



Zedong Data

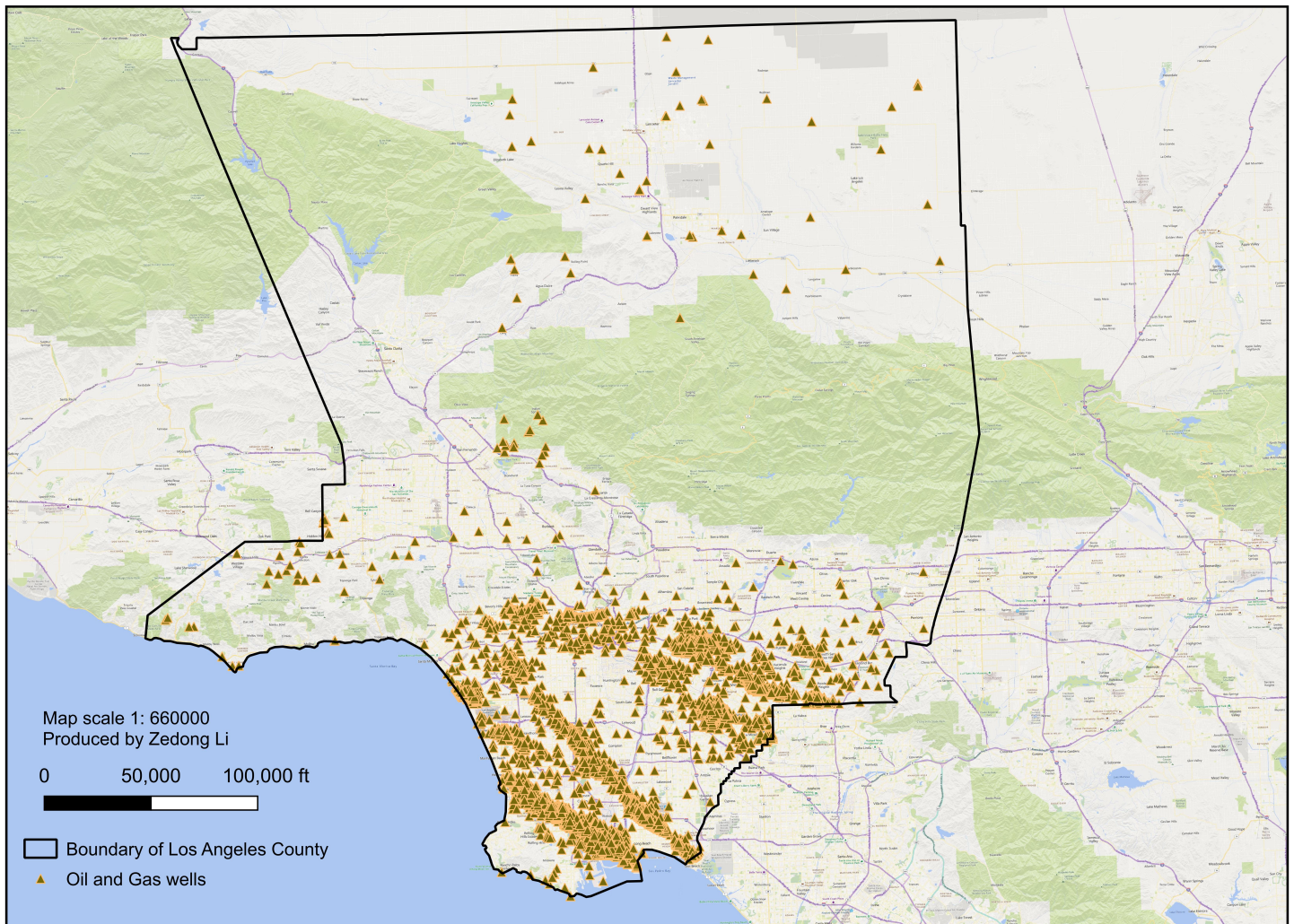
TELL THE TRUTH

**Report: Analysis of the potential
threats posed by oil and gas
extraction sites to schools
throughout Los Angeles County**

**03/11/2021
Geography 7
Zedong Li**

Maps

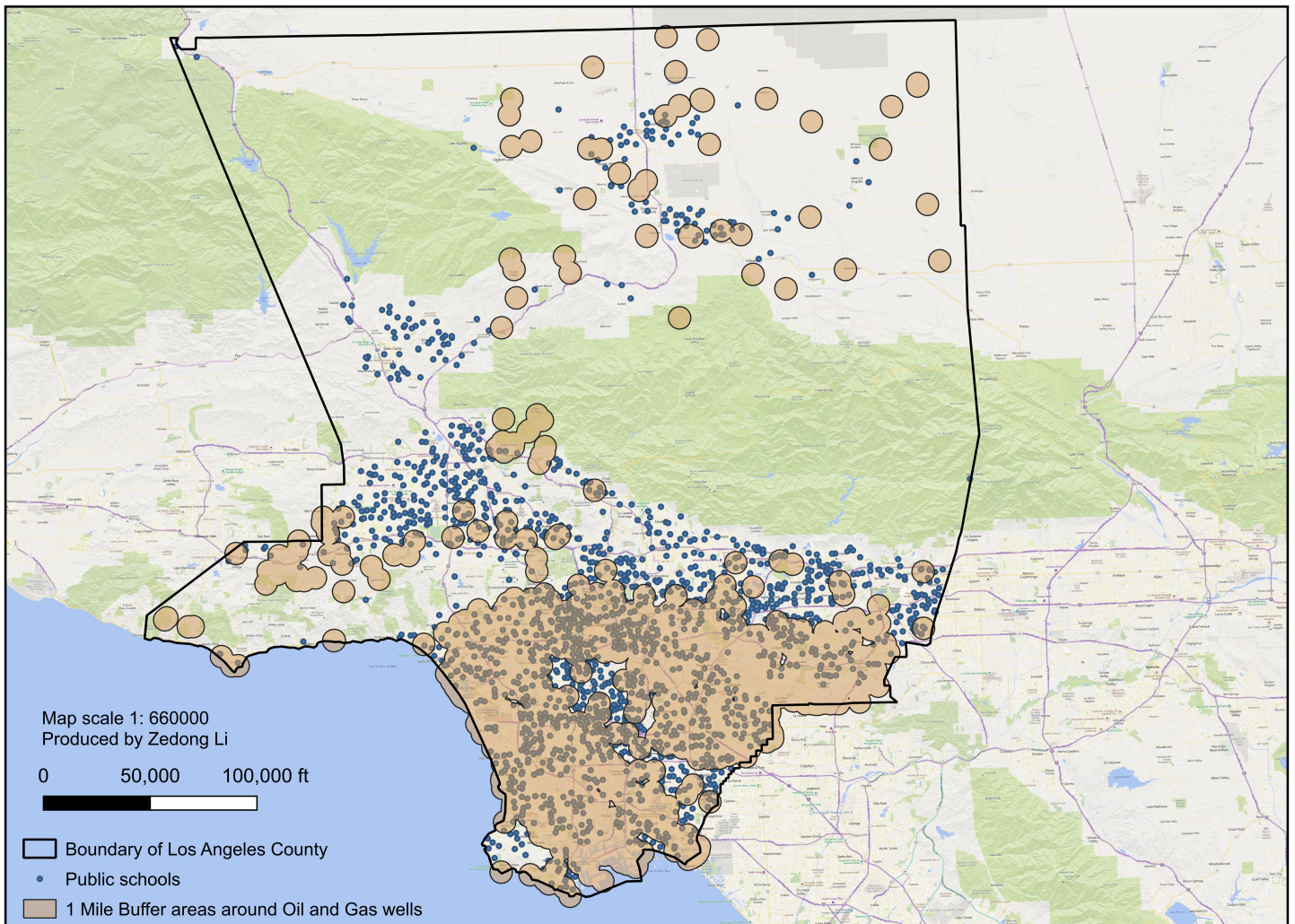
1. The distribution Map of Oil and Gas wells within Los Angeles County



The distribution Map of Oil and Gas wells within Los Angeles County

Maps

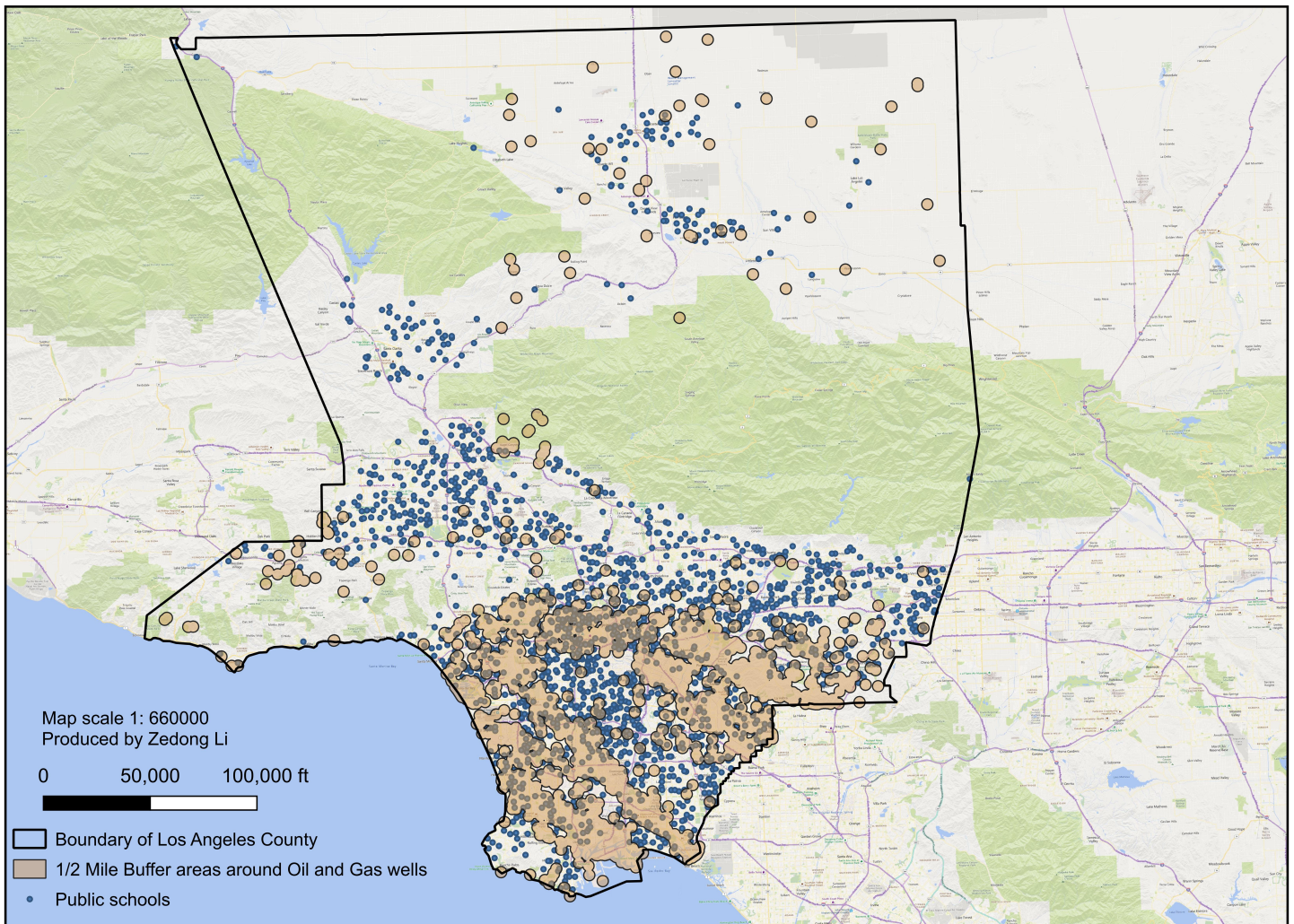
2. The Map of 1-mile Oil and Gas wells buffer areas and Public schools within Los Angeles County



The Map of 1 mile Oil and Gas wells buffer areas and Public schools within Los Angeles County

Maps

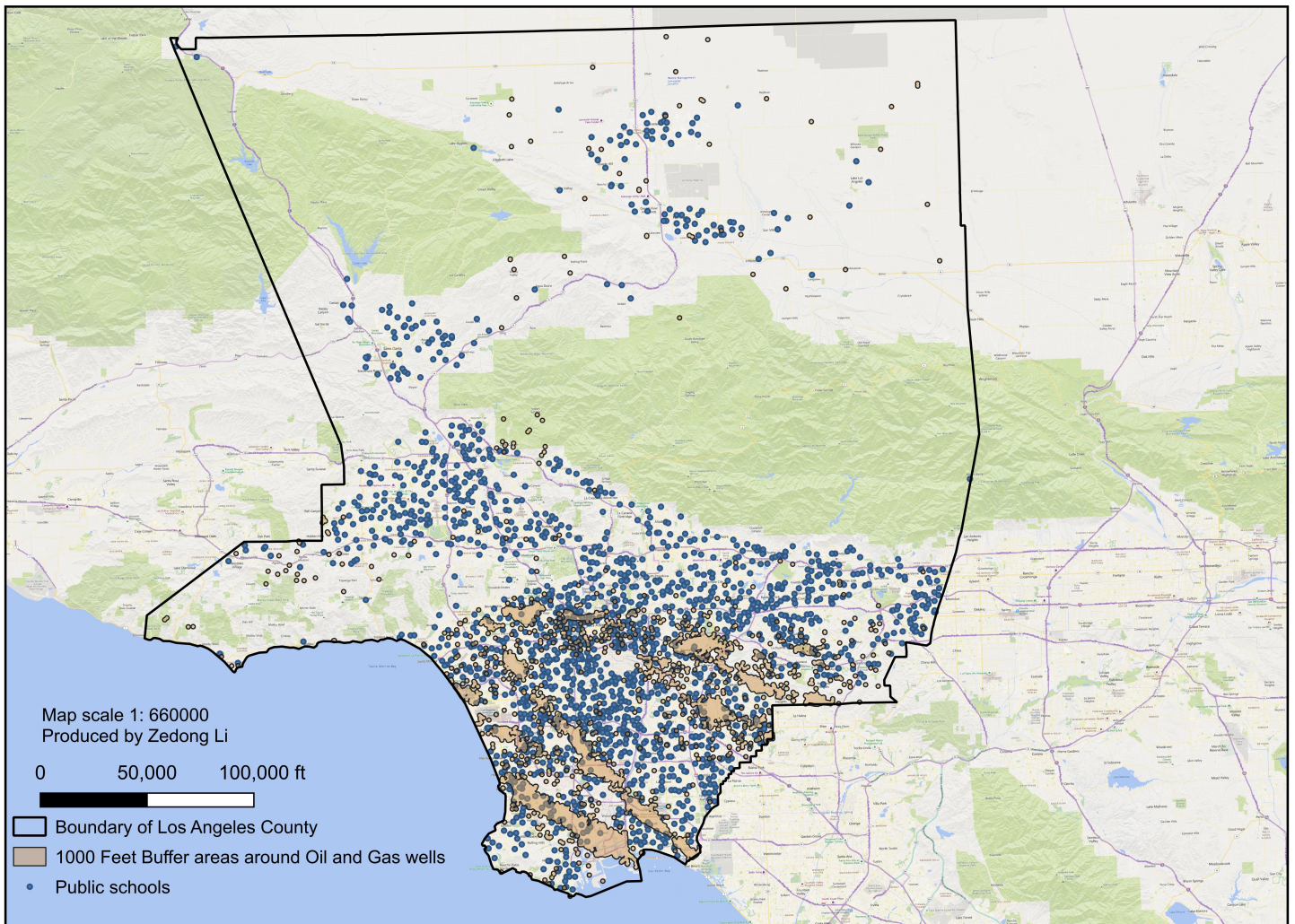
3. The Map of 1/2-mile Oil and Gas wells buffer areas and Public schools within Los Angeles County



The Map of 1/2 mile Oil and Gas wells buffer areas and Public schools within Los Angeles County

Maps

4. The Map of 1000 feet Oil and Gas wells buffer areas and Public schools within Los Angeles County



The Map of 1000 feet Oil and Gas wells buffer areas and Public schools within Los Angeles County

Data Tables

The total of Schools within Los Angeles: 1974

The total of Oil and Gas wells within Los Angeles: 21259

Table 1 - The number and percentage of all schools that fall within the specified buffer distance surrounding oil/gas wells

Buffer distance (Oil and Gas wells)	Count (Schools)	Percentage (of Total Schools)
1-mile buffer	1218	≈61.70%
1/2-mile buffer	730	≈36.98%
1000 feet buffer	256	≈12.97%

Table 2 - The number and percentage of oil/gas wells that fall within the specified buffer distance surrounding schools

Buffer distance (Schools)	Count (Oil and Gas wells)	Percentage (of Total Oil and Gas wells)
1-mile buffer	16067	≈75.58%
1/2-mile buffer	8091	≈38.06%
1000 feet buffer	1664	≈7.83%

Table 3 - Schools that lie within one mile of a well where hydraulic fracturing is used for extracting oil and gas (grouped by school district)

School Name	District
El Rincon Elementary	Culver City Unified
California Academy of Mathematics and Science	Long Beach Unified
Chavez Elementary	Long Beach Unified
Stevenson Elementary	Long Beach Unified
Franklin Classical Middle	Long Beach Unified
Annalee Avenue Elementary	Los Angeles Unified
Magnolia Science Academy 3	Los Angeles Unified
Broadacres Avenue Elementary	Los Angeles Unified
Gulf Avenue Elementary	Los Angeles Unified
Fries Avenue Elementary	Los Angeles Unified
Avalon High	Los Angeles Unified
Phineas Banning Senior High	Los Angeles Unified
George De La Torre Jr. Elementary	Los Angeles Unified
Wilmington Park Elementary	Los Angeles Unified

Analysis

This report uses the maps and data tables to analyze the potential threats posed by oil and gas extraction sites to schools throughout Los Angeles County. The maps are displaying the different distances of oil and gas wells buffer areas. They also include the locations of schools that indicate how these buffer areas relate to the schools. The maps made by QGIS and are used the functions "Buffer" and "Dissolve" to generate the buffer areas that show the information more intuitively. Also, the three data tables showing the more accurate information that reflects the interaction between the oil/gas wells and schools; the data comes from the extraction by the QGIS function "Join attributes by location" and proceed the final statistic by Excel in the end.

We can see from the maps that there are the densest and continuous buffers on the part of Los Angeles City and the coastal area, and we can also notice that most of the schools also aggregate in the same area with the buffer area. We can know that the oil and gas wells in the populated region coincide with schools' coverage. Table 1 and Table 2 show that the counts of schools and oil/gas wells within their one-mile buffer area all go over 60% of their own total counts, and it means that there are more than 60% of the schools are in the one-mile coverage of the oil/gas wells area. One-mile buffer is the most important distance that we should take further research to see how the distance affects the oil/gas wells' pollution to the students and staff, and then we may assess a beneficial distance between the schools and oil/gas wells.