Santa Barbara County

FAST DISASTER CASE STUDY

ENVIRONMENTAL INJUSTICE

Fall 2021

GROUP NO. 14

AUTHORS

Mia Williams, Amber Martinez, Jamie Sampson- Lizotte, Jessica Garcia, Ozzie Froelich, Edgar Alegria Olvera, Jessica Pham

CITE AS

Williams, Mia. Martinez, Amber. Sampson-Lizotte, Jamie. Garcia, Jessica. Froelich, Ozzie. Alegría Olvera, Edgar. Pham, Jessica. 2021. Fast Disaster Case Study: Santa Barbara County Environmental Injustice, *Disaster STS Research Network.*

ABOUT

This case study report was developed by students at the University of California Irvine for the undergraduate class, "Environmental Injustice," taught by Kim Fortun and Kaitlyn Rabach for the Department of Anthropology, Fall 2021. The University of California Irvine is on the ancestral homelands of the Tongya and Acjachemen nations.

The cover photo is a picture of water storage tanks which make up a portion of the Lompoc Water Treatment Plant. - retrieved from
https://www.cityoflompoc.com/government/departments/utilities/water

PERMISSION TO PUBLISH @ https://disaster-sts-network.org Do you consent to having your name listed as an author on the published case study?
Name Publish? (Y or N)
1. Jamie Sampson-Lizotte (Y)
2. Jessica Garcia (Y)
3. Mia Williams (Y)
4. Jessica Pham (Y)
5. Edgar Alegria Olvera (Y)
6. Amber Martinez (Y)
7. Ozzie Froelich (Y)

BIOGRAPHICAL STATEMENTS

Jamie Sampson-Lizotte is a second year communications and history student at the University of California Santa Barbara. He is a member of the UCSB men's Rugby team and also enjoys spending time on the beach and elsewhere outdoors.

Edgar Alegria Olvera is an Art major at the University of California, Irvine. His studies involve the history of contemporary art, as well as the technical application of it. He has had internships with video game developers/concept artists (such as Respawn) to help with his experience. He is interested in playing guitar, improving his art techniques, hanging out with his best friends in L.A., and listening to music.

Jessica Pham is a second year Economics major at UC Santa Barbara. Some leisure activities she enjoys are swimming and playing volleyball. She has some background in environmental studies and is a certified scuba diver. She is familiar with some knowledge in marine ecosystems through scuba diving in places like Catalina and Mexico. She's done a couple case studies when she was enrolled in APES in high school. In her free time, she goes to the beach with her dog, Henley, and typically spends time outdoors with her friends. As she takes pleasure in being outdoors, she looks forward to learning more about environmental injustice and becoming more aware.

Mia Williams is a 4th year Liberal Studies major at the University of California, Riverside. She is interested in becoming a teacher and helping disadvantaged students of color. She enjoys spending free time with family and friends

Amber Martinez is a first year Biological Science major at the University of California, Irvine. She is interested in educating herself about the impact of environmental injustices on communities, specifically the impact on health, social, and economics, as she sees it will be useful on her journey to becoming a doctor. She enjoys spending time with family, hiking, or simply reading a good book.

Jessica Garcia is a second year Psychology and Brain Sciences major at the University of California, Santa Barbara. She is interested in learning about environmental issues and learning how to improve the current state of our environment.

.

Ozzie Froelich is a second year Mathematics student with a particular affiliation for the outdoors. His studies are centered on the environmental crisis, social inequalities, and mathematical theories. He finds value in personal connections and fresh air.

TABLE OF CONTENTS

INTRODUCTION

This case study report focuses on "worst case" scenarios for release of toxic chemicals in Santa Barbara County. The report addresses a series of ten questions (Fig. 1) that draw out local details in a manner that encourages comparison with other places. The research has been done quickly (within the constraints of a quarter-long undergraduate class) so is limited to and points to the need for further research and community engagement. The goal is to help build both a body of research on environmental injustice and a network of researchers ready to help conceptualize and implement next-generation environmental protections.

ENVIRONMENTAL INJUSTICE CASE STUDY FRAMEWORK

1. What is the setting of this case? What are its assets?

2. What environmental health threats (from explosions, everyday pollution, climate change, etc) are there in this setting?

3. What intersecting factors -- social, cultural, political, technological, ecological -- contribute to environmental health vulnerability and injustice in this setting?

4. Who are stakeholders, what are their characteristics, and what are their perceptions of the problems?

5. What have different stakeholder groups done (or not done) in response to the problems in this case?

6. How have environmental problems in this setting been reported by media, environmental groups, companies and government agencies?

7. What local actions would reduce environmental vulnerability and injustice in this setting?

8. What extra-local actions (at state, national or international levels) would reduce environmental vulnerability and injustice in this setting and similar settings?

9. What kinds of data and research would be useful in efforts to characterize and address environmental threats in this setting and similar settings?

10. What, in your view, is ethically wrong or unjust in this case?
Figure 1. This is the analytic framework that guided research for this case study.

In environmental policy, a "worst case scenario" refers to the potential for catastrophic, fast, often explosive disaster at industrial facilities that handle more than a certain ("threshold") amount of extremely hazardous substances. Provisions of the US Clean Air Act require companies to submit worst case scenarios for their facilities to the Environmental Protection Agency (EPA). The information provided isn't fully online because of concerns that it could be useful to terrorists. This makes it particularly important that researchers, residents, workers, media, local officials and emergency managers work together to ensure that risks are understood, managed and continually reduced.

In this research, "worse case scenarios" are considered "fast disasters" to contrast them with the "slow disaster" of everyday pollution. It needs to be emphasized however, that even though fast disasters erupt in a dramatic way – often with an explosion or gas cloud that requires an emergency response -- this doesn't mean that fast disasters occur suddenly. Investigations have shown that all fast disasters have a deep backstory: they were years in the making. These backstories need to be documented to understand where things went wrong and where changes could prevent future disasters.

A 2014 report by the Center for Effective Government mapped the proximity of high-risk chemical facilities in California to schools and found that 49 percent of P-12 students attend a school within the vulnerability zone of a high risk chemical facility (Center for Effective Government 2014).

This report focuses on Santa Barbara County, the native homelands of the Chumash People.

Figure 2. Map of California Counties. Santa Barbara County is in the bottom left corner.

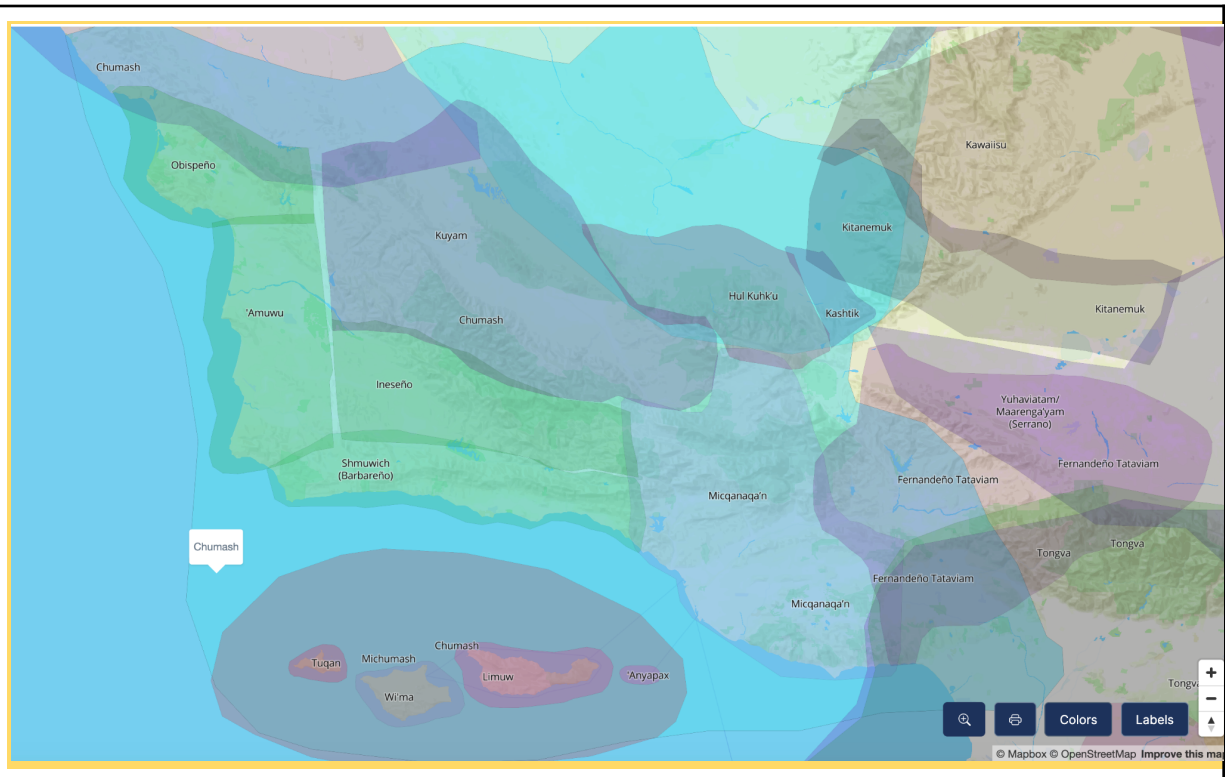

Figure 3. This image shows that Santa Barbara County is located on land that has acted as the historical homeland for the Chumash people.

1. COMMUNITY ASSETS & SETTING

Lifesavers of a dying environment

Edgar Alegria Olvera

With the 1969 Huntington Beach Oil Spill being the most recognized environmental disaster of Santa Barbara County, it's no surprise that assets surged after the incident, unfortunately, that isn't the only kind of hazard Santa Barbara suffers from. Wildfires, and floods also bring overwhelming trouble for local and government groups who help contain them. Although Santa Barbara suffers from devastating hazards, surprisingly, it remains one of the environmentally healthiest county's in California having 94.1% healthier conditions than other tracts. On that same note, Santa Barbara has a lower poverty percentage (86% of residents earn more than 200% of federal poverty level), higher percentage of people with healthcare from ages 18 to 64 (84% of people in that age range are insured), and healthier housing conditions than other California counties. Santa Barbara residents are also well notified about what environmental disasters/hazards are happening in their area with help from local news organizations like Santa Barbara Independent, Santa Barbara Magazine, and Santa Barbara Daily Sound; emergency notification services like the Santa Barbara County Sheriff Office, Ready Santa Barbara County, and Cal Prep who is currently updating Santa Barbara locals about the Alisal fire that is almost fully contained.

Figure 4. (Lake Cachuma, looking over Santa Ynez River toward Bradbury Dam)

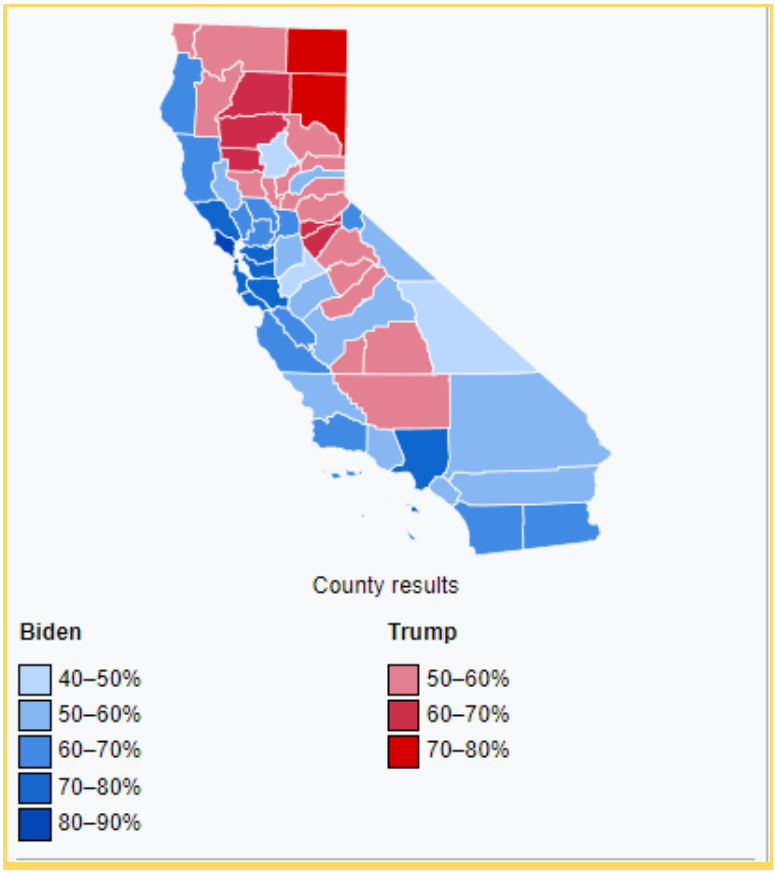

Figure 5. In the last Presidential election (2020), Santa Barbara county remained overwhelmingly Democratic, 64.5% to 32.6%. Compared to the 1968 Presidential election where the county was 50%-60% Republican (under Richard Nixon; https://en.wikipedia.org/wiki/1968_United_States_presidential_election_in_California) and during the time the 1969 Huntington Beach Oil Spill occurred. During the spill, all offshore drilling was suspended only for a few hours, then resumed because according to Fred Hartley, president of Union Oil, defended Union's record and denied that the event was a disaster: "I don't like to call it a disaster, because there has been no loss of human life. I am amazed at the publicity for the loss of a few birds" (https://en.wikipedia.org/wiki/1969_Santa_Barbara_oil_spill). The Santa Barbara Operational Area Oil S

2. FAST DISASTER & OTHER ENVIRONMENTAL THREATS

Fast Disasters During a Slow Death

Ozzie Froelich

Fast disasters are an increasing environmental threat to Santa Barbara county. Fast disasters are easily identifiable as requiring evacuations and emergency services. The effects of these disasters compound to increase in severity. The most common natural disasters in Santa Barbara county are wildfires, earthquakes, and flash floods. When natural disasters disturb RMP facilities, the negative effects compound and the disaster intensifies. Even slow developing natural disasters, like sea level rise or worsening heat waves, will disturb RMP facilities and further threaten human health in the area.

When RMP facilities are involved in fast disasters, it is usually accompanied or caused by fires, explosions, or general infrastructure failure. It is most commonly a natural disaster that causes the RMP failure. Earthquakes trigger failures in dams, refineries, pipelines, power plants, and other infrastructure that compound to increasingly worsen the environmental health risks of the earthquakes. Flooding interferes with infrastructure, transportation, emergency services, water supplies, sewage systems, economies,utilities and more. Valleys are susceptible to rivers overflowing while lowland coastal flooding occurs with high tide, more drastic weather patterns, and rising sea levels. Wildfires are increasing in severity and frequency globally, but especially in counties like Santa Barbara that are drought stricken and arid. Recently burnt areas are more susceptible to flash flooding and the local urban sewer systems become overwhelmed. Fires simply devour the landscape with zero regard for the infrastructure or lives in their path.

The worst-case scenario in fast disaster situations involves failure of RMP facilities, severe health threats, and large evacuation efforts. A plentiful number of RMP facilities with large risk-factors are located in urban areas, within one mile of schools and hospitals (Fig. 6). The entire coast between Santa Barbara city and Santa Maria is made of fracking zones with pipelines laid underneath. Failures in these facilities would release chemicals both seen and unseen into the coastal population. Santa Maria Refinery is the only refinery in the county, however it was built in an agricultural sector. The evacuation radius has a relatively less dense population than the rest of the area, but failure in this facility would result in long term health impacts through agricultural degradation. Dams are in constant threat of failure because of their older architecture and increased threats from earthquakes, fires, and flooding.

The most important consideration when compounding the effects of fast natural disasters with failed RNP communities are the human lives and communities that would be affected. And because Santa Barbara is an oil and gas town, there are a lot of people that would be affected…

Figure 6.

RMP FACILITIES		
Facility (with link)	**Zip + City**	**Schools and hospitals within a mile-radius**
AGRX Santa Maria	**Santa Maria, 93458**	- Santa Maria-Bonita School District (0.793 mi) - Miller Elementary School (0.874 mi) - Community Education (1.341 mi) - Fesler Junior High School (1.493 mi) - St Mary's Preschool (0.794 mi) - St Mary of the Assumption School (0.805 mi) - Rice Elementary School (1.591 mi) - Good Day Orthodontics + Coastal Oral Surgery & Dental Implant center (1.168 mi) - Allan Hancock College (1.438 mi) - Isaac Fesler Elementary School (1.475 mi) - Central Coast Retina + Medical Plaza (1.245 mi) - Planned Parenthood -Santa Maria Health (0.891 mi) - Marian Regional Medical Center (1.765 mi) - Alvin Elementary School (1.096 mi) - El Camino Junior High School (0.873 mi) - Bruce Elementary School (0.915
		- Oakley Elementary School (1.397 mi) - Adam Elementary School (0.772 mi)
Lompoc Water Treatment Plant	**Lompoc, 93436**	- Lompoc Unified School District (0.361 mi) - La Honda STEAM Academy (0.275 mi) - La Honda Elementary School (0.293mi) - Bright Beginnings Pre- School (0.113 mi) - Leonora Fillmore Elementary (0.468 mi) - La Canada Elementary School (0.808 mi) - Lompoc High School (0.811 mi) - Happy Home Childcare (1.464 mi) - Allan Hancock College (1.897 mi) - Lompoc Valley Medical Center (1.094 mi) - Lompoc Valley Middle School (1.479 mi) - Clarence Ruth Elementary School (1.606 mi)
Corona Del Mar Water Treatment Plant	**Goleta, 93117**	- Dos Pueblos High School (2.247 mi) - La Patera elementary School (2.2023 mi) - Goleta Valley Junior Highschool (2.419) - SB Charter School (2.499 mi)
Vandenberg AFB	**Vandenberg, 93437**	- Vandenberg clinic (1.838 mi) - Manzanita Public Charter School(2.578 mi) - Vandenberg Middle school (2.415 mi)

The Pictsweet Company - Santa Maria, CA Facility	**Santa Maria, 93548**	- **Fairlawn Elementary School (0.963 mi)** - **Eagles Christian Academy (0.965 mi)** - **Sanchez Elementary School 0.835 mi)** - **Sanchez State Preschool (0.818 mi)** - **Miller Elementary School (1.66 mi)** - **Santa Maria -Bonita School District (1.665 mi)** - **El Camino Junior High School (1.574 mi)** - **Bruce Elementary School (1.502 mi)** - **Oakley Elementary School (1.619 mi)** - **Santa Barbara County Education (0.437 mi)** - **Liberty Elementary School (1.164 mi)**

Image source: Screenshot from https://rtk.rjifuture.org/rmp/location_search/search_by_location/?city=&county=santa+barbara&state=CA by Mia Williams Oct. 17th, 2021.
Caption: Figure 6 details five major RMP facilities and their proximity to schools and hospitals in Santa Barbara and neighboring settings.

Figure 7.

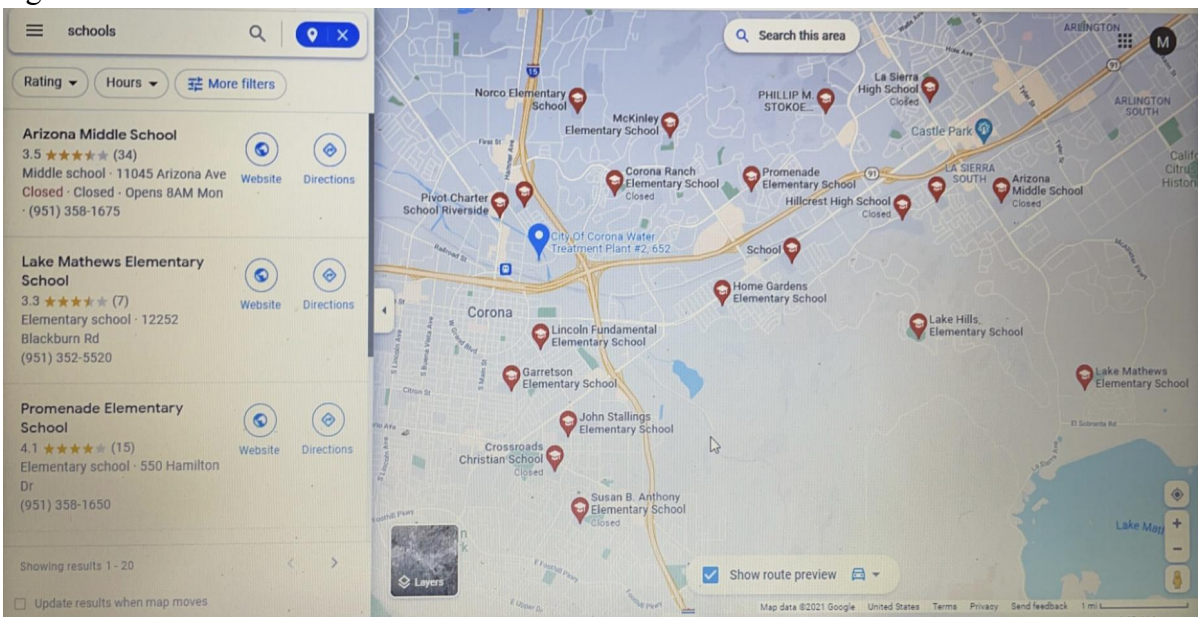

Image source: Google maps (https://www.google.com/maps/search/schools/@33.883124,-117.5743791,14z/data=!3m1!4b1!4m8!2m7!3m6!1sschools!2sCity+Of+Corona+Water+Treatment+Plant+%232,+652+E+Harrison+St,+Corona,+CA+92879!3s0x80dcc81be34407e5:0xa97367154696cb7!4m2!1d-117.5568715!2d33.8831131)
Caption: Map of schools in nearby proximity to the Corona Del Mar Water Treatment Plant.

Figure 8.

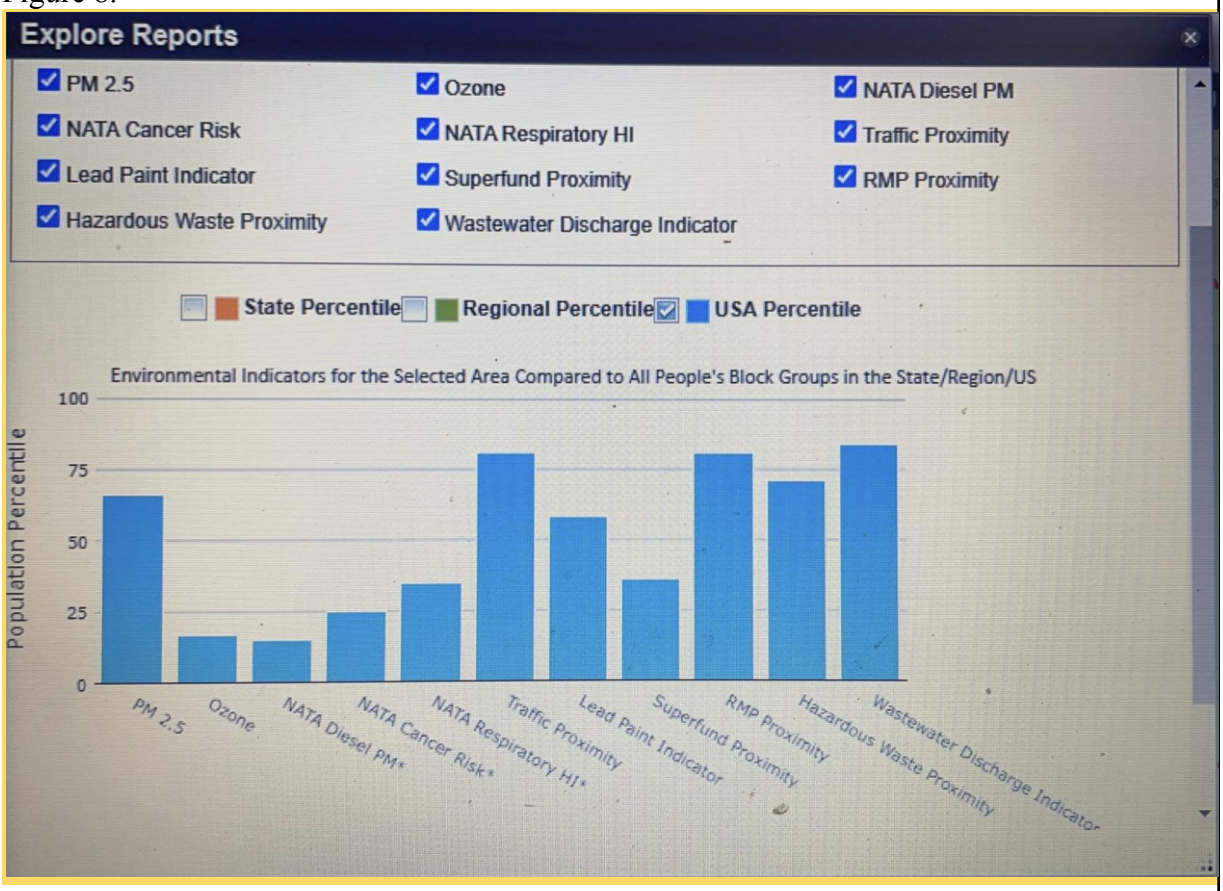

Image source: EJSCREEN (https://ejscreen.epa.gov/mapper/)
Caption: This chart shows that residents of Santa Barbara County are in high (above 75%) percentile for proximity to RMP facilities compared to elsewhere in the United States.

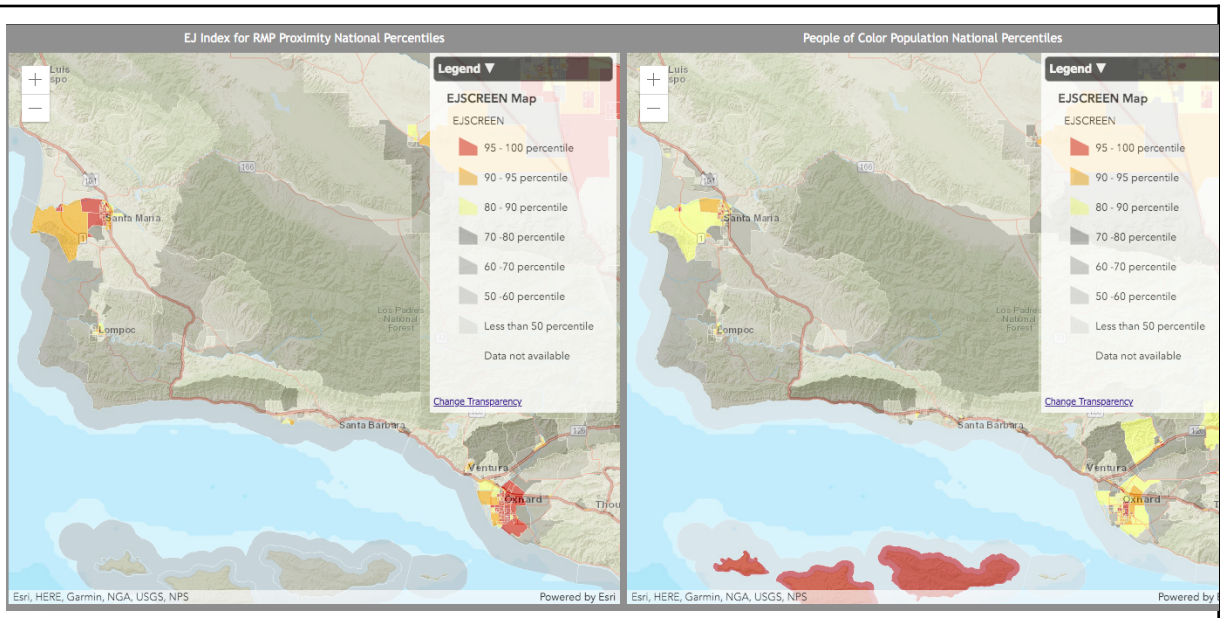

Figure 9.
Image source: Screenshot from https://rtk.rjifuture.org/rmp/location_search/search_by_location/?city=&county=santa+barbara&state=CA by Ozzie Froelich 10/17/21
Caption: Fig. 9 uses two EJScreen maps of the larger Santa Barbara area to compare RMP proximity (right) to the percent of the population that are minorities (left). The indicated relationship is that households of people of color are located nearer to RMP facilities.

Figure 10.
Image source: Google Images (https://www.cityoflompoc.com/government/departments/utilities/water)
Caption: Lompoc Water Treatment Plant. This plant produces, treats, and distributes an adequate supply

of safe drinking water to the citizens of Lompoc for which the last RMP submission was July 16, 1999. The last reported safety inspection was April 1, 1999. The nearest school, La Honda STEAM Academy, is only 0.275 miles away.

Figure 11.
Image source: Google images (https://www.noozhawk.com/article/lawmakers_push_for_u.s._space_command_headquarters_at_vandenberg_afb)
Caption: Vandenberg Air Force Base is a space launch base, launching spacecraft from the Western Range, and also performs missile testing. The last reported safety inspection is not reported on their website. The nearest school, Vandenberg Middle school, is only 2.415 miles away.

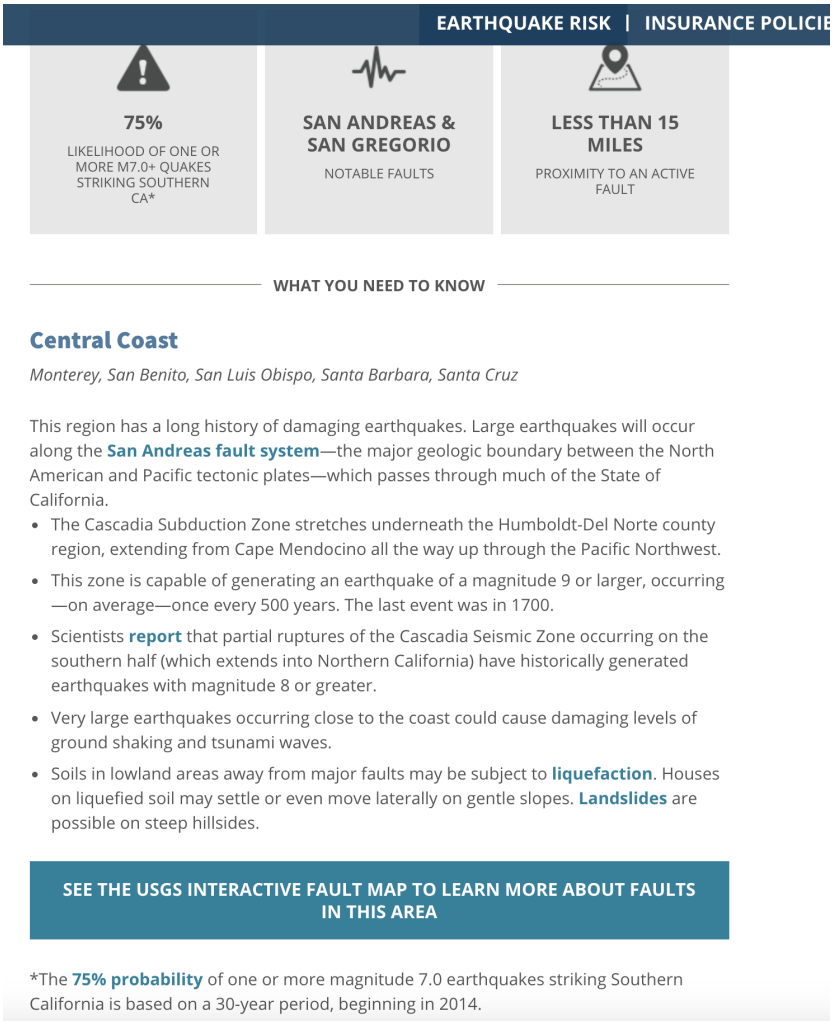

Figure 12.
Image source: https://www.earthquakeauthority.com/California-Earthquake-Risk/Faults-By-County
Caption: Santa Barbara County is at high risk for potential earthquakes, as there is a 75% probability that at least one earthquake of at least magnitude 7.0 will occur. Santa Barbara county is at such high risk due to its proximity to the San Andreas fault. If a major earthquake were to occur major concerns would include Tsunamis, property damage from collapsing buildings, and especially damage to RMP facilities increasing risk for fast disaster.

3. COMPOUND VULNERABILITIES

Poverty's Contribution

Amber Martinez & Jessica Garcia

Santa Barbara county's environmental health vulnerability and injustice are not occurring without any help. Intersecting factors as poverty, race, access to health care services, linguistic isolation, and automobile access are huge contributors. However poverty has a much greater contribution role as it has a domino effect on other intersecting factors which leaves these groups of people who fall under these factors extremely vulnerable to fast disasters.

Areas with poverty in Santa Barbara county have the lowest health (37.5%) and economic levels which lead to low levels of home ownership (14.5%) and housing habitability (10.5%) as shown in Figure 13 from the Healthy Places Index on Santa Barbara county. During fast disasters, this group of people is impacted the most. Since they have less access to resources due to poverty, they have a harder time after faster disasters. They struggle as they try to allocate financial resources to help them rebuild their homes and get the help they need. They are unable to protect themselves and their assets and as a result tend to lose all their belongings in fast disasters.

Racial factors in this county account for a huge portion of missing data in census records, thus leaving many members of this group unaccounted for and isolated. Figure 14 indicates that there is a high rate of African Americans, Latinos, and Native Americans who don't fill out the census report. In fast disasters this group of people tends to be impacted severely. There are less funds and resources allocated to this group so in the event of a fast disaster they do not have resources or funds to help them rebuild during the aftermath, once again putting them in a vulnerable position.

High poverty in Santa Barbara county correlates to low health rates(37.5%) and economic variables (28.4%) as shown in Figure 13 from the Healthy Places Index, indicating they have less access to healthcare services. In potential fast disaster areas, such as Santa Barbara, having access to healthcare during and after these disasters is crucial. During disasters, every person needs access to healthcare service. However, these groups are at a disadvantage because they live in poverty and can not afford health care. In the event of an emergency, they need to have access to medical personnel to be assessed and to ensure their health is intact. However, due to their status, many refuse to seek help. Thus, leaving them in a difficult situation that potentially puts their lives and the lives of their loved ones at risk.

The Healthy Places Index (HPI) indicates that in comparison to other areas, Santa Barbara has fewer households with access to an automobile. This puts families without a convenient and accessible form of transportation at an increased risk. If a fast disaster occured, having an automobile would be essential to evacuate the area in an effective and timely manner. Having an

automobile would also be useful to attend informational meetings regarding environmental disasters which occur in remote locations around the county. Everyone should have a safe and easy option to access potentially life saving information. In addition, having a car provides a convenient way to get to and from work, which as a result could improve economic hardship.

As shown in figure 15 in data collected in the census report, Santa Barbara county has roughly 15.2% noncitizens who are not able to speak or understand English which leaves them in linguistic isolation. They are not able to understand the information being distributed and will not be able to fully communicate during fast disasters. Since they lack advantages a citizen would have, they may struggle navigating the difficult situation. During disasters non-native speakers are isolated because they will not be able to communicate with first responders or answer questions medical personnel ask.

All these factors have the potential to put people in a vulnerable position where they may feel left in the dark and confused about where or how to seek help in the event of a fast disaster.

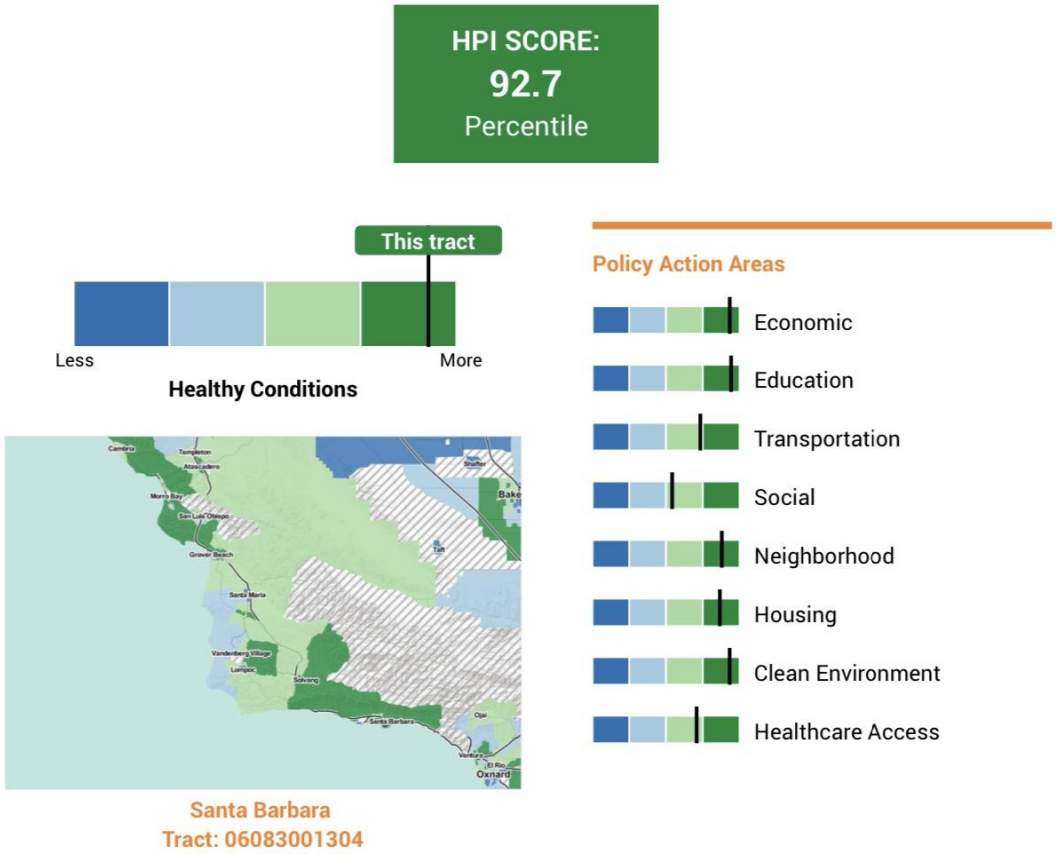

Figure 13. This data scores the living conditions of various communities, taking into account factors such as the quality of the environment and accessibility to healthcare.
(screenshot by Amber Martinez, California Healthy Places Index)

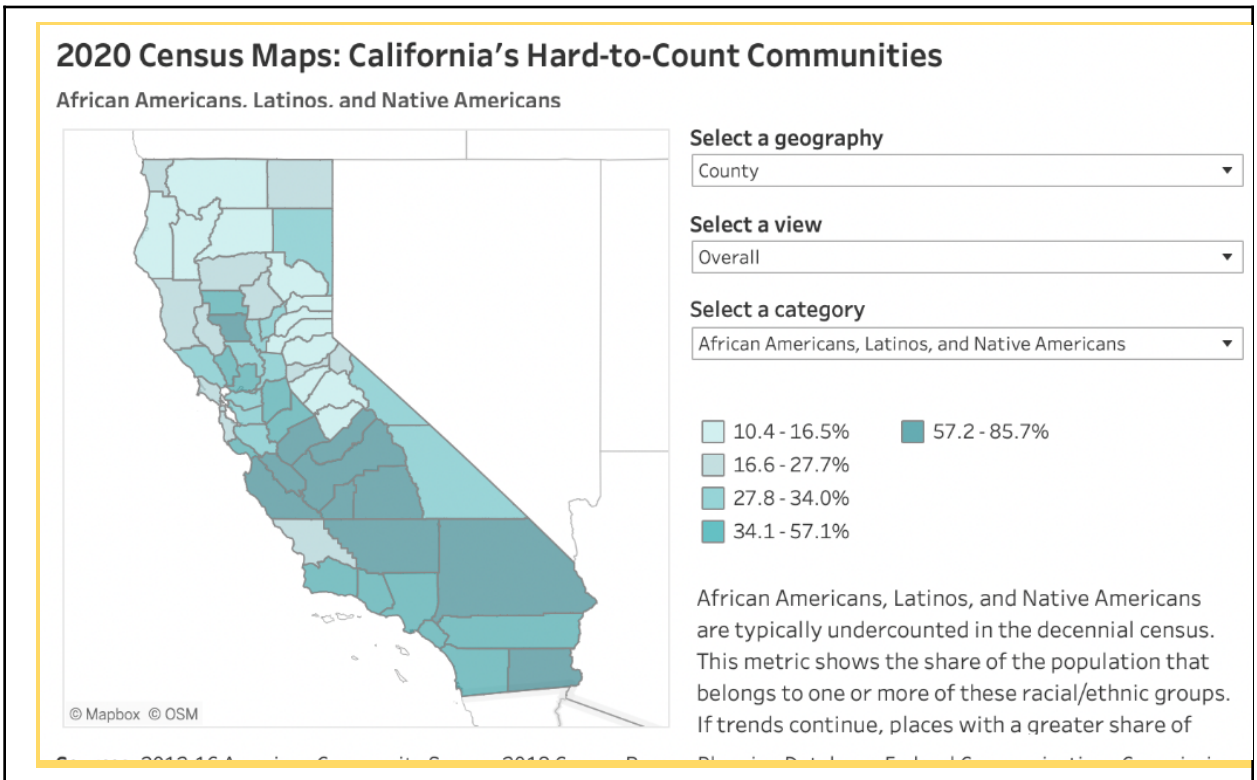

Figure 14. This data demonstrates that 46.4% of African Americans, Latinos and Native American households are unlikely to respond to Census Reports in Santa Barbara County. https://www.ppic.org/interactive/2020-census-maps-californias-hard-to-count-communities/ (Screenshot ,October 15.2021)

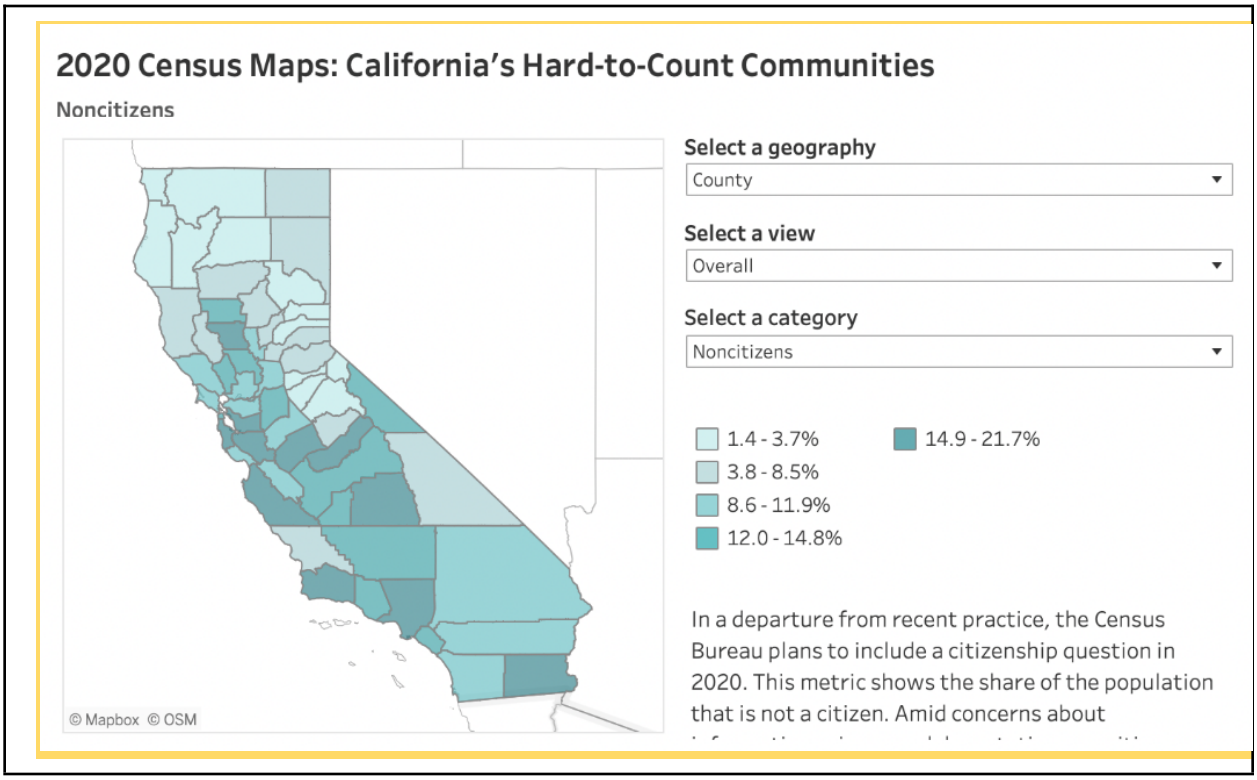

Figure 15. This data indicates that 15.2% of non-citizens are unlikely to respond to census reports in Santa Barbara County. https://www.ppic.org/interactive/2020-census-maps-californias-hard-to-count-communities/ (Screenshot , October 15.2021).

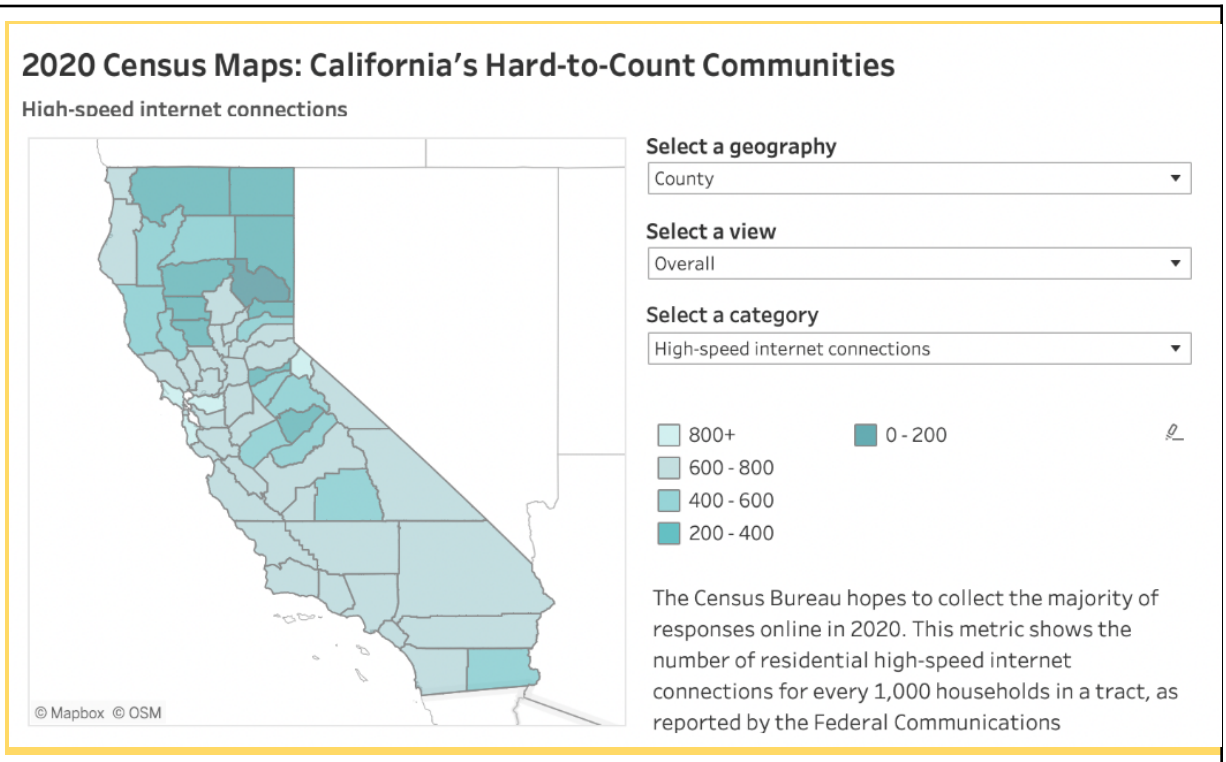

Figure 16. In 2020 the census bureau hoped to collect a majority of reports online. Figure 16 demonstrates that 600-800 tracts for every 1000 households in Santa Barbara county have residential high speed internet connections. https://www.ppic.org/interactive/2020-census-maps-californias-hard-to-count-communities/ (Screenshot , October 15.2021).

4. STAKEHOLDER ANALYSIS

Environmental Players within Santa Barbara County

Jamie Sampson-Lizotte

In the context of researching and describing fast occurring environmental disasters, the term stakeholder refers to an individual, a specific group of people, or an organization whose interests are intertwined with the occurrence of these potential fast disasters. Santa Barbara County is at risk for numerous fast disasters such as offshore oil spills, wildfires, and earthquakes among others. Due to the variety of possible disasters, Santa Barbara is home to many unique groups of stakeholders, but some of the influential include massive corporations such as ExxonMobile, a number of unique local governing agencies, as well as activist groups with a focus on preserving local environmental resources.

The ExxonMobile Corporation is among the most powerful and influential stakeholders directly impacted by fast disasters in Santa Barbara. Since 1970, ExxonMobile has been producing crude oil and natural gas off Santa Barbara County's coast with what is now three oil drilling platforms off of Gaviota in Santa Barbara and another onshore oil and natural gas processing facility in Goleta, Santa Barbara. There are a number of aspects to ExxonMobile's presence in

Santa Barbara that act as a catalyst for their corporate interests, the first of which is the huge financial power the corporation wields as the world's sixth-largest oil company producing $213.9 billion annual revenue (TTM). This economic power allows for ExxonMobile to easily fund marketing campaigns boosting their image, to fund as much pro-oil lobbying as they deem necessary. Despite the size and power of ExxonMobil, there are still corrosions (aspects of the situation negatively impacting a stakeholder's desired outcome) affecting ExxonMobile. Chief among these corrosions is the fact that due to a 2015 oil spill at the Plains All American Pipeline all of ExxonMobile's local platforms have been forced to suspend production and enter a safe, preserved state. Following this spill which forced ExxonMobile's production freeze, as well as a number of other spills worldwide recently, public opinion of major oil corporations is very low. Pubic opinion acts as corrosion in this case because it is public opinion that drives the government's emphasis on safe environmental practices which lead to the suspension of ExxonMobile's Santa Barbara production.

Other major stakeholders in Santa Barbara County include segments of local government, beginning with the Santa Barbara County Board of Supervisors. This stakeholder group's catalyst for action is derived from their status as a group of five elected officials who as a group hold the authority to enact new policies representing their constituents' desires. The council is made up of one representative from each district within Santa Barbara County to ensure proper local representation. This was exemplified when County Supervisor Das Williams and the rest of the board of Supervisors approved a Declaration of a Climate Emergency reflecting the concern of their constituents over skyrocketing average temperatures. However, one potentially significant corrosion to consider when it comes to the actions of elected officials is that one must consider to what degree their goals are environmentally focused. For example, there is a possible potential for

other issues such as promoting the local economy by allowing ExxonMobile to restart production to interfere with environmental values.

Other significant stakeholders are the cities of Goleta and Santa Barbara and the Cuyama Joint Unified School District. This stakeholder group primarily has the interest of the county's children in mind and because of this is strongly opposed to allowing ExxonMobile to restart production. The Unified School district has worked in conjunction with environmental activist groups as well as other departments of local government to lobby against ExxonMobile and other major local polluters. While the Unified School district does hold significant influence due to the fact that their interest aligns with the majority of the population, their most significant corrosion of power is that their funds must go to the schooling of the county's children, and cannot be funneled into lobbying for environmental preservation.

The Santa Barbara County Fire Department and specifically county Fire Chief Mark Hartwig are major stakeholders when it comes to the risk of wildfire in Santa Barbara county. There are a number of factors that act as catalysts aiding in this stakeholder groups' desire to protect the county from fire damage, beginning with the fact that due to the recent prevalence of wildfires across the state of California there is a great amount of public respect for the danger and seriousness that wildfires pose. Therefore, the county's citizens will have a strong understanding of evacuation protocol which will significantly aid the Fire Department in ensuring no one is harmed. Additionally, when a wildfire does occur such as the Alisal Wildfire which caught ablaze in Santa Barbara on October 11, 2021, the county is likely to receive emergency funding, as the county just received aid from the Federal Management Assistance Grant (FMAG).

Two more stakeholder groups impacted by the recent Alisal Wildfire are the 270 Santa Barbara County residents issued with fire evacuation orders as well as the 260 more issued

warnings. For those residents residing in the burn zone, the only major catalysts which helped them achieve safety through this disaster were the fact that they were given plenty of warning ahead of time that it is not safe to remain at home, as well as the fact that nearly all residents in California have fire insurance and will at least be financially reimbursed from their losses due to the fire. However, what insurance cannot save is more important to many citizens as countless irreplaceable family heirlooms and valuables will be destroyed which cannot be replaced.

The final category of stakeholders impacted by Santa Barbara's fast disasters are environmental groups such as The Environmental Defense Center as well as joint-University-based research groups. The Environmental Defense Center (The EDC) is a non-profit environmental activism group involved in many projects across the nation but heavily invested in fighting ExxonMobile and marine pollution in Santa Barbara. This group's main catalysts include the fact that since they are aiming to preserve the local environment, they have overwhelming public support. However, due to the fact that the EDC is funded by donations and grants as well as the fact that they are currently fighting environmental injustice nationwide, their lack of ability to solely focus on Santa Barbra is an example of corrosion.

Finally, a joint research team at UC Santa Barbara, California Sea Grant, U.S. Geological Survey, UMass Amherst, Northeastern University and Scripps Institution of Oceanography at UC San Diego, is a stakeholder in Santa Barbara fast disaster as they created a project projecting effects of climate change on Santa Barbara's coast. Their report shows how drastic the changes that are coming to Santa Barbara have the potential to be, as it was made with the intention of aiding local coastal and land-use managers to plan and prepare for future disaster situations. This stakeholder group's goal is simply to provide and make accessible critical information and thus has no major corrosions.

5. STAKEHOLDER ACTIONS

Walking the Walk

Jamie Sampson-Lizotte

With each of Santa Barbara County's fast disaster stakeholders identified, including potential catalysts and corrosions to each group's unique desired outcome, the next step towards understanding the actual impact each stakeholder group has had on Santa Barbara fast disasters is to examine the actions taken as well as not taken by these groups.

In recent years the Santa Barbara County Board of Supervisors has taken an active role in attempting to slow down local climate change and reducing the risk of a fast disaster occurring. The first action step they took towards this goal was to order ExxonMobile to halt all oil production and refinement and subsequently transition their platforms to safe and preserved states. This action was taken as a precautionary measure following the local Plains All American Pipeline spill in 2015 until the county deems that it is safe to restart production. Additionally, in 2019 the Board of Supervisors approved an official declaration of Climate Emergency proposed by County Supervisor Das Williams, as well as committed to Santa Barbara County moving to zero carbon emissions by the year 2035.

Other stakeholder groups who have taken legitimate action towards their desired outcome include the joint research team comprised of researchers from UC Santa Barbara, the California

Sea Grant, the U.S. Geological Survey, UMass Amherst, Northeastern University and Scripps Institution of Oceanography at UC San Diego, as well as the Environmental Defense Center. The joint research team's goal was to publish a report detailing the risk Santa Barbara County is in if local climate change advances at the same pace in order to educate the public and potentially prompt increased action, which is exactly what they successfully did. The Environmental Defense Center has taken action through a different format, as when it comes to Santa Barbara's fast disaster they have focused their attention on lobbying to ensure ExxonMobile is not allowed to restart production. Their lobbying efforts have taken the form of speaking at public events, spreading information to the public about fast disaster risks associated with oil production, as well as directly communicating with local officials imploring them not to give into ExxonMobile's corporate desires.

When it comes to the ExxonMobile corporation itself, little to no action preventing a fast disaster has been taken on their own prerogative. What this means is that ExxonMobile did take the action to comply with the halt of production order, but they only did so begrudgingly. In fact, the only action ExxonMobile took on its own accord has been to fund studies denying the impacts of climate change and the policies taken to protect against it.

Other actions taken by fast disaster stakeholders include the ordering of an evacuation notice to 270 Santa Barbara residents and an evacuation warning to 260 more by Santa Barbara County Fire Department and county Fire Chief Mark Hartwig following the ignition of the Alisal Wildfire within Santa Barbara county. This action is critical as it is not planning for the future but aims to ensure immediate safety for local residents. Not only is the ordering of these evacuation notices and warnings an action against fast disasters, but individual compliance with those orders

by the affected individuals residing in the burn zone is to be considered an action taken against fast disasters as well.

6. ROLE OF MEDIA AND BIG ENVIRONMENTAL ORGANIZATIONS

Ensuring Accountability

Jessica Garcia

Santa Barbara County is home to various oil rigs, dry chaparral mountains, RMP facilities and high winds making it susceptible to fast disasters. For the safety of the community members, media outlets and environmental groups should provide thorough and detailed information regarding environmental issues and fast disasters.

Environmental groups like EarthPeace and GreenJustice share thorough and detailed articles about environmental disasters. Environmental organizations educate the community on preventing future disasters, actions to take in response to disasters and inform the community on how to speak up against large companies who are interested in gaining profit. The Environmental Defence Center advocated for all members of the community in a partnership with other environmental groups. They provide detailed reports about the action taken to halt the development of over seven hundred new oil wells which would be used to drill and operate from. The oil wells would threaten clean air, clean water, wildlife, climate, and public safety in Santa Barbara. One out of the three oil companies recently retracted their application to build the new oil wells (Environmental Defence Center, 2021).

Large media outlets provide detailed coverage on large events which have occured in Santa

Barbara, such as the 1969 oil spill, the 2015 Refugio State Beach oil spill and the recent Alisal fire (LA Times, 2021). Santa Barbara houses people that are vulnerable to wildfires and fast disasters, therefore ongoing and extensive coverage is necessary (Santa Barbara Fire Safe Council, 2021). Although a significant amount of time has passed since the 1969 oil spill and the 2015 oil spill, a variety of media outlets continue to report and reference back to it. However, larger news outlets fail to provide coverage on RMP facilities. Considering there are various RMP facilities in Santa Barbara, it is essential that these large media outlets inform the public about the possible risks and instructions in the event of an emergency. The county's general wikipedia page provides limited information on the geography and climate of the county, but it does not provide any further information about the environment and fast disaster risks. It is especially important that they provide coverage because they are more widely viewed and easier to access.

Many groups within the community do not have access and resources to information provided by environmental organizations like the Environmental Defence Center and EarthJustice . Without reports from major media outlets, many members of the community run the risk of being uninformed, thus risking their safety and wellbeing.

7. RECOMMENDED LOCAL ACTIONS

Long-term Solutions for Potential Fast Disasters

Mia Williams

Santa Barbara County has unfortunately been subject to many environmental issues that have intersected with certain injustices. For example, Santa Barbara County has experienced several Southern California wildfires. These dangerous fires have not only ravaged the wildlife and forests in the county, but have burned down several communities within Santa Barbara. Low income communities who were affected by these fires have struggled the most as insurance rates have drastically increased due to the damage. Instead of doing their best to help out the people negatively impacted by these disasters, insurance companies choose to cover for themselves. Most recently the Alisal Fire has ravaged the forests and certain communities in Santa Barbara. According to the Washington Posts article, " California's Alisal Fire Sparks Evacuations and Highway 101 Partial Closure", author Adela Suliman details that local authorities sent out evacuation orders and even shut down part of Highway 101 to protect citizens' lives.

While these provide decent solutions to a temporary problem, long-term solutions for these communities need to be addressed immediately. Rebuilding communities, providing lower insurance rates, constructing evacuation centers, and teaching fire safety and emergency

evacuation protocol are just a few long term solutions that can be implemented to help with these natural disasters. By rebuilding communities that are affordable for the citizens within affected areas, local authorities will be building trust as well as putting the safety and well-being of affected communities as a priority. Lowering insurance rates will help low income units and families be able to protect their belongings from being completely destroyed in case of another wildfire. By constructing evacuation centers, Santa Barbara County will have a specific safe space in case of another emergency. This is especially important for families. Finally, offering free evacuation and safety protocol courses for adults and children alike will help to control any possible casualties. These communities will be able to be fully prepared for another emergency.

8. RECOMMENDED EXTRA-LOCAL ACTIONS

Fast Disasters: How We Can Help on a National Level

Jessica Pham

Some local actions that would reduce environmental vulnerability and injustice such as unethical oil drilling or rapid wildfires could be to issue more environmental acts at a national level. For example, The Pollution Prevention Act of 1990 required the US to focus on replacing hazardous materials with safer alternatives in order to reduce air pollution (Who's in Danger?). This was a crucial action that essentially forced large industrial companies to implement source reduction in their operations. Additionally, after the 1969 oil spill along the California coastline in Santa Barbara, Nixon issued the Clean Air Act, Clean Water Act, and Endangered Species Act. This helped to protect the animals such as birds and sea mammals that were covered in thick layers of crude oil. Thousands of animals were killed from this one oil spill, and these acts helped to protect the environment and animals by implementing safety precautions that companies will be required to follow (LA Times).

Furthermore, many schools and residential areas are near industrial facilities that emit toxic fumes. In the video, Taking a Stand Against Environmental Injustice, a neighborhood in Los Angeles called Wilmington is shown. A boy who lives there, Brandon Molina, talks about how their

neighborhood alone is surrounded by three oil refineries, multiple freeways, two of the largest ports in the US, and several active oil wells. In terms of protection against this environmental injustice and vulnerability, many of them are looked over as Wilmington is not as affluent of an area as elsewhere. Many are urging that fossil fuel companies cooperate more with the residents of these fast disaster areas. However, large companies such as Union Oil Co, etc. refuse to reduce operations. Many links between fossil fuels and asthma and cancer have been shown. It is necessary to issue statewide acts of clean air that monitor how many emissions are being released into the air by these companies.

9. RECOMMENDATIONS FOR FUTURE RESEARCH

What Lies Ahead

Amber Martinez

In order to improve health impacts, disasters and hazards, and social variables in Santa Barbara County, more research needs to be done and more data needs to be collected. This research would help create and pave a pathway for local residents and other researchers to learn more about the environmental hazards the county faces and how the county can limit and prepare for them.

A couple of things the research group noticed was there was a lot of data research missing for the county. For instance data on how many environmental hazards and disasters have occured, how these numbers have either risen or declined over the years, evacuation plans and procedures when a disaster hits, and how the residents' financial, health, and social variables are affected. In which this quantitative data can give an insight into what type of resources this county would need in.

To better understand the pollution, health impacts, and social variables in Santa Barbara there is crucial quantitative research needed to help this county. For instance, more research specifically targets data on the water and air pollution of refineries, plants, and oil platforms. This data would

show how much pollution they are responsible for, how pollution is increasing overtime, and the impacts they have on not just the county but the fenceline communities, hospitals, and schools they impact. Being able to keep track of and data on the pollution from these refineries, plants, and platforms, would give local residents and county officials the chance to plan and create regulations for these hazards and create limitations on these corporations.

Quantitative research that would correlate with helping the pollution research needed in this county is collecting data on health and the issues the residents face as a direct line to pollution in the county. Since there are many counties out there that have a huge pollution problem and have more research done, we can use their case studies and look at health issues that correlate with pollution to help compare to the health issues residents face in this county. For instance, blood testing would focus on chemicals and toxins being taken in by the body that derive from pollution. Also more research data to be collected on any health issues occuring like asthma, cancer, or genetic interference. This research would help create regulations and ensure there are safety precautions put in place that limit these corporations. This research will also serve as health information for the county, so they can be aware..

More quantitative research that is needed , is survey research in order to assess how much knowledge the residents in this community are privy to about these environmental hazards and disasters and how much knowledge they have about environmental injustices and what they might think it means for their county. This would help in order for us to educate the county and also figure out a way we can give them equal access to this information. Also survey research on how

many residents have social and financial resources since this community has poverty injustice. This information can be used to figure out what residents in the county need in order to be prepared for fast disasters.

Research that will help advance the understanding of fast environmental hazards in this county is a qualitative study. Qualitative Research will allow for a much more in-depth view into the county in which more data will be collected in a more in person and personal way. There will be more studies and focus on the community residents.

The proposal research question would be: How do current residents perceive environmental hazards and fast disaster potential in Santa Barbara especially considering the recent memories of the 1969 oil pipeline disaster? Residents who live in fence line communities should be studied and talked to. In order to gain access to this social group, there will need to be interaction made by going to community events or meetings, hosting informational meetings, and living near fence line communities so residents are more open and comfortable to talk and receive information if they see a familiar face around. We understand that these residents who interact with us are sometimes hesitant because there are some risk factors like corporations coming after them, so our job would be making sure we find a way to accommodate them and assure them that their help is confidential.

Focus groups, participant observation, and in depth interviews would help in collecting answers and data to the qualitative research. Focus Groups would provide a diverse variety of answers that

would show different aspects of these perceptions of fast disasters and hazards like their reactions, experiences, and opinions. Some discussion prompts can be the 1969 oil pipeline fast disaster, what they have heard about environmental hazards and fast disasters in their community, and whether they experienced any impacts on their health, social, and economic variables. Participant observation would give more quantitative data that was missing through being able to see what is going on in these fenceline communities and how they are reacting through the research group's interactions with the residents . In depth interviews would give a deeper understanding of the perception of the residents which will be much more detailed. Some questions asked can be: how have the environmental hazards and fast disasters affected you and your family?, how long have you lived in this community?, and what is your perception on how prepared the county is to deal with these environmental hazards and disasters?

This research will be found useful by local residents and state/ county officials as it will help them better prepare and plan for fast disasters in this county, other counties who have similar environmental hazards and fast disasters, and other researchers and anthropologist who can take the qualitative study and use this information to build off of or compare the findings to other county research studies.

10. INJUSTICE ANALYSIS

To Serve and Protect

Edgar Alegria Olvera

What is unjust about the oil spills in particular, is that the safety precautions and regulations set to specifically avoid spills such as that of 1969 are being ignored or at least not being enforced the way they should. A Coast Guard reported a ship anchor dragged a pipeline till it ruptured releasing an estimated 144,000 gallons of oil that spanned over 8,000 acres. Additionally, another report states that officials knew about the recent oil spill near Huntington Beach and Newport Harbor 10 hours before the operator decided to report it to the authorities. Not only does this dishonest affect the environment, it affects the wildlife that surrounds the hazard, as well as the trust residents have on the companies, corporations, and government run projects in their area, especially if not notified of said projects. For example, after the Thomas Fire of 2017 and storms following that fire, trucks carrying debris left behind by said fire and storms headed northbound discharging the mud on Goleta Beach. Even the City of Goleta came out with a statement saying they were not adequately notified of this project happening. This is unacceptable, especially with the history that those counties have with similar disasters/hazards. Safety regulations must be enforced by companies who carry heavy duty equipment that can potentially harm the area, cities notified of government run projects, and accidents reported as soon as possible.

Works Cited

Cramer, Maria. “Alisal Fire in California Consumes 6,000 Acres in 24 Hours.” *The New York Times*, October 12, 2021, sec. U.S. https://www.nytimes.com/2021/10/12/us/alisal-fire-california.html.

Cal@170 by the California State Library. “Ecological Disaster Creates Impetus for a New Ethos,” December 27, 2019. https://cal170.library.ca.gov/january-28-1969-an-ecological-disaster-and-an-impetus-for-a-new-ethos/.

Santa Ynez Unit (SYU) Exxon Mobil. “FAQ.” Accessed October 16, 2021. https://www.syu.exxonmobil.com/faq1.

February 14, Charlotte Marston on, and 2020 in News. “Seep Science: Tar on the Beach – Bubbleology Research International.” Accessed October 16, 2021. http://bubbleology.com/2020/02/14/seep-science-tar-on-the-beach/.

Washington Post. “Fires, Floods and Free Parking: California’s Unending Fight against Climate Change.” Accessed October 12, 2021. https://www.washingtonpost.com/graphics/2019/national/climate-environment/climate-change-california/.

Friedman, Lisa. “Biden Administration to Restore Climate Criteria to Landmark Environmental Law.” *The New York Times*, October 6, 2021, sec. Climate. https://www.nytimes.com/2021/10/06/climate/biden-nepa-environmental-law.html.

Hamilton, Jon. “How California’s Worst Oil Spill Turned Beaches Black And The Nation Green.” *NPR*, January 28, 2019, sec. Environment. https://www.npr.org/2019/01/28/688219307/how-californias-worst-oil-spill-turned-beaches-black-and-the-nation-green.

Hirneisen, Madison. “Environmental Activists Protest Exxon Trucking Proposal.” *Santa Barbara News-Press* (blog), September 25, 2021. https://newspress.com/environmental-activists-protest-exxon-trucking-proposal/.

“Hpi_report-3.Pdf,” n.d.

“Https://Www.Environmentaldefensecenter.Org/Category/Our-Stories/Santa-Barbara-Channel/,” n.d.

"Https://Www.Environmentaldefensecenter.Org/Category/Our-Stories/Santa-Barbara-Channel/," n.d.

Magazine, Smithsonian, and Lila Thulin. "How an Oil Spill Inspired the First Earth Day." Smithsonian Magazine. Accessed October 13, 2021. https://www.smithsonianmag.com/history/how-oil-spill-50-years-ago-inspired-first-earth-day-180972007/.

Messmer, Alyse. "Southern California No Stranger to Oil Disasters; '69 Spill Spurred Environmental Changes." Newsweek, October 4, 2021. https://www.newsweek.com/southern-california-no-stranger-oil-disasters-69-spill-spurred-environmental-changes-1635446.

Noozhawk. "Santa Barbara County Supervisors Declare State of Local Emergency for Alisal Fire." Accessed October 16, 2021. https://www.noozhawk.com/article/santa_barbara_county_supervisors_emergency_declaration_alisal_fire.

"Opinion: ExxonMobil's Oil Trucking Plan in Santa Barbara County Is Dirty and Dangerous | Pacific Coast Business Times," September 24, 2021. https://www.pacbiztimes.com/2021/09/24/opinion-exxonmobils-oil-trucking-plan-in-santa-barbara-county-is-dirty-and-dangerous/.

Postelwait, Jeff. "Santa Barbara Prepares for New Normal of Natural Disasters and Power Shutoffs." Utility Products, February 9, 2021. https://www.utilityproducts.com/transmission-distribution/article/14184465/santa-barbara-prepares-for-new-normal-of-natural-disasters-and-power-shutoffs.

"Santa Barbara Channel » Environmental Defense Center." Accessed October 13, 2021. https://www.environmentaldefensecenter.org/category/our-stories/santa-barbara-channel/.

"Santa Barbara Channel » Environmental Defense Center." Accessed October 8, 2021. https://www.environmentaldefensecenter.org/category/our-stories/santa-barbara-channel/.

ScienceDaily. "Santa Barbara Coastline: Preparing for the Future." Accessed October 8, 2021. https://www.sciencedaily.com/releases/2019/09/190930131541.htm.

"Santa Barbara County | Coastal Resilience." Accessed October 15, 2021. https://coastalresilience.org/project/santa-barbara-county/.

"Santa Barbara County Board of Supervisors." Accessed October 17, 2021. https://www.countyofsb.org/bos/home.c.

"Santa Barbara County Board of Supervisors." Accessed October 17, 2021. https://www.countyofsb.org/bos/home.c.

World Business Academy. “Santa Barbara County Board of Supervisors Recognizes a Climate Emergency,” December 16, 2019. https://worldbusiness.org/santa-barbara-county-board-of-supervisors-recognizes-a-climate-emergency/.

Twitter. “The 1969 Santa Barbara Oil Spill That Changed Oil and Gas Exploration Forever.” Los Angeles Times, May 21, 2015. https://www.latimes.com/local/lanow/la-me-ln-santa-barbara-oil-spill-1969-20150520-htmlstory.html.

FIGURES