



# *Cal* OES

GOVERNOR'S OFFICE  
OF EMERGENCY SERVICES

## Appendix B. Equity, Social Vulnerability, and Environmental Justice

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# CALIFORNIA STATE HAZARD MITIGATION PLAN

## Volume 2

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# Appendix B. Equity, Social Vulnerability, and Environmental Justice



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## B. EQUITY, SOCIAL VULNERABILITY, AND ENVIRONMENTAL JUSTICE

Disasters disproportionately impact historically marginalized and systemically underserved populations. The intersection of location, ability, age, class, race, ethnicity, nationality, gender, sexuality, spoken language, and economic status compounds the lived experience of people impacted by disasters across all phases of emergency management. Higher-risk populations may face increased difficulties obtaining supplies to prepare for a disaster or may have physical limitations that create barriers when trying to escape danger. Communities with fewer resources, or who have been historically excluded from accessing resources, may have had fewer opportunities to undertake projects that will reduce risk to their communities, resulting in more severe impacts when hazard events occur and longer, more costly post-disaster recovery.

### Equity and Social Vulnerability Definitions

Socially Vulnerable Populations refers to individuals and groups who have access and functional needs, such as, but not limited to, people without vehicles, people with disabilities, older adults, and people with limited English proficiency.

- Underserved Communities refers to populations and geographic communities sharing characteristics that have been systematically denied a full opportunity to participate in aspects of economic, social, or civic life (Federal Register 2021).
- Underrepresented Communities refers to populations or groups lacking historical or current representation in decision-making or aspects of economic, social, or civic life.
- Historically Marginalized Communities refers to groups and communities that experience discrimination and exclusion because of unequal power relationships across economic, political, social, and cultural dimensions.
- Equity Priority Communities are populations that bear a disproportionate burden of emergencies, disasters, and hazard impacts because of a history of being systemically marginalized due to intersecting layers of discrimination, such as structural inequities relating to race, ethnicity, gender, sexuality, access or functional needs, mainstream language access, documentation status, Tribal population experiences (federally recognized and non-federally recognized Tribes), Native or Indigenous origins, mental health, age, socio-economic status, countries of origin, religion, disability, etc.

Identifying populations and communities with a disproportionately higher vulnerability to impacts from natural hazards equips decision makers with localized data necessary to achieve equitable outcomes. This includes identifying populations based on demographic information such as age, income, and race, as well as identifying communities where data may not be as readily available, such as refugee and undocumented populations.

Any individual in any one community may have multiple traits or parts of their identity that can complicate and compound variables of vulnerability. The concept of “intersectionality,” coined by law professor Kimberlé Crenshaw, has been used to highlight how discrimination based on socially constructed forms of difference and identity overlap and can increase negative impacts. These impacts can produce culminating forms of oppression, heightening the effects of discrimination, exclusion, social inequities, and systemic injustice in the lives of specific individuals (Crenshaw 1989), (Mendez, Flores-Haro and Zucker 2020). An intersectional approach to hazard mitigation emphasizes how certain people suffer worse effects because of overlapping factors that are often measured separately (Kajiser and Kronsell 2014), (Mendez, Flores-Haro and Zucker 2020). In order to make emergency management more equity-centered, efforts should include an analysis of the intersecting, institutional issues of racism, classism, sexism, ageism, ableism, etc. and how these systemic inequities can affect hazard mitigation (Jacobs 2019).

## **B.1. SOCIALLY VULNERABLE POPULATIONS**

Social vulnerability is the likelihood of an individual, community, or group to be negatively affected by external stressors, creating barriers to the community's resilience and ability to recover from a disaster or emergency. These external stressors may include access to transportation, access to broadband and reliable communications services, or socioeconomic factors (e.g., income, educational attainment, employment).

The ability of an individual or community to withstand and quickly recover from hazards and threats is critical to ensuring the overall safety of the State. Although emergency managers, first responders, and a host of other organizations play a vital role in protecting public safety, individual and community preparedness are central to the whole community having the ability to adapt and recover from disasters. The same disaster or emergency can impact different populations in different ways. For example, differences in age, income, disabilities, and English proficiency affect people's ability to cope with the effects of disasters. Individuals may also face



compounding barriers because they may fall within multiple categories of vulnerability. Studies have indicated that as local hazard damages increase, so does wealth inequality, especially along the lines of race, education, and home ownership (Howell and Elliot 2018).

### Examples of Socially Vulnerable Populations

- Children (aged 5 years and under) are dependent on others to safely access resources during emergencies.
- Older adults (aged 65 and over) are more likely to lack the physical and economic resources necessary for response to hazard events.
- Economically disadvantaged populations are likely to lack the resources to adequately prepare for and respond to hazards.
- People with disabilities may be faced with increased levels of cognitive and physical difficulty, which may reduce their capacity to receive, process, and respond to emergency information and warnings.
- Individuals with limited English proficiency may have difficulty with understanding information being conveyed to them. Cultural differences can also add complexity to how information is being conveyed to populations with limited English proficiency.

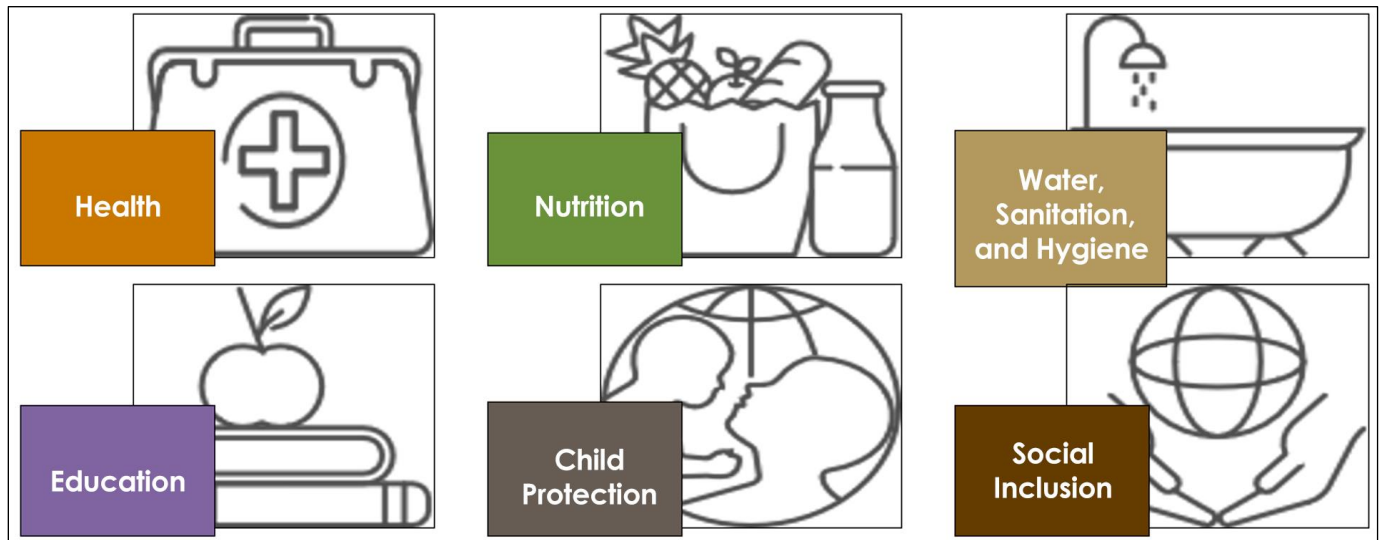
Source: (CDC 2020)

#### B.1.1. Children

Risk is disproportionately higher for children due to their dependency on others to safely access resources during emergencies and the potential for long-term impacts of trauma experienced during a crisis. During an emergency, children may not be able to avoid hazards, make critical decisions for their safety, or communicate with emergency workers. These vulnerabilities can reach beyond the disaster events. Extended disruptions in education systems during recovery can have lifelong impacts on the developmental capabilities and mental health of children. Additionally, children may experience increased health risks from exposure to hazards. This includes physical, mental, and behavioral health risks such as losing body heat quicker than adults, experiencing feelings of loss of a sense of control, understanding less about the situation, and having fewer previous experiences of recovering from similar situations (CDC 2020a). Strategies such as child-centered disaster risk reduction prioritize

preparing and protecting children by focusing on six sectors where children have the highest vulnerabilities, as shown in Figure B-1.

**Figure B-1.** Sectors in Which Children Have the Highest Vulnerabilities



Source: (CDC 2020a)

### B.1.2. Older Adults

Older adults are susceptible to increased risks associated with health, finances, mobility, and other factors. Those living on their own may have more difficulty evacuating their homes, and those living in group quarters, such as senior care and adult living centers, rely on facility operators executing emergency preparedness measures. Older adults may face greater limitations with driving or lack access to transportation and therefore require special evacuation plans. They may be hard of hearing or blind or have vision or cognitive disabilities that could make receiving emergency instructions difficult. Older adults may have other medical needs that may be hard to accommodate when evacuating and seeking shelter.

### B.1.3. Persons With Disabilities

The U.S. Centers for Disease Control and Prevention (CDC) defines a disability as a "condition of the body or mind (impairment) that makes it more difficult for the person with the condition to do certain activities (activity limitation) and interact with the world around them (participation restrictions)" (CDC 2020b). These "impairments" may increase the level of difficulty that individuals face during a hazard event. Cognitive disabilities may reduce an individual's capacity to receive, process, and respond to emergency information or warnings. Individuals with a physical or sensory disability

may face issues of mobility, sight, hearing, or reliance on specialized equipment. During emergencies, communications, transportation, and sheltering can be a major barrier and challenge for these individuals. Communications should incorporate considerations to ensure that messaging is effective, understood, consumable, and actionable. In addition to access to transportation, individuals with disabilities may require transportation of medical equipment, and sheltering locations should be accessible (Cal OES 2023b).

#### B.1.4. Economically Disadvantaged

Limited finances pose a barrier to obtaining resources to prepare for disasters. Individuals and households with financial challenges are likely to make decisions based on the major economic impact to their family, including determining if they have the financial means to safely evacuate. Day-to-day needs such as food and shelter often take priority over preparing emergency kits or stocking up supplies and food for disasters.

#### B.1.5. Persons With Limited Access to Transportation

Individuals with limited access to transportation face a higher risk during all phases of an emergency. During emergencies and disasters, public transportation services may be suspended or limited. This creates additional barriers for those who rely on public transportation or those who require specialized transportation due to mobility or medical needs. Individuals who have limited access to transportation may be unable to evacuate and forced to shelter in place until they receive additional assistance. First responders may be unable to render assistance due to inaccessible roadways or other conditions present during an emergency or disaster. In addition, remaining in place can contribute to crowding during an emergency. During the recovery phase of a disaster, people with limited access to transportation experience increased difficulty in accessing employment, healthcare, food, and other essentials.

#### B.1.6. Limited English Proficiency

Individuals who or do not possess a working proficiency in English may have difficulty understanding information being conveyed to them. Cultural differences can also add complexity to how information is being conveyed to populations with limited English proficiency (CDC 2022b). In certain instances, translating materials from one language to another without additional cultural context can result in the wrong message being communicated.

### B.1.7. Individuals Experiencing Homelessness

Many people lack access to a well-built, permanent residential structure, making them more likely to experience a disaster and more vulnerable to those disasters. Lacking access to a well-built home increases risk of atmospheric hazards such as extreme temperatures, precipitation, and harmful air quality, as well as other disasters such as wildfire and earthquakes. Many people experiencing homelessness rely on public services that can be disrupted during any type of emergency. Many of those vital services are provided in high-density situations, such as community shelters, which can make accessing those services difficult during disease outbreaks. Individuals lacking a permanent or semi-permanent location can be harder to locate to provide emergency services, such as evacuation assistance, personal protective equipment, or other infrastructure and services that can help individuals prepare for, respond to, and recover from disasters.

In addition to facing greater risk of experiencing a disaster, people experiencing homelessness have greater vulnerability during disasters. They typically have one or more identities that can make them more vulnerable to disasters than the general population, such as lack of access to economic resources, having access or functional needs, being part of a historically marginalized community, or having chronic or acute health conditions.

## B.2. UNDERSERVED AND UNDERREPRESENTED COMMUNITIES

### B.2.1. Rural Communities

In rural communities, the population is widely dispersed, which poses challenges for governments in disseminating critical information during emergencies and disasters. The infrastructure for communications and warning systems may be limited or non-existent in some areas. Additionally, individuals living in rural communities may have increased travel times to access resources such as housing, employment, and medical services after a disaster. These communities often rely on volunteer emergency service workers, which can lead to limited service during a wide-spread emergency. If transportation networks are impacted or impassible, these individuals could be completely isolated, and first responders and other service providers may not be able to access these communities.

### B.2.2. Migrant and Seasonal Agricultural Workers

Agricultural workers are at a higher risk of no-notice natural disasters and exposure to environmental hazards because they work outdoors and because of social factors that increase the risk to migrant and seasonal agricultural workers. Language barriers pose a significant challenge for disseminating preparedness and emergency information to many of these workers as many communicate with languages that are typically underrepresented in contractor translation services, such as Indigenous languages of Mexico, which primarily include spoken-only languages that have many dialects within each language group (e.g., Mixteco, Zapateco, Triqui, Purépecha, etc.) (Méndez M, Flores-Haro G, Zucker L. 2020). Distrust of government and lack of integration into the local community also result in migrant and seasonal agricultural workers being ill-prepared for disasters and localized emergencies and may cause them not to seek medical attention or shelter (Rosenbaum 2018).

### B.2.3. Individuals Living in Group Quarters

"Group quarters" refers to people living in communal settings, which can include people experiencing incarceration, students in a dorm, older adults, and individuals with access or functional needs living in group care facilities. The concentration of multiple individuals within one location compounds the impacts of a disaster should the structure incur damage. Where group quarters house individuals with access or functional needs, residents may require additional assistance with evacuating due to mobility or cognitive disabilities, or medical requirements. It is important to ensure that each group quarters facility has its own emergency plan to account for the individual needs of its residents during a hazard event.

### B.2.4. Individuals Living in Mobile/Manufactured Homes

Mobile and manufactured homes can increase physical risks to residents due to their construction. These structures are more vulnerable to damage from many disasters, including wildfire, winds, and earthquakes, and are often more difficult to rebuild after a flood, potentially requiring replacement. Without enough affordable, sustainable housing, mobile and manufactured home residents displaced by disasters may not be able to secure housing. These residents may have to locate farther away from employers, face long-term displacement, relocate out of the area completely, or face homelessness.

Mobile home parks may be located in areas zoned for commercial or industrial purposes, where the prevalence of environmental hazards increases risks to those residing within these areas.

### How Disasters Impact Equity Priority Communities

Equity priority communities are especially vulnerable to hazard events in a variety of different ways:

- When a disaster impacts an area where multiple families live in one structure, it may be difficult for those not listed on the lease to prove that they were affected by the event. This could result in the lack of access to services.
- Disasters quickly increase the prices of housing and rent, which further displaces people already affected by the event.
- Homelessness can increase.
- It can take days to translate information into languages other than English, hindering communication about evacuations and health and safety alerts.
- Indigenous populations may lose sacred sites. Fisheries and hunting and gathering grounds may be degraded.
- Older adults may struggle with mobility, which can slow or prevent evacuation.

## B.3. HISTORICALLY MARGINALIZED COMMUNITIES

### B.3.1. Black, Indigenous, and People of Color (BIPOC)

BIPOC populations often make up frontline communities, which are “neighborhoods or populations of people who are directly affected by climate change and inequity in society at higher rates than people who have more power in society. They are on the frontlines of the problem” (NAACP 2018). BIPOC communities are likely to be the first to feel the impacts of climate change and disasters. Structural and institutional inequities often create barriers that prevent these populations from being adequately prepared to withstand and recover from a disaster. “Decades of underinvestment and unjust systems have left frontline communities with high levels of poverty and pollution, a lack of quality jobs and education opportunities, outdated and weak critical infrastructure, disproportionately high costs for energy, transportation and basic necessities, and limited access to public services” (The Greenlining Institute 2019).

The social, political, and economic history of a community can have lasting impacts that perpetuate the oppression of BIPOC populations in present day. Discriminatory

housing policies, such as redlining, can result in vulnerable BIPOC populations residing in hazard-prone areas or with housing options that are lower quality and do not provide adequate physical protection against natural hazards (NAACP 2018). Redlining is a discriminatory practice in which services are withheld from potential customers who reside in neighborhoods classified as hazardous to investment, often due to significant numbers of racial and ethnic minorities and low-income residents. The historical practice of redlining still has lasting impacts and leads to increased risk and vulnerability of BIPOC communities.

### B.3.2. Lesbian, Gay, Bisexual, Transgender, Queer or Questioning, Intersex, Asexual, and Additional Identities (LGBTQIA+)

Historical discriminatory practices and policies toward LGBTQIA+ communities have lasting impacts on present-day disaster management. These communities may be excluded from safe, affordable housing options and therefore reside in higher-risk, hazard-prone areas with lower-quality housing (NAACP 2018). Access to safe and adequate sheltering is a concern for LGBTQIA+ communities. Some shelters might refuse to accept transgender or gender non-conforming individuals, resulting in these individuals being physically exposed to hazards. When LGBTQIA+ individuals are admitted to a shelter during an emergency, they may face discrimination leading to additional concerns regarding safety and access to medical services. These considerations should be incorporated into State and local sheltering plans.