



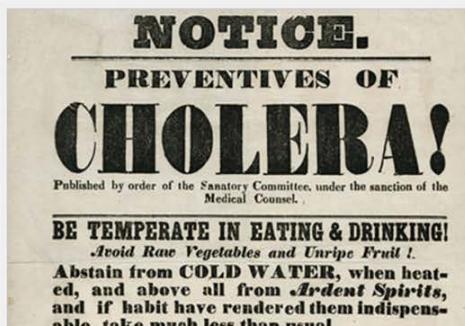
Fundamentals of Visualization

Importing Visualizations

public.tableau.com/s/gallery/mapping-1854-cholera-outbreak

London's 1854 Cholera Outbreak: Data Mapping Halts an Epidemic

An Outbreak Begins Collecting the Data Mapping the Results Snow's Analysis:
Focus on Broad St. Ending an Epidemic

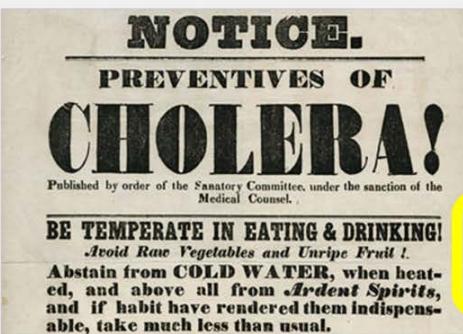
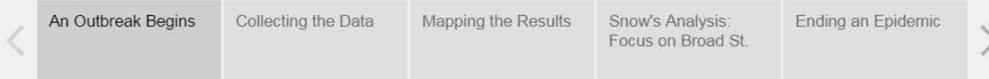


In 1854, a Cholera outbreak swept through the Soho neighborhood of London.
616 people died.
Physician John Snow was skeptical of existing theories of disease transmission, which often blamed "miasmas," or bad air. The germ theory of disease circulation had not yet been outlined.

Victorian medical advice was frequently off the mark by modern standards.

A story is a way to explain your data in a systematic way

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Date	No. of Fatal Attacks	Deaths
Aug 10	1	1
11	1	1
12	1	1
13	1	1
14	1	1
15	1	1
16	1	1
17	1	1
18	1	1
19	1	1
20	1	1
21	1	1
22	1	1
23	1	1
24	1	1
25	1	1
26	1	1
27	1	1
28	1	1
29	1	1
30	1	1
31	1	1
Total	610	610

This is Snow's original table showing the chronology of deaths and their total. He notes that not all deaths had recorded address; thus, his data set is partially incomplete.

Dr. Snow canvassed the neighborhood. He collected the addresses of those who died, noted the number of deaths at each location, and tabulated the results.

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The map displays a high density of red circular data points concentrated around Broad Street, indicating the location of cholera deaths. The size of each circle corresponds to the number of deaths at that address, as shown by the legend. The map also shows street names like Oxford Street, New Bond Street, and Regent Street.

No. Deaths at Address

1	5	10	15
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Water Pumps

- Clean (blue drop)
- Befouled (green drop)

Then, Snow mapped these data points onto a map of the Soho neighborhood.

The results were startling.

NB: The map reprinted here is Snow's original. I geocoded the addresses, introduced the number of deaths as a dimension in the dataset, and uploaded the map as a background image. Then, I conformed the dimensions of the map to the appropriate lat/long. Thus, the locations appear as they would have on Snow's map.

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He noted that the bulk of deaths were concentrated in an area that generally used the same municipal water pump: Broad Street.

Snow realized that the Broad Street water pump—and poor water quality—was likely the source of the outbreak.

Armed with this information, he went to city authorities.

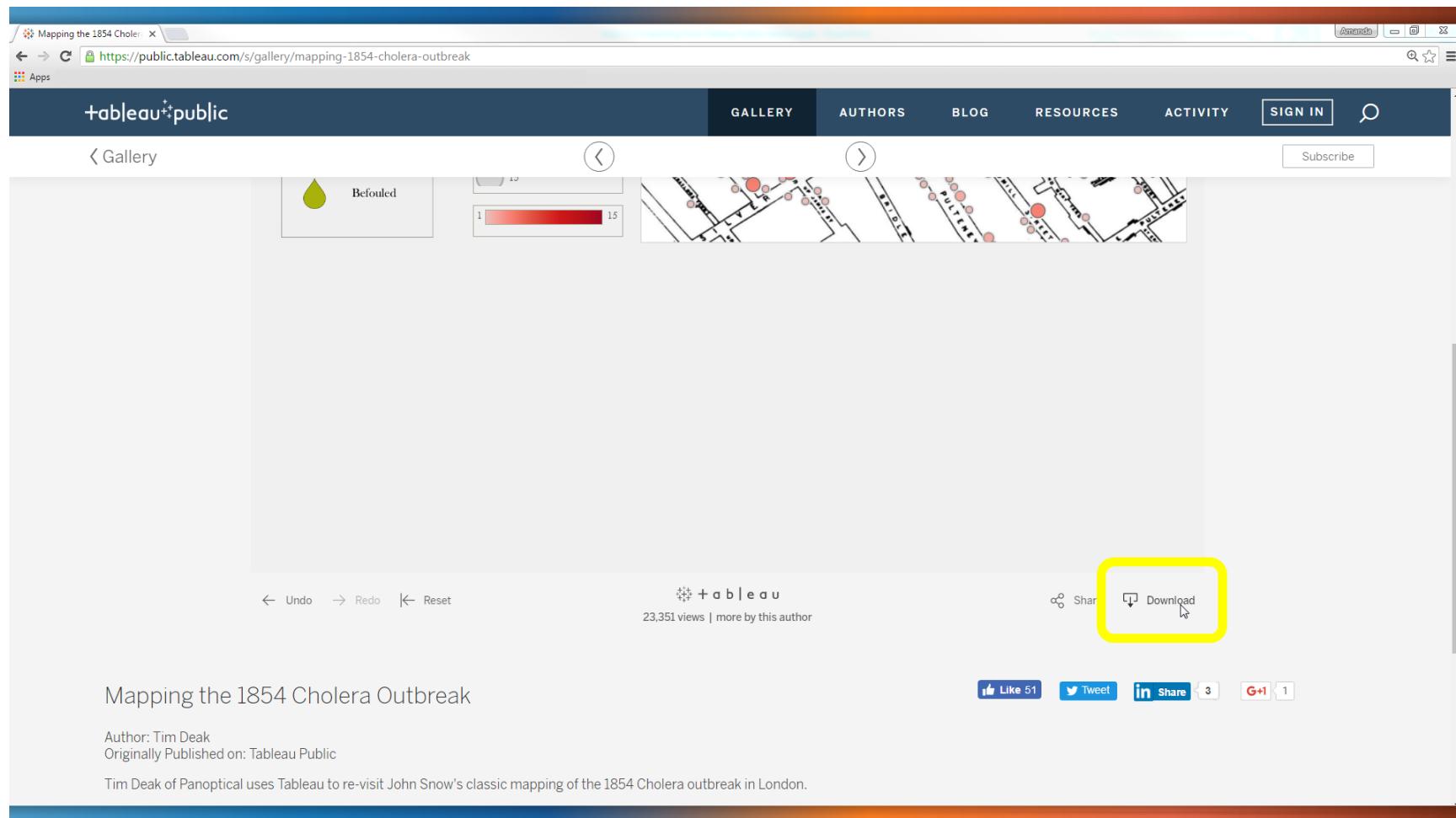
Water Pumps

- Clean
- Befouled

No. Deaths at Address

- 1
- 5
- 10
- 15

The map shows a grid of streets in London. Numerous red dots of varying sizes represent the number of deaths at specific addresses. A large red dot is centered on the Broad Street water pump, which is marked with a green teardrop icon. A yellow box encloses the text 'Snow's Analysis: Focus on Broad St.' above the map. Another yellow box encloses the Broad Street water pump itself on the map.



The screenshot shows a web browser displaying the Tableau Public website at <https://public.tableau.com/s/gallery/mapping-1854-cholera-outbreak>. The main content is a choropleth map of London street intersections, where each intersection is colored according to the number of cholera cases. A legend on the left indicates that darker shades of red represent higher case counts, ranging from 1 to 15. Below the map is a promotional banner for Tableau Public, which includes a call to action to "Get the App". At the bottom of the page, there are social sharing links for Facebook, Twitter, LinkedIn, and Google+, along with a "Download" button.

What's Tableau Public?

Create interactive graphs, maps, dashboards and apps. Publish them anywhere on the web. Anyone can do it. And it's free.

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Mapping the 1854 Cholera Outbreak

Author: Tim Deak
Originally Published on: Tableau Public

Tim Deak of Panoptical uses Tableau to re-visit John Snow's classic mapping of the 1854 Cholera outbreak in London.

Tableau Public - 1854 Cholera Outbreak - Snow's Map

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Dashboards and Worksheets

- Death Addresses
- Cholera Cases and Pumps
- Broad Street Detail
- Background**
- Addresses
- Map of Outbreak
- Broad Street
- Conclusion

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New Blank Point Duplicate

NOTICE.
PREVENTIVES OF
CHOLERA!
Published by order of the Sanitary Committee, under the sanction of the Medical Council.
BE TEMPERATE IN EATING & DRINKING!
Avoid Raw Vegetables and Unripe Fruit!
Abstain from COLD WATER, when heated, and above all from Ardent Spirits, and if habit have rendered them indispensable, take much less than usual.

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Description
Navigator
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Story
Size: Exactly
w 1006 h 965
 Show Title
Data Source Death Addresses Cholera Cases and Pumps Broad Street Detail Background Addresses Map of Outbreak Broad Street Conclusion Cholera Analysis

