

SAN GABRIEL VALLEY

COMBO DISASTER
CASE STUDY



ENVIRONMENTAL
INJUSTICE

Fall 2021

GROUP NO. SGV

AUTHORS

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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, Tim Schütz, Kaitlyn Rabach, Prerna Srigyan and Maggie Woodruff for the Department of Anthropology, Fall 2021. The University of California Irvine is on the ancestral homelands of the Tongva and Acjachemen nations.

COVER PHOTO

In 2016, two fires burning in the SGV originally called the Fish fire and the Reservoir fire were renamed the San Gabriel Complex fires. It burned around 5,400 acres of land in the San Gabriel Mountains north of Azusa, Duarte, and Monrovia. (Screenshot by Sophia Zajic, November 10, 2021.

<https://www.sgvtribune.com/2016/06/21/this-map-shows-how-the-san-gabriel-complex-fires-compare-to-other-southern-california-fires/>)

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Evelyn Tapia	Y
Shani Trieu	Y
Sophia Zajic	Y

BIOGRAPHICAL STATEMENT

Elizabeth Kondo is a third-year transfer student at the University of California, Irvine majoring in Biological Sciences. She grew up in the San Fernando Valley and in the South Bay as an only child hoping to be the first in her family to earn a Bachelor's degree. Her goal for the future is to attend medical school and specialize in trauma surgery while continuing to advocate for environmental justice.

PHOTO



Kayleigh Ott is a first-year student at the University of California Irvine majoring in Environmental Science and Policy and doubling in Political Science. She is from Goodyear, Arizona in which she directed drives for the Southwest Advocacy Center, helping domestic abuse victims. She seeks to get politically involved in changing the environment and continue her research.



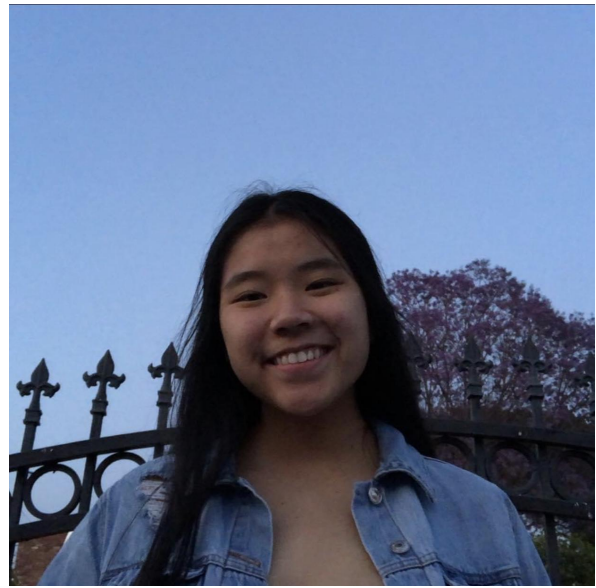
Jazmín Romero is a first-year Earth System Science major with a double major in Environmental Science and Policy at the University of California, Irvine. They are a first-generation student, becoming the first to pursue higher-level education in their family, and are a proud resident of the SGV. She actively educates herself and advocates for environmental and political injustice within her community, through a student-led organization. They seek to continue their education to bring positive change in their community and others surrounding them.



Evelyn Tapia is a first-year undeclared student at the University of California, Irvine. She grew up in San Diego and is a first-generation student attending college from her mother's side. She's very passionate about Environmental justice and hopes to become an activist on the side.



Shani Trieu is a first-year student at the University of California, Irvine majoring in Cognitive Science. Born from the San Gabriel Valley, she is a first-generation student pursuing higher education. She hopes to be able to bridge her learnings about environmental racism and its connections to many medical issues for people of color in low-socioeconomic communities.



Sophia Zajic is a first-year undeclared student at the University of California, Irvine. She grew up in Massachusetts and is aiming to further her education regarding environmental injustice and the impacts of climate change. She is considering a major within the STEM field and hopes to apply what she learns about the environment to her future.



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INTRODUCTION

This case study report focuses on climate change and the array of environmental hazards it creates and intersects within the San Gabriel Valley.

Climate change causes both fast and slow disasters: Climate change is linked to increasing incidence of extreme weather (hurricanes, catastrophic flooding, and dams breaking, for example) and also to slow, less dramatic but still very threatening changes -- in water availability, agricultural productivity, disease incidence, and so on. This is why we refer to climate change as a “combo disaster.”

The case study highlights ways climate change is hitting poor and politically marginalized communities hardest. It also describes how climate change produces many intersecting injustices, which together produce environmental injustice. [Intergenerational injustice](#) is a particularly important result of climate change. Intergenerational injustice occurs when decisions and actions by people in one generation (people today, for example) lower the life chances and well-being of people in the future.

The report addresses a series of ten questions (Fig. 2) 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

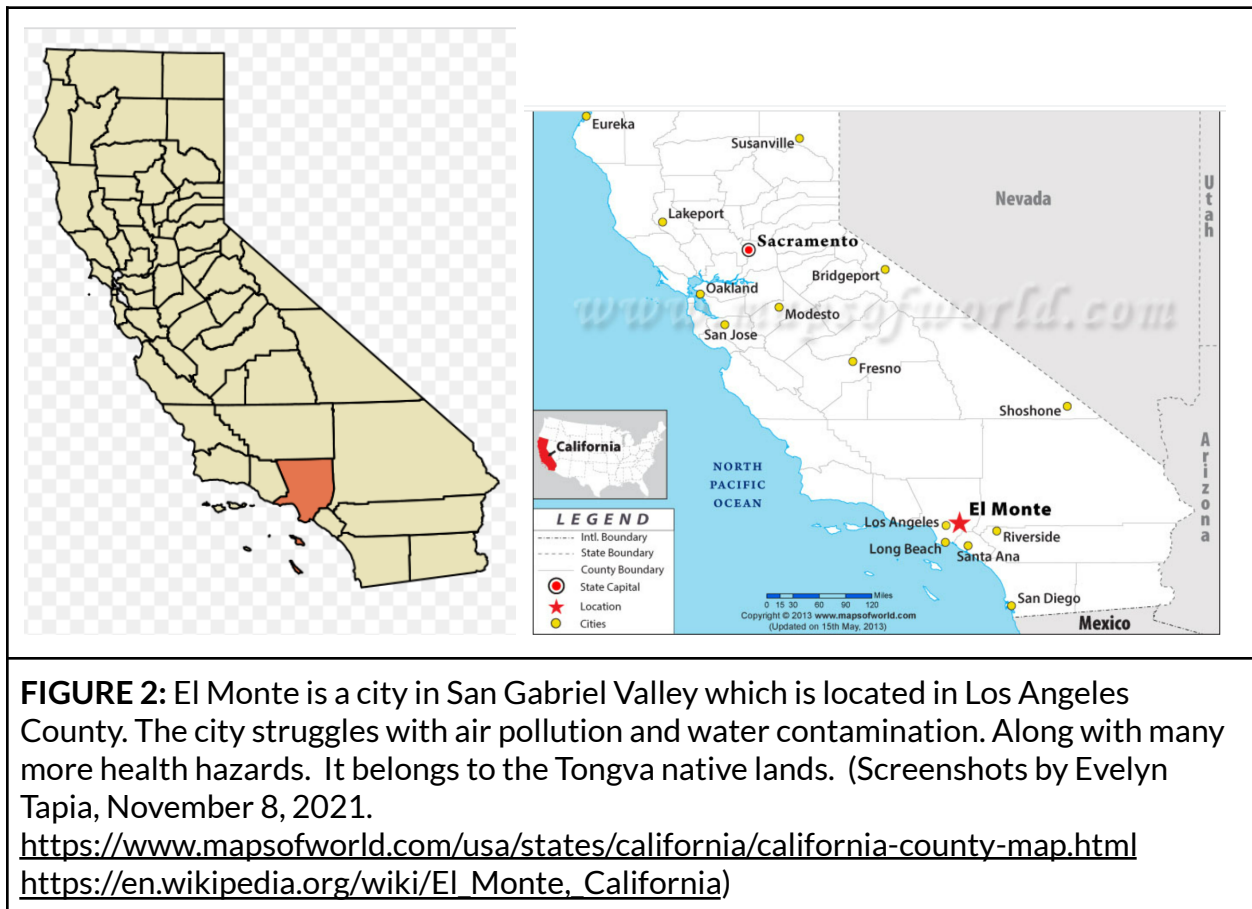
1. What is the setting of this case? What are its assets?
2. What environmental health threats (from explosions, everyday pollution, climate change, etc) are there in this setting?
3. What intersecting factors -- social, cultural, political, technological, ecological -- contribute to environmental health 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.

Key concepts that should be known regarding combo disasters include disaster capitalism, climate change adaptation, and community resilience . Disaster capitalism is when governments are found taking advantage of a major disaster to adopt liberal economic policies that the population would be less likely to accept under normal circumstances. Climate change adaptation seeks to lower the risk posed by the consequences of climatic changes by changing the ways we build, live, and educate ourselves to be ready for what climate change will bring. Adaptation measures may be planned in advance or put into place spontaneously in response to local pressure. With

climate change affecting all areas of the world, communities must be able to adapt and grow in order to make their community resilient, especially vulnerable communities. Cities are a great source of resilience. Some changes they can do to prepare for the effects of climate change is investing in climate-proofing infrastructure and closing service gaps and access to amenities. Inclusive planning is also critical to promoting an inclusive culture so all genders, residents, leaders, technical experts, and organizations are involved in resilience actions for their community.

There is no prior EIJ research to share from previous years because no other group has completed a case study on the San Gabriel Valley.



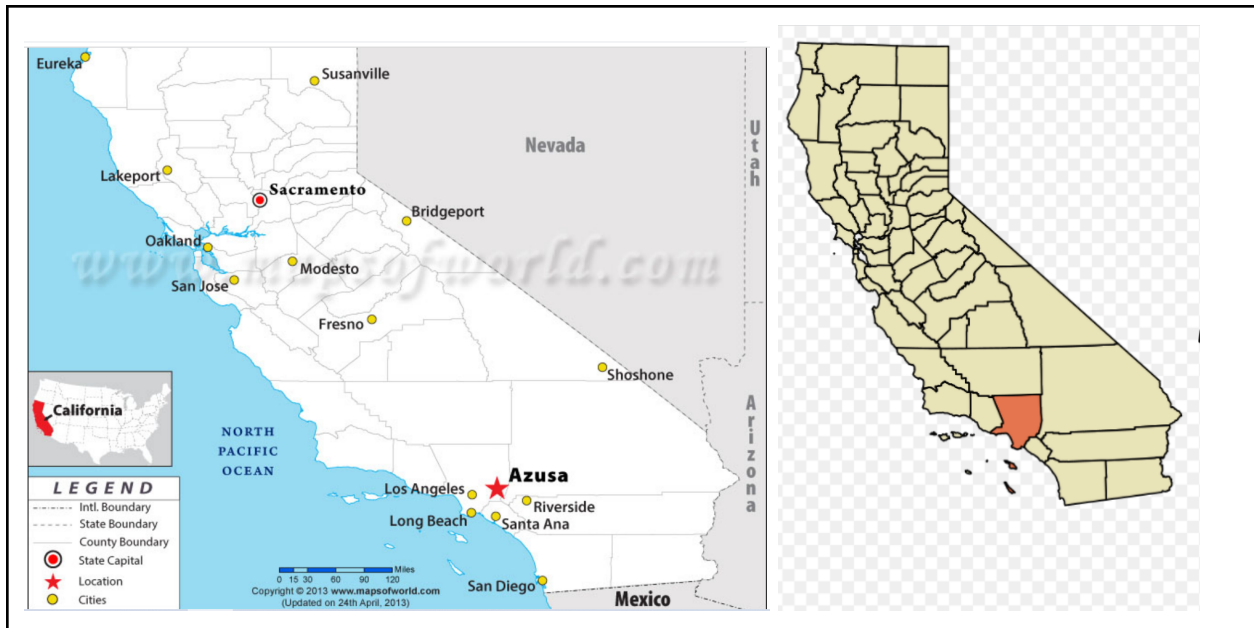


FIGURE 2: Azusa is a city in the San Gabriel Valley which is located in Los Angeles County. The air pollution here varies from time to time but there are many problems regarding poverty and the environment. Azusa also belongs to the native lands of Tongva.

(Screenshots by Evelyn Tapia, November 8, 2021.

https://en.wikipedia.org/wiki/Azusa,_California

<https://www.mapsofworld.com/usa/states/california/california-county-map.html>)

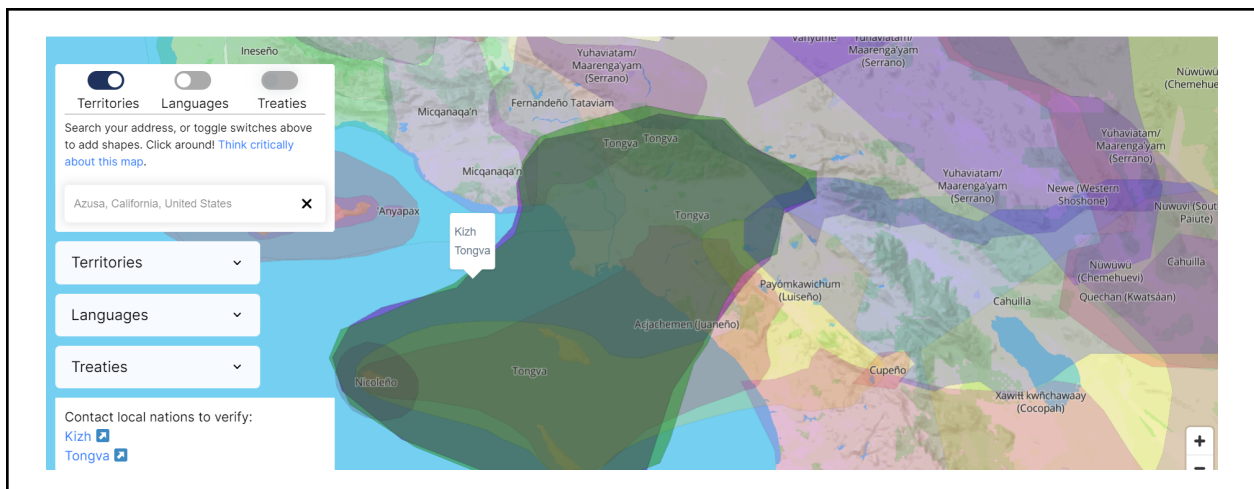


FIGURE 3: Both El Monte and Azusa belong to the Kizh and Tongva Native lands. There isn't much recognition regarding pollution within the native lands but there are articles connecting the tribe to El Monte ("Tongva-Village-Turned-World-City: Contemporary Indigenous Legacies in Greater L.A."). (Screenshots by Evelyn Tapia, November 8, 2021

<https://tropicsofmeta.com/2016/06/02/tongva-village-turned-world-city-contemporary-indigenous-legacies-in-greater-l-a/>

1. COMMUNITY ASSETS & SETTING

Community for the People or for Much Needed Active Climate Change?

Jazmín Romero

When fully examining the environmental injustice within a community, or in this case, multiple -- Azusa, City of Industry and El Monte, it is best to consider the setting itself and their assets.

Azusa City is one of the many cities that make up the San Gabriel Valley. With a population of an estimated 49,974 people, according to the census recorded on July 1, 2021. Statistically, Azusa consists of 1.1% for White Non-Hispanic residents, 8.5% for Black residents, 16.0% for Hispanic or Latino residents, 5.8% for American Indian residents, 16.5% for other race residents, 11.7% for two or more races residents, allowing it to become a diverse community.

In addition to population descriptions, the estimated household income of 2019 was \$72,981 while estimated households include the following: "Estimated median house or condo value in 2019: \$462,533; Mean prices in 2019: all housing units: \$833,732; detached houses: \$888,338; townhouses or other attached units: \$624,673; in 2-unit structures: \$891,472; in 3-to-4-unit structures: \$665,482; in 5-or-more-unit structures: \$701,572; mobile homes: \$147,351; occupied boats, rvs, vans, etc.: \$212,705". Estimated

cost for household payments sets the cost of living index to be high (136.1), much higher than the U.S. average (100).

Azusa City sits at the foot of the San Gabriel Valley in Los Angeles county, located at least 20 miles east of downtown Los Angeles. But because the city is located at the entrance to the San Gabriel Canyon, Azusa has been given its nickname "*The Canyon City*" which can be seen scattered throughout the city on street signs. In addition to sitting at the foot of the San Gabriel Valley, Azusa can also be found along the historic Route 66.

The Canyon City is notorious for its wildfires but although many health disparities are not linked to its disaster, wildfires, many residents fall as victims to asthma. Asthma is not the only health disparity that residents become familiar with. Many also become diagnosed with diabetes, colon cancer, breast cancer, lung cancer, chronic obstructive pulmonary disease, and cardiovascular disease. Also found within Azusa's data, 38% of adults (persons 18 years of age and over) meet the recommended guidelines for physical activity and 26% of adults (persons 18 years of age and over) are obese, thus allowing its health index to reach 18.5 (lowest) to 67.6 (highest).

Although there is not much found on the City of Industry due to its small population (estimated 373 people as of 2019), their health index reaches 18 (lowest) to 51.3 (highest), most likely due to the fact that the city is mainly populated with business corporations, power plants and warehouses.

El Monte, a city known as *The End of the Santa Fe Trail*, holds a population of 115,487 as of July 1, 2019. El Monte, which means "the mountain" or "the mount", falls between the San Gabriel and Rio Honda Rivers. With an estimated household income of \$50,829 as of 2019, the mean prices of housing units are the following: all housing units: \$602,059; detached houses: \$685,252; townhouses or other attached units: \$480,533; in 5-or-more-unit structures: \$572,505; mobile homes: \$58,013. This then results in El

Monte's cost of living index to be *very high* (145.3) compared to the U.S. average (100). It also may be important to know that there are members of El Monte's community that live in poverty. Those who live in poverty are statistically described in percentages as 16.3% (12.4% for White Non-Hispanic residents, 47.2% for Black residents, 18.2% for Hispanic or Latino residents, 24.6% for American Indian residents, 5.5% for Native Hawaiian and other Pacific Islander residents, 12.9% for other race residents, 22.8% for two or more races residents).

Statistics show that the community of the two cities are made up of people of all different backgrounds. These same people though, also become great assets to solving problems while developing effective pathways for community development. They include and are not limited to libraries, schools, community spaces, the skills of the people within the community, and the infrastructure libraries, schools, community spaces, the skills of the people in the community, and their infrastructure (Internet connectivity, transportation, etc). The history of a community can also be an asset, especially if people actively recall it.

Azusa's most predominant assets are local government programs that support climate change mitigation and adaption. Azusa's mitigation and adaptation plan sole purpose was to, "purpose of the law is to slow down climate change by establishing a comprehensive, state-wide program to reduce greenhouse emissions from all sources within the state." (California Assembly Bill 32 (AB32) 2006). With this law enacted, there was a goal by 2020 to equate to roughly 25% reduction in greenhouse gases and develop AB32 compliance regulations for California business and commercial sectors, including instate electricity generators as well as importers of electricity into California.

Aside from government assets, non-government climate action organization gives power to the people, people of the community fighting for change. The Canyon City Environmental Project is a non-profit organization that aims for an "envision [of] equitable clean air and water and a stable climate through a fossil-fuel-free future, empowering our

Southern California communities to join together for environmental, social, and economic justice. To organize, activate, and engage across class, gender, racial, and ethnic lines to build a mass movement across Southern California for a healthy climate and a 100% clean energy future with full employment. We organize actions, participate in community, art, political and social gatherings, and encourage people to get active in the community. We are based in metropolitan Los Angeles affiliated with the international climate change organization, 350.org.” (CCEP Facebook Page 2021). This is a great organization that is full of community members across the City of Azusa. Also, students from Azusa Pacific University, Center for Research in Science (CRIS) present “Shalom in a Changing Climate.” This is where guest speakers will discuss the science, theology and practice of creation care (APU Environmental Science). The public is welcome to attend and participate in a Q & A session with panel members and discuss environmental issues and their impacts. University students are not the only ones doing their part though. In El Monte, “El Monte Union High School District has been recognized as a leader in promoting green initiatives in its schools, implementing green school practices in its operations Districtwide and fostering environmental sustainability in the classroom.” (CA School News 2021). High schools are being funded and implementing sustainable operations into everyday school life. Students get to see in person sustainable resources and also are encouraged to do their part by participating!

In addition, many familiar resources to residents that they may not know were cooling centers are: City of Azusa Library, Memorial Park in Azusa, El Monte Library, Jack Crippen Multi-Purpose Senior Center in Azusa, Grace T. Black Auditorium in El Monte and South El Monte Senior Center. All cooling centers are easily accessible when needed.



FIGURE 4: Pictured above is the San Gabriel River Trail located in Azusa. The river is a beautiful and natural resource to animals in the surrounding area. Also pictured is

Earthworks Farm, a work-training and educational farm located in the Whittier Narrows Recreation Park in South El Monte. Earthworks Farm was visited by high school students of Arroyo, Mountain View, and South El Monte High. Students learned that “the area nestled between the Rio Hondo and the San Gabriel River was known to have rich fertile soils and a temperate climate; now the area is considered to be a food desert with limited access to healthy and nutritious food” (Young Voices 2021).

(Screenshot by Jazmín Romero, November 8, 2021.

<https://www.pinterest.com/pin/527906387541713278/>)

(Screenshot by Jazmín Romero, November 8, 2021.

<https://www.kcet.org/youth-voices/a-trip-around-el-monte-and-south-el-monte-to-see-its-past-present-and-future>)



FIGURE 5: The aftermath of a wildfire that occurred in Azusa is pictured above and highlights the negative impact, causing an extra effort to keep trail guides current as hiking through the San Gabriel Mountains is a popular attraction. In addition, a man crossing the street in El Monte tries to keep dry after heavy rain and flooding that occurred in the city. Because of the floods, many cars on the 10 freeway crashed.

(Screenshot by Jazmín Romero, November 8, 2021.
<https://www.simpsoncity.com/hiking/fires.html>)

(Screenshot by Jazmín Romero, November 8, 2021.

<https://www.sgvtribune.com/2018/01/09/flooding-car-crashes-reported-near-10-free-way-in-el-monte-west-covina-as-storm-soaks-l-a-county/>)

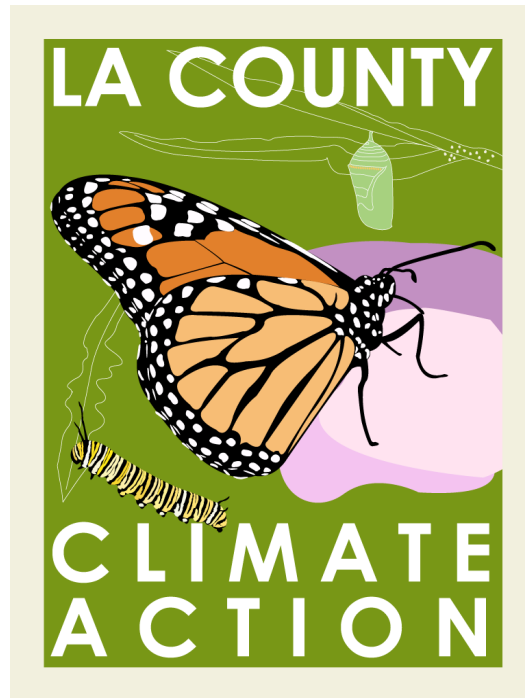


FIGURE 6: Pictured above is the LA County Climate Action graphic which serves as an art cover for the written climate action. The climate action outlines actions that Los Angeles County plans to take to “reduce greenhouse gas (GHG) emissions and adapt to a changing climate in unincorporated areas” (LA County Climate Action 2021). In addition, a graphic to promote regional planning for the East San Gabriel Valley community is pictured. (Screenshot by Jazmín Romero, November 8, 2021.

<https://planning.lacounty.gov/site/climate/>

(Screenshot by Jazmín Romero, November 8, 2021.

<https://planning.lacounty.gov/site/esgvap/>)

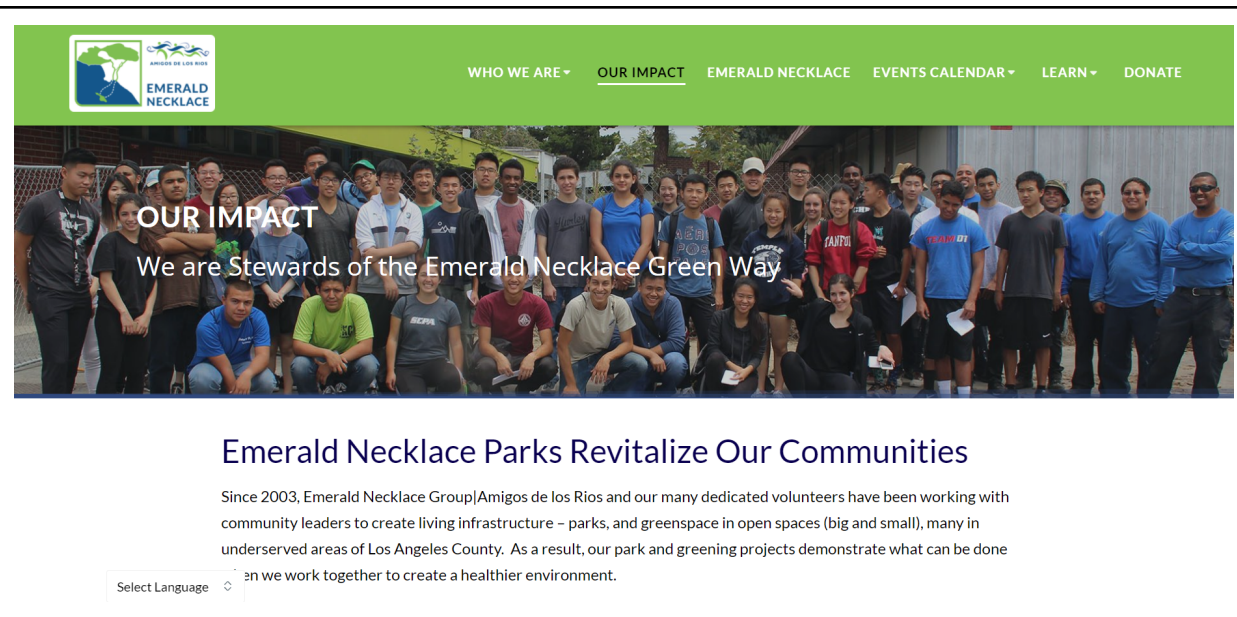


FIGURE 7: It’s difficult to find non-government climate activism in the San Gabriel Valley, meaning organizations that are focused on climate change. One large non-government organization that works in the SGV is the ActiveSGV, but their focus lies in “a more sustainable, equitable, and livable San Gabriel Valley.” But the group Amigos de los Rios for past 18 years has “proven [their] commitment to environmental justice by improving the built environment and bolstering civic engagement in under-served communities of the San Gabriel Valley and Gateway Cities most burdened by urban development and most in need of green infrastructure solutions.” One of their projects was the Emerald Necklace, “an interconnected loop of parks and greenways” that is “nestled in the heart of the San Gabriel Valley and extending from the San Gabriel Mountains to the Angeles National Forest down to the Pacific Ocean, providing desperately needed recreational areas.” An important part of this mission is adding more green space to the LA region to “offset the effects of climate change.” One of its goals is

to design and build communities “that are resilient to the current and projected impacts of climate change.” It was completed in 2014 but they continue to hold events and work on greening projects to improve the environment of LA county, where the SGV is located. (Screenshot by Sophia Zajic, November 8, 2021.

<https://amigosdelosrios.org/park-projects-green-infrastructure-2/>)

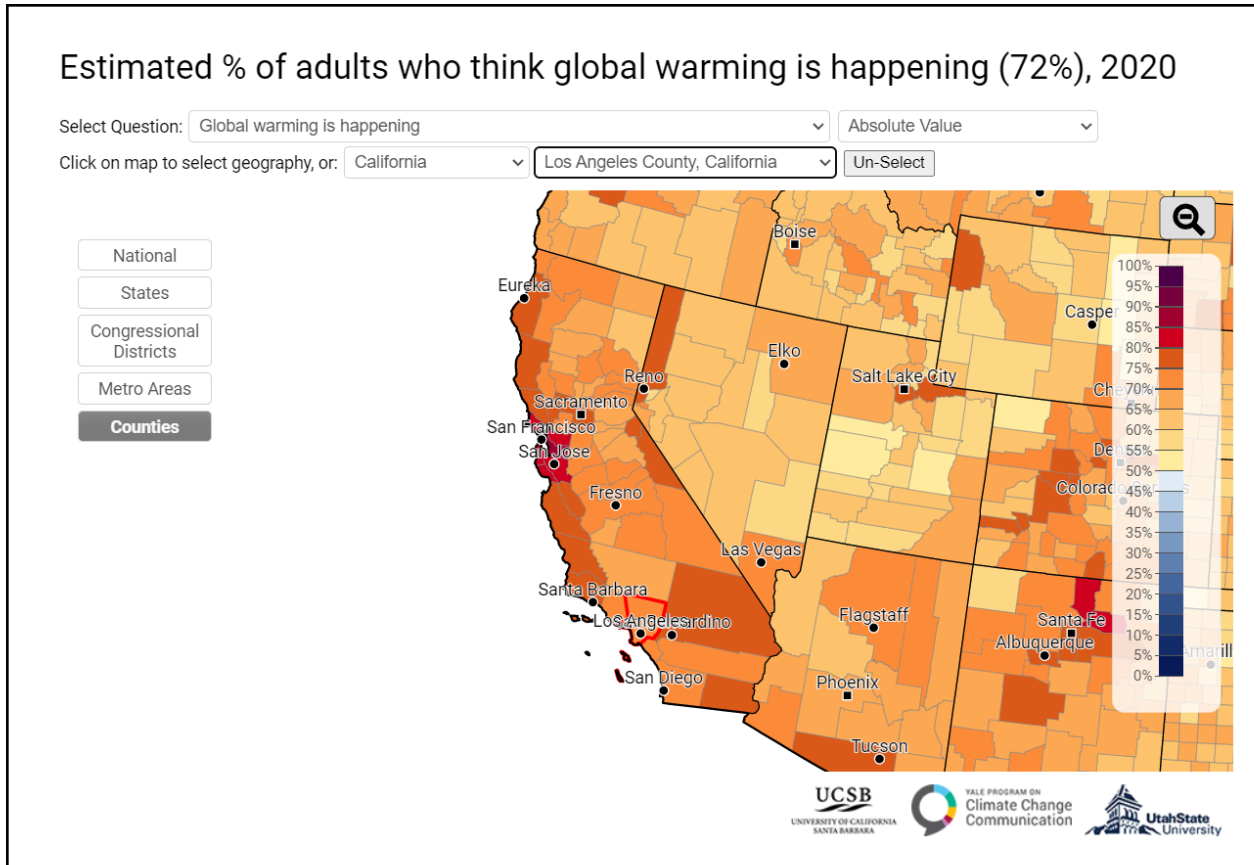


FIGURE 8: This data from the Yale Climate Opinion Maps 2020 shows the counties of CA and the estimated percentage of adults who think global warming is happening, which within LA County is 75%, 2% less than California and 3% more than the US. So the majority of people believe that it’s happening but only 27% of LA county hear about global warming in the media at least once a week. This number should be higher with how important global warming is, especially if 75% of the county believe in it and 65% think it’s caused mostly by human activity. Also, 70% of LA county think global warming is affecting the weather, which means those people are feeling the effects of global warming in some manner that could be negatively harming them and their environment. Unfortunately, we don’t have data on this for the SGV, so we are unsure how much of that population believes in global warming or how often they are hearing about it in the media. (Screenshot by Sophia Zajic, November 8, 2021.

<https://climatecommunication.yale.edu/visualizations-data/ycom-us/>)

2. COMBO DISASTER & OTHER ENVIRONMENTAL THREATS

Our Lives Are Being Threatened By An Enemy We Created

Elizabeth Kondo

Climate change is not only impacting the environment, but humans as well. The residents of the San Gabriel Valley must deal with environmental health threats such as heat hazards, wildfire hazards, drought, water scarcity, extreme weather, flood risks, and rising sea levels.

The San Gabriel Valley is notorious for getting hot during the summer months as a result of the mountains blocking the cool ocean breezes and trapping the heat, but there are also human factors contributing to the heat. Low income communities such as “El Monte [have] a 5 percent tree canopy - compared to an average tree canopy rate of around 37 percent for Los Angeles County” which is home to some of the world’s richest people (Scauzillo 2012). Rich communities have nearly 7x the vegetation compared to poorer communities. This creates heat islands which are “areas of concrete and asphalt that have

few shade trees and radiate heat” leading to temperature increases of 10- to 20-degrees Fahrenheit compared to the surrounding areas (Scauzillo 2012). This can become especially deadly during heat waves when temperatures are already easily reaching 90-degrees because this would mean residents living in these heat islands will experience temperatures well over 100-degrees. For example in 2006 “147 people were documented as dying by the Los Angeles County Coroner” during a heatwave, but “researchers believe the number was three or four times higher - that over 600 people died” (Scauzillo 2012). During times of extreme heat in the San Gabriel Valley residents are able to go to cooling centers set up by local officials to provide free air conditioning to the public to prevent heat related illnesses (“Extreme Heat” 2021). Cooling centers could be libraries, community centers, senior centers, or any other building that is open to the general public. Local officials also recommend planting more trees to create more shade and reduce the amount of heat islands and suggest that residents replace their current roofs with “cool roofs” which are made using materials that reflect light and don't absorb as much heat as a traditional roof (“Extreme Heat” 2021). This would not only make the home cooler, but reduce energy bills and energy consumption as AC units are used less frequently and prevent blackouts from happening as the powergrid normally gets overwhelmed when so many people are using their AC's at once.

Wildfires have become a frequent and worsening problem in the San Gabriel Valley as the climate gets warmer. This is mainly due to climate change, long term fire suppression, and expansion of communities in fire zones. “Temperatures have gotten hotter and our landscapes have gotten drier” which is worsened by the fact that California is currently experiencing an extreme drought (Margolis 2021). This has created hundreds of acres of parched land that can catch on fire in an instant with the smallest spark and without much living vegetation, there is no end to the fuel for the fire to grow. To make things worse, as society advanced firefighters were quick to try and put out every fire they came across which has resulted in vast amounts of dry, dead vegetation giving wildfires even more fuel to burn through. Then as people started to expand their communities into areas prone to

fires, it created even more fires. Humans will bring with them items that can easily start fires and act as accelerants to help it continue to grow and spread even faster than if it was just burning through dead vegetation. As a direct result of all of these factors, Los Angeles County has experienced the worst wildfires in the state's history and they only continue to get worse every year. Wildfires are a necessary phenomenon to remove dead vegetation, but in moderation. In 2017, the Thomas fire burned over “96,000 acres north of Los Angeles – an area more than twice the size of Washington, DC” and at one point it burned 31,000 acres in nine hours which means the fire burned an acre per second (Willingham et al. n.d.). Prevention is the best form of preparation. To prevent wildfires authorities have started to have firefighters employ controlled burns to reduce dead vegetation and help maintain a healthy environment. They also recommend residents to “harden” their homes to prepare for wildfires by using fire proof materials to build the home, keep the vegetation minimal but very much alive, and keep any dry/dead vegetation far from the property (Margolis 2021). But the number one thing authorities recommend is to not buy a home in a fire prone area in the first place to prevent the risk of encountering a wildfire altogether. This is something the residents of the San Gabriel Valley need to keep in mind as they are surrounded by the San Gabriel Mountains which are filled with dry/dead vegetation.

Residents of the San Gabriel Valley are no stranger to droughts living in one of the driest states in the nation, but water scarcity is uncommon. It’s often joked that in Los Angeles County, in which the San Gabriel Valley is located, there is only one season and that is summer. Residents rarely experience rain and even when it does rain it usually only lasts a day or two during the winter months which doesn’t amount to much. The mountains nearby also experience less snow which means less water and this leads to a severe drought as conditions fail to improve. “The Board of Directors of the Upper San Gabriel Valley Municipal Water District (Upper District) has unanimously approved a resolution activating Level 2 of its Water Shortage Contingency Plan” which means that they are experiencing water shortages up to 50% or more (“Amid Drought, Water District Urges

Conservation in San Gabriel Valley” 2021). This plan will begin by informing and educating residents about the current drought and water conservation. It’s not mandatory, but through this plan authorities are urging residents to voluntarily reduce their water usage in a bid to conserve water. To prepare for another inevitable drought in the future, the Upper District is planning to increase storage reserves of water by taking advantage of the local groundwater supply, continue to implement programs that urge residents to conserve water, provide rebates for switching to devices that use less water, and improve infrastructure to protect the water supply (“Amid Drought, Water District Urges Conservation in San Gabriel Valley” 2021). It is hoped that by educating residents about water conservation it will become a part of their lives and overall reduce the chances of another drought from occurring in the future.

As previously mentioned, the San Gabriel Valley is infamous for its hot and dry climate so floods are highly uncommon. However, that does not mean they aren’t prepared. Because the San Gabriel Valley is in a drought, if a freak storm were to occur it is unlikely the parched ground would be able to absorb all of the sudden water. The county has approx. 14 dams and 487 miles of open channels to deal with excess water runoff and flood prone areas are considered strictly off limits for building structures (“Water Resources” n.d.). The “Los Angeles County Flood Control District (LACFCD) and U.S. Army Corps of Engineers share a joint responsibility in managing flood risk” within the county and prevent serious harm from befalling the residents (“Water Resources” n.d.). All cities within the county are also well equipped with their own smaller drainage systems which often moves rain water to the ocean or to a place that can store the water to help lessen the effects of the drought.

Although the San Gabriel Valley is within Los Angeles County, which encompasses numerous coastal cities affected by rising sea levels, it is not directly being affected as a landlocked region of the county. However, it could still affect the region indirectly through rising groundwater levels, contamination, and economic disruption (“What threat does

sea-level rise pose to California?” 2020). Rising groundwater levels would mean that residents would start to experience frequent flooding which could damage significant portions of the cities. As the water rises it may infiltrate sewage systems, which are often underground, and fields filled with pesticides causing the water to become contaminated. If the groundwater supply in SGV becomes contaminated, residents would be without access to fresh water, devastating the already drought stricken communities. Lastly, the damages being caused by rising sea levels in coastal cities would severely impact the economy which would in turn affect residents of SGV through rising costs of living, job loss, and decrease in government revenue aka decrease in government funding. This is something that the state has tried to prevent by taking some of the strictest actions in the nation against climate change, but there is not much residents can do to prepare for it when it inevitably occurs.

WHAT ARE THE CLIMATE PROJECTIONS FOR THE SOUTH COAST REGION?

The impact of climate change in California varies across the state due to diversity in biophysical setting, climate, and jurisdictional characteristics. The California Adaptation Planning Guide organized the state into climate impact regions based on county boundaries in combination with projected climate impacts, existing environmental settings, socioeconomic factors, and regional designations and organizations.⁵ Figure 1 is a map of climate impact regions.

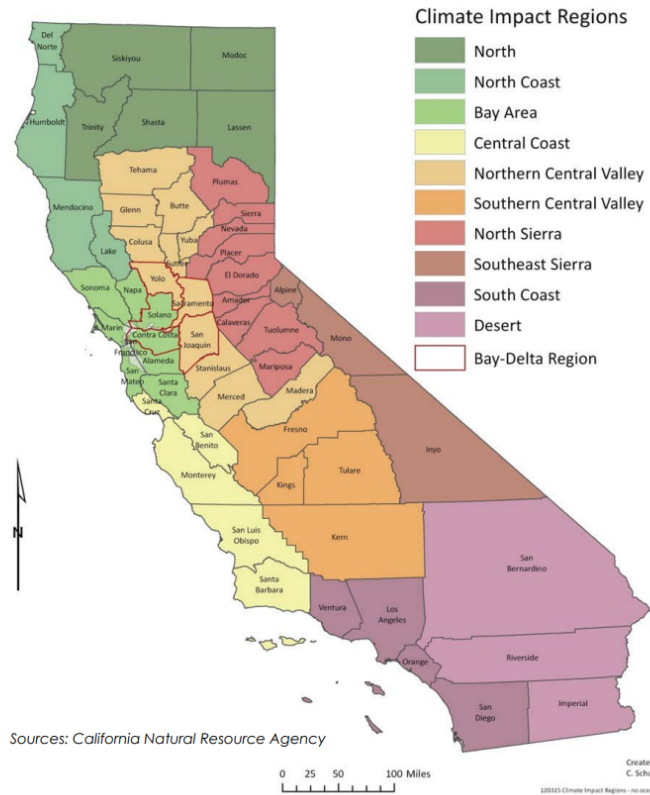


Figure 1. California Climate Impact Regions designated in the *California Climate Adaptation Planning Guide*⁵

FIGURE 9: This map color codes the different counties in California based off of the climate impact they are affected by and comes from the California Adaptation Planning Guide. Los Angeles County is in the “south coast” region which is at risk for sea level rise, wildfires, and temperature increases over the next century. (Screenshot by Elizabeth Kondo, November 8, 2021. https://www.cdph.ca.gov/Programs/OHE/CDPH%20Document%20Library/CHPRs/CHPR111Ventura_County2-23-17.pdf)

Los Angeles Region

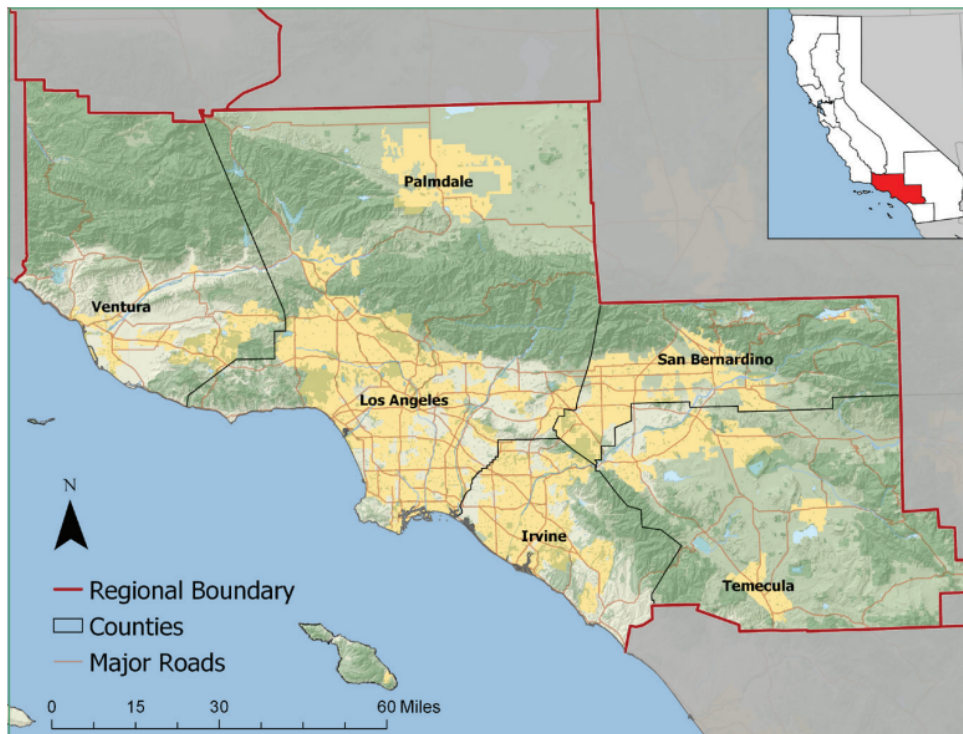
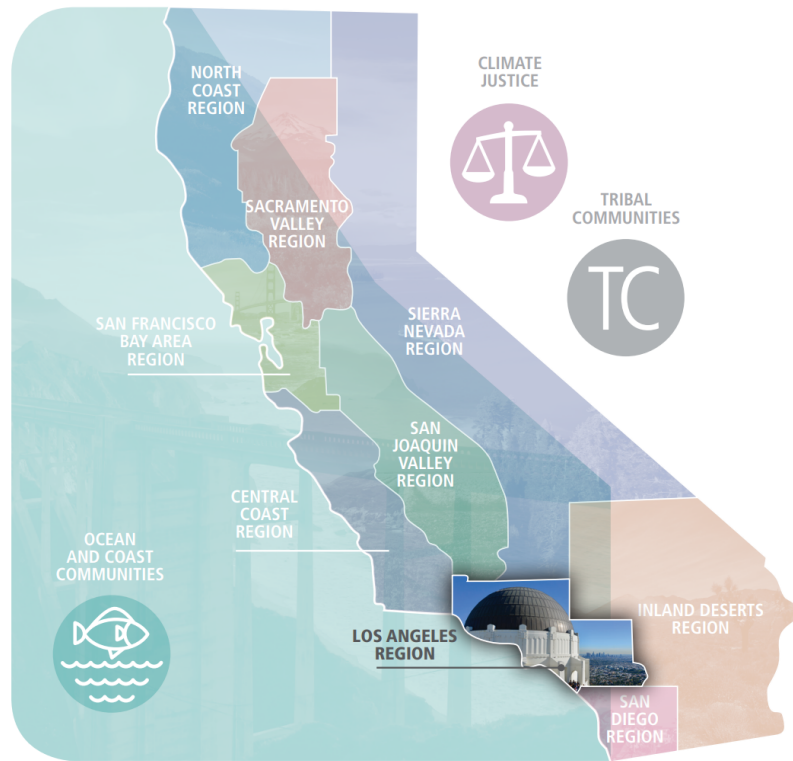


FIGURE 10: The map at the top color codes the different counties in California in

California's Fourth Climate Change Assessment. The map at the bottom shows the boundaries of Los Angeles, Ventura, Orange, San Bernardino, and Riverside Counties. (Screenshot by Elizabeth Kondo, November 8, 2021.

https://www.energy.ca.gov/sites/default/files/2019-11/Reg%20Report-%20SUM-CCC A4-2018-007%20LosAngeles_ADA.pdf)

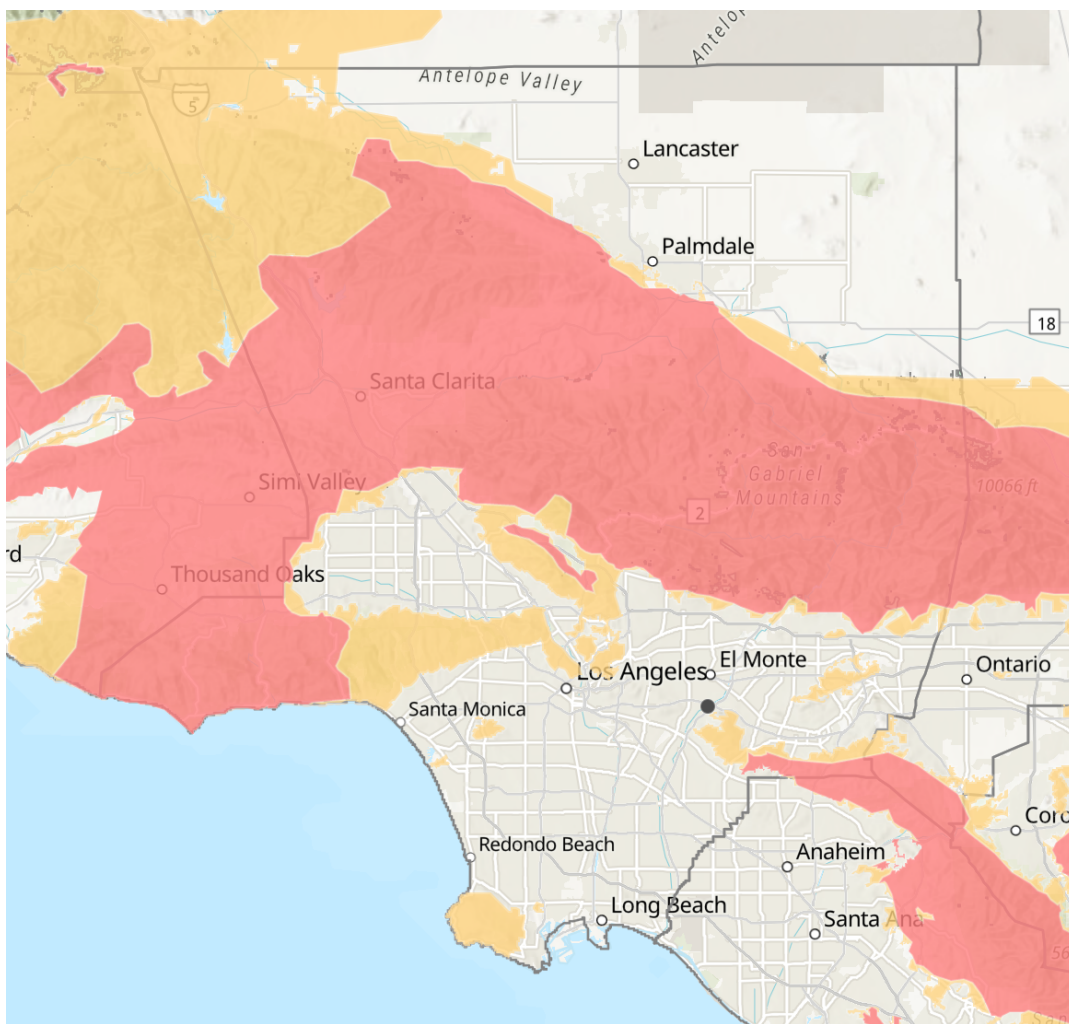


FIGURE 11: This map shows the risk of fires in Los Angeles County. The dark grey represents tier 1, the orange represents tier 2, and the red represents tier 3. Tier 1 shows communities, roads, and utility lines that are considered a public safety risk. Tier 2 shows areas with elevated risk of wildfires and tier 3 shows areas of extreme risk of wildfires. (Screenshot by Elizabeth Kondo, November 8, 2021.

<https://capuc.maps.arcgis.com/apps/webappviewer/index.html?id=5bdb921d747a46929d9f00dbdb6d0fa2>)

3. COMPOUND VULNERABILITIES

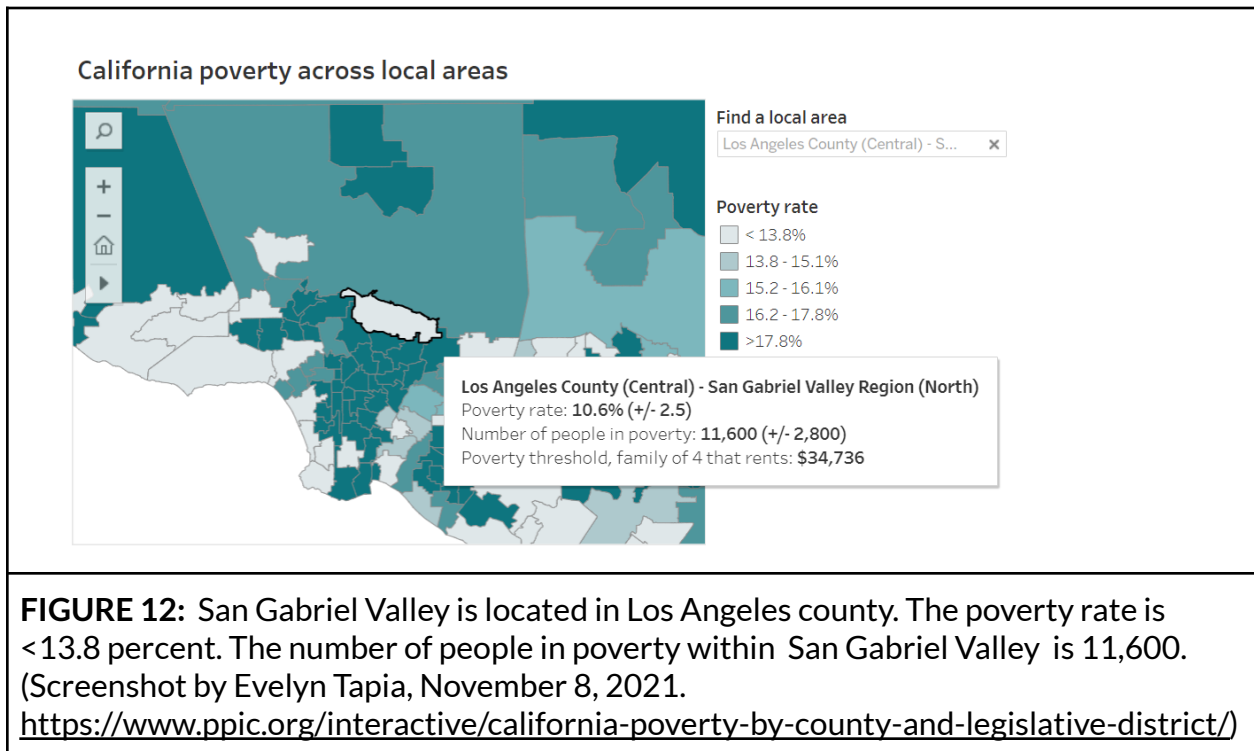
Poverty, Education, Trees, AC

Shani Trieu

Social, Ecological, and Technological intersecting factors contribute to the environmental health vulnerabilities and injustices in the San Gabriel Valley for many combo disasters such as climate change and extreme heat. In Figure 15, the image describes how the effect of climate change causing extreme heat impacts

Poverty and the level of education attainment for a community tends to impact the ability for the community to be able to respond and protect themselves against these risks. Both of these social intersecting factors affect one another as they are intertwined. As mentioned in our fast and slow case studies, the San Gabriel Valley is known for being composed of many low-income minorities with low education attainment levels. Figure 13 depicts the range of families' income that falls below poverty level in the city of El Monte and Azusa. While both are within the San Gabriel Valley, Figure 13 emphasizes the differences within the cities alone. El Monte is depicted to have more families that fall below the poverty level whereas Azusa appears to have certain sections of higher levels than others. In comparison to Los Angeles County as a whole, as Figure 12 demonstrates, the poverty level of LA County is less than the majority of El Monte as a whole. Additionally, with the greater number of families that fall below poverty levels in El Monte in comparison to Azusa, it helps convey the privilege that families who were above

poverty level had in obtaining a college degree. Figure 14 depicts the percentage of El Monte and Azusa residents that obtained a Bachelor’s Degree. Figure 14 is somewhat the opposite of Figure 13, as with a sector of the city having a higher percentage of the families’ who income falls below poverty level, the lower the percentage it was for individuals of the same sector to obtain a Bachelor’s degree. Living in poverty hinders individuals from being able to obtain a higher education which places these communities at higher risk.



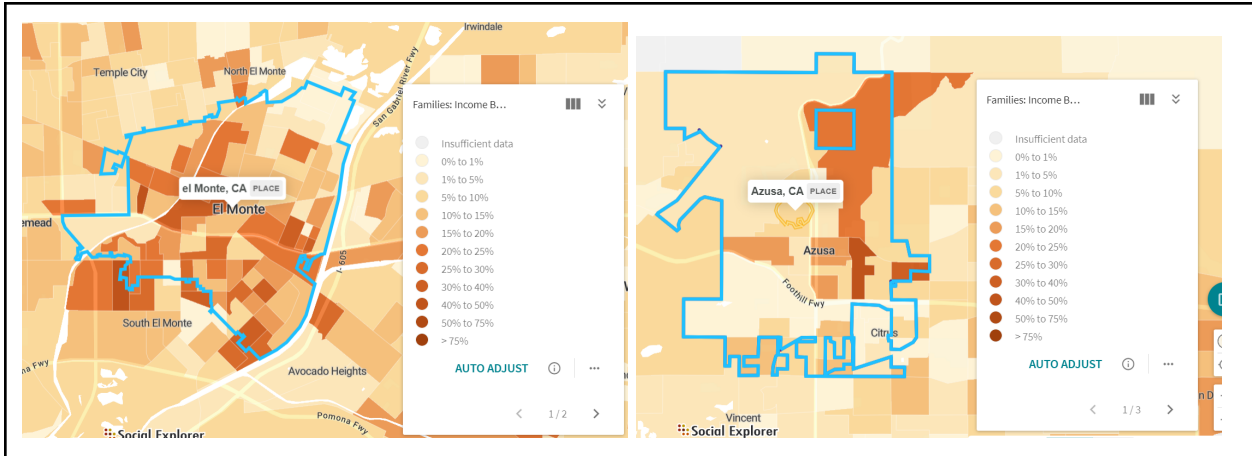


FIGURE 13: Los Angeles is known for the poverty that it holds. If you compare both these cities you can clearly see that El Monte suffers from higher percent rates of low income poverty. Azusa on the other hand does have areas where the poverty percentage is high but there are more areas where it's not as much. (Screenshot by Evelyn Tapia, November 8, 2021. <https://www.socialexplorer.com/a9676d974c/explore>)

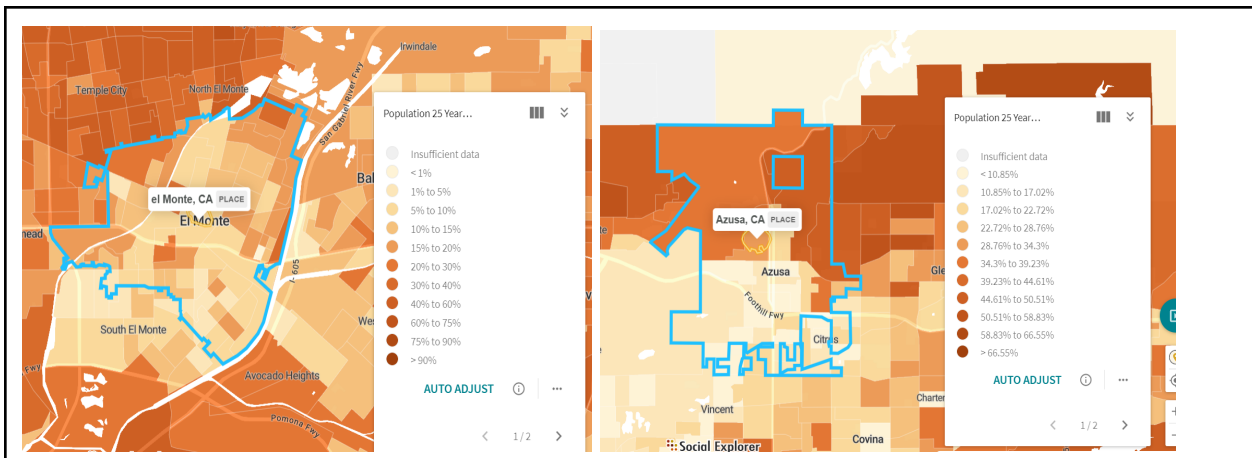
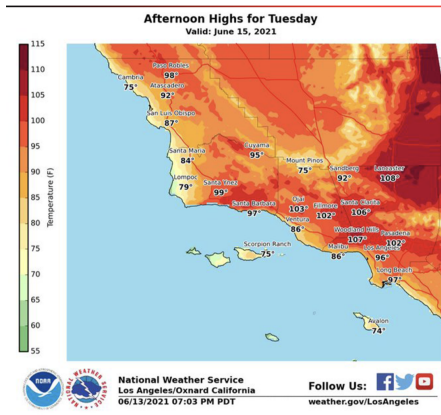


FIGURE 14: In this image the population for receiving a Bachelor's degree or better in El Monte isn't high and neither is Azusa. Although Azusa seems to have areas where 28.76 percent of the people do own a bachelor's degree. The most is 44.61 %. El Monte on the other hand falls in the percentages of 1% to 20%. (Screenshot by Evelyn Tapia, November 8, 2021. <https://www.socialexplorer.com/a9676d974c/explore>)

As previously mentioned, the level of education attainment is often impacted by the socio-economic status of these citizens; however, climate change also impacts the level of

education attainment. In the research article, “Temperature, Test Scores, and Education Attainment”, Jisung Park conveys how “heat stress can significantly diminish exam performance in the short run and reduce educational attainment in the long run” (Park 2016). As the majority of the SGV, specifically El Monte and Azusa, are living below poverty levels (Figure 13), they are already living at a disadvantage. Adding climate change effects such as extreme heat only worsens the condition for the community as it negatively affects the education attainment of the students within the community of color, such as the San Gabriel Valley. The lack of education impacts the ability of the residents within the low-income communities to escape poverty.

Being in poverty only exacerbates the impacts of the environmental risks on many low-income communities, such as El Monte and Azusa from the San Gabriel Valley. In the article, “Poor Communities Suffer More From Extreme Heat in Cities, New Study Finds”, it states how “(l)low-income neighborhoods with higher Black, Hispanic, and Asian populations experience significantly more urban heat than wealthier and predominantly white neighborhoods” (Service 2021). This is quite similar to the San Gabriel Valley in which they are predominantly composed of minorities who are often of low-income backgrounds. This emphasizes how the SGV suffers greater from climate change, specifically extreme heat than wealthier communities such as Beverly Hills. The article also explains how “the disproportionate heat surface exposures faced by low-income communities with larger minority populations are due to more built-up neighborhoods, less vegetation, and -- to a lesser extent -- higher population density” (Service 2021), which conveys the connection between low-income communities as the lack of tree canopies to protect them.



Extreme Heat in the San Gabriel Valley

Post Date: 06/14/2021 6:06 PM

Extreme Heat in the San Gabriel Valley

Those in the [San Gabriel Valley](#) will be experiencing extreme heat from Tuesday, June 15 through Friday, June 18. The temperature is forecasted to be over 100 degrees in Monrovia, beginning Tuesday, and remain hot throughout the rest of the week and weekend.

During the heat, please take the following precautions:

- Drink plenty of water and keep hydrated throughout the day.
- If you must go out, plan your day to avoid going out during the hottest hours, and wear sunscreen.
- Cars get very hot. Never leave children or pets in cars and call 911 if you see a child or pet in a car alone.
- Beware of heat-related illness, like heat stroke and call 911 if you see these symptoms: high body temperature, vomiting, and pale and clammy skin.
- Check on those at risk, like those who are sick, older adults, pregnant women, and children.
- If you are wearing a mask, avoid strenuous workouts wearing face coverings or masks not intended for athletic purposes.

Fan Loan Program

The Monrovia Community Center has a limited number of fans available for residents to borrow. Those interested in borrowing a fan or would like additional information are encouraged to call (626) 256-8246.

Cooling Center at the Monrovia Community Center

Monrovia Community Center 119 W. Palm Avenue	Hours June 15 - 17, 2021
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FIGURE 15: The National Weather Service reported Los Angeles County, especially inland towards San Gabriel Valley, as victim to extreme heat. The temperatures reached above 90 degrees daily and even got as high as 115. In addition to this basic weather report, there are many resources online walking through ways in which to prepare for extreme heat in San Gabriel Valley. One in particular is the website of Monrovia County explaining the precautions to take when the weather gets above 100 degrees. They suggest things like, never leaving children or pets in the car while off, avoid strenuous workouts with masks on, and check body temperature for heat related illnesses.

Afternoon Highs for Tuesday: (Screenshotted by Kayleigh Ott November 8, 2021.
<https://heysocal.com/2021/06/14/heat-set-to-bear-down-from-san-gabriel-valley-to-coast/>)

Extreme Heat in San Gabriel Valley: (Screenshotted by Kayleigh Ott November 8, 2021.
<https://www.cityofmonrovia.org/Home/Components/News/News/2996/>)

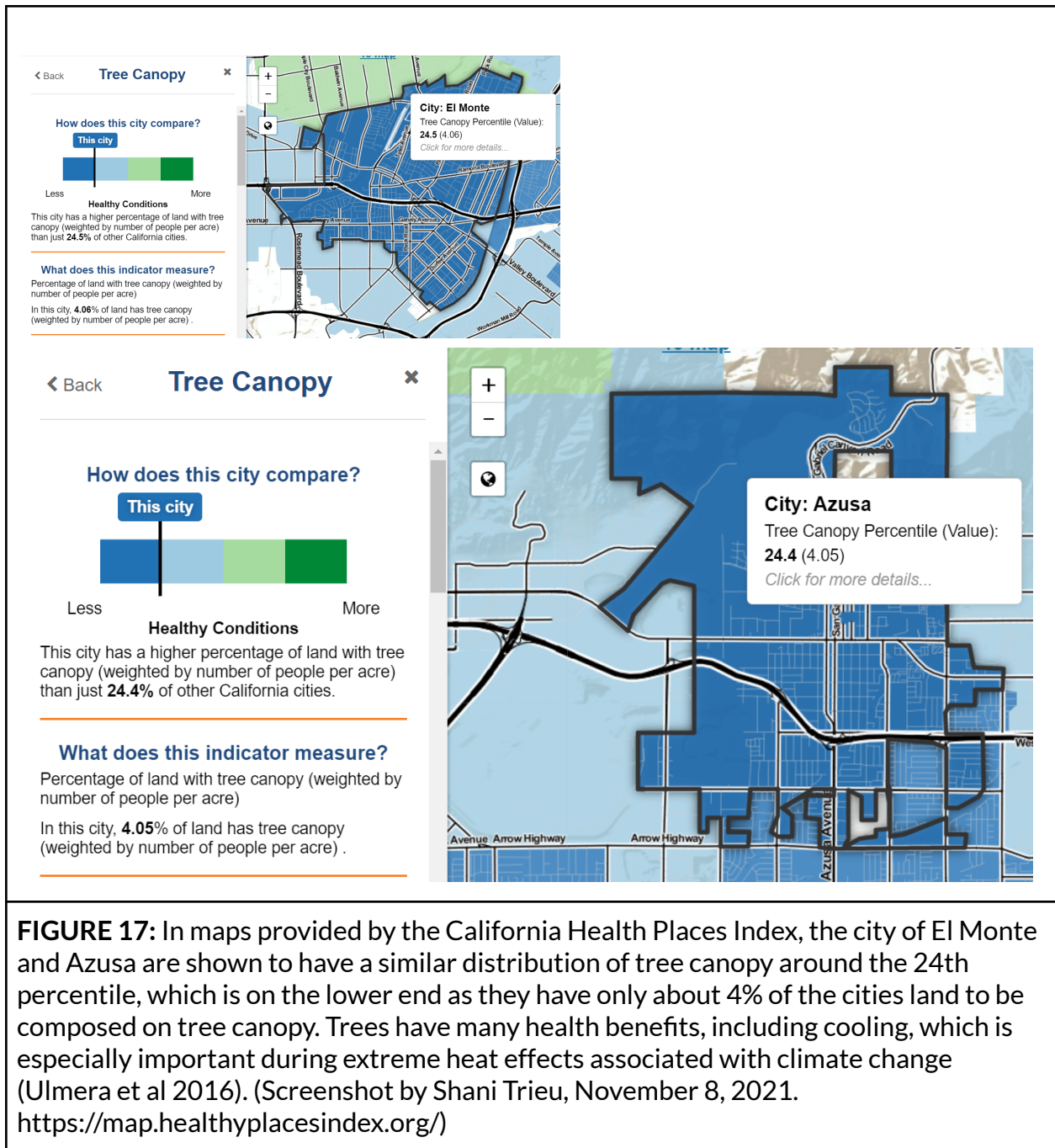
Table 2-1 Public Water Systems

Submittal Table 2-1 Retail Only: Public Water Systems			
Public Water System Number	Public Water System Name	Number of Municipal Connections 2020	Volume of Water Supplied 2020 *
<i>Add additional rows as needed</i>			
CA1910039	San Gabriel Valley Water Company - El Monte	46,346	32,960
CA1910189	San Gabriel Valley Water Company - Montebello	1,581	672
TOTAL		47,927	33,632
* <i>Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.</i>			
NOTES: Approximately 98% of the total water supplied was to the El Monte system and 2% was supplied to the Montebello system. The "Volume of Water Supplied 2020" includes recycled water supplies of 1,502 AF. Source for "Number of Municipal Connections 2020": https://sdwis.waterboards.ca.gov/PDWW/			

FIGURE 16: Montebello, a small community in the San Gabriel Valley, is getting only 672 out of the 33,632 volumes of water supplied. This shows that the Public Water System is not evenly distributing water to all of the communities of San Gabriel Valley as only 2% is going to Montebello and 98% is going to El Monte. (Screenshotted by Kayleigh Ott November 8, 2021. <https://www.sgvwater.com/wp-content/uploads/2021/07/FINAL-San-Gabriel-Valley-Water-Company-2020-UWMP.pdf>)

Tree canopies and vegetation are extremely crucial in communities as it helps combat climate change. As climate change worsens due to human activities, having large amounts of trees and plants helps combat the rising levels of greenhouse gases in the atmosphere. Trees absorb carbon dioxide as they grow, which helps reduce the amount in our atmosphere which is beneficial to our Earth. However, for the large population of minorities that live in very compacted cities with very little vegetation, they are at greater

risk to the effects of climate change due to the ecological intersecting factor. In Figure 17, the maps depict how the percentile of tree canopy within the city of El Monte and Azusa in the San Gabriel Valley is around the low 24th percentile. This further emphasizes how low-income communities like the SGV are at a higher risk due to the lack of vegetation within their community. Figure 17 also explains how within both Azusa and El Monte, only 4% of the entire city has vegetation which is extremely little for an entire city. Likewise, in the article “Trees are Missing in Low-Income Neighborhoods”, Daniel Cusick addresses how communities of color are deprived of the benefits from tree canopies as their communities are often limited in the number of vegetations. He also states how “communities of color have 33% less tree canopy on average than majority white communities [...] (a)nd neighborhoods with 90% or more of their residents living in poverty have 41% less tree canopy than communities with only 10% or less of the population in poverty” which further pushes the point of how communities of color which are typically of low-income and have higher poverty rates are often more affected as they are not receiving the same protection that wealthier communities get from their large quantity of tree canopies. Without tree canopies, these communities are exposed to greater heat. According to the United States Environmental Protection Agency, “Trees and vegetation lower surface and air temperatures by providing shade and through evapotranspiration”. Even as the government knows about the importance of having vegetation, there seems to be little action to help increase the number of trees within El Monte and Azusa to help combat the extreme heat that is prevalent in the SGV with the temperature rising over 100 degrees as depicted in Figure 15. With the rising temperatures making the environment hotter, the communities dependency on cooling systems such as the air conditioner rises.



With the rising in temperature, the increased use and dependency on air conditioners rises as more and more homes and businesses begin to turn on their air conditioners nearly daily. In Figure 18, it demonstrates how 66% of households within the entire Los Angeles County have access to air conditioning as their method to combat the rising heat.

While the use of air conditioners provides a quick solution to the rising heat in our everyday lives, the use of this technology creates more problems in the cycle of climate change. With the demand for the use of air conditioning rising, it causes “a vicious cycle because air conditioning itself is a major contributor to global warming. It uses a massive amount of electricity, and can leak potent greenhouse gases into the atmosphere.” (Brigham 2021). Even though the use of air conditioners helps in the short run, the technological factor of using air conditioners only worsens climate change in the long run.

The social, ecological, and technological intersecting factors of poverty, education attainment, lack of tree canopies, and increased use of air conditioning only impacts and contributes to the environmental injustices within the SGV.

Figure 8. Profile of Health Outcomes and Inequities, Social Vulnerabilities and Climate Risks, Los Angeles County



<u>Social Vulnerabilities</u>	Number	Rate or Percent
Living in rural areas	59,424	1%
Children aged 0-4 years	645,793	7%
Adults aged 65 years and older	1,065,699	11%
Linguistically isolated households	498,319	15%
Adults educated less than high school	1,510,617	24%
Poverty rate, total	1,532,046	16%
Households rent/mortgage ≥50% of income	787,845	24%
Residents within ½ mile from frequent transit stop	5,220,011	53%
Outdoor workers	252,385	6%
Households that do not own a car	305,743	10%
Food insecurity among low-income residents	1,279,000	42%
Violent crimes per 1,000	50,223	5
Voted in 2010 general election	2,225,599	50%
Nursing facilities, prisons, college dorms	171,659	2%
Households with air conditioning	2,041,059	66%
Census tract average area with tree canopy		6%
<u>Climate Risks</u>		
Population in 100-year flood area and 55" SLR*, 2100	16,897	0.17%
Population in a high-risk wildland fire area, 2010	751,193	7.65%

*Current sea level rise (SLR) projections are up to 66 inches by 2100.⁷

Data sources for indicators in Figure 7 and 8 are described in Appendix 1.

FIGURE 18: A 2017 report by the California Department of Public Health says that all Californians face increasing risk from extreme heat. In the Los Angeles County (2009 data), 34% of households were estimated to lack air conditioning, a strategy to counter adverse effects of heat. (Screenshot by Shani Trieu, November 08, 2021. https://www.cdph.ca.gov/Programs/OHE/CDPH%20Document%20Library/CHPRs/CHPR059Orange_County2-23-17.pdf)

4. STAKEHOLDER ANALYSIS

Different Groups Reacting to Climate Change

Sophia Zajic

There are many different groups of people to consider when doing research on environmental injustice, and in this case study, combo disasters. The groups of people or individuals who are influenced, or impact the situation, are called stakeholders, and understanding their perspective is vital to understanding the issue and forming solutions. Each stakeholder has catalysts that allow them to obtain what they want, but they also have corruptions that prevent and undermine their ability to obtain what they want. From this, we can determine who does and doesn't have power and where change is possible.

One stakeholder group is the California Air Resource Board or CARB, whose goal is to protect "the public from the harmful effects of air pollution and [develop] programs and actions to fight climate change" (California Air Resource Board n.d.). They are a government agency of CA and this in of itself acts as a catalyst, since they have more power and say over the state and can impact business and commercial sectors. They also have the money to fund large projects that can reduce greenhouse gas emissions which play a huge role in climate change. For example, in 2021 they provided a \$9.8 million grant for the Clean Mobility in Schools Pilot Project for the El Monte Union High School District, specifically South El Monte High School (Caesar 2021). The project contributed "11 new zero-emission school buses," a pilot Career Technical Education curriculum to encourage

clean energy careers, an active transportation plan to improve transportation safety, and encouraging walking, biking, and carpooling (Caesar 2021). These projects provide a blueprint for other school districts that are interested, specifically those who live in disadvantaged communities (Caesar 2021). Another major catalyst is the California Assembly Bill (AB32) that enacted the Global Warming Solutions Act of 2006, a CA State Law to slow climate change through a state-wide program. It requires CARB to make regulations that will limit CA greenhouse emissions to 1990 levels by 2020 which means “roughly 25% reduction in greenhouse gases by 2020” (Global warming solutions act: Azusa, CA - Official Website n.d.). In response to this, CARB “has developed AB32 compliance regulations for California business and commercial sectors.” (Global warming solutions act: Azusa, CA - Official Website n.d.). A corrosion CARB may experience are businesses or groups of people that do not want to comply with regulations that will reduce greenhouse gas emissions and their effect on climate change. This can make it difficult for CARB to enforce change when others fail to cooperate.

Another stakeholder is the City of Azusa, specifically the Department of Light and Water. A catalyst that pushes them to protect their city from the effects of climate change is the same CA State Law that requires CARB to limit greenhouse gas emissions. The city is also forced to meet the greenhouse gas deduction levels required of AB32. But Azusa owns substantial coal-fired generation assets,” making their utilities and economy dependent on coal (Global warming solutions act: Azusa, CA - Official Website n.d.). This also makes the carbon footprint of their resource portfolio relatively high. This can serve as a catalyst for them to change their ways to prevent a high carbon footprint that harms the environment. But coal having beneficial impacts on their economy also acts as a corrosion since slowing climate change will force the city to stop or limit the use of coal which will cause major changes and “will have costs associated with them” (Global warming solutions act: Azusa, CA - Official Website n.d.). Something else that is important to note is that many Southern CA municipal utilities depend on coal compared to Northern CA utilities since they can receive hydropower from the Northern Sierras and the Central Valley Project. The official

website for Azusa makes sure to mention this fact to explain why Northern CA has “less carbon intensive resource portfolios” (Global warming solutions act: Azusa, CA - Official Website n.d.). But even though Azusa may not have a mountain range or water system like the Central Valley Project to provide them with hydropower, the SGV is “endowed with both bountiful sunshine and numerous buildings that offer valuable siting opportunities for solar energy generation” (EDF, UCLA n.d.).

A stakeholder that has contributed greatly to research regarding climate change in the SGV is UCLA. Many departments, centers, and individuals have contributed to the research. Professor Alex Hall in the Department of Atmospheric and Oceanic Sciences & the Institute of the Environment and Sustainability contributed to research on the decreasing snowfall in the mountains of Southern California, including the San Gabriel Mountains (Hewitt 2013). At the time of its release, it was one of the most detailed research examining the effects climate change will have on the snowfall of the Southern CA mountains. The CA Center for Sustainable Communities at UCLA and Center for Climate Science, both under the Institute of the Environment and Sustainability, contributed to research on grid vulnerability in extreme heat in LA County (Fournier, Hall, Princetl, Reich 2016). The many departments and centers that collaborate and contribute to research on climate change act as a catalyst for the school since each one can bring in their own expertise and perspective on the issue. UCLA is also described as one of CA’s largest universities with motivated students and good faculty (Hewitt 2013). They have had six alumni and six faculty awarded the Nobel Prize and are also known as a national and international leader in academics and research (Hewitt 2013). As a well-established school, they have the resources and people to conduct research on the impacts and solutions of climate change. They also receive funding for their research, for example, the City of LA or the CA Energy Commission. They are also given the opportunity to partner with universities and organizations like Arizona State University and the LA Regional Collaborative for Climate Action and Sustainability. This increases the resources and people contributing to research. But despite the strengths they have as a school, there are

also corruptions they may face. For example, when studying the rising temperatures in CA, the smaller the area, the more difficult it is to know the cause of warming because of natural weather events like El Niño, changing air pollution levels, ocean currents, and urban heat effects (Chiland 2019). There are many factors to take into consideration when doing research that could make it difficult to make a definite conclusion.

A stakeholder group heavily impacted by climate change is firefighters in the SGV. They have had to put out wildfires that are happening frequently due to rising temperatures from climate change. The SGV has had days that have reached as high as 122 degrees Fahrenheit, and the number of days reaching high temperatures will only increase (Fournier, Hall, Princetl, Reich 2016). The fact that they want to protect and serve their communities acts as a catalyst to do their job to the best of their ability (CBSLA 2021). They are also aware that a fire can start with something as simple as a campfire, lighter, or crash. Even pulling over onto tall grass with the underside of your car hot can start a fire (CBSLA 2021). So they know the damage that can come from one small action. They also have the knowledge and firsthand experience of what is happening due to climate change and can spread this awareness to people. A corrosion they encounter is that they can only handle so many wildfires, and climate change making them stronger and more frequent is not helping the situation. They also put their lives at risk every time they have to put out a wildfire.

A stakeholder group that is also heavily impacted by climate change, specifically the rising temperatures, are elderly people who live alone or have no access to transportation. The number of extreme heat days in the SGV is increasing and people need to be able to adapt to this. Elderly people who are unable to take care of themselves and live in the valley are vulnerable. With no transportation, they are unable to escape from the heat. On top of this, long periods of exposing yourself to extreme heat can place stress on the body and lead to death (Chiland 2019).

Stakeholders like electrical companies can play huge roles in regards to climate change depending on what direction they take. For this stakeholder, we are looking specifically at Southern California Edison, a subsidiary of Edison International and “one of the largest electric utilities in the United States” (Edison International n.d.). State policies like Proposition 39, serve as a catalyst in making effective changes in their electricity (EDF, UCLA 2013). The policy distributed “billions of dollars to support energy efficiency improvements,” so the company was able to offer incentives for programs like Multi-family Residential Energy Efficiency Programs for lighting, window insulation, fans, and other energy-efficient methods (EDF, UCLA 2013). As an electric company, they have a responsibility to adapt to the rising temperatures, especially since more heat means more risk of outages. But research conducted by UCLA regarding Southern CA Edison territory, determined that substations are predicted to experience load capacity reduction when exposed to temperatures above 104 °F, which is the max temperature that the company "currently plans its operations around" (2018). UCLA shows that the SGV has about 32 extreme heat days per year and by 2050 this number will increase to 60 days per year or two months of temperatures higher than 95 degrees (Chiland 2019). The company needs to adjust the temperatures that substations can endure since the number is increasing and people rely on AC to keep cool during these hot days. But they may not want to spend the time or money adjusting to this.

Along with increasing temperatures, comes along a phenomenon called heat islands, which are “areas of concrete and asphalt that have few shade trees and radiate heat” (Scauzillo 2012). Sun’s rays can also reflect off the concrete and “cause people to see white spots or black out” (Scauzillo 2012). This phenomenon happens in dense, low-income communities. Examples are El Monte, La Puente, Valinda, or vulnerable populations with no AC or access to transportation (Scauzillo 2012). Low percentages of tree canopy can result in heat islands. Figure 17 shows how El Monte has only 4.06% of tree canopy which is a very small percentage. Especially in comparison to the average 37% that LA County has, which is still not a substantial amount of tree canopy. Evidence shows that heat

islands “are responsible for an increasing number of cases of heat stroke and death” (Scauzillo 2012). These can serve as catalysts for people living in these communities to make a statement to city officials who should be helping their citizens and reducing these heat islands. But as residents from low-income communities, they do not have much status. Also, cities may not be willing to plant more trees or invest in parks.

In 2018, the LA County Metropolitan Transportation Authority board of directors spent \$400 million to increase roads, “including a six-lane surface highway on Atlantic Avenue,” which would go through the cities of Alhambra, Pasadena, San Gabriel, Monterey Park, Montebello, and other cities outside the SGV (Rubin 2018). This would affect two groups of stakeholders. The first group consists of commuters who benefit from the widened roads. More lanes mean less traffic when driving these major roads and freeways. They have the support of agencies like the LA County Metro that spend lots of money improving transportation despite their negative and contributive impacts on climate change. The agency is a catalyst for these stakeholders to get what they want. But corruptions that they may encounter in expanding roads are communities that are being negatively impacted and must be accounted for. Climate activists are also against expanded roads since they encourage more vehicles to be on the road and therefore more greenhouse gas emissions. Based on data from the EPA in 2019, 29% of total US greenhouse gas emissions come from transportation, showing the major impact they have on trapping heat and warming the planet (“Sources of Greenhouse Gas Emissions” n.d.).

The other stakeholder group being affected are the residents who live near the major roads being expanded. The construction of roads and increased lanes encourages more cars to utilize them, which means more carbon dioxide emissions pollute the air they breathe. This is not good for the people’s health or the environment. But as mentioned before, climate activists that support the environment and the health of disadvantaged communities are a catalyst for them to have a voice on this issue. But without them, they are just citizens with low status, and this acts as a corrosion and prevents them from

getting what they want. Especially since the LA County Metro most likely would not take low-income communities into account when improving transportation.

The last stakeholder to discuss is the nonprofit organization Amigos de los Rios. They have "been working with community leaders to create living infrastructure – parks, and greenspace in open spaces (big and small)" for disadvantaged communities in Los Angeles County ("What is the Emerald Necklace?" n.d.). Catalysts include support from volunteers and assistance from organizations, like the Conservation Fund, in completing their projects to "offset the effects of climate change" ("What is the Emerald Necklace?" n.d.). They also have the motivation and awareness that communities need to adjust to the future impacts of climate change, including disadvantaged communities in the SGV. But corruptions that prevents the organization from achieving their goals is the difficulty to go up against large companies that contribute to climate change and remove green areas from cities. It also takes a lot of effort and collaboration to organize and gather communities to help the environment.

5. STAKEHOLDER ACTIONS

System Change or Climate Change

Kayleigh Ott

When studying the concept of a combo disaster, it is easy to draw connections to previous research completed in our slow and fast disaster case studies. While all of the information is not applicable, these disasters have one thing in common, they contribute to the ominous event climate change. As previously stated in my slow disaster analysis, “Although approximately 2 million people call the region of San Gabriel Valley their home, gaps in conducted research and little to no publicity on the cumulative effects of these slow disasters create a difficult circumstance for resolution.” (Ott, 2021). This statement holds true to the combo disaster case study. Climate change is one of the most difficult disasters to combat, due to the intense build up of threats and lack of awareness surrounding these short term but most importantly long-term effects.

Arguably, everyone is a stakeholder of climate change. From large government organizations to the indigenous tribes of native lands, climate change -- or our only other option sustainable transition-- is everyone’s business. When categorizing the stakeholders of climate change, Governmental bodies/corporations stand with the most levees at its command. With legally binding power and the strength to enforce decisions these large bodies are supposed to amplify the voices of the greater good. The San Gabriel Fire Department predicted the worst wildfire season yet. Upon the analysis of this

information they decided to publicize resources useful to prevent these fires, “Experts said that residents should do a refresher on how to prevent fires since they say most are caused by humans, whether by arson or accident” (CBSLA 2021). Prevention methods are essential to stopping the catastrophic event of fires as they are most always human inflicted, especially in the heat of global warming. While the San Gabriel Fire Department is taking progressive actions towards preventing the effects of wildfires on communities, Southern California Edison is doing quite the opposite. In today’s modern society, states have given their priority to the economic exploitation of natural resources. This is seen in fossil fuel subsidies, an example of our recent government failure to step away from its addiction to fossil sources of energy. California Edison has fallen into this black hole and done little to nothing to rectify the detrimental effects of climate change most importantly, non-renewable energy. It is proclaimed that not much information is given on the utility except that substations are predicted to experience load capacity reduction when exposed to temperatures above 104 °F. This is the max temperature that the company "currently plans its operations around," meaning they are not accounting for the rising temperatures in the future due to climate change (California's Fourth Climate Change Assessment 2018).

This shows the direct failure of large corporations to recognize the long term effects of their money-driven actions. In addition to governmental bodies and large corporations, civil society stands as the next most prominent stakeholder. These non-governmental organizations, private citizens and informal groups weigh in on decision making by swaying the public to favor their position. With enough support and community connections, these stakeholders are capable of reorienting government agendas. Amigos de los Ríos has "been working with community leaders to create living infrastructure – parks, and greenspace in open spaces (big and small)" for disadvantaged communities in Los Angeles County. One of their major projects underway is the Emerald Necklace, which is the creation of, "an interconnected loop of parks and greenways along our urban waterways" ("What is the Emerald Necklace?").

Amigos de los Rios main focus is SGV and extends from the San Gabriel Mountains to the Angeles National Forest all the way down the Pacific Ocean. One of the most influential proposals made by this city lead stakeholder is the attempt to bring more greenspace to "offset the effects of climate change" (Amigos de los Ríos 2021). The initial plan was introduced in 2005 and consisted of 17 miles of parks and greenways "connecting 10 cities and nearly 500,000 residents" (Amigos de los Ríos 2021). The expanded plan of 2008 included goals like encouraging active transportation, making communities resilient to current and future impacts of climate changes, and creating a strong green economy. With help from The Conservation Fund, the Expanded Vision plan was completed in 2014. When gaining the adequate amount of funding and support from governmental agencies civil stakeholders have more political standing than previously thought.

In addition to the work of Amigos de los Rios, UCLA's climate researchers have done substantial work in educating the community on climate change. For example, "The UCLA study, "Mid- and End-of-Century Snowfall in the Los Angeles Region," is the most detailed research yet examining how climate change will affect snowfall in the Southern California mountains" (Hewitt 2013), showing that information of the capacity they have found had not yet been published. They studied the San Gabriel mountain range and "researchers used baseline snowfall amounts from 1981 to 2000 and predicted snow amounts for mid century (2041 to 2060) and the end of the century (2081 to 2100) under a "business as usual" scenario, in which greenhouse gas emissions increase unchecked, and a "mitigation" scenario, in which the world significantly reduces emissions" (Hewitt 2013). Using the mitigation methods produced by this research creates a stable foundation for not only the community but political officials as well. Civil stakeholders like UCLA researchers play a key role in captivating political audiences who hold the authoritative position to make change.

Consequently stakeholder involvement brings in clarifications on points otherwise unpublicized. Stakeholder involvement is a vital ingredient in the solution to climate

change, as it provides effective environmental assessment, project planning, and proper funding.

6. ROLE OF MEDIA AND BIG ENVIRONMENTAL ORGANIZATIONS

If There is Effort, There is Possibility

Evelyn Tapia

Eventually, everything will make its way onto the media but what exactly is shown to the public when it comes to it being beneficial. There are many ways to address an issue when it comes to the media, social media posting has become a common go-to. Releasing podcasts, documentaries, articles, or short videos touching a specific topic/issue. In this case, the focus is on the cities of El Monte and Azusa, which are located in SGV. Many organizations are set up to help both of these and many more cities with common issues regarding environmental health as well as the community's health. Many organizations are out to improve living conditions for individuals who are not receiving help from the state. Non-profit organizations are such a powerful movement for small cities that are in need of attention. When an organization is built off of nothing it has so much potential to change lives. The cities of El Monte and Azusa, both who struggle with air pollution, water contamination, climate issues, and misunderstanding within the community, are located in SGV which is a part of LA County. The LA Times just came out with an article called "Dozens of L.A. County communities face growing peril from Fire, heat, flooding" (Smith

2021). The communities experiencing these disasters are mainly low-income people of color communities who are unprepared for these types of emergencies. It is said that the northern portions of L.A County will face the most direct risk from wildfires, with the San Gabriel Mountains projected to increase 40% by 2050. Heat percentages are expected to increase on average by 5.4 degrees. Many of the individuals who live within these areas want better access to resources and infrastructures to feel more secure.

Another media source helping bring awareness are local newspapers, such as the San Gabriel Valley Tribune news. Not so many people pay attention to the soil we use to grow our fruits and vegetables. According to the SGV Tribune article “Soil Contamination Source Unknown” (The SGV tribune 2007; updated 2017), after more than two decades the EPA is still trying to identify a major source of soil and groundwater contamination in a San Gabriel superfund site, which covers the cities of Alhambra, San Gabriel, San Marino, South Pasadena, Rosemead, and Temple City. Although all these cities are being impacted by this issue the cleanup itself will take some time because the source causing the contamination remains unknown. Until the EPA figures out where and what is causing this issue the water will stay the same. This is very damaging to the people who are currently drinking this water and the ones who will eventually after the contaminants move from groundwater to drinking water. Another local source of news is the Pasadena Star-News, which just last year published the article, “San Gabriel Valley air quality is killing Black and Latino families” (Quinones 2020). This piece describes how damaging the air quality in San Gabriel Valley is and, when the area is analyzed using demographics, black and Latino families are at risk of greatly increased premature death. In general, the residents of LA County are exposed to higher levels of vehicle pollution; 60 percent higher than the state average. Consumers in California are vocal in demanding affordable electric cars be sold on the market. If widespread adoption occurs, the decrease in vehicle pollution would have a significant effect and improve the living conditions for the children.

In the article, “Gang violence is ravaging Azusa, here’s what the city is doing about it,” [\(Yee,](#)

[2019](#)) I read that Azusa has a very high criminal rate regarding gang affiliated crimes; in the past such violence was directed towards African Americans ([Quinones, 2021](#)). The name of the main gang is called Azusa 13, known to be a very aggressive Sureno street gang, currently claiming around 1,000 active members. El Monte Also has the gang EMF (El Monte Flores). Considered one of the largest Hispanic gangs in the San Gabriel Valley, as well as one of the oldest in Los Angeles county. Exposure to the crimes that are committed within the neighborhoods definitely affects the mental and physical health of an individual. In the article, "Let's Call Gang Violence What It Is: Pollution" (Funes 2016), the case is made to combine gang violence alongside other kinds of pollution when trying to conduct a holistic analysis of it. Preventing hate crimes can be very dangerous because of the people involved, there are no boundaries. This is as big of an issue as climate change, so it deserves much more attention from the media.

7. RECOMMENDED LOCAL ACTIONS

Local Actions & The Extreme Heat Debacle

Jazmín Romero & Shani Trieu

Wildfires that occur within the city of Azusa for what seems just about every other month are extremely difficult to tackle. These wildfires can completely burn down the homes of residents within the city, much like they have in the past.

But, are the burnings of homes as devastating to the city as it is to the residents who own the property? In other cities where wildfires have occurred, the city has implemented Wildfire and Mitigation Plans, which also highlight where light and water facilities are placed around the city and locates where wildfire threats may be at its highest risk, which is most important.

The Wildfire Mitigation Plan of the City of Azusa is available for public access and was updated in June of 2020. The plan describes in detail the purpose and the plan's objectives, statutory compliance, electric distribution facilities in fire threat areas, wildfire risks, wildfire mitigation activities, public safety power shut offs and customer notification, plan monitoring and audit responsibilities, public comment, approval and independent evaluation.

The Wildfire Mitigation Plan, or WMP for short, must be verified that it complies with all

applicable rules, regulations and standards, in which it must be appropriate.

A figure with a photo taken from Tuesday, April 21, 2020 displays the California Public Utilities Commission on a map and its respective fire threat tier (tiers 2; elevated and tier 3; extreme). In addition to the CPUC fire threat tier, 12 KV electric distribution facilities are displayed within the CPUC tier 2 and 3 fire threat areas. The map displays a circuit legend and those circuits that are very high in hazard severity zones. Both maps are easily accessible and great for residents to skim through for their own benefit.

Alongside the WMP, the city of Azusa also suggests the use of the LA County Fire Department's "Ready! Set! Go!" wildfire evacuation plan. According to the LA Fire Department, the "Ready! Set! Go!" plan is, "is designed to walk [residents] through the steps to take to ensure [that they are] prepared in the case of an approaching wildfire" (Ready, Set, Go! LA County Fire Department 2021).

But, if all ends poorly, houses may result in so much damage that it is no longer possible to live inside for some time. In cases where resident's houses burn completely and have no other place to shelter themselves, programs such as Community House Works strengthens neighborhoods and assists families become financially independent, especially after an environmental disaster.

Community Housing Works describes themselves as a, "non-profit housing developer whose mission is to strengthen neighborhoods and help families become financially independent. A loan from PCG enabled them to purchase and renovate the affordable Azusa Apartments located in Azusa, CA, a suburb of Los Angeles." (Impact Azusa Apartments). This program is an amazing opportunity for residents to "get back on their feet" and feel some type of security after such a traumatic experience.

In the City of El Monte, flooding may appear frequently and it is also important that the

city is prepared as possible, just as Azusa is to their wildfires. Other cities that fall as victims to flooding by harvesting the rainwater, invest in permeable pavement as well as green roofs, an addition of trees and rain gardens. Permeable pavement may be the best option though, although very pricey. Permeable pavement allows for fluids to pass through whereas “regular” pavement allows water to expand and scatter on top of the surface. In other words, permeable pavement would be able to soak up water from rainfall or flooding into the solid rock.

But, much like Azusa for their wildfires, the City of El Monte has created a mitigation and adaptation plan. On June 19, 2017 the City of El Monte distributed their Hazard Mitigation Plan which includes the city’s procedures when flooding occurs. Information on this specific topic can be found under Hazard Analysis: Flood Hazards.

Within the Flood Hazards, flood terminology is included such as a floodplain, the 100-year flood, flood threat, rainfall and El Niño, all which are very important to consider when planning for a flooding disaster. The City of El Monte also considers the type of flooding that occurs in the area such as urban and riverine flooding.

Floods and their impacts vary by location and severity, likely only affecting certain areas of the city during specific times of the year. The City of El Monte recognizes the impacts and states that, “Impact that is not quantified, but could be anticipated in future events includes:

- Injury and loss of life;
- Commercial and residential structural damage;
- Disruption of and damage to public infrastructure;
- Secondary health hazards e.g mold and mildew;
- Damage to roads/bridges resulting in loss of mobility
- Significant economic impact (jobs, sales, tax revenue) upon the community
- Negative impact on commercial and residential property values and

- Significant disruption to students and teachers as temporary facilities and relocation would likely be needed.” (Impact of Flooding in the City of El Monte 2017).

The City of El Monte also has procedures after a flood has occurred. Repetitive Loss Properties are the most susceptible to flood damages making them the primary focus of flood hazard mitigation programs. Section Repetitive Loss Properties of the Hazard Mitigation Plan states, “Unlike a countywide program, the Floodplain Management Plan (FMP) for repetitive loss properties involves highly diversified property profiles, drainage issues, and property owner’s interest. It also requires public involvement processes unique to each RLP area. The objective of an FMP is to provide specific potential mitigation measures and activities to best address the problems and needs of communities with repetitive loss properties. A repetitive loss property is one for which two or more claims of \$1,000 or more have been paid by the National Flood Insurance Program (NFIP) within any given ten-year period. According to FEMA resources, there are no Repetitive Loss Properties (RLPs) within the City of El Monte.” (Repetitive Loss Properties 2017). In terms of businesses, “Flood events impact businesses by damaging property and by interrupting business. Flood events can cut off customer access to a business as well as close a business for repairs. A quick response to the needs of businesses affected by flood events can help a community maintain economic vitality in the face of flood damage. Responses to business damages can include funding to assist owners in elevating or relocating flood-prone business structures.” (Business/Industry 2017). Repetitive Loss Properties and the Businesses within the city seem to have their corresponding procedures if damage is shown.

But what about public infrastructure?

During hazard events, or any type of emergency or disaster, dependable road connections are critical for providing emergency services throughout the City of El Monte. Roads

systems in the City of El Monte are maintained by multiple jurisdictions such as federal, state, county, and city governments. They are all held responsible for protecting roads from flood damage. Road networks often traverse floodplain and floodway areas. It is also important to note that transportation agencies responsible for road maintenance are typically aware of roads at risk from flooding. Among the other various procedures to tackle flooding, El Monte has sketched out a fairly rough draft of how to go about the aftermath of a flood.

Most disasters are occurring due to climate change. Climate change has become a heated political topic but in the City of Azusa, the community is motivated to slow down climate change. How will they do this? The City of Azusa has implemented the Global Warming Solutions Action, a law with the sole purpose to slow down climate change by establishing a comprehensive, state-wide program to ultimately reduce greenhouse emission within the state of California, Los Angeles County and it's own city (Global Warming Solutions Act 2021). Unfortunately, El Monte shows no sign of enacting policies and procedures to slow down climate change, like one of their neighboring cities in the SGV.

PROFILE OF CLEAN ENERGY INVESTMENT POTENTIAL SAN GABRIEL VALLEY

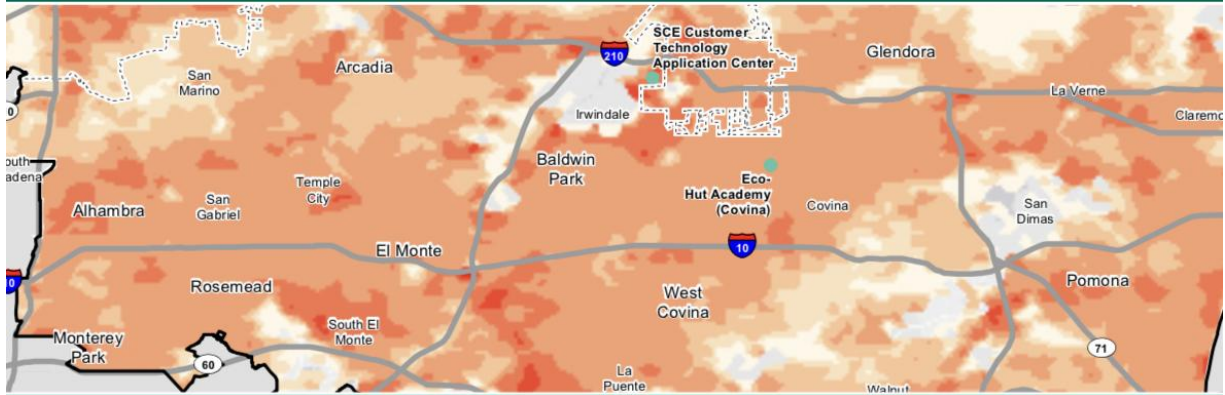


FIGURE 19: The San Gabriel Valley: Profile of Clean Energy Investment Potential profiles the potential for clean investments within the SGV in Los Angeles County. This report is aimed to help legislators and other community leaders to locate areas that can be improved upon through clean energy investments like solar power. (Screenshot by Shani Trieu, November 08, 2021. <https://www.edf.org/sites/default/files/SanGabrielBook.pdf>)

Actions to help combat climate change have to come from within the community as well as from governmental actions. Through the use of art projects that advocate and educate the viewers about climate change, we hope that encourages more climate action from within the community.

The Extreme Heat Debacle (Figure 20)

The design of the project consists of 2 cities with equal surface area. City #1 has homes more spread apart and a larger quantity of trees whereas City #2 has homes more close together and a smaller quantity of trees within the area. There is also the source of heat, which we project to use some sort of giant lamp. The heat source has a range of intensity as we can make the intensity of the heat source higher and lower. There is also a thermometer of sorts for each of the respective cities which keeps track of the temperature for that city when the intensity of the heat source changes from higher to lower. The entire art project is built from recycled materials or were donated.

The projected schedule we have to display the project is:

1) The Metropolitan Museum of Art New York (The Met Museum)

The decision to choose The Metropolitan Museum for the first location is due to the popularity of the museum. By choosing to first reveal the artwork at The Met Museum, we expose the project to a wider range of people from all over the world.

2) Los Angeles County Museum of Art (LACMA)

Choosing LACMA to be the second location allows us to bring the activism project back to Los Angeles County for the San Gabriel Valley. Additionally, LACMA is pretty well known as well, which allows us to also publicize and expose the project to a larger audience.

3) The Wasteless Shop

The Wasteless Shop is a small shop that sells environmentally friendly and plastic free products to its customers. Even though it is not as well-known as the previous two locations, by choosing to have the third location as The Wasteless Shop it would encourage the art viewers to see simple and easy actions they could take to help combat climate change by choosing to purchase these environmentally friendly goods instead of the good from large corporations that only aim to harm our environment than protect it.

Our outreach method relies simply on the fact that The Met Museum and LACMA are pretty well-known spots that many people visit. Through displaying the projects at those two well-known museums, we hope that the audience would post about viewing this project through social media which would increase the publicity of the activism project which would lead to a larger audience for our third location at The Wasteless Shop.

The design goals we have is to

- 1) Introduce the topic of extreme heating
- 2) Emphasize the differences between the two cities and how that difference large affects the impact of extreme heating in these two different cities
- 3) Educate and show the audience small actions they can take to help combat climate change

Some of our project evaluation ideas is to have every viewer prior to seeing the activism project complete a very quick survey about what they know about climate change and extreme heating and then as they leave to fill out another survey conveying what they know after seeing the artwork. Another project evaluation we are taking into consideration is also the number of attendees, the amount of reposts on social media, and if our project gets onto the news.

PROPOSED CLIMATE ART PROJECT: The Extreme Heat Debacle

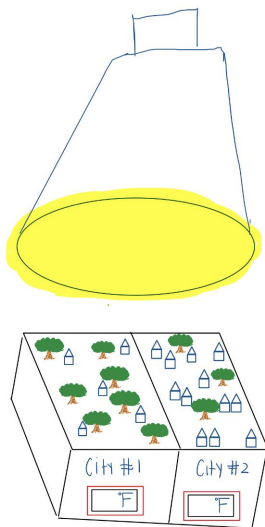


FIGURE 20: This sketch of the projected activism project depicts two created cities in which city #1 is less populated within a small area and has more vegetations and city #2 is more populated and has less vegetation for the same area. Both cities are exposed to the same intensity of the heat through the heat source and the temperature (in Fahrenheit) changes as the intensity of the heat alters.
(Drawn by Shani Trieu, November 17, 2021)

8. RECOMMENDED EXTRA-LOCAL ACTIONS

Ready Set Action

Evelyn Tapia & Elizabeth Kando

The cities of El Monte and Azuza both fall in the San Gabriel Valley region so they face similar issues when it comes to climate change. Both deal with high rates of pollution, water contamination, heat increase, and droughts as well as high rates of criminal activity. The cities are all mainly low-income and have high rates of health complications. This can be changed with the help of the state government. There is so much money in the world, which is why it should be used towards improving climate change, especially now that it is much worse than in past years. The state of California Has the power to make changes within a county. In this case, one way that the state of California can help reduce climate change is by investing in more Solar panels to reduce gasses produced by mining. This will have a positive impact on Climate change, eventually reducing the amount of air pollution. Switching over to solar panels will cut down the use of fossil fuels. Mining requires huge amounts of water to extract minerals such as methane, carbon monoxide, hydrogen sulfide, and more. Switching to solar power as the new system for mining means that mining does not have to rely on fuel deliveries to the same extent. Solar panels take in large portions of energy that are reflected by the sun. When the sun sets and it begins to

darken the batteries within the panels have enough energy to store the power until daylight. They allow mining companies to still operate even if their access to diesel supplies is interrupted. It produces fewer carbon emissions and is environmentally friendly. At some point, they can even be used to power cars so that there are fewer greenhouse gasses being produced which brings me to my next point. Cars play a huge role in polluting gasses into the atmosphere. These toxic pollutants affect the health of the human race as well as wildlife. Think about the birds who spend their lives in the air. If possible the state of California can take action by Investing in affordable electric cars for communities that produce large amounts of these toxic pollutants. This might upset some people because electric cars are a new recent invention so people desire them as soon as they come out. There should be compassion between individuals because it's all about creating more sustainable ways that will make a difference in data resulting from climate change. As mentioned before solar panels could eventually be used to power up cars as well. Another action that can be taken by the state is reducing the prices of bikes within cities. So that more individuals can afford them. This will reduce the number of people driving, releasing toxic pollutants. It will increase exercise for both children and adults. Bringing back the simple ways to move around will overall decrease pollution over time. The state can fund shops that make bikes, scooters, skateboards. I believe that this will in fact help reduce Climate change. The problem is the income that families receive. They don't have money to spend on bikes, but I'm sure if they were affordable they would purchase them. More convinced than buying a car worth thousands of dollars. In addition, another action that can be taken to better climate change is restoring the areas where wildfires accord and planting plantations. Over the years Los Angeles county has dealt with many wildfires. They affect our health as individuals and the health of wildlife. Destroying acres of land and killing acres of plantation and vegetation while still producing tons of smoke which is harmful to the atmosphere. Restoring land that has been touched by fires takes two to five years depending on how badly it was impacted (Hebshi 2017).

This will also take time but it's definitely achievable. We must consider the animals that live within the trees, they matter as well. This action could involve communities to come together and connect. Seeds should be provided by the state considering that wildfires aren't always started by an individual. Lastly, getting the word out to our younger generations starting from elementary school. A course about current and past climate change data should be mandatory for students. This will not affect anyone in a negative way but instead, inspire the children to want to take action. Today there are many individuals who are willing to do anything to better the air we breathe and the water that is used in our homes along with the environment. Time is moving rapidly and it's our responsibility to get our earth back to its healthy conditions.

In addition to the actions the state of California could take to reduce climate change hazards in the San Gabriel Valley, there are also actions that the Biden administration can do as well. The administration should take action by solving problems the Green New Deal, a "bold transformation of the economy to tackle the twin crises of inequality and climate change", attempted to address, but was unfortunately unsuccessful at passing through the Senate ("What Is a Green New Deal?" 2019). Five actions to take away from this should include: create sustainable jobs, incentivize switching to clean energy, weatherize the country, invest in renewable energy, and provide clean transportation. From highest priority to lowest priority these actions would be ranked: create sustainable jobs, weatherize the country, provide clean transportation, invest in renewable energy, and incentivize switching to clean energy.

As the economy has its highs and lows the topic on everyone's minds is: jobs. Many people complain that there are not enough jobs for everyone and the jobs that some people are able to get don't even pay a living wage. By trying to switch the country to renewable energy and weatherizing homes, millions of jobs will be created instantly. This will reduce the homeless population and reduce the amount of people relying on the government for money to help put food on the table or pay rent. This would give the government more

money to spend on other important matters to push the country forward as a leading global superpower. Weatherizing the country would mean updating old infrastructure to include renewable energy which would help people across the country reduce their energy and water bills, and get rid of their gas bill altogether. This will also be a great way to rebuild or reinforce existing homes so they are less prone to damage from extreme weather. Solar, wind, and water are all resources that naturally occur in nature, so it is only common sense to use them to our advantage to rebuild the nation from one of the worst polluters in the world to one of the greenest. Next, would be tackling the problem of public transportation. Many companies, including the government, use gas to power their vehicles to transport people and goods to their destination. Not only does this create so much unnecessary pollution, but it also is expensive! By switching all public and private company vehicles to a renewable source of energy it would save millions of dollars in the long run because energy is cheaper than gas. On the topic of renewable energy, since it is becoming preferred over oil and gas as times goes on, the Biden administration should invest in renewable energy for the country. Imagine having an entire country powered by renewable energy! It saves so much money by reducing the amount of people going to hospital for climate change related health problems, creating jobs to boost the economy, and taking millions of people off of welfare. Lastly, to get everyone to participate in reducing environmental vulnerability and injustice the government should incentivize homeowners switching to clean energy. Offer stipends or rebates for collecting ground water, switching their lawn to native desert plants, and switching to sustainable household appliances. This should encourage millions of Americans to participate which inturn would mean that the administration was able to find a way to curb the ongoing effects of climate change, if only by a little bit.

9. RECOMMENDATIONS FOR FUTURE RESEARCH

Our Silent Killers

Kayleigh Ott & Sophia Zajic

Far too often significant data, research, and information falls under the covers when addressing the controversial question of climate change. In analyzing the actions taken on climate change in San Gabriel Valley, there are many pervasive gaps in data. For example, even though we are aware of the general causes of methane emissions, knowing specifically how much each part is contributing to the significant rise would be the next step to rectifying its negative impacts. Methane is a primary component of natural gas ("Natural Gas" n.d.). So knowing how much agriculture, natural gas combustion (used in El Monte), and natural gas combined cycle (used in Pasadena and Alhambra) individually affect the overall emission rates would be useful data (Burillo, Chester, Princetl, Fournier n.d.). Similar to this gap in publicized data is the insufficient data on the overall contribution of vehicle emissions affecting the observed rising temperatures. Knowing this data would be impactful because communities would open up to the idea of alternate transportation methods. Making the negative effects of human inflicted events publicized creates a fear in people that would have otherwise not existed. Another prominent gap in data is the number of people dying from heat stroke in the San Gabriel Valley. Publication of this alarming number would create an incentive to work towards addressing climate change and the toll it is taking on communities.

While quantitative data helps address specific numbers regarding climate change, qualitative data is just as important in understanding different perspectives. So we made a Qualitative Research Design Proposal that includes three methods used by anthropologists: participant-observation, interviewing, and focus groups. Under the title, Rising Heat, our research questions include, how has the increasing temperature and extreme heat days affected your living situation? How do you adjust to the heat? What actions are being taken to prepare or prevent them?

Social groups we would study and interact with are people of all age groups in the SGV. But there would be more focus in lower-income communities because typically there is a lack of vegetation in the area they live in so heat islands affect them (Scauzillo 2012). There would also be a focus on elderly people who are at a disadvantage, especially if they live alone or don't own a car. We would also interact with city officials to gain insight into their perspective on the effects of climate change and how they are taking steps to make their city resilient and adaptable. To gain access to these groups, we can arrange interviews with the residents. For the city officials, we can call or email them and also arrange interviews with them. The contact information for the mayor and city officials can be found on the city's official website.

In addition, participant observation can be used to answer our research questions. We could spend time outside and observe how people behave on hot days. Do they go outside or do they stay inside? Specific locations to observe people could be popular areas to gather or some sort of shopping plaza.

In-depth interviews can also be used to answer our questions. Questions for residents include: What is your reaction to the increasing temperatures of the SGV? How often during the year would you say the heat becomes unbearable? What do you do on days that get very hot? Do you go anywhere on those days? Do you know people who have suffered from heat strokes or may have passed away from extreme heat? Has there been any

community collaboration on days of extreme heat? Questions for city officials include: do you know what is the cause of increasing temperatures in LA County and the SGV specifically? This is important because according to UCLA, the SGV has about 32 extreme heat days per year and it's predicted that by 2050, there will be 62 days per year (about 2 months) where the temperature is above 95 degrees Fahrenheit. Compared to Downtown LA, which is predicted to have 16 days of extreme heat by 2050, this is a significant amount of days (Chiland 2019). Other questions could include, what have you been doing to reduce the causes of rising temperatures? Does the city have any plans as of right now to change this? While asking these questions, we can show residents and city officials evidence of the effects of climate change. This includes a map of the US (seen in Figure 21) based on data from NOAA (National Oceanic and Atmospheric Administration) showing a large increase in temperature from 1895 to 2018. A map of the SGV and its areas of vulnerability to climate change (seen in Figure 22) can also be shown during interviews.

Using focus groups we can focus on specific groups of people to understand their norms. Focus groups could be adolescents (14-17), young adults (18-30), middle-aged adults (31-64), and the elderly (>65). This way we can observe any differences in opinions in different age groups. We would also focus on the people in charge, like city officials. Discussion prompts could be: are you aware of climate change and the impacts it has on the city or town you live in? Are there any impacts you observe? This could give us an idea if our focus groups recognize the rising temperatures due to climate change and what this says specifically about the way cities involve their residents in issues.

The two general focus groups this qualitative study is about could find this research useful in understanding the opposite group's perspectives. Citizens can understand their city's stance on the situation and what actions they are taking, and city officials can understand how their citizens are being impacted by climate change. Events regarding climate change in CA can also find this research helpful in understanding how it is affecting citizens and if city officials are doing anything about the issue, specifically in making their city resilient

and adaptable to the impacts of climate change.

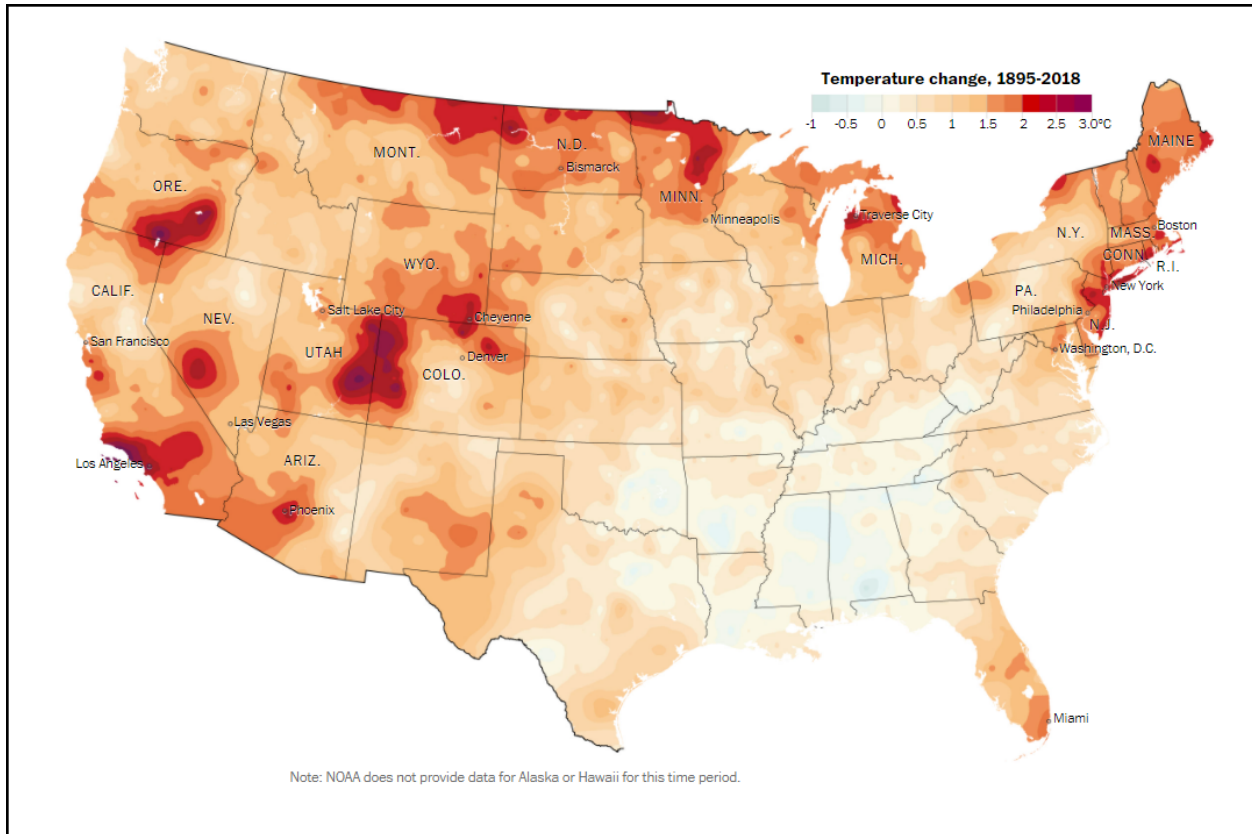
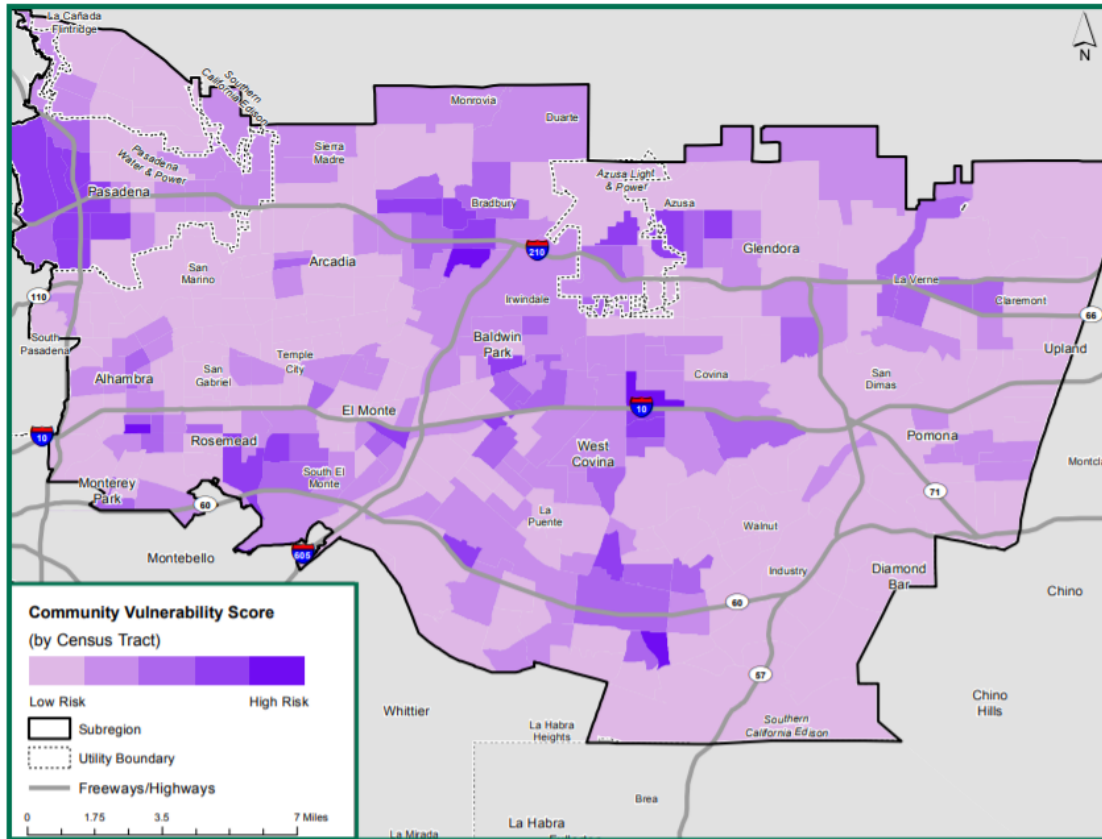


FIGURE 21: A map of the US showing temperature change from 1895 to 2018. The map was created by the Washington Post using data from the National Oceanic and Atmospheric Administration (NOAA). The majority of the US has experienced an increase in temperature, especially Southern California. The SGV is located just east of Los Angeles, revealing an increase of about 2 degrees celsius since 1895. (Screenshot by Sophia Zajic, November 15, 2021. <https://www.washingtonpost.com/graphics/2019/national/climate-environment/climate-change-america/>)

VULNERABILITY TO CLIMATE CHANGE



Source: California Environmental Health Tracking Program, August 2011. "Community Vulnerabilities to Climate Change." Environmental Health Investigations Branch, California Department of Public Health. Final report available at www.cehtp.org/p/climate_population_vulnerabilities.

San Gabriel Valley |

FIGURE 22: This map was put together by UCLA with data coming from the Environmental Health Investigation Branch in the CA Department of Public Health. UCLA Luskin Center was specifically commissioned by the Environmental Defense Fund to do research on clean energy investments, and with that came a map of the SGV displaying areas vulnerable to climate change. The deeper the purple, the higher the risk. Areas located near major highways are in a deeper purple, like El Monte, Bradbury, West Covina, and Industry. Pasadena is also highly vulnerable to climate change due to its proximity to major freeways and being the largest city in the SGV. (Screenshot by Sophia Zajic, November 15, 2021. <https://www.edf.org/sites/default/files/SanGabrielBook.pdf>)

10. INJUSTICE ANALYSIS

As More Issues Arrive... We Say the More, the Merrier?

Jazmín Romero & Shani Trieu

With cities such as Azusa and El Monte, the community can be diverse. But, with its diversity and frequent environmental disasters such as wildfires and flooding, environmental disasters are not the only thing residents should worry about; environmental disasters are just the beginning...

Azusa City, notorious for their wildfires, do not just have fires to tackle but the health disparities that spread throughout its community, almost as rapid as their fires.

Most recently in June of 2018, LA County City and Community Health Profiles became easily accessible to the public through a PDF format. Consisting of forty-four pages, the Azusa City health profile discusses life expectancy, mental and physical health, environmental justice, California's healthy place index and much more. The presented information, though, entails that there is also major injustice of the health of community members due to the environment. It seems that all injustices come full circle, relating back to the detrimental impacts of environmental injustice.

Azusa's health profile details that many of the residents suffer not only from asthma, but lung cancer as well. In most cases, those who become diagnosed with lung cancer unfortunately result in death. Statistics demonstrate that 34.9 lung cancer deaths occur

annually per 100,000 populations as well those who are diagnosed with asthma are 7% made up of children, ages 17 and younger (Azusa Public Health Profile 2018). That is not all the statistics showcase though. Many residents may also encounter the following and are not limited to: low levels of physical activity, obesity, diagnosed diabetes, reported colon cancer, breast cancer, lung cancer, chronic obstructive pulmonary disease, cardiovascular disease and diagnosed asthma.

Aside from the city of Azusa, El Monte's residents suffer from many health disparities as well, such as obesity, coronary heart diseases, type 2 diabetes, cancer (unknown type), hypertension, strokes, asthma and other chronic illnesses, diabetes, heart disease and reported low levels of physical activity. It must be taken into account that in addition to the El Monte health disparities, over one-third of the adult population does not have health insurance nor does 7.4% of children obtain insurance (El Monte Public Health Profile 2018). It is said that, "the vast majority of adults and children in Los Angeles County have health insurance, in large part due to outreach efforts and local insurance availability for children and the expansion of insurance coverage following the passage of the federal Affordable Care Act in 2012" (Azusa and El Monte Public Health Profile 2018). Despite this progress, rates of uninsured continue to remain high in some communities, particularly among low-income Latinos. Even among people who have health insurance, many continue to experience difficulty accessing needed healthcare, which should be in their every right to obtain.

Many may argue that there is no possibility of the community seeking justice for their health disparities but it begins with the information available such as the city's health statistics, or public health profile. In order to combat these health disparities, the people of the community should be able to easily access their health profiles, rather than surfing deep within the internet for their statistics. In addition, the city should work towards an equal distribution of medical care since their residents are heavily impacted by the

environmental disasters that occur, much like Azusa's wildfires and El Monte's flooding. The public health profile of Azusa and El Monte suggests, "Cities and community organizations can play an important role in advocating for needed services and in providing information on free or low-cost services in their communities. Hospitals can also provide medical and dental services through their community benefit programs and other community services" (Public Health Profile 2018).

With every disaster presumably, the media is quick to report on the situation. In the case of Azusa and El Monte though, it is difficult to read information on local environmental disasters on the internet, as they do not seem to be located on an archive. In terms of the media being distributed on television, the information seems to be "shrugged off". For example, a various group of residents of the San Gabriel Valley feels like the media does not go into depth as much as they should, leaving them to gather a list of questions and worries.

When news of a fire, as an example of Azusa, is distributed for the internet or for television purposes, the information is vague. NBC Los Angeles is a virtual channel that covers Los Angeles news, local news, weather, traffic, entertainment, sports, and breaking news (NBC Los Angeles). Fairly recently, a small brush fire occurred in the mountains of North Azusa, producing a small blanket of smoke. The article, which was published on September 6, 2021 by Jonathan Lyold is less than 100 words (California Wildfires NBC Los Angeles). The article consists of 84 words to be exact and is vague. It leaves residents with many questions and no follow up.

Has this occurred much more?

Well, it has been found when using the internet and typing any past or current environmental disaster into the search bar such as wildfires or flooding, displayed results

are of the LA County Fire Department “Ready! Set!Go!” evacuation plan. Also, links to Azusa’s Fire Mitigation Plan are up for display stating that, “The recent wildfires in California have been attributed to ignition caused by high voltage electrical lines coming in contact with vegetation.” (Azusa Fire Mitigation Plan 2021). The same also goes for El Monte, with plans of procedure when flooding occurs or for an uproar of a petition to stop the San Gabriel River Project when searching for the city’s past and recent environmental related disasters. More and more injustices root from the media. With little access or vague descriptions of the past, much worse may happen if the community does not have any material to prevent environmental disasters in the future.

As the health of the residents within communities of color decline due to various intersecting factors, climate change, specifically extreme heat, plays a role in the reproductive injustices in these communities. Climate change may seem insignificant in comparison to fast disasters like a chemical plant explosion, but the impacts of the rising temperatures and extreme weather conditions increases the potential for harm to many pregnant women. In the article, “US: Heat Emergency Plans Missing Pregnancy, Racial Justice”, the author describes how “(h)eat stress threatens health during pregnancy and fetal health exposure to high temperatures results in higher rates of premature birth as well as other adverse birth outcomes” which emphasizes how due to extreme heat, it negatively affects the health of the unborn child (US: Heat Emergency) . The other article, “Heat and Racism Threatens Birth Outcomes for Women of Color” by Avery Ellfeldt states that “in communities of color, high temperatures are one of several factors that drive higher rates of premature deliveries, stillbirths and other dangerous pregnancy outcomes” (Ellfeldt 2020) Both articles convey how due to the impacts of climate change with the rising temperatures, it places pregnant women at greater risk for themselves and their child. To address this reproductive issue, local, state and federal government officials need to enact policies that force large businesses and homes to be cautious and regulate the amount of greenhouse gas they are emitting into the environment. Residents within a community can also do their part by doing small things such as purchasing plastic free

goods, driving an electric vehicle, carpool, etc. to help combat and slow climate change. Reproductive injustices impact women of color more due to the racial injustices that reside within our society.

As we have discussed throughout our entire case study, the San Gabriel Valley is composed of mainly minorities and people of color. "Climate change is the result of a legacy of extraction, of colonialism, of slavery" (Gardiner 2020). The bold statement has been proven over and over again how communities of color face more environmental injustices as large businesses and government officials view communities of color as easy to manipulate and oftentimes these communities feel as though they do not have a voice or the power to fight for their rights. In the article, "Climate change is also a racial justice problem", Sarah Kaplan states how "black and Hispanic communities in the U.S. are exposed to far more air pollution than they produce through actions like driving and using electricity. By contrast, white Americans experience better air quality than the national average, even though their activities are the source of most pollutants" (Kaplan 2020). Kaplan reveals how communities of color end up with the pollution that they do not even create as through the systemic racism built into our society, people of color are constantly receiving the short end of the stick as the toxic chemical, air pollution is pushed towards communities of color. The impact of the racial injustice in combination with the various other injustices only contribute to the environmental injustices present within communities of color like the San Gabriel Valley.

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