neighborhood level
City of Boston’s assessors data	Parcel level, but tends to underestimate the value of residential properties
MassGIS	Property heights

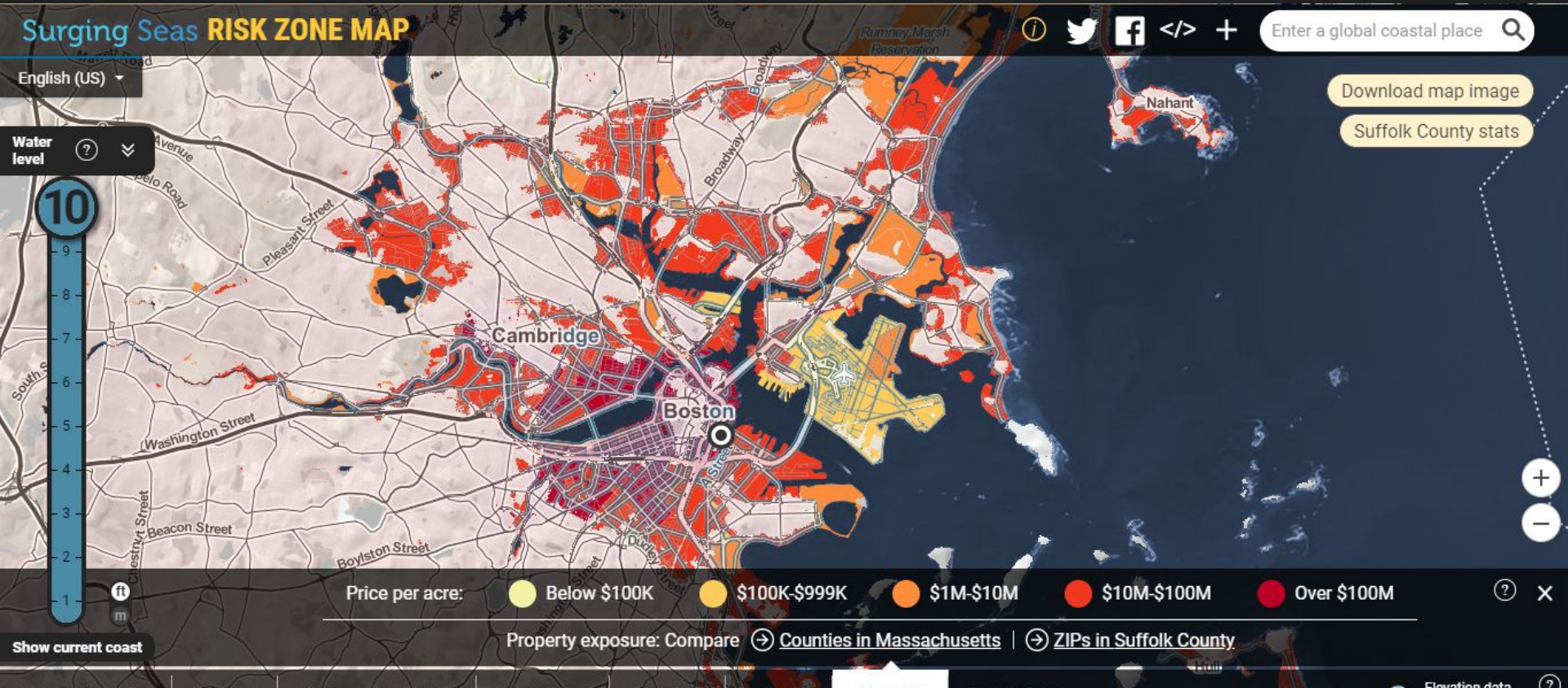
Case / The at risk list

https://www.theguardian.com/environment/interactive/2013/may/14/alaska-villages-frontline-global-warming



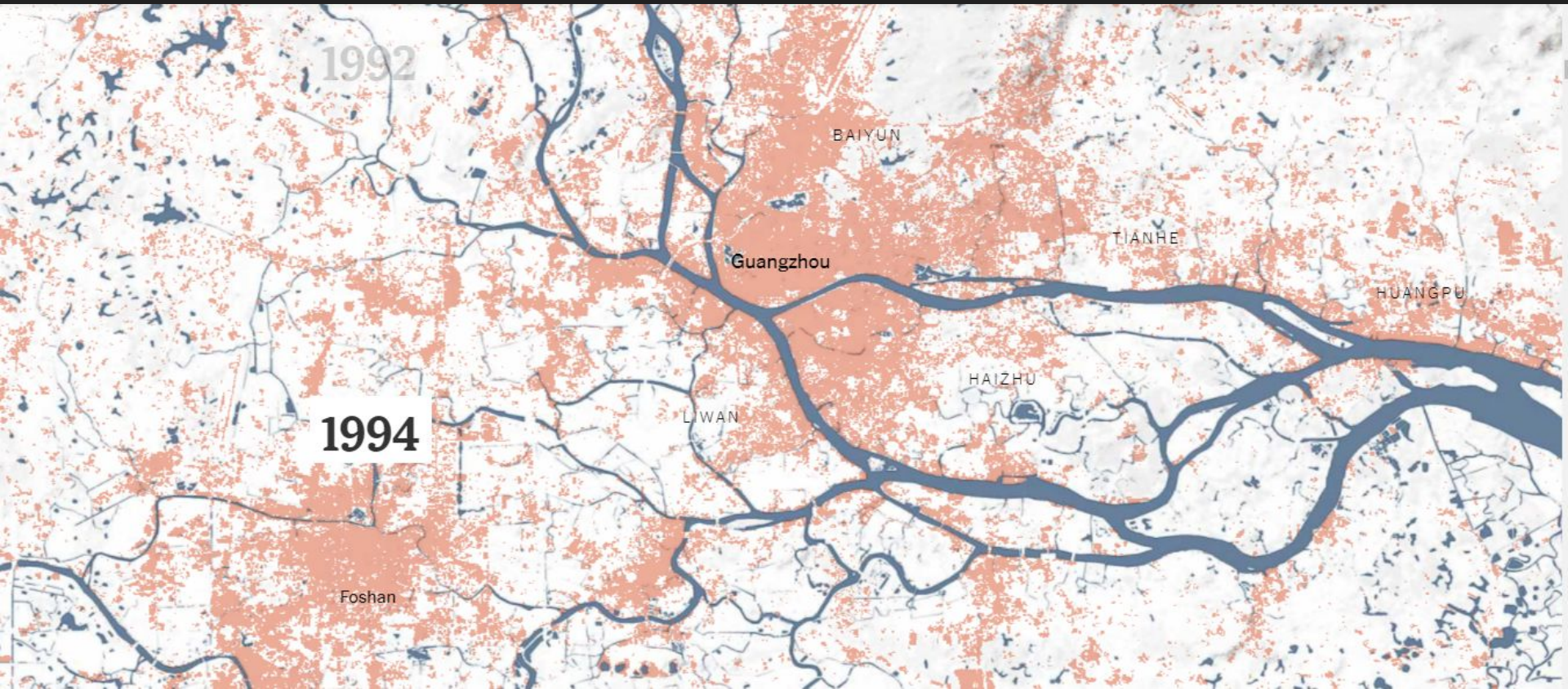
Case / Surging Seas

https://ss2.climatecentral.org/#12/42.3639/-71.0342?show=satellite&projections=0-K14_RCP85-SLR&level=10&unit=feet&pois=hide

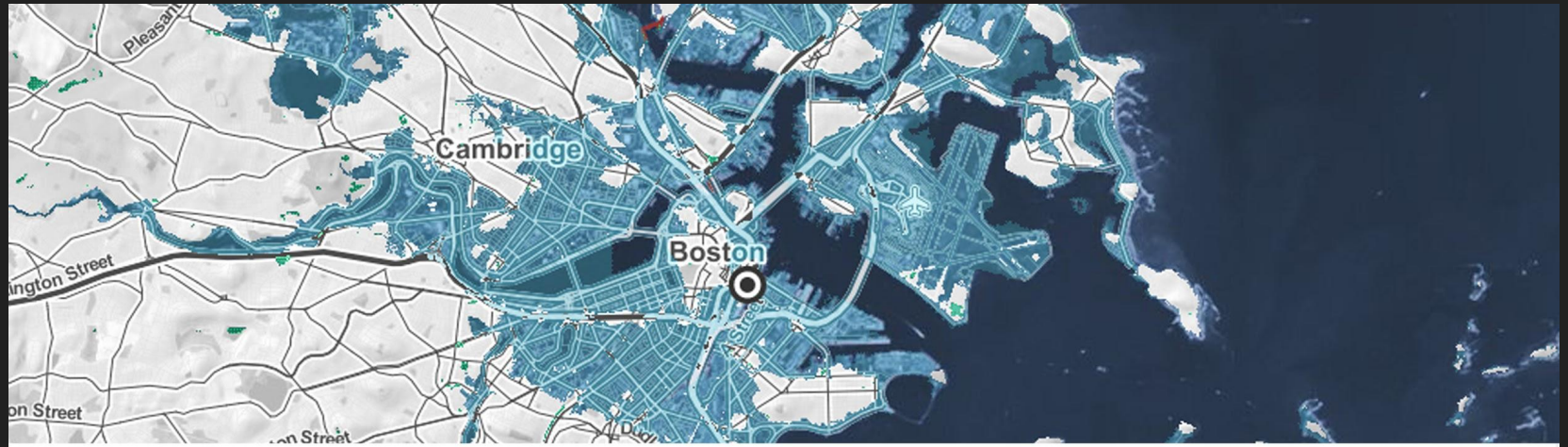


Case / Rising Waters Threaten China's Rising Cities

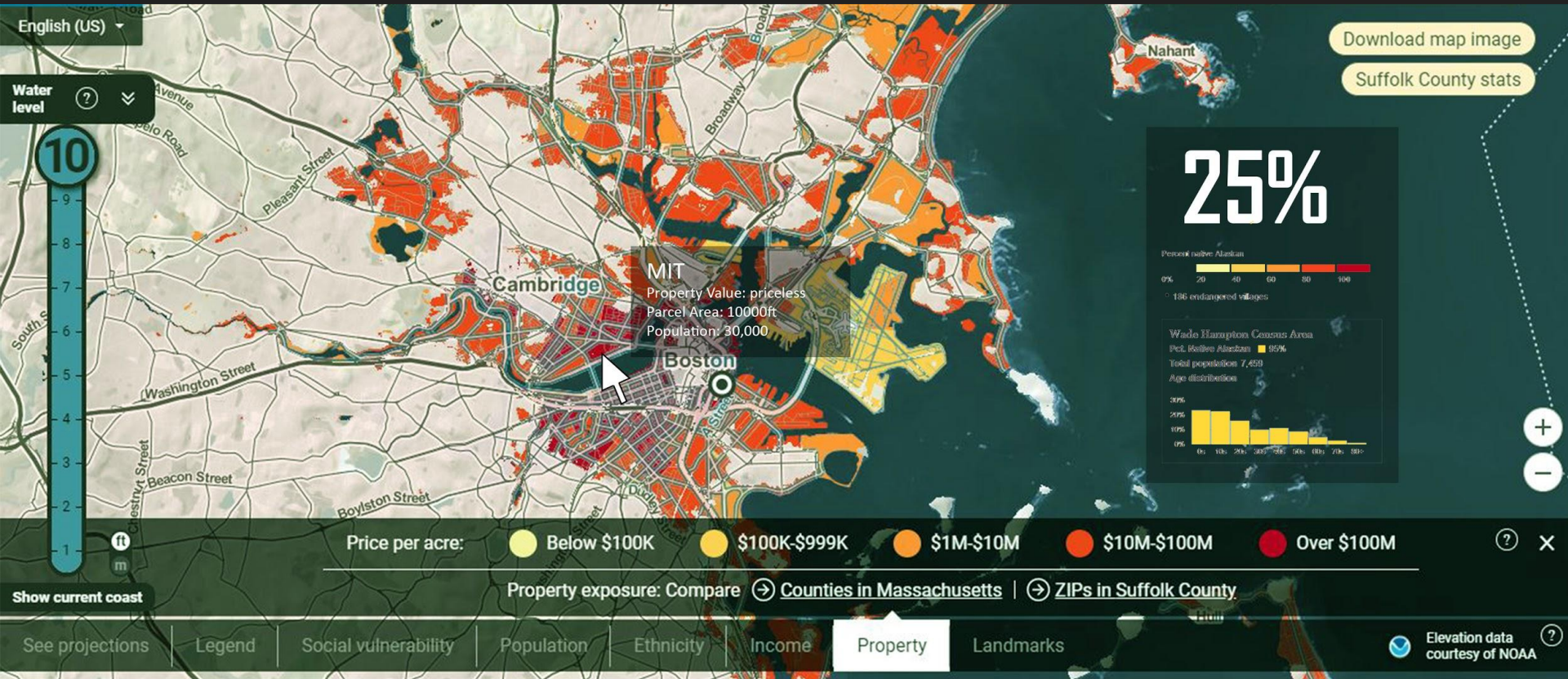
https://www.nytimes.com/interactive/2017/04/07/world/asia/climate-change-china.html



Map Prototype - 2D Version

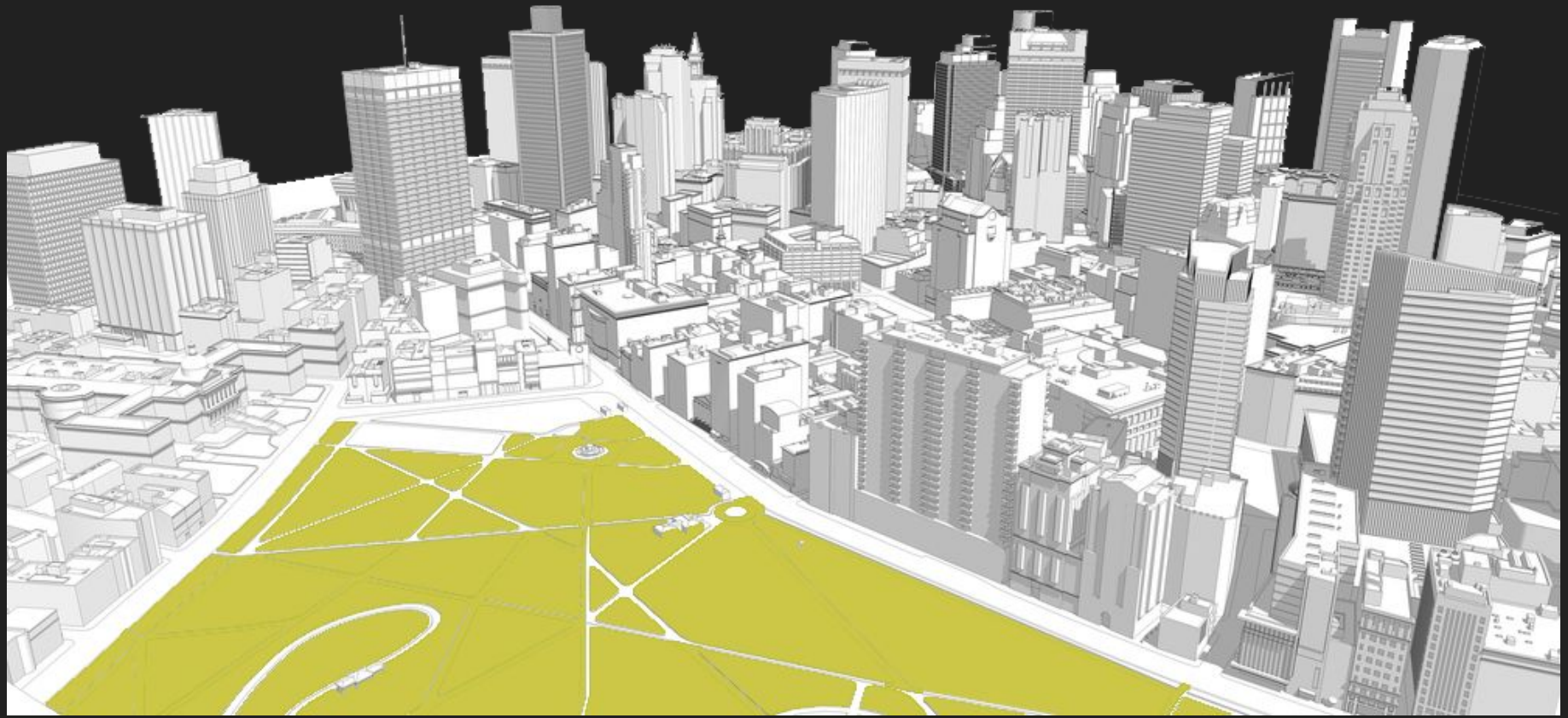


Map Prototype - 2D Version

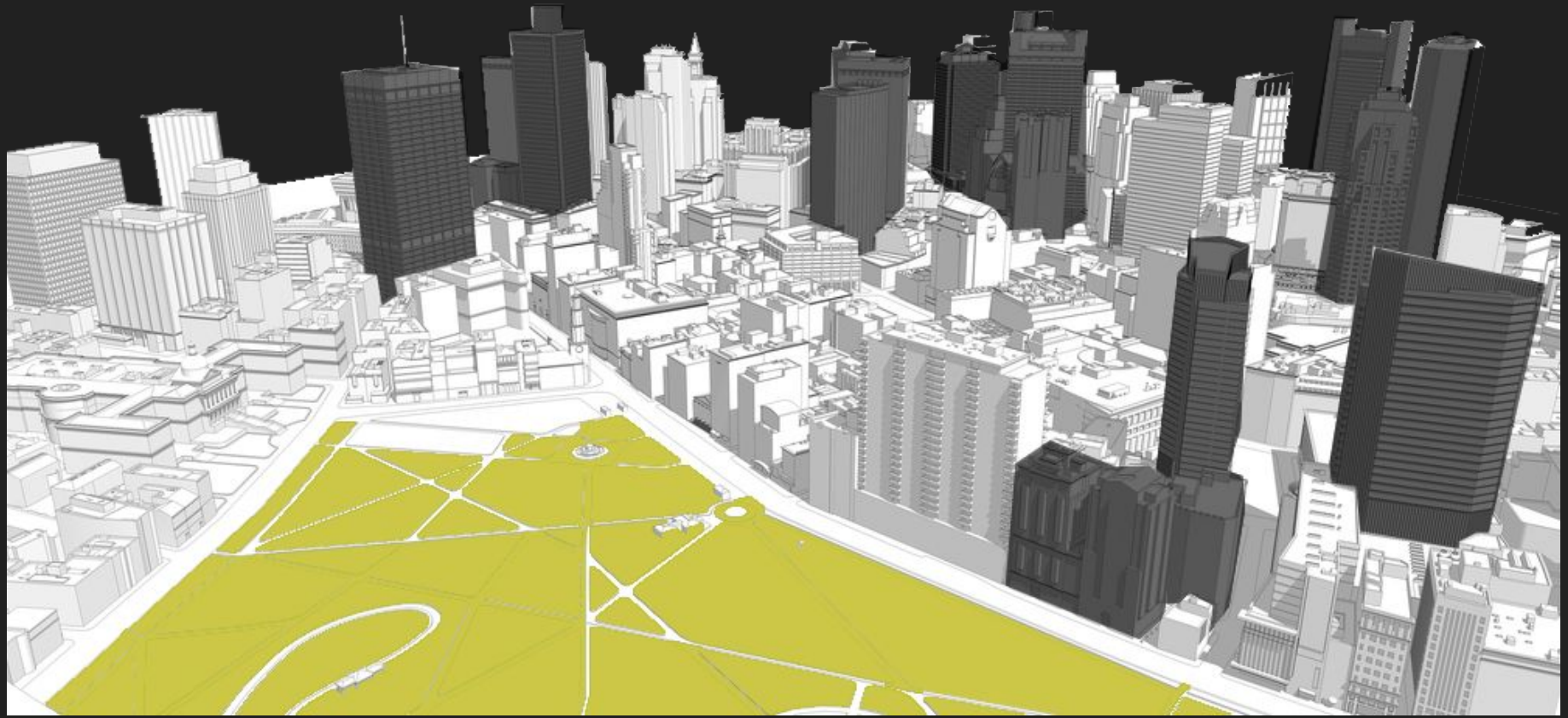


Map Prototype - 3D Version

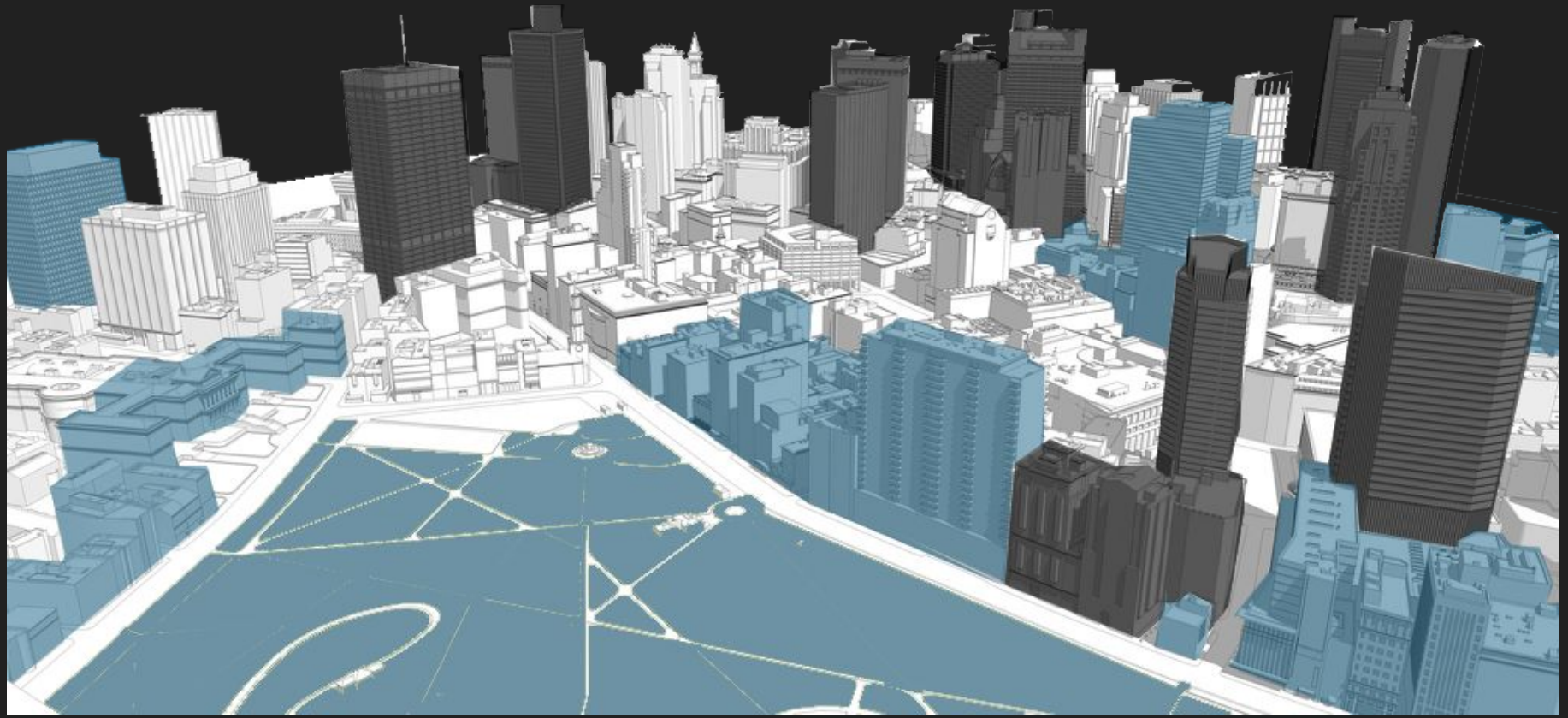
0. Boston 3D Model



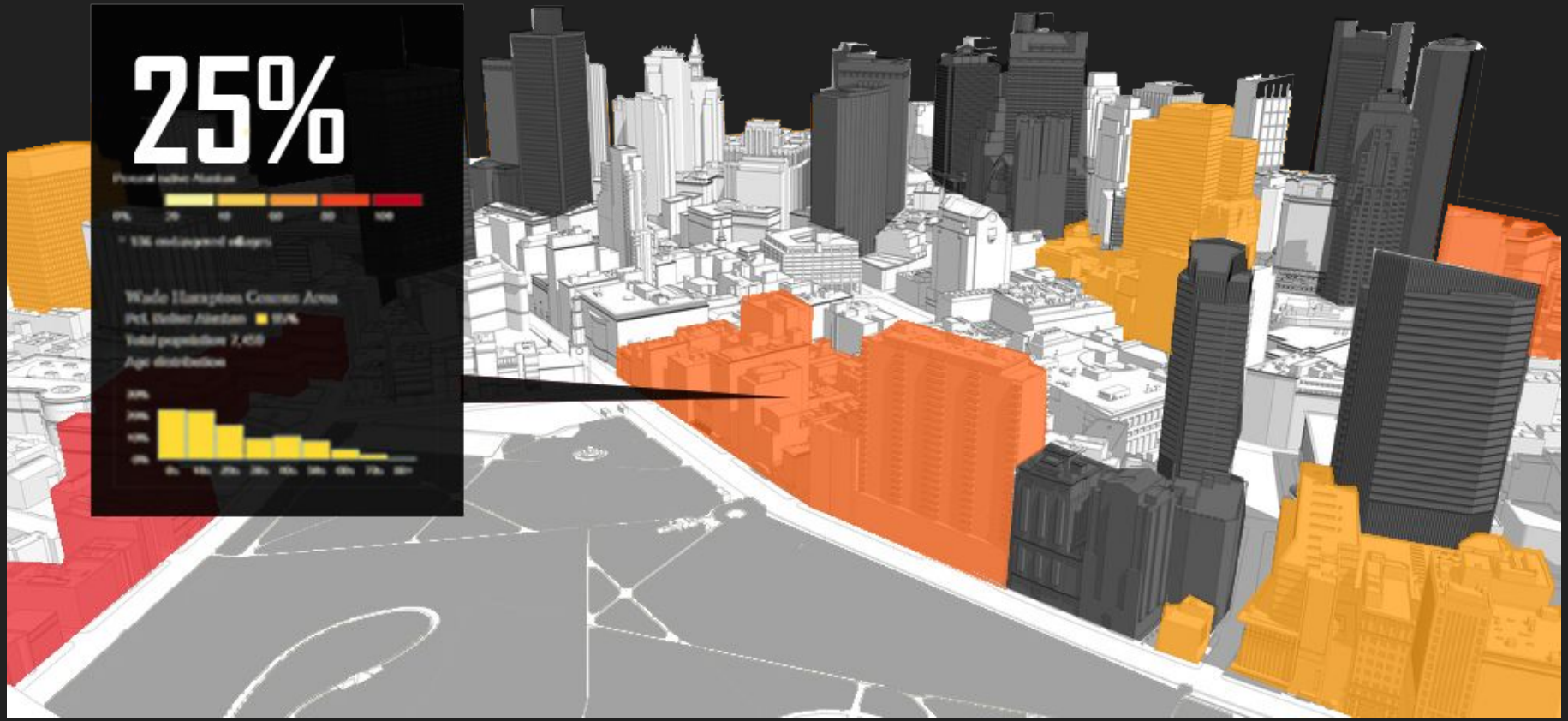
1. Non-residential Properties Disappear



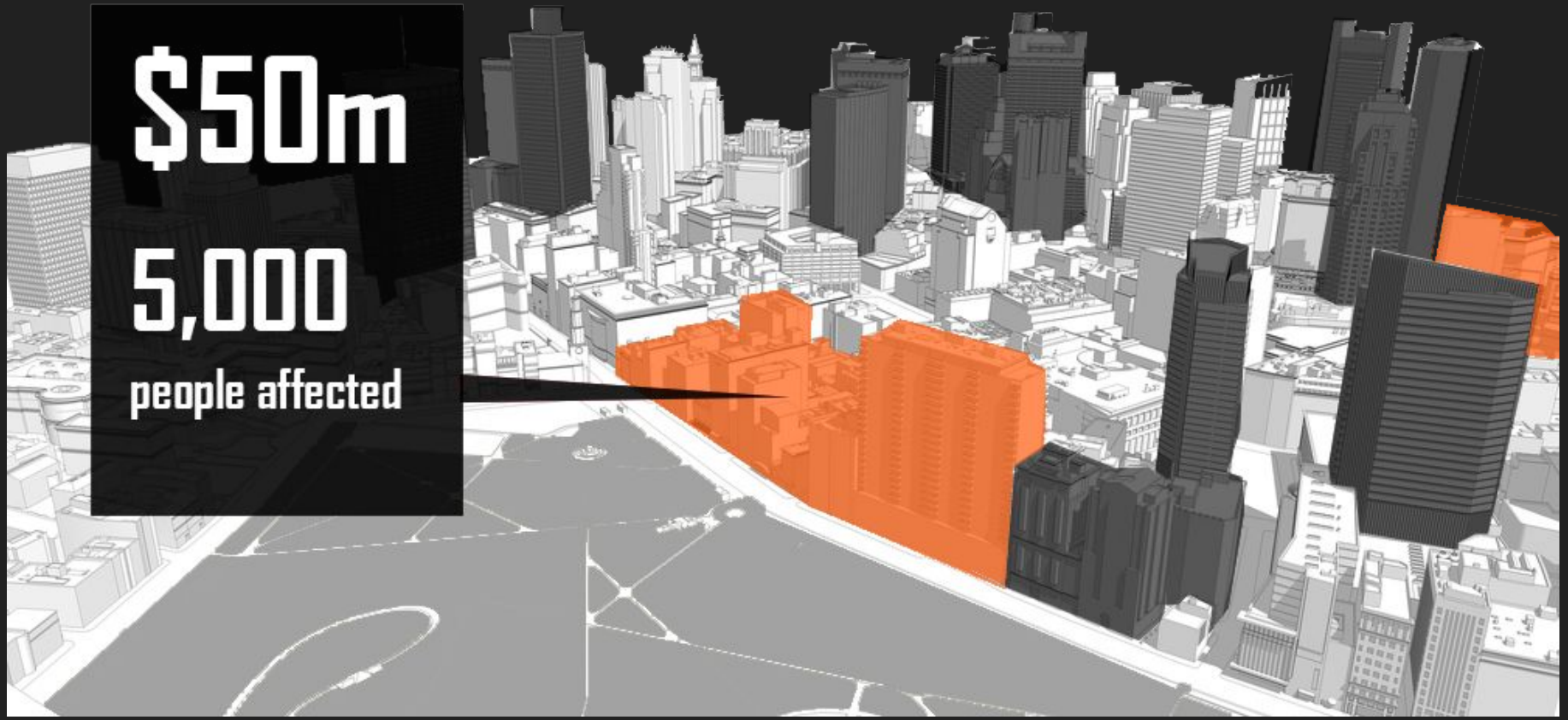
2. Showing Affected Neighborhoods



3. Showing Property Value of Affected Neighborhoods



4. Check Statistics of Specific Communities



Tentative timeline

Mar 19: What can be done + Preliminary visualization scheme

Before April: Exploring data + decide on visualization scheme

April 2: Data collection complete

April: Sea level rise visualization, property value visualization, demographic overlay

April 30: First draft

May 13: Mid-review ready

May 21: Final delivery

Responsibilities

Separate tasks:

- Sea level rise visualization (Angela Wong)
- Fraction of properties at risk (Eddie Yu Hu)
- Area and dollar value visualization (Jialu Tan)
- Demographic visualization (Yuehan Wang)

Joint task:

- Connection between different visualization parts