



# Are You a Climate Change Survivor?



And Other Fun Activities to  
Build Your Community's  
Resilience to Climate Change

OAKLAND  
CLIMATE  
ACTION  
COALITION

25 YEARS PACIFIC  
INSTITUTE

## ARE YOU A CLIMATE CHANGE SURVIVOR?

And Other Fun Activities to Build Your Community's Resilience to Climate Change

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### About Us:

The Pacific Institute is an independent nonprofit research institute based in Oakland, California that advances cross-cutting solutions for environmental sustainability, economic vibrancy, and social equity in California and around the world. The Community Strategies for Sustainability and Justice Program partners with community-based organizations and coalitions to conduct action research and popular education for environmental and economic justice. The goal of our Resilient Roots Project is to connect residents of communities most vulnerable to climate change to the resources and information that they need to survive, thrive, and lead efforts to build resilience to the local impacts of climate change.

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ENVIRONMENTAL INDICATORS PROJECT

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For an online version of this guidebook, visit: [www.pacinst.org/reports/climate\\_change\\_survivor](http://www.pacinst.org/reports/climate_change_survivor)

## ABOUT THE OAKLAND CLIMATE ACTION COALITION:

The Oakland Climate Action Coalition (OCAC) is a coalition of environmental, labor, faith, and community organizations building a thriving green economy and healthy environment in Oakland, California by ensuring that Oakland's communities are involved in and benefit from the development and implementation of Oakland's Energy and Climate Action Plan.

### Why Do We Exist?

During Hurricanes Sandy and Katrina, people of color and poor people were left behind and more likely to lose their homes and jobs. When affected areas began to rebuild, once again, we saw people of color and poor people suffer the most. We need to learn from these examples to ensure that Oakland is better prepared to address the impacts of climate change so that the health and wealth of poor people and people of color are protected.

Oakland is known for innovation and leadership on environmental issues. We have the opportunity to show what is possible by enacting climate solutions that restore our communities and create opportunity and prosperity for all.

### What Do We Do?

- We are creating a space where diverse people and organizations can imagine and implement solutions that protect Oakland residents as they face the local impacts of climate change, such as heat waves, floods, wildfires, and poor air quality. By developing creative solutions to the related problems of pollution and poverty, we aim to improve the health and wealth of Oakland's communities.
- The Oakland Climate Action Coalition puts the people most impacted by poverty and pollution at the root of our solutions and at the heart of our movement. We hope to engage as many Oakland residents as we can to help shape an equitable thriving economy and healthy environment in Oakland.

### USING THIS GUIDE

This guide is a compilation of activities and resources that we have developed and piloted at community meetings, events, and workshops. While each activity was designed with a particular group in mind, we have adapted them here to be accessible for many different audiences. You may want to research the participants attending your workshop beforehand to determine their familiarity with the subject and any other needs that might be relevant to your planning, such as whether translation is needed or if there are any restrictions on mobility, etc.

Please feel free to tailor these activities so they are appropriate for your community and let us know how they worked!

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## WHAT IS CLIMATE CHANGE?

### WARMING UP

**Time:** 30 minutes

**Number of Participants:** 11 or more

**Objectives:**

- ✓ Break down the basic science of climate change
- ✓ Familiarize participants with the cause-and-effect relationships of climate change

**Materials:**

- Post-it notes
- Tape
- Markers
- Chairs

**Note:**

While climate change has implications for people globally, the immediate impacts of climate change can sometimes be felt in very different ways depending on where and how people live. For example, people who live in an urban area that is surrounded by freeways or near heavy industry might resonate with these things more as sources of climate change. On the other hand, people living in a rural, agricultural area might more readily understand how animal waste or industrial agriculture machinery contributes to climate change. As you are facilitating this activity, keep your audience in mind and adapt the activity to reflect what will resonate with the community you are in. It is still important to note all of the different contributors to climate change and how they exacerbate one another.

**Directions:**

Prepare the activity by writing the following sectors on 11 post-it notes:

- Electricity (3)
- Transportation (3)
- Industry (2)
- Agriculture (1)
- Commercial (1)
- Residential (1)

Set up 6 chairs in the middle of a room, arranged as if they represented seats in a car. Draw a square using tape snugly around the chairs. Ask for 11 volunteers and stick one of the post-it notes to each volunteer. Explain that in the middle of the room sits a small car. The outside of the car is illustrated by the tape on the ground. As you, the facilitator, narrate the scene, the participants must act it out. Exaggerated acting is encouraged as long as the participants stay inside the car.

## WARMING UP (CONT.)

*Explain that the following activity is going to help illustrate some basics of climate change. Each person with a post-it note represents one member of a sector that contributes to climate change.*

It's a summer morning and a few friends named "Residential," "Commercial," and "Agriculture" are sitting in their car in a parking lot. They are old friends and spend most of the morning chatting.

As the day wears on, their friends "Industry" hop in and the car starts to warm up. "Residential" asks if someone can roll down the windows. The car cools down slightly but the air outside is still hot.

A few friends named "Electricity" walk by and--excited to see their friends--get in the car. At this point, everyone is sweating. Someone makes a suggestion that they roll up the windows and turn on the air conditioning instead. The A/C clicks on and provides a little relief, but the friends in the back are still pretty warm. Not wanting to part ways, no one is willing to get out of the car.

It's afternoon now and the sun is beating down on the car. Feeling the afternoon heat, three friends named "Transportation" jump in the car, hoping for a ride across town. It's a tight squeeze but they can't bear the thought of missing out.

It's getting harder to breathe and just when everyone thought it couldn't get any stuffier, the A/C rattles, and breaks. The friends are stuck in the car with no relief.

*Release all the participants from their acting responsibilities and thank them for participating.*

What was it like to be stuck in that car? What did all of the "friends" in the car have in common? What dynamics caused the car to heat up? How was this scenario similar to what you know or have heard about climate change?

*Allow participants time to answer. If necessary, add that all of these things contribute to increased greenhouse gases in our atmosphere. Ask if someone can explain the function of Earth's atmosphere. Wait for responses and then ask if someone can explain what a greenhouse gas is. Find a common explanation:*

**Atmosphere:** In our role play, the glass and exterior of the car acted as the atmosphere. The atmosphere shielded some participants from the intensity of the sun but also trapped much of the heat within the car. On Earth, the atmosphere also protects humans from the full impact of the sun's rays but also holds some of the sun's warmth so that we don't freeze.

## WARMING UP (CONT.)

**Greenhouse Gas:** A greenhouse gas is a chemical compound that absorbs radiation, like energy from the sun, and then emits that energy in the form of heat back into the atmosphere. The earth has natural processes that have historically kept the amount of these gases in the atmosphere balanced so that the energy being given off by the gases did not change the temperature of the atmosphere. For example, plants and trees take in carbon dioxide and use it for growth, similar to the way humans need food for their development.

When the sectors involved in our role play begin to release more and more greenhouse gases into the air, Earth's natural systems are not able to process them at the same rate that they get released, creating an imbalance. Over the past 150 years, the world became industrialized, electricity was invented, and using cars, trucks, trains, and planes became commonplace. When humans drive cars, turn on lights, or heat their homes, they burn fossil fuels and greenhouse gases are released into the atmosphere. With this constant release of greenhouse gases that outpaces Earth's natural systems, the planet is essentially getting cooked by human activity.

### MODIFICATION

You could also modify this activity to include a portion of the "Climate Change Disparities." Ask one person in the car to take up a disproportionate amount of space and leave the others even more cramped. You can use the discomfort of most of the participants to illustrate the ways that a small percentage of the world's population with a lot of resources contributes the most to climate change, and that their choices and consumption patterns disproportionately impact those who have contributed to climate change the least.

*Ask if someone can give an example of how their sector might generate greenhouse gases. Some examples might be that transportation and the use of cars, trucks, and planes contributing to carbon dioxide to the atmosphere; electricity and heat producing carbon dioxide; and big machinery and waste from animals in large-scale, industrial agriculture releasing gases like carbon dioxide and methane, respectively. Answer any other lingering questions, provide more examples, or clarify, if need be.*

In the car scenario, everything got overheated, the A/C broke down, and the passengers really began to feel some of the impacts of the heat. In the case of climate change, the effects are much more complex. Not only does the earth heat up, it also changes many of the vital functions of the planet. For example, as air temperature rises, so does the temperature of the water it touches. As the surface temperature of the oceans increases, important ice caps begin to melt and affect sea level, weather patterns change, creating a higher instance of hurricanes and tropical

## WARMING UP (CONT.)

storms, such as Hurricanes Katrina and Sandy. In these events, it is often low-income and people of color who have difficulty coping.

### **Further Discussion:**

*If time allows, you may want to build in a discussion about climate change inequities and the ways in which low-income people and people of color contribute least to climate change and yet are often more severely affected by its impacts. Here are some additional questions to jumpstart your planning around a continued discussion:*

How many of you feel like you have experienced weather that is much more extreme or unusual in the past ten years than over the course of the rest of your lifetime?  
What are some examples of unusual weather you feel like you have experienced?

How do you contribute to climate change? Do you frequently drive a car, fly in airplanes, eat a lot of meat, regularly use the heat or A/C in your home, watch TV, leave the lights on, etc.?

Who or what do you see in your daily life that you think contributes to climate change? Can you come up with any specific examples from your community (like a refinery or power plant?)



# CLIMATE CHANGE DISPARITIES\*

**Time:** 30 minutes

**Number of participants:** 10 or more

## Objectives:

- ✓ Explore who contributes the most to climate change and compare this to who is impacted first and worst by climate change in the United States

## Materials:

- Chairs
- Printer paper
- Markers
- Tape

## Additional Resources (available free online):

- [“The Climate Gap: Inequalities in How Climate Change Hurts Americans & How to Close the Gap”](#) by Morello-Frosch, Pastor, Sadd and Shonkoff
- [“Climate of Change: African Americans, Global Warming, and Just Climate Policy for the U.S.”](#) by Hoerner and Robinson

\*Portions of this activity are adapted from the [“Ten Chairs Activity”](#) designed by [United for a Fair Economy](#)

## Directions:

Set up 10 chairs at the front of the room. On printer paper, write or print at least five characteristics of a person that contributes to climate change a lot (like “Drives an SUV”, “has a single-family home,” “owns a heated pool,” etc.) On more paper, write or print at least nine characteristics of people who contribute to climate change very little, such as “rides a bike,” “rides the bus to work/school,” “buys food from the farmer’s market,” “low-income,” etc.



Photo: Are You a Climate Change Survivor? Workshop (March 2013)

Select 10 volunteers from the group, including one person that is willing to be extra silly. You can enact this as a skit, in which all the characters silently move around, or aloud as the facilitator narrates what is supposed to happen. The one heavy contributor to climate change will strut out, slowly display each of his or her signs, one by one, so that the audience can see them, and tape them up to the chairs. Once all the signs are up, the participant will dramatically lay across seven of the chairs, stretching out to take up as much space as possible. The facilitator can then cue the rest of the actors, one by one, to come up and

## CLIMATE CHANGE DISPARITIES (CONT.)

take a seat in the three remaining chairs. Allow some time for the actors to shift around to try to fit on the chairs and for other participants to observe what is happening. Then, thank everyone for participating and allow them to go back to their seats.

### Discussion Questions:

- What did you see happen?  
What's going on in the skit?
- What's one word or short phrase that describes how you felt about the situation?
- Did you feel anything was wrong?
- What should have happened?
- Did anyone notice the signs people in the skit were wearing and wonder why?



Photo: Are You a Climate Change Survivor? Workshop (March 2013)

*If it's not generated by the discussion, explain that the skit illustrated that wealthier people often produce more greenhouse gas emissions and thus contribute more to climate change. Those who tend to contribute least to climate change, however, are the most impacted and generally have fewer resources to cope with its impacts. Ask participants how they observed this in the skit.*

Wealthier people tend to consume more, travel more, have bigger houses, and use more heat, electricity, gasoline, etc. The person taking up most of the chairs did more of these things and therefore has a bigger impact on climate change. This is the same in the real world because the top 10 of the population in the U.S. owns over 70 percent of all the wealth and consequently buys more, uses more, and contributes more to climate change.

What impact does this have on the other 9 participants, or 90 percent of society, which not only has less wealth but contributes less to climate change?

*The other 90 percent has fewer resources to cope with climate change and subsequently feels its impact much more. For example, if you are low-income and have to decide between paying your utility bill and purchasing food, you are particularly vulnerable in the event of extreme heat or extreme cold. Or say there is a hurricane and your entire house is flooded. A wealthier person would most likely have been able to purchase flood insurance to protect them against property damage whereas someone with fewer resources would probably not be able to afford that luxury.*

## CLIMATE CHANGE DISPARITIES (CONT.)

*Low-income residents also tend to live in areas with older infrastructure, such as older plumbing, houses, and drainage systems, and typically receive less attention from city utilities than wealthier communities. If these residents have to put more money into updating their homes or making repairs, they generally have fewer resources to adapt to less immediate concerns like climate change.*

How have you all observed these differences between who contributes most to versus who is affected most by climate change in your lives?

Have you ever had to make choices to support yourself in the short-term that could make you more vulnerable to storms, heat waves, flooding, or other impacts of climate change?

How do you think the U.S. might compare to the rest of the world in terms of contributions to climate change and the impacts that it has on us here?

*Similarly, the U.S. and other heavily developed countries contribute far more to global climate change than countries in the global south which have fewer resources to cope with its impacts. For example, small island nations are already struggling to adapt to the fact that sea level rise will soon change the geography, if not completely submerge, their country. With little help from the nations that predominantly contribute to climate change, poorer countries and regions will suffer.*

*The Union of Concerned Scientists notes that “the average person in the United States contributed 5.3 tons of carbon to the atmosphere in 1995, almost five times as much as the average Mexican, and more than 16,000 times as much as the average Somali.” However, even these statistics oversimplify how many Americans do not contribute nearly as much as their wealthier counterparts.*

## HOW DOES CLIMATE CHANGE AFFECT US?

# COMMUNITY IMPACTS TIMELINE

**Time:** 30 minutes

**Number of Participants:** 6 or more

### Objectives:

- ✓ Create a shared sense of community history and a vision for the future
- ✓ Learn about past disasters in our community and how community members dealt with them
- ✓ Generate ideas about what the future of our community might look like and how we might use past lessons-learned to deal with climate change impacts

### Materials:

- Large sheet of butcher paper with timeline of events and short description
- Historical images of your community over time, especially any disasters
- Markers

### Preparation:

Some historical knowledge and research is needed for this activity. You can interview community members to learn more about past disasters and how community members responded. For example, in West Oakland after the 1980 Loma Prieta earthquake, some residents who lost power joined up and had a block party, found barbecues, and cooked food with their community to share that would have otherwise spoiled. Prepare a timeline of these types of events in your community that stretches back at least 50 years and also into the future. Paste images onto your timeline with short descriptions of what they are.



Photo: Myesha Williams walks through the timeline (Are You a Climate Change Survivor? Workshop-March 2013)

If you are using the timeline as part of a longer workshop, you can introduce it at the beginning, have participants add to it throughout the day, and then return to it at the end for a discussion. Alternately, you can walk through this activity in about 30 minutes.

### Directions:

*Introduce the timeline as a tool that community residents can use to get grounded in the history of their community and to learn about what residents have done with past disasters. It can also be used as a tool to envision what the future of their community might look like with climate change. If some of the events listed are not climate-related, such as an earthquake, make sure to comment to the audience that you are using it as an example of how residents cope with disaster but not as an illustration of a climate change impact.*

## COMMUNITY IMPACTS TIMELINE (CONT.)



Photo: Margaret Gordon tells the history of West Oakland (Are You a Climate Change Survivor? Workshop - March 2013)

*Review the events that are already on the timeline. You can ask participants if anyone has memories about the events that you are discussing and how they responded to the disaster. Ask a note-taker to jot down what participants say.*

*Ask if any other participants can remember past events or disasters that demonstrated community strength/resilience. Add them to the timeline.*

*Ask participants if they have experienced any notable periods in the recent past that point to shifts in climate (i.e. hot days, storms, smoggy days) and write them on the timeline.*

*Invite participants up to add any possible future events to the timeline. Once they have added new events (i.e. flooding, more wildfires, extreme heat blackouts), ask them what type of impact they think that might have on their community. You can also use this as an opportunity to brainstorm ways that community members can band together to deal with these impacts before they arrive.*

# CLIMATE JUSTICE HUMAN BINGO

**Time:** 15 minutes

**Number of Participants:** 6 or more

## Objectives:

- ✓ Participants get to know each other
- ✓ Familiarize participants with factors that make them either more likely to be affected by climate change impacts or better able to withstand these impacts

## Materials (page 34):

- Climate Justice Bingo Sheets
- Pens
- Poster-sized version of bingo sheet (optional)
- Colored stickers (optional)
- Prizes (optional)

## Directions:

*As people arrive, ask them to sign in and hand them a bingo sheet and pen and explain the activity:*

Using the Climate Justice Bingo sheets you have been given, move around and talk to the people in this room to find someone that can answer yes to the question in the box. When you find them, write their name in the corresponding box. Find a different person for each box. The first person to fill 5 consecutive squares (either in a row, column or on a diagonal) should yell “Bingo!” and we will go over your answers.

*Once one person has finished, pass around colored stickers to participants and ask each person to put a sticker on the poster-sized bingo card in each of the boxes that is true for them. If you have a large group, you can have participants simply put a sticker on a square if they had written someone’s name on their bingo card. Note, however, that this isn’t necessarily representative of the characteristics of the group. After participants have had a chance to mark the large bingo card, note out loud which characteristics are prevalent within the group, one by one. For example, you might say:*

*It looks like many of us don’t have air conditioning at home. Do folks think that’s a factor that would make it easier or harder to deal with climate change? How come?*

*If there is disagreement about whether a factor would make someone more or less safe in the event of a climate change disaster, ask participants why they think that might be. For example, speaking a language other than English can be a huge advantage if they live in an area where that language is commonly spoken. However, it might make it harder to communicate with English-only speaking emergency service providers or neighbors.*

## CLIMATE JUSTICE HUMAN BINGO (CONT.)

As we can see, many of us have factors in our lives that can greatly affect our ability to cope with climate change. Even though we might not think that renting our home instead of owning it, or not having access to a car, is a big deal, these things can affect how vulnerable we are to climate change impacts. Over the course of the workshop (or meeting, class, etc.) we will explore how to better protect ourselves from these impacts.

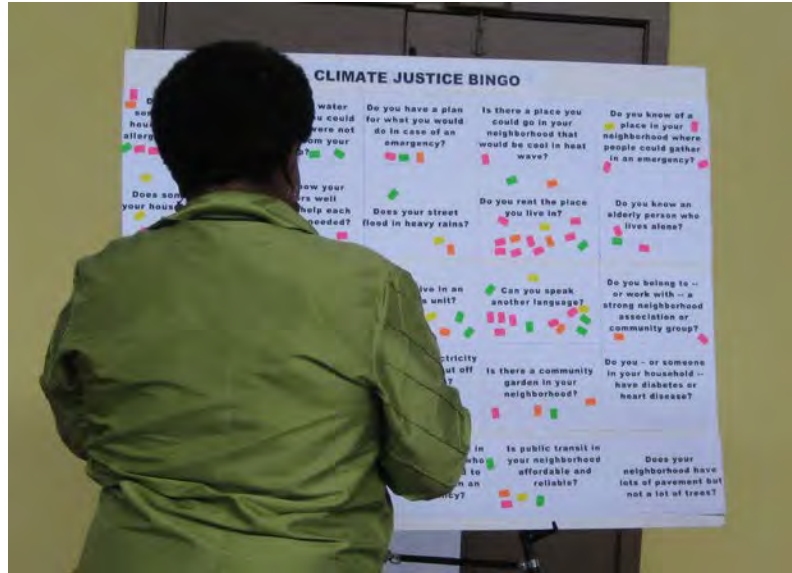


Photo: Cassandra Martin places her bingo stickers (Are You a Climate Change Survivor? Workshop - March 2013)

### MODIFICATION

You can also do a “call-and-response” version of the large bingo poster by asking participants to cheer (or raise their hand) as you read each square aloud. Make sure you have a note-taker to mark which squares seemed to have the most responses and then continue with the discussion as described above.

# CLIMATE JEOPARDY

**Time:** 15 minutes

**Number of Participants:** 6 or more

## Objectives:

- ✓ Introduce the relationships between climate risk, vulnerability, and resilience
- ✓ Connect climate change impacts to vulnerability and resilience factors that people experience

## Materials (page 35):

- Flip chart
- Markers
- Tape
- Bowl or hat to hold strips of paper
- Vulnerability/resilience factors on strips of paper, color-coded by climate impact
- Large paper with climate impact chart

## Preparation:

In preparation, create a chart on large flip chart paper with two columns: “Vulnerability” and “Resilience,” or “Safety” and “Risk,” depending on which terms are most accessible to your audience. Add rows for climate impacts, such as “Extreme Heat,” “Poor Air Quality,” “Wildfires,” “Rising Utilities Costs,” and “Flooding” (see photo for an example). You may want to adapt the climate impacts to the ones that are of most concern in your community.

## Directions:

Go over definitions of vulnerability and resilience.

While some of our circumstances or behaviors make us more unsafe when it comes to climate change, others can make us better prepared to deal with changing conditions.

What does it mean to be vulnerable to something?

**Vulnerability Factors** are characteristics that *reduce* our ability to adapt to or cope with climate change impacts once we are exposed. For example, someone who lives in a home with no air conditioning is more *vulnerable* to a heat-related illness or death because they are less able to cope with extreme heat. Similarly, someone who doesn’t own a car might be more *vulnerable* to a flood because they cannot easily leave town or move to higher ground.

What does it mean to be resilient to something?

**Resilience Factors** are characteristics that *increase* our ability to adapt to or cope with climate change impacts once we are exposed. For example, if we are prepared and



## CLIMATE JUSTICE JEOPARDY (CONT.)

have emergency food and water supplies available, we are more likely to be able to cope with flooding.

Some characteristics can be both vulnerability *and* resilience factors. For example, if a person's primarily language is something other than English, they might be well-equipped to handle a climate change impact in a neighborhood of people that also speak that language, making them more resilient. However, it could also make communication with emergency service providers or neighbors who only speak English more difficult, making them more vulnerable.

Now we're going to do an activity to think through the factors that can affect our vulnerability and our resilience to specific climate impacts, such as heat waves, floods, or poor air quality.

*Ask for 2-3 volunteers to pull a slip of paper out of the bowl and read their slip of paper out loud. Then ask the group which impact they think it goes with. Finally, ask if what is written on that slip of paper is a resilience or vulnerability factor for that impact. Use tape to put the slip of paper up on big paper on the climate impacts chart where they think it belongs.*

*Debrief: Some factors can be both a good thing and a bad thing. Ask participants about some of the factors that were identified as a vulnerability factor but could also be a resilience factor.*



Photo: Margaret Gordon at Oakland's 2010 Climate Day of Action

**Vulnerability** and **resilience** are often two sides of the same coin for a given impact – the more vulnerable you are, the less resilient you are for a given impact.

*Example:* Some of us identified that speaking another language other than English was a vulnerability factor, but how could it be seen as something that could make us more resilient?

*Answer:* It could allow people to communicate with a broader group of community members.

## CLIMATE JUSTICE JEOPARDY (CONT.)

But whether a given characteristic makes you more or less vulnerable also depends on the situation. For example, say you were standing at the edge of a pool with another person. Both of you got shoved into the pool, but only one of you knew how to swim. In this case, the person who knew how to swim would be more resilient, or better able to cope, with the situation of getting shoved into the pool.

But, in a different situation – say, if you were given a pop quiz, the person who studied the night before – regardless of whether they could swim or not – would be better able to cope with the situation.

We each have different vulnerability and resilience factors that make us less or more able to cope with different situations. That's why it's important to work with your neighbors and other people in your community to build your resilience.

## WHAT CAN WE DO TO PREPARE?

# CLIMATE CHANGE SURVIVOR

**Time:** 30+ minutes

**Number of Players:** 3 to 6

### Objectives:

- ✓ Discuss the factors that make us more or less safe when it comes to climate change impacts
- ✓ Learn about actions we can take to better prepare and protect ourselves from climate change impacts

### Materials (pages 36-54):

- Climate Change Survivor Game Board
- Game Cards (6 color-coded sets)
- Dice (2 pairs)
- Game pieces (6 distinct pieces – can be bottle caps or candy)
- Game prizes (optional)

### Directions:

Shuffle the game cards so they are in random order. There are 6 sets of color-coded game cards. Each set of color-coded cards represents a different climate change impact and you can easily change the colors according to what is readily available to you.

- Extreme Heat (Yellow paper)
- Flooding (Blue paper)
- Wildfires (Pink paper)
- Poor Air Quality (Gray paper)
- Rising Food, Water, and Electricity Prices (Purple paper)
- Trump Cards (Green paper)

The game board has color-coded squares that match the game cards. Each player rolls the dice and advances that number of squares on the game board to start the game. Each player then picks a game card that matches the color square that they land on. Each color-coded game card lists out a factor that can either make you more vulnerable to that climate change impact OR an action you can take to adapt to that climate change impact. Trump cards list actions that you can take to reduce your impact on the earth's climate by lowering greenhouse gas emissions. If the card the player picks lists a vulnerability factor, the player must step back one square. If the card lists an action the player can take to adapt to that impact, the player can advance one square.

## CLIMATE CHANGE SURVIVOR (CONT.)

The game board also has special “scenario squares” with climate-related disasters that could occur related to each impact. The player loses his/her next turn if s/he lands on a disaster scenario square with an explosion shape on it. The player advances two squares if s/he lands on a resilience scenario square with a balloon shape on it. Players who land on scenario squares can pick a trump card (green) on their next turn and save the trump card to use anytime they want to get out of a disaster scenario square that they land on.

Each player then picks another game card based on the color square they land on next, and so on. The goal of the game is to get to the finish line on the game board first.

# CLIMATE CHANGE SURVIVOR BEAN BAG TOSS

**Time:** 5-10 minutes

**Number of Players:** 1

## Objectives:

- ✓ Engage event attendees in a discussion about how they can better prepare and protect themselves from climate change impacts
- ✓ Begin a discussion on steps community members can take to make themselves, their families, and their communities more resilient

## Materials (pages 36-54):

- Climate Change Survivor Board  
(Made from a cardboard box, piece of scrap wood, or using large poster paper taped to a hard surface – see photo on page 22 for reference)
- Game Cards (5 sets – excludes the “Trump Card” set from Climate Change Survivor)
- 3 Bean bags (or cardstock envelopes filled with beans and taped shut)
- Prizes (optional)

## Directions:

There are 5 sets of color-coded game cards. Each set of color-coded cards represents a different climate change impact (see “Climate Change Survivor” directions).

Create a board out of a solid material, like cardboard, scrap wood, or poster paper on a hard surface, and mark it with at least five different colored squares to represent each of the different climate change impacts. Make sure to include a few extra squares or spots for “climate-related disasters” (see photo for example).

Players will receive one bean bag to start with. The player tosses the bean bag and lands on a square. If a player tosses and lands on a “Disaster Scenario” square, they lose that bean bag. You may want to discuss the disaster scenario and ask the participant questions if they are particularly vulnerable to that incident. For example, if they land on “Flood Warning” you might ask them where they live. Do they live in a low-lying area and are at increased risk of being flooded? Once you’ve discussed the impact with the participant, remove that bean bag from the board and hand them another.

If they land on a color square, they draw a card of the same color and read it aloud. Ask the participant whether they think the card represents something that makes them more or less safe when it comes to that climate change impact. Is it something that is true for them in real life? If the card represents a *risk factor*, or something that would make them less safe, they lose that bean bag, it gets removed from the board, and you give them another bean bag to toss.

If the card represents a *resilience factor*, or something that made them safer, ask them if it is something that is true for them or something that they already do. If not, is it something

## CLIMATE CHANGE SURVIVOR BEAN BAG TOSS (CONT.)

they have ever considered doing or would like to do in the future? Discuss the possible benefits to building their resilience.

*Example:* if the card they draw says “Build an emergency kit that includes plenty of water and food supplies,” you might ask the participant if they have an emergency kit already at home or if they knew what you would want to include in one, when they would need to use it, or how it might help them in an emergency.

When the player draws a resilience card, they can keep that bean bag on the board and you can hand them another bean bag.

If the participant still has 2 out of 3 bean bags on the board at the end, award them a prize!



*Photo:* Pacific Institute’s Kris Ongoco leads Karen Pierce and her grandson through Climate Change Survivor at West Oakland’s annual WillowFest event

## HOW CAN WE BUILD MORE RESILIENT COMMUNITIES?

### PUTTING OUR TREASURES ON THE MAP

**Time:** 1 hour or 1 hour 30 minutes

**Number of Participants:** 5 or more

#### Objectives:

- ✓ Identify community treasures and assets that community members want to protect and strengthen
- ✓ Build a stronger network of community residents that can work together toward climate change resilience and identify ways of taking action to build resilience

#### Materials (page 55):

- # big maps of specific neighborhood (See “A Quick Guide to Map-Making” on page 25)
- # Transparency overlays (for maps)
- Map legend (optional \*)
- Icon stickers (for neighborhood maps – printed on Avery Address Label 5161 sheets)
- Climate Change Impact stickers (printed on Avery Address Label 5161 sheets)
- Asset Icon stickers (printed on Avery Address Label 5161 sheets)
- Colored permanent markers
- Flip chart
- Markers

**Note:** This activity works best with smaller groups so that participants can gather around a map and clearly see the map’s details. If you have more than 8 participants, consider splitting them into small groups (4-8 people) that each have a map. You can reconvene as a large group after each small group has done its mapping and use the large group discussion questions to compare the separate maps.

\*For this activity, we produce large maps of a community zoomed in close enough to see block-by-block details. Using Geographic Information Systems, or GIS, we identify and label important treasures, such as parks, hospitals, firehouses, shelters, food banks, clinics, etc. If you have limited access to or experience with GIS, you can simply fold this portion into the activity by asking participants to mark these places as treasures with heart stickers. Make sure to account for the extra time—around 30 minutes—that this will add to the activity.

#### Directions:

**[10 min]** First, split participants up into small groups if need be. If possible, separate participants by neighborhood or a specific climate change impact that they are going to investigate in relation to their community’s treasures. For example, you could have separate groups for extreme heat, flooding, and wildfires. Make sure to have a note-taker who will write down the specifics of what participants say on flip chart paper so that you can have an accurate and detailed account of community treasures for future reference. Once participants are in small groups, introduce the activity:

## PUTTING OUR TREASURES ON THE MAP (CONT.)

Today, we're going to work with maps to identify the strengths and unique characteristics of our community and its residents that can help us cope with climate change. First, let's go around and introduce ourselves. Think about the places that you go every day in your neighborhood: Where do you live and where do you work or go to school? Do you walk, ride the bus or a bike, or drive to get from one place to another? Please say your name and where you live, work or go to school. Use a sticker of a house to mark where you live on the map, a sticker of a moneybag to mark where you work, and a sticker of a book to mark where you go to school. Then use this permanent marker to mark the route that you use to get from one place to another and tell us if you walk, ride the bus, bike, or drive there.



**[10 min]** Next, use the heart stickers to mark other treasures in the community that participants would want to protect and strengthen. The note-taker should write down what each treasure is and its exact location (such as the cross-streets).

Are there any other places in our community that we would want to protect and strengthen in your community? We can call these places treasures. These can be places where people in our community gather, such as a senior center or library, or places that help support the community, like a community garden.



What are some other places where you and your family members spend a lot of time? This could be a church, a park, a daycare center, a senior center, etc. How do you get there – what route do you take? Do you walk, bike, ride the bus, drive, etc.?

Are there other places where people who are most vulnerable tend to gather that aren't on this map? What are they?

Where are these other treasures located in our community?

Photos: West Oakland residents mapping community treasures (Are You a Climate Change Survivor? Workshop - March 2013)



## A QUICK GUIDE TO MAP-MAKING

Map-making can be a powerful tool for community groups. They can be used to hold invaluable community knowledge, identify places to protect and strengthen, and for presentations to decision-makers. For this activity, the more detailed map you can get the better! Here are some tips for finding or producing useful maps:

1. Find a Detailed Map from your City's Planning Department, either on their website or at their office. If you are a member of AAA Auto Insurance, you can also get free maps from the company's local office.
2. Have a Mapping Professional Create Maps for You:  
Maps are typically produced by Geographic Information System (GIS) professionals who have learned a language that reflects the often complicated technology of GIS. In order for them to handle your requests, it is important to know a little bit of that language in order to communicate what you want. Information to know when requesting a map:
  - a. *Scope:* What area do you want covered in the map?
  - b. *Size:* How big do you want the print-out to be?
  - c. *File Format:* Do you want the map as a JPEG, a PDF, a TIF, or some other file? (A pdf is often the easiest to have printed at a copy shop.)
  - d. *Map Features:* What do you want the map to show? Street lines like a road map, aerial photographs, property lines, parks, health facilities, or what?
  - e. *Delivery:* How will you get the map? (Will you get it through email, ground mail, or pick it up at the store?)
  - f. *A Note about Scale:* The scale determines how much of the earth's surface is packed into each inch on the map. For example, a scale of 1:1000 means that every inch on the map represents 1000 inches on the ground. The higher the second number is, the less detail the map will have.
  - g. *Don't Worry About Scale:* If you say what size you want and what you want included (for example, "I would like a 36" by 48" map of the Iron Triangle neighborhood") then you do not need to say what resolution you want.
3. Take a digital file of your map(s) to a local copy shop with a plotter (a special printer for large printouts) and ask them to print out a poster-sized version of a map.

## PUTTING OUR TREASURES ON THE MAP (CONT.)

**[10 min]** Ask participants to now map the neighborhood's "trouble spots", or places where the climate change impact is most likely to cause problems. For example, in West Oakland, residents identified major corridors that were flood-prone, places where people from outside the community dump trash that blocks drains, and old drainage that would present a challenge during flooding. If participants are in small groups based on specific climate change impacts, use the Climate Change Impact Icon stickers to indicate where those spots are on the map.

How could this climate change impact affect our daily routine or how we get from one place to another?

Where in our neighborhood is this climate change impact most likely to cause problems?

**[10 min]** Now that you have identified treasures to protect and where residents might anticipate problems, shift into discussing what actions community members can take to ensure they stay safe.

What would you need to do differently at home to protect yourself and your family members in the event of a climate change impact? What would you need to do differently at work or school in the event of a climate change impact? What might you need to change about how you get from one place to another in the event of a climate change impact?

What actions could you take with your neighbors to protect these treasures from a climate change impact?

**[10 min]** Identify assets that the community has to protect its treasures. Use the Asset Icon stickers to mark the assets that participants identify on your map.

Together, we represent a strong network of skills and resources that can sometimes be hard to recognize. We are going use the map to illustrate the skills, equipment, or resources we have that can help protect ourselves and our treasures from a climate change impacts. These can be considered our community "assets."

What skills do people in our community have--like nursing, first aid, carpentry, gardening, electrical knowledge, etc.--that could help us take action in

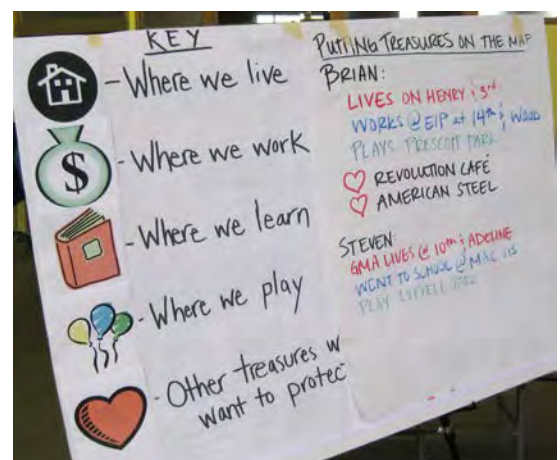


Photo: Mapping treasures (Are You a Climate Change Survivor? Workshop - March 2013)

## PUTTING OUR TREASURES ON THE MAP (CONT.)

the event of a climate change impact? What equipment or resources—like barbecues, power tools, trucks, etc.—do we have that could help us? Where are these assets located?

What other skills, equipment, resources, or support might we need to be prepared?

What people, agencies, or groups in and outside of our community could help us get this support?

**[5 min]** *Summarize or recap what the group has discussed. If you're split into small groups, decide on a reporter within each small group that will present to the large group.*

Let's summarize what we discussed in our group. What are the take-aways or themes from our discussion in terms of actions that we could take to protect ourselves from climate change impacts and assets that we would need to take these actions that we want to share with the big group?

**[40 min]** *If necessary, conduct small group report-backs, giving each group 5 minutes to present, and then transition into a large group discussion using the following questions:*

- What were some of the similarities on your maps?
- What were some differences?
- Were there any things that surprised you? Any assets that you liked but didn't have on your map?
- What is the value of doing an activity like this?
- Do you see any holes in our resources that might make us less safe in the instance of a climate change impact?
- Are there other people, organizations, or agencies that could help us fill those gaps?

# STEP INTO THE CIRCLE

**Time:** 45 minutes

**Number of Participants:** 8 or more

## Objectives:

- ✓ Scan the group to see what climate vulnerabilities are most present
- ✓ Begin to determine what factors need to be addressed to build resilience
- ✓ Determine what assets the group has that naturally makes them more resilient

## Materials (page 59):

- Vulnerability Factors Checklist
- Climate Change Resilience Factsheets (available on page 57 or online at [www.pacinst.org/presentations/resilience\\_fact\\_sheets](http://www.pacinst.org/presentations/resilience_fact_sheets))
- Large flip chart paper
- Markers

## Directions:

Ask the group to stand in a circle shoulder-to-shoulder. Explain that you are going to read off a number of statements that will help participants get to know each other a little better. Each statement will begin with “Step into the circle if...” and if the statement is true for that person, they should take one large step towards the middle of the circle. Ask the group not to talk during the exercise, but to simply observe as each statement is read and people step forward. After you read each statement, pause to allow people to scan the room, say thank you, wait for the people who stepped forward to step back, and then read the next statement. If possible, have a separate facilitator who is not participating note roughly how many people step forward for each factor. The activity can also be done with participants sitting in chairs and raising their hands when a statement is true for them if there are participants who are less mobile.

Some examples of prompts are:

- Step into the circle if you use an inhaler.
- Step into the circle if you are over the age of 65.
- Step into the circle if you work or play outside.
- Step into the circle if you have flashlights in your home.
- Step into the circle if you know your neighbors.
- Step into the circle if you have an emergency preparedness kit at home.

Once you’ve read the entire list, start a dialogue by asking the following questions and giving the group enough time to discuss each one.

Which statement(s) had the largest number of people step forward? What was that like? What did you think when you saw that?

Which statement(s) had the smallest number of people step forward?  
If you were one of the few people stepping forward, what was that like?

## STEP INTO THE CIRCLE (CONT.)

Did you have to step forward often? If so, what did it feel like to be in the middle of the room frequently?

Were you stepping forward infrequently? If so, what was that experience like? What was it like to watch other people step forward?

*Pass out the “Vulnerability Factors Checklist” and give participants time to scan it.*

All of the characteristics listed during the circle activity can be considered both positive and negative given the context. In the context of climate change, many of the characteristics that we listed have the potential to make you more vulnerable. However, as we saw, there is strength in numbers and also strength in knowing who is vulnerable that we might not otherwise consider.

What are some of the characteristics that were not a factor for most of us in this room?

What are some of the characteristics that were true for many of us in this room? What are the climate change impacts that many of us may be more vulnerable to because of those characteristics?

*Pass out the appropriate climate change fact sheets based on what the group identified as major issues. Have the group split into pairs or small groups based on the most problematic climate impacts that they identified and discuss some of the things that they could do on an individual or household level to make themselves safer. Participants can use the factsheets as a reference and/or come up with tools that are unique to them. Have the pairs share out some strategies for making themselves or their householders safer in the event of their particular climate impact and record it on large flip chart paper.*

# COMMUNITY RESILIENCE LIFEBOATS

**Time:** 1 hour 30 minutes

**Number of Participants:** 8 or more

## Objectives:

- ✓ Divide participants into separate “Resilience Groups” to develop climate change resilience plans for their community
- ✓ Discuss plans for boosting community-level climate change resilience

## Materials (page 60):

- Markers
- Pens
- Blank 8 ½ x 11 paper
- Large flip chart paper
- Climate Change Resilience Factsheets (available online at [www.pacinst.org/presentations/resilience\\_fact\\_sheets](http://www.pacinst.org/presentations/resilience_fact_sheets))

## Directions:

Briefly review the different types of climate change impacts that communities may have to deal with: extreme heat, flooding, wildfires, rising cost of utilities, air quality, and drought. You can use the Climate Change Factsheets to help remember what these impacts are! Explain that today we’re going to build climate change resilience “lifeboats” by thinking strategically about what we can do to create safety in our communities. On the count of three, have all of the participants call out the climate change impact that they are the most concerned about and find the others in the group that have the same concern. These people will each form their own “lifeboat.” If there are any people left standing on their own, it is up to the groups to figure out how to team up with that person to help protect them, too.

Once participants have grouped themselves, have them find a seat somewhere and give each group large flip chart paper and markers. Have one person write the climate change impact that the group chose at the top.

As a group, we have plenty of assets and qualities that make us well-equipped to handle climate change. Usually, when we talk about preparing for disasters, most of the emphasis is on the things that make us more vulnerable. Now it’s time to take a closer look at the things that make us strong and resilient, even in the face of climate change disasters.

Pass out blank 8 ½ x 11 paper and pens and ask each participant to silently write or draw something that makes them better equipped to cope with their climate change impact. This could be a skill, like knowing CPR, a characteristic, like being social and knowing all your neighbors, or a resource they have, like an inhaler, emergency kit, or bottled water. Give participants about 3 minutes to reflect on this, and then ask them to go around and each share

## COMMUNITY RESILIENCE LIFEBOATS (CONT.)

*what each one came up with within their small groups. Make sure that one person from each group records the list of assets on the large flip chart paper.*

*Repeat the individual reflect again but this time ask each member of the group to write or draw something that makes them feel more vulnerable to this specific climate change impact. After a few minutes have them share with the group and a note-taker record the responses on the flip chart paper.*

*Pass out the Climate Change Resilience Factsheet that is relevant to the climate change impact that each group is working on. Ask them to review them and discuss if there is anything else from the factsheets that they would add to their lists of resilience factors or vulnerability factors within their group.*

Now that each group has a better idea of the strengths and things that need improvement or protecting in our community, let's take a closer look at the lists each group made. Among your small groups, are there any strengths or assets that you already have within your group that might help address one of the weaknesses? If so, draw a line from one to the other. Take a few minutes to discuss these possible connections within your group.

Now looking at the list of vulnerabilities that aren't already taken care of by the strengths or assets in the group, take the next 10 minutes to brainstorm things you could do within your community to build more resilience and address the vulnerabilities.

*From both their brainstorm and the factsheets, have the group select one of the ideas that they think they could implement within their community. Have each group write the idea on their large flip chart paper. Offer 10-15 minutes for the group to create a list of action steps:*

Now that you've decided what you want to pursue to help build resilience in your community, let's figure out how to actually do it! Using your list of ideas, write down 3-5 concrete tasks, or actions steps, you could work on together toward making that idea a reality.

*With their action steps ready, ask the group to decide who will do what. If it's a particularly large task, a couple of people can coordinate it together.*

*Now ask the group to develop a list of resources or support they might need to follow through with their action steps or make their idea more tangible. Have them write them down, too.*

## COMMUNITY RESILIENCE LIFEBOATS (CONT.)

*Lastly, ask the group to come up with a way to keep their lifeboat afloat. How will members stay in touch and work on implementing their task list? Have each group write down a follow-through plan.*

*Share out! Ask each group to share their group's work, including their community's assets, vulnerabilities and their idea for how to address them. They might also want to share their action steps, the resources they need, and their follow-through plan. This can be an opportunity to create accountability and also see what other people, knowledge, and resources are available within the room. Make sure to leave enough time for discussion and questions.*

*Either designate someone from each group to send out the notes from the discussion, or volunteer as a facilitator to type up notes and ensure that the groups receive their detailed lifeboat plan.*



## MATERIALS:

The following materials can be used to enhance your workshops and make activities more interactive. We invite you to adapt materials to the needs of your participants. Please credit the Pacific Institute and the Oakland Climate Action Coalition if reproducing them.

Please let us know how you have used the materials or changed them to suit your needs!



## CLIMATE JUSTICE BINGO

1. For each box, find someone who can answer "Yes" to the question.
2. Write their name in the box. Try to fill each box in with a different name.
3. When you get five in a row, column, or on a diagonal, yell out BINGO!

Do you -- or someone in your household -- have allergies or asthma?	Do you have water stored that you could use if water were not available from your tap?	Do you have a plan for what you would do in case of an emergency?	Is there a place you could go in your neighborhood that would be cool in a heat wave?	Do you know of a place in your neighborhood where people could gather in an emergency?
Does someone in your household have a car?	Do you know your neighbors well enough to help each other out if needed?	Does your street flood in heavy rains?	Do you rent the place you live in?	Do you know an elderly person who lives alone?
In case of a flood or other disaster, do you have someplace to go outside of your neighborhood?	Does someone in your household have limited mobility?	Do you live in an upstairs unit?	Can you speak another language?	Do you belong to -- or work with -- a strong neighborhood association or community group?
Is the air in your neighborhood pretty polluted a lot of the time?	Do you work outdoors?	Does your electricity sometimes shut off in a storm?	Is there a community garden in your neighborhood?	Do you -- or someone in your household -- have diabetes or heart disease?
Do you -- or an organization in your neighborhood, -- have a rain barrel to collect and store rainwater?	Is there a community food bank in your neighborhood?	Is there someone in your household who would be afraid to call for help in an emergency?	Is public transit in your neighborhood affordable and reliable?	Does your neighborhood have lots of pavement but not a lot of trees?

## **Climate Justice Jeopardy Factors Key (Sample)**

### **Extreme Heat Vulnerability Factors (Yellow):**

- Preexisting medical conditions.
- Needing medication.
- Living on higher floors of multistory buildings or in a home with fewer rooms.
- Lacking access to air conditioning.
- Living in a high-density neighborhood.
- Lacking access to open space like parks.
- Limited English language fluency.
- Living alone.


### **Poor Air Quality Vulnerability Factors (Gray):**

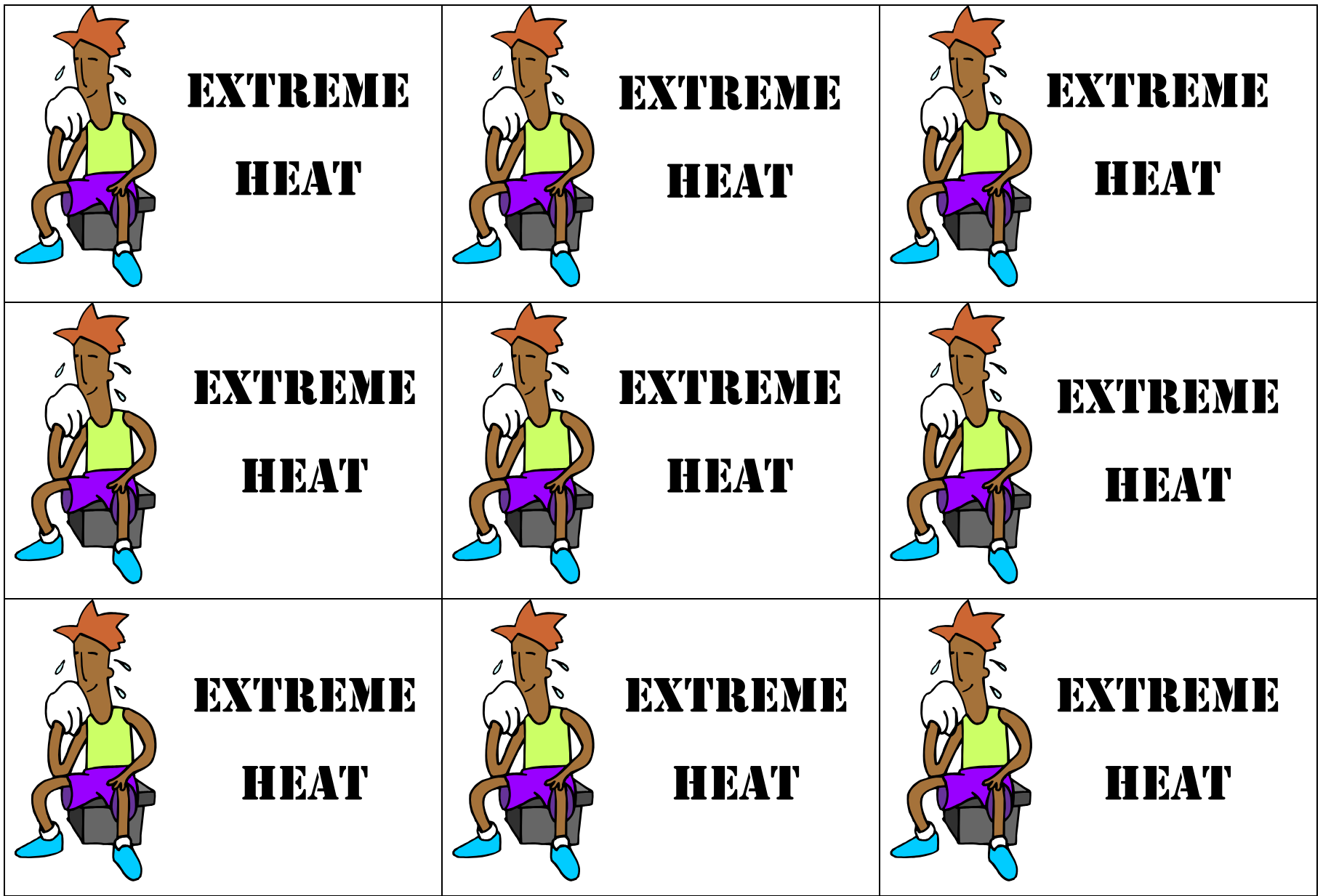
- Working or playing outdoors.
- Living or working near industrial manufacturing, oil refineries or diesel vehicle traffic.
- Being 65 or older.
- Being an infant or child.
- Preexisting medical conditions.
- Having asthma or other respiratory diseases.

### **Climate Change Disaster Vulnerability Factors (Pink):**

- Living in or near an area prone to wildfires.
- Lacking access a car.
- Not having health insurance.
- Isolation from, or fear of interacting with, public agencies.
- Living next to a shoreline.
- Using self-supplied water, such as a private well.
- Limited English language fluency.
- Living alone.

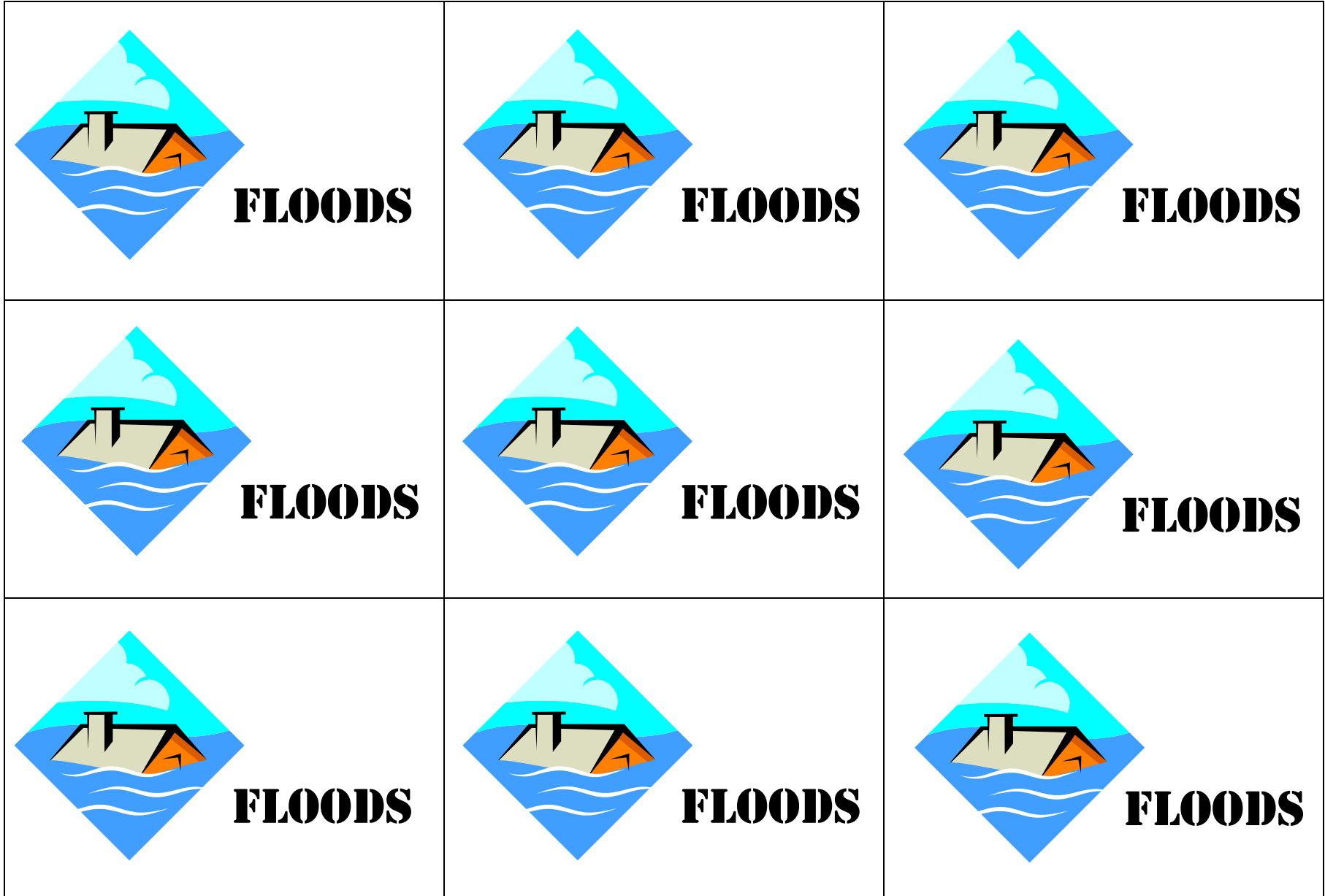
# Climate Change Survivor Game Board

<b>START</b>			ADVANCE TWO SQUARES PUBLIC TRANSIT FOR ALL	LOSE A TURN POWER OUTAGE	
	LOSE A TURN SPARE THE AIR ALERT			ADVANCE TWO SQUARES COMMUNITY EVACUATION PLANS	
		ADVANCE TWO SQUARES COMMUNITY CHOICE ENERGY			LOSE TURN EXTREME WILDFIRE DANGER
LOSE A TURN FLOOD WARNING				ADVANCE TWO SQUARES COMMUNITY GARDEN CITY	
ADVANCE TWO SQUARES COMMUNITY COOLING CENTERS			LOSE A TURN GAS GUZZLER		
 <b>FINISH</b>		ADVANCE TWO SQUARES STORM SEWER UPGRADES			LOSE A TURN HEAT WAVE



Pre-existing medical condition	Need to take medication on a regular basis	Live on the higher floors of a multi-story building
Lack access to air conditioning	Live in a densely populated neighborhood	Lack access to open space like parks
Have limited English language fluency	65 years or older and live alone	Work or play outdoors

<p>Install energy-efficient air conditioners in your windows</p>	<p>Weather strip, or tape over, cracks in doors and windowsills to keep in cool air</p>	<p>Make a plan to check in on family, friends, and neighbors on especially hot days, especially those with limited mobility or those who take medication</p>
<p>Build an emergency kit that includes plenty of water and hydration supplies</p>	<p>Identify public buildings with air conditioning within walking distance of my home</p>	<p>Develop a warning system to alert residents when hot weather poses a health risk</p>
<p>Work with utilities to require that electricity and water are not shut off if bills haven't been paid during heat waves</p>	<p>Plant trees and other vegetation in your neighborhood to increase shade and help cool concrete surfaces</p>	<p>Participate in local land use planning to make sure the impacts of extreme heat are included</p>





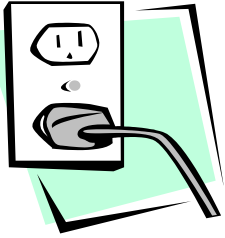
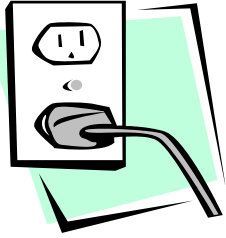
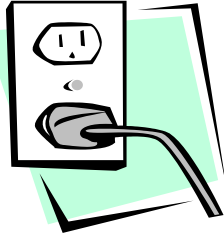
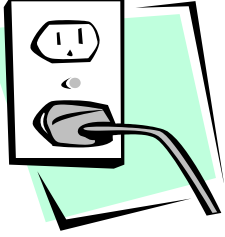
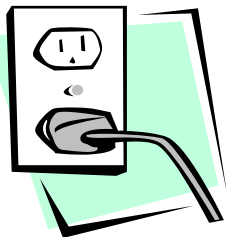
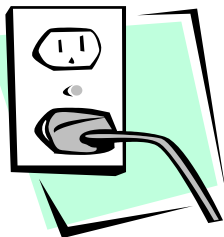
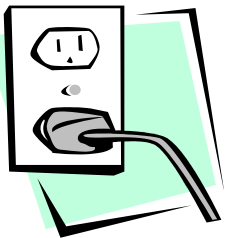
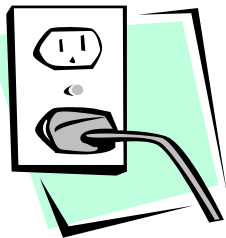
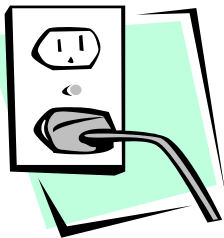
Pre-existing medical condition	Fearful of interacting with government agencies	Low-income
Rent my home and don't have home or flood insurance	Live in a nursing home, group home, dorm, hospital, prison, or other group living institution	Don't have access to a car
Have limited English language fluency	65 years or older and live alone	Don't have health insurance

<p>Check if your home or workplace is in a low-lying area prone to flooding</p>	<p>Create an evacuation route either using public transportation, a car, or carpooling with friends and neighbors</p>	<p>Make a plan to check in on family, friends, and neighbors, especially those with limited mobility</p>
<p>Build an emergency kit that includes plenty of water and food supplies</p>	<p>Get flood insurance to protect your belongings in case of damage</p>	<p>Upgrade storm sewers and drains in flood-prone residential areas</p>
<p>Limit development in areas at risk of flooding</p>	<p>Use building materials that allow water to seep through the ground, like sand and gravel</p>	<p>Preserve and restore wetlands</p>

 <p><b>POOR AIR QUALITY</b></p>	 <p><b>POOR AIR QUALITY</b></p>	 <p><b>POOR AIR QUALITY</b></p>
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Pre-existing respiratory condition like asthma	Need to take medication on a regular basis	Low-income
Lack health insurance	Live or work near industrial manufacturing, oil refining, or diesel vehicle traffic	Infant or child
Have limited English language fluency	65 years or older	Work or play outdoors










<p>Check air quality regularly and avoid exercising outdoors on poor air quality days</p>	<p>Avoid contact with smoke and chemical pesticides</p>	<p>Combine errands to reduce trips</p>
<p>Use duct tape and plastic sheeting to seal cracks around doors, windows, and outdoor vents during extremely poor air quality events like nearby wildfires</p>	<p>Ensure that air quality warning systems like “Spare the Air” alerts are accessible and available in multiple languages</p>	<p>Revise building design guidelines to address air quality concerns</p>
<p>Ask that the government to pay for air filter replacements for low-income households, and those with respiratory illness</p>	<p>Do important errands before 10 am if possible</p>	<p>Use your furnace or fireplace sparingly and install a quality furnace filter</p>

 <p><b>RISING UTILITY &amp; FOOD COSTS</b></p>	 <p><b>RISING UTILITY &amp; FOOD COSTS</b></p>	 <p><b>RISING UTILITY &amp; FOOD COSTS</b></p>
 <p><b>RISING UTILITY &amp; FOOD COSTS</b></p>	 <p><b>RISING UTILITY &amp; FOOD COSTS</b></p>	 <p><b>RISING UTILITY &amp; FOOD COSTS</b></p>
 <p><b>RISING UTILITY &amp; FOOD COSTS</b></p>	 <p><b>RISING UTILITY &amp; FOOD COSTS</b></p>	 <p><b>RISING UTILITY &amp; FOOD COSTS</b></p>

<p>Live in an area without access to a grocery store, community garden, or local source of food</p>	<p>Your water source is from a reservoir replenished by snow</p>	<p>Source of electricity is from hydropower</p>
<p>Home is poorly insulated</p>	<p>Home has outdated heating and/or cooling systems</p>	<p>Renter</p>
<p>Low-income</p>	<p>Home has inefficient or leaky water fixtures (like toilets, faucets, showerheads)</p>	<p>Live in an older housing unit</p>

<p>Landscape with plants that require little or no watering</p>	<p>Install appliances and fixtures that use less water like low-flow toilets and showerheads</p>	<p>Weather strip doors and windows</p>
<p>Support energy programs that allow communities to generate electricity locally to meet local needs</p>	<p>Install systems to capture rainwater and recycle lightly used water (greywater) within your home</p>	<p>Support community gardens, urban agriculture, and other efforts to grow food locally</p>
<p>Work with utilities to require that electricity and water are not shut off due to nonpayment</p>	<p>Support efforts to create green jobs and train workers to install and maintain green infrastructure</p>	<p>Develop community-based plans to improve access to essential services, goods, and employment</p>



 <p><b>WILD- FIRES</b></p>	 <p><b>WILD- FIRES</b></p>	 <p><b>WILD- FIRES</b></p>
 <p><b>WILD- FIRES</b></p>	 <p><b>WILD- FIRES</b></p>	 <p><b>WILD- FIRES</b></p>
 <p><b>WILD- FIRES</b></p>	 <p><b>WILD- FIRES</b></p>	 <p><b>WILD- FIRES</b></p>

Pre-existing respiratory condition like asthma	Fearful of interacting with government agencies	Live in an area that is prone to wildfires
Renter without home or fire insurance	Have a flammable roof or vegetation within 10 feet of your home	Lack health insurance
Have limited English language fluency	65 years or older and live alone	Work or play outdoors

<p>Remove dead trees, keep grass short, and prune flammable vegetation near your home</p>	<p>Account for ability to pay in covering the costs of wildfire response if property tax assessments are used to pay for this</p>	<p>Make a plan to evacuate and check in on friends, family and neighbors in the event of a wildfire</p>
<p>Purchase fire insurance to protect your belongings in case of damage</p>	<p>Require new construction builders to bury power lines in fire prone areas</p>	<p>Develop a warning system to alert residents when air quality is poor due to wildfire smoke</p>
<p>Limit development in fire prone areas</p>	<p>Ensure that adequate shelter for those displaced by fires are provided by emergency response plans</p>	<p>Bury power lines in fire prone areas in order to avoid outages, hazards, and damages</p>



**TRUMP  
CARD**



**TRUMP  
CARD**



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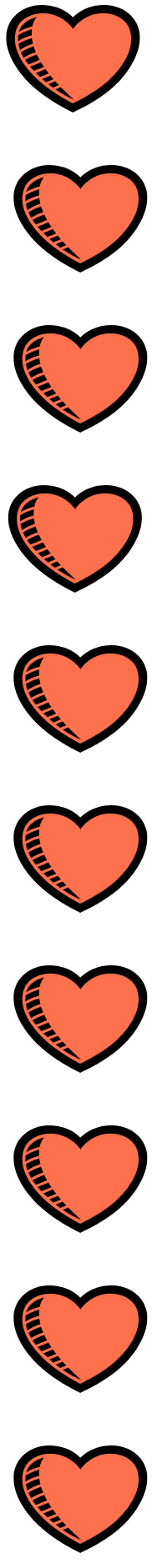
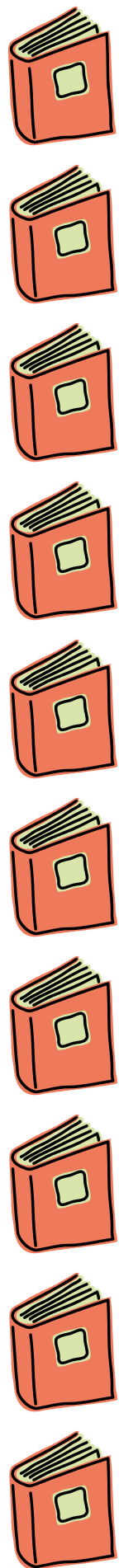
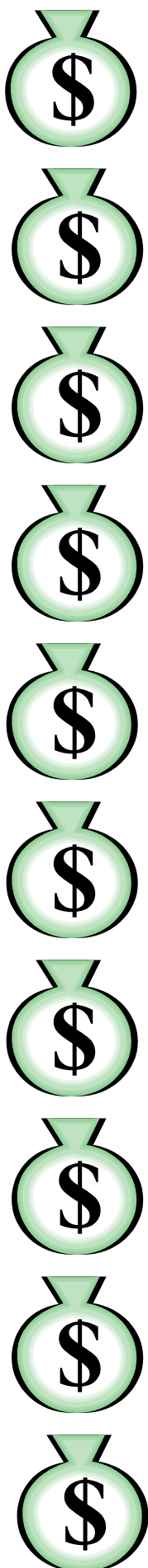
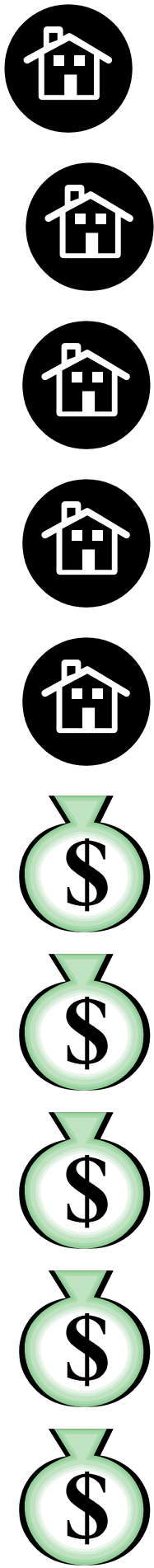
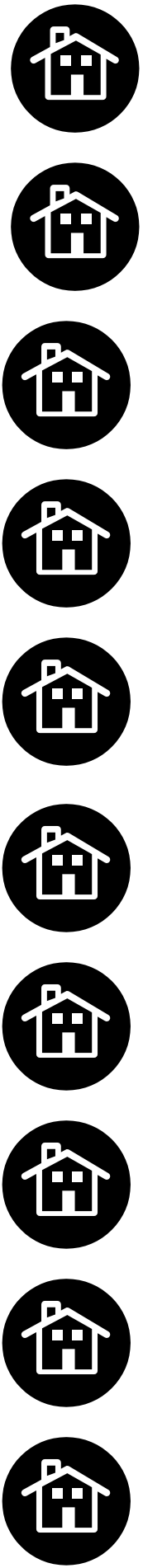
**TRUMP  
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**TRUMP  
CARD**

Weather strip doors and windows	Insulate your water heater and lower the water heater temperature	Drive less and walk, bike or take public transit
Use energy-saving light bulbs	Install and use a clothesline instead of a clothes dryer	Purchase durable goods made of recycled materials
Shop at local farmers markets	Landscape with drought-resistant plants that require little or no watering	Freeze, can, dry and preserve seasonal fruits and vegetables

<p>Repair and reuse goods whenever possible</p>	<p>Bring your own bag</p>	<p>Adapt used materials for other purposes (e.g. mason jars for cups)</p>
<p>Fly less often – try web meetings or videoconferencing</p>	<p>Plant trees in your neighborhood</p>	<p>Collect rainwater for your outdoor water needs</p>
<p>Eat meat at one less meal each week or go vegetarian</p>	<p>Plug all appliances into power strips and unplug strips when not in use</p>	<p>Install energy- and water-efficient appliances and fixtures (eg faucets, showerheads)</p>









# Map Legend



**Where We Live**



**Where we work**



**Where we play**



**Where we learn**



**Places we treasure**



**Assets that we can use  
to protect our treasures**

## Trouble spots for:



**Flooding**



**Poor Air Quality**



**Rising  
Electricity  
Costs**



**Extreme Heat**



**Wildfires**

## Climate Change Vulnerability Checklist

For each statement below that applies to you, look to your right to learn which climate change impacts you may be particularly vulnerable to.*	Heat	Floods	Wildfires	Air Quality
I am 65 or older	✓	✓	✓	✓
I am younger than 18	✓			✓
I am a woman		✓		✓
I am a person of color		✓		✓
I am low-income	✓	✓	✓	✓
I am a renter		✓	✓	
I have a disability	✓	✓	✓	✓
I live on the higher floors of a multi-story building	✓			
I live alone	✓	✓	✓	✓
I live in a densely populated neighborhood	✓			
I live or work near industrial manufacturing, oil refining or diesel vehicle traffic			✓	✓
I live next to a shoreline		✓		
I use self-supplied water, such as that drawn from a private well		✓		
I work or play outdoors	✓	✓	✓	✓
I have a pre-existing medical condition like asthma, heart problems, etc.	✓	✓	✓	✓
I have to take medication on a regular basis	✓	✓		
I do not have access to a car		✓	✓	
I do not have health insurance	✓	✓	✓	✓
I do not have air conditioning at home	✓			✓
I don't live near parks or other open spaces	✓			✓
I have a limited ability to understand or speak English	✓	✓	✓	✓
I am fearful of interacting with government agencies	✓	✓	✓	✓

\*Pick up our Resilience Fact Sheets for more information on what you can do to better prepare and protect yourself, your loved ones, and your community from these climate change impacts online at [www.pacinst.org/resiliencefactsheets](http://www.pacinst.org/resiliencefactsheets) or on the next page!

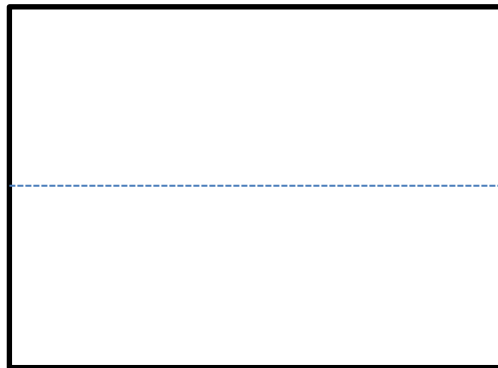
# Resilience Fact Sheets

Worried about climate change? Use these handy fact sheets to get more information about the following climate change impacts and concerns:

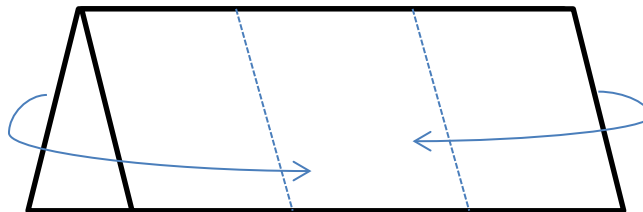
- Air Quality
- Extreme Heat
- Flooding
- Rising Electricity Costs
- Wildfires
- Water Availability/Quality

**Folding Instructions:** Each Fact Sheet has two pages to be printed front-to-back. To make the Fact Sheets into a brochure, (1) fold in half on the long edge, (2) then fold the two outer squares inward, first right and then left, (3) so that the title page becomes the front cover and the “Who Do I Call in Case of an Emergency?” page is on the back. For example, for the Air Quality Fact Sheet, once folded correctly, the front cover would say “What Can Oakland Residents do to Reduce Exposure to Poor Air Quality?”

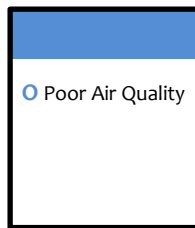
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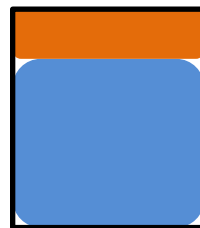
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3



(Front)



(Back)

## LOCAL RESOURCES

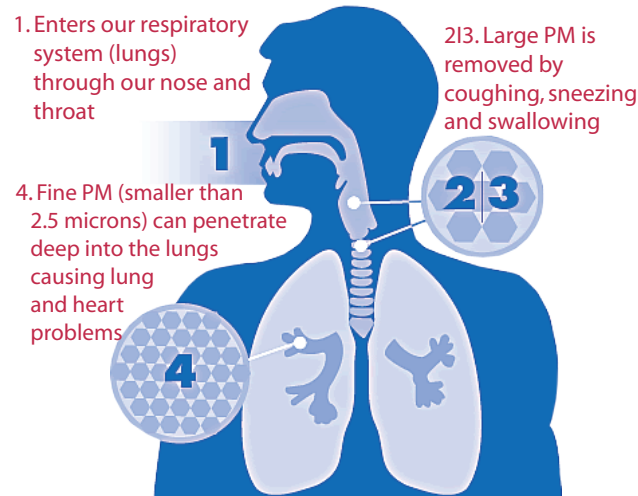
California Air Resources Board (ARB)  
 Air Pollution Complaints 1-800-952-5588  
 Bay Area Air Quality Management District  
 Issue: Spare the Air alerts on days with poor air quality  
 Air Pollution Complaints 1-800-334-6367  
 Daily Air Quality & Open Burn Forecasts 1-800-HELP AIR (1-800-435-7247)  
 Alameda County Public Health Department  
 Asthma Start Program 510-383-5181  
 Ecology Center Information Hotline and Help Desk  
 Phone: (510) 548-2220 x233  
 email: erc@ecologycenter.org

## WHO DO I CALL IN CASE OF AN EMERGENCY? Life Threatening call 911

**Other Emergency Contacts**

Alameda County Office of Emergency Services 925.803.7800  
 Alameda County Poison Control 1800.523.2222  
 American Red Cross 510.595.4400  
 City of Oakland Fire Dispatch 510.444.1616  
 City of Oakland Police Dispatch 510.777.3211  
 City of Oakland 510.777.3211  
 Office of Emergency Services 510.238.3938  
 EBMUD 510.835.3000  
 PG&E 1800.743.5000  
 National Response Center (Toxic Spills) 1 800.424.8802

## Particulate Matter Entering the Human Body



The Intergovernmental Panel on Climate Change (IPCC), a scientific body on climate change, predicts that climate change is the cause of “declining air quality in our cities”

### PARTICULATE MATTER (PM):

Very small liquid and solid particles that float in the air. These particles, which come from cars and fireplaces, can penetrate into the lungs and bloodstream and **cause serious health problems.**

Particulates smaller than 2.5 microns (1/30 the width of human hair) are linked to respiratory diseases, heart attacks, and decreased lung function. Fine PM is projected to **increase throughout Oakland** and will be even greater in West Oakland.

## HOW CAN OAKLAND RESIDENTS REDUCE EXPOSURE TO POOR AIR QUALITY?



**POOR AIR QUALITY**  
 The effects of climate change will worsen air quality, affecting the health of Oakland residents

**READ MORE ABOUT HOW YOU CAN BE HEALTHY AND REDUCE YOUR EXPOSURE TO AIR POLLUTION**



This factsheet was made possible with the support from The San Francisco Foundation

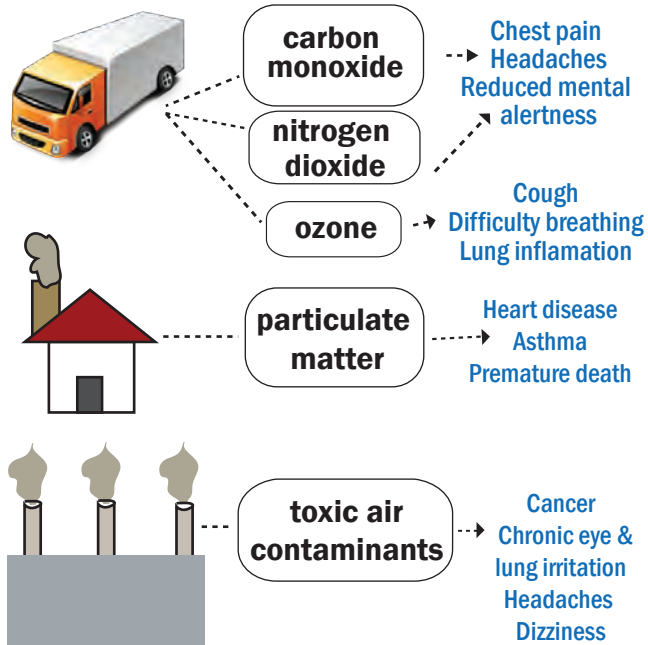
Rising temperatures from climate change will worsen and increase the number of unhealthy “bad air days.”

Elevated levels of ground pollution and extreme heat increase the risk of respiratory illnesses such as allergies, asthma, and lung cancer.

The most susceptible include people with lung and heart disease, pregnant women, outdoor workers, persons who are elderly and children.

**Fold out this factsheet to learn more about what you can do to reduce your impact on air pollution**

## EXAMPLES OF SOURCES OF POLLUTANTS



## HOW DO I REDUCE MY EXPOSURE TO AIR POLLUTION ?

1. Check air quality levels
2. On *Spare the Air* days, don't exercise outdoors
3. On *Spare the Air* days, do errands before 10 am if possible
4. Stay away from pollen sources
5. Have medication ready at hand, especially for those with respiratory problems

## HOW DO I REDUCE MY IMPACT ON AIR POLLUTION ?

1. Drive less and walk or take public transit
2. Combine errands to reduce trips
3. Buy local foods and goods
4. Maintain the recommended tire pressure for your car for the best fuel usage
5. Use furnaces and fireplaces only when necessary

## ADAPTATION STRATEGIES THAT YOU CAN SUPPORT

1. Modifying the region's Emissions Reduction Plan to account for the increase in air pollution from climate change
2. Developing *Spare the Air* alerts or other air quality warning systems that are in multiple languages and accessible to all communities
3. Developing public education and outreach programs to reduce emission-causing activities and limit exposure on high air pollution days

## WHAT THE CITY OF OAKLAND CAN DO

1. Revise building design guidelines to address air quality
2. Provide resources to partner with community-based groups to develop and implement community education and outreach programs
3. Provide funding for air filter replacement for low-income households as well as those with chemical sensitivities and respiratory disabilities
4. Establish centrally located shelters or cooling centers for homeless and low-income residents

## WHAT YOU CAN DO TO PROTECT YOUR COMMUNITY

1. Establish neighborhood leaders who are trained and charged with outreach to local residents
2. Let others in your neighborhood know about air quality conditions and impacts
3. Identify public spaces that have air conditioning during heat events





This factsheet was made possible with the support from The San Francisco Foundation

READ MORE ABOUT HOW YOU CAN PREPARE YOURSELF AND YOUR HOME AGAINST EXTREME HEAT AND HEALTH RISKS

The effects of climate change will increase temperatures in Oakland. Extreme heat can cause heat exhaustion. V trigger asthma attacks lead to other heat-related illnesses.



## EXTREME HEAT

## HOW WILL EXTREME HEAT AFFECT OAKLAND?

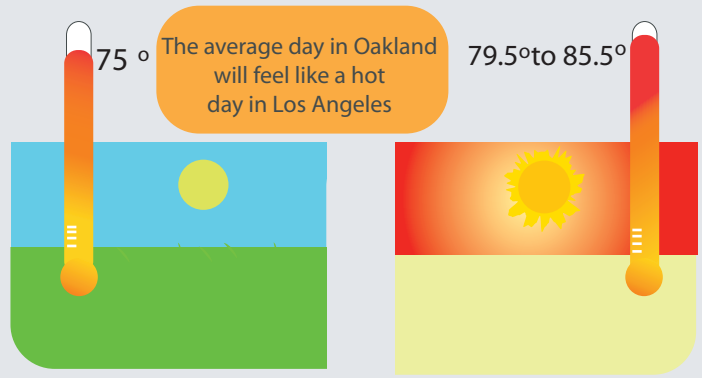
SOME OF THE RISKS OF NOT BEING PREPARED FOR AN EXTREME HEAT EVENT INCLUDE:

- HIGHER ELECTRICITY COSTS
- POOR AIR QUALITY
- RISE IN CARDIOVASCULAR AND RESPIRATORY ILLNESSES
- LOSS OF LIFE

Fold out this factsheet and learn more about how to prevent heat exhaustion and other heat related illnesses.

In the last century, global temperatures have risen one degree fahrenheit. In the past fifty years, California climates have experienced warmer temperatures.

BY THE END OF THE CENTURY, TEMPERATURES ARE EXPECTED TO RISE 4.7 TO 10.5 F DEGREES

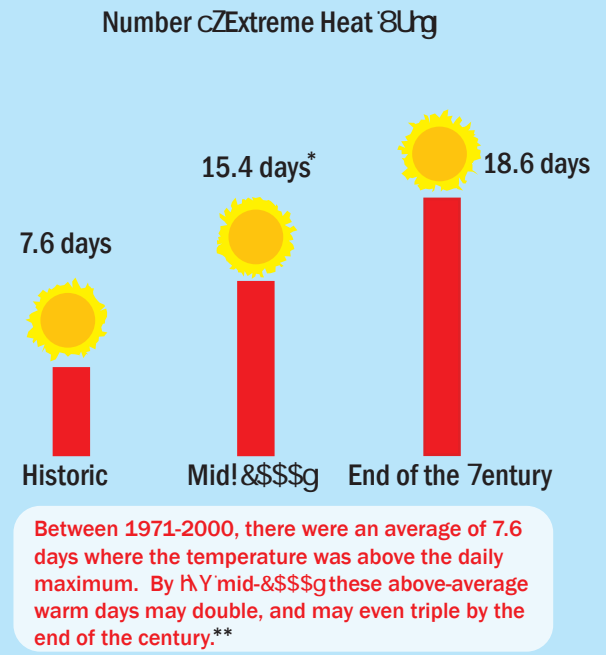


## WHO DO I CALL IN CASE OF AN EMERGENCY? Life Threatening call 911

- Other Emergency Contacts**
- Alameda County Office of Emergency Services 925.803.7800
  - Alameda County Poison Control 1800.523.2222
  - American Red Cross 510.595.4400
  - City of Oakland Fire Dispatch 510.444.1616
  - City of Oakland Police Dispatch 510.777.3211
  - City of Oakland
  - Office of Emergency Services 510.238.3938
  - EBMUD 510.835.3000
  - PG&E 1800.743.5000
  - National Response Center (Toxic Spills) 1 800.424.8802

- Citizens of Oakland Respond to Emergencies C.O.R.E. Community-based emergency training Phone: 510.238.6351, Fax: 510.238.7761 core@oaklandnet.com 510.670.6125 Emergency Broadcast Radio Stations KCBS, 740 AM KGO, 810 AM KNBR, 680 AM Radio Oakland 530 AM DIAL 211 to connect to housing and human services information in Alameda County 24 hours/day.

## LOCAL RESOURCES



\*This is the minimum projected number of days  
 \*\*The number of days may triple depending on the end of the century scenario

## HOW DO I PREPARE FOR A HIGH HEAT EVENT?

1. Build an emergency kit
2. Insulate and install window air conditioners
3. Caulk around windows and install plastic sheeting (buy at a hardware store) to deflect heat
4. Weather strip doors and window sills
5. Make a plan to call family, friends, and neighbors, especially those who are elderly or have limited mobility

## WHAT DO I DO DURING A HIGH HEAT EVENT?

1. Stay indoors as much as possible and stay away from the sun
2. Stay on the lowest floor if air conditioning is not available
3. Postpone outdoor activities
4. Eat light, balanced meals and drink plenty of water
5. Check in on family and friends
6. Never leave children or pets alone in closed vehicles

## WHAT DO I DO AFTER A HIGH HEAT EVENT?

1. Listen to news reports
2. Check on family and friends
3. Check on your pets frequently to ensure that they are not suffering from heat
4. In case of heat exhaustion:
  - Move to a cooler location
  - Apply wet, cool clothes
  - Consume water slowly (no alcohol or caffeine)
  - Seek immediate medical attention if vomiting occurs

## ADAPTATION STRATEGIES THAT YOU CAN SUPPORT

1. Urban areas are 2 to 10 degrees warmer than non-urban areas. Promote more green space, like parks, in urban areas.
2. Install materials that are reflective or have vegetation.
3. Prioritize neighborhoods that lack trees for tree planting programs.
4. Support weatherization assistance programs.

*See Local Resources.*

## WHAT THE CITY OF OAKLAND CAN DO

1. Revise building design guidelines to address air quality
2. Provide resources to partner with community-based groups to develop and implement community education and outreach programs
3. Provide funding for air filter replacement for low-income households as well as those with chemical sensitivities and respiratory disabilities
4. Establish centrally located shelters or cooling centers for homeless and low-income residents

## WHAT YOU CAN DO TO PROTECT YOUR COMMUNITY

1. Protect yourself first by following the "What Do I Do During an Extreme Heat Event"
2. Plant trees and increase green space
3. Identify public spaces that have air conditioning during heat events and inform neighborhood groups
4. Establish a system for community outreach to inform and check in on elderly and those most vulnerable
5. Identify heat illness symptoms

**Symptoms for Heat Stroke:**  
-Dizzy  
-Flushed, hot skin  
-Temperature 105+

**Symptoms for Heat Exhaustion:**  
-Pale Skin  
-Sweating profusely  
-Muscle cramps  
-Headache  
-Temperature 100+





**READ MORE ABOUT HOW YOU CAN PREPARE YOURSELF AND YOUR HOME AGAINST FLOOD DAMAGE AND HEALTH RISKS**



This factsheet was made possible with the support from The San Francisco Foundation

The effects of climate change will increase the risk of flooding in Oakland. Floods are the most frequent natural disasters and can occur in minutes.



## FLOODING

## HOW WILL SEA LEVEL RISE AFFECT OAKLAND?

### FLOODS CAN CAUSE:

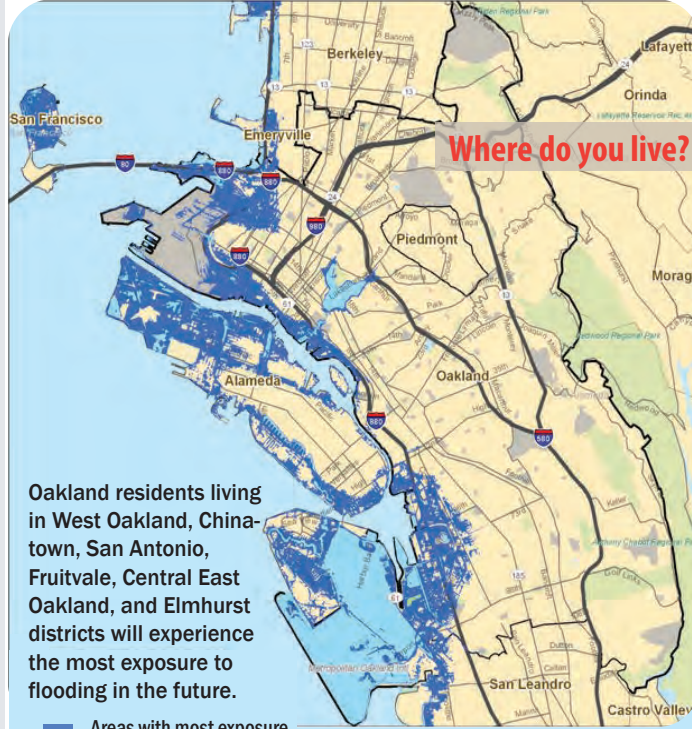
- PROPERTY LOSS AND DAMAGE
- INCREASED TRANSMISSION OF COMMUNICABLE DISEASES
- INCREASED RISK OF INFECTION
- LOSS OF LIFE

**Fold out this factsheet and learn more about how to prevent property loss and injury**

## WHO DO I CALL IN CASE OF AN EMERGENCY? Life Threatening call 911

### Other Emergency Contacts

Alameda County Office of Emergency Services 925.803.7800  
 Alameda County Poison Control 1800.523.2222  
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 City of Oakland  
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 EBMUD 510.835.3000  
 PG&E 1800.743.5000  
 National Response Center (Toxic Spills) 1800.424.8802



Oakland residents living in West Oakland, Chinatown, San Antonio, Fruitvale, Central East Oakland, and Elmhurst districts will experience the most exposure to flooding in the future.

■ Areas with most exposure to flooding

## LOCAL RESOURCES

Citizens of Oakland Respond to Emergencies  
 C.O.R.E.  
 Community-based emergency training  
 phone: 510.238.6351, fax: 510.238.7761  
 core@oaklandnet.com  
 Emergency Broadcast Radio Stations  
 KCBS, 740 AM  
 KGO, 810 AM  
 KNBR, 680 AM  
 Radio Oakland 530 AM  
 DIAL 211 to connect to housing and human services information  
 in Alameda County 24 hours/day.

**ALONG THE CALIFORNIA COAST, SEA LEVEL HAS RISEN NEARLY 8 INCHES IN THE PAST CENTURY.**

**IN THESE VULNERABLE AREAS OF OAKLAND, SEA LEVEL IS PROJECTED TO RISE 3.2 TO 4.5 FEET BY THE YEAR 2100.**

An estimated 3,100 to 5,200 Oakland residents are at risk of flooding in the future.



## HOW DO I PREPARE FOR A FLOOD?

- 1. Know your terminology**  
Terms you may hear on the radio or TV:  
Flood Watch = Flood possible  
Flood Warning = Flood is occurring
- 2. Check if your home or work is in a floodplain, or an area that is on low-lying ground and may be subject to flooding.**  
*Check at <http://quake.abag.ca.gov/floods/>*
- 3. Build an emergency kit**  
*See <http://www.ready.gov> for ideas*
- 4. Make a plan to call family, friends and neighbors, especially those who are elderly or have limited mobility**
- 5. Make sure you have enough gas in your car to evacuate**
- 6. Purchase flood insurance**  
*There are different types of insurance for owners and renters to protect their property.  
(See <http://www.floodsmart.gov>)*

## WHAT DO I DO DURING A FLOOD?

- 1. Listen to the radio/TV and NOAA radio**
- 2. Be prepared to evacuate**
- 3. When a flood or flash flood warning is issued, head for higher ground and take only essential items**
- 4. Turn off gas, electricity, and water**
- 5. Disconnect appliances**
- 6. Do not walk in moving water or drive in flood water**

## WHAT DO I DO AFTER A FLOOD?

- 1. Listen to news reports**
- 2. Stay away from downed power lines**
- 3. Avoid roads where flood water was once present**
- 4. Return home only when authorities say it is safe**
- 5. Check in on family and friends**
- 6. Be cautious reentering buildings**
- 7. Clean, disinfect, and dry items touched by flood waters to prevent waterborne disease and mold**

### ADAPTATION STRATEGIES THAT YOU CAN SUPPORT

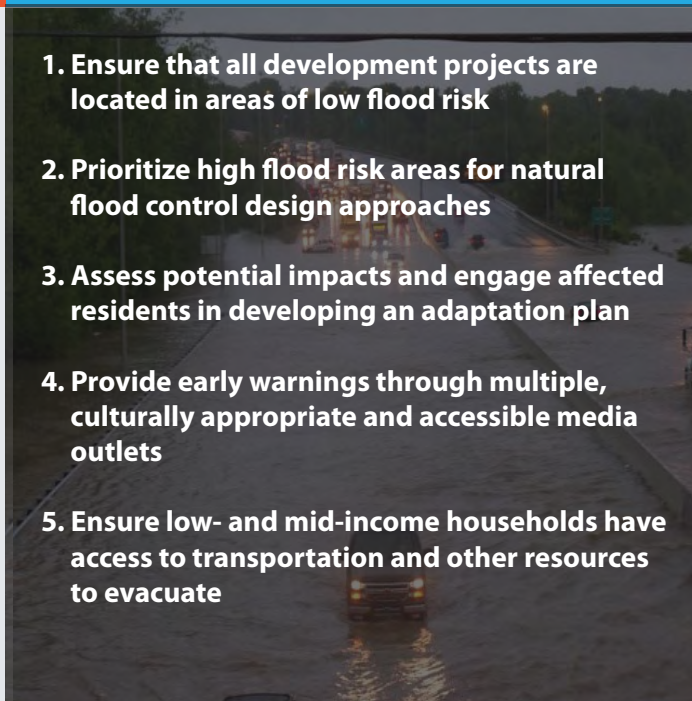
- 1. Limit development areas at risk of flooding**
- 2. Use building materials that allow water to seep through the ground (for example, using sand and gravel)**
- 3. Preserve and restore wetlands**
- 4. Raise structures above flood level**
- 5. Account for climate change impacts in planning stormwater and sewer improvements**

### WHAT THE CITY OF OAKLAND CAN DO

- 1. Ensure that all development projects are located in areas of low flood risk**
- 2. Prioritize high flood risk areas for natural flood control design approaches**
- 3. Assess potential impacts and engage affected residents in developing an adaptation plan**
- 4. Provide early warnings through multiple, culturally appropriate and accessible media outlets**
- 5. Ensure low- and mid-income households have access to transportation and other resources to evacuate**

### WHAT YOU CAN DO TO PROTECT YOUR COMMUNITY

- 1. Join a local neighborhood group that is involved in disaster management and climate adaptation planning.** *See Local Resources.*
- 2. Let others in your neighborhood know about flood risks.**
- 3. Establish a system of community outreach to inform and check in on elderly and those most vulnerable.**



## HOW CAN OAKLAND RESIDENTS IMPROVE ENERGY EFFICIENCY?

WARMER TEMPERATURES WILL PLACE MORE BURDEN ON OUR UTILITIES, AS CALIFORNIA RESIDENTS WILL FACE:

- HIGHER COSTS
- HIGHER INCIDENCE OF BLACKOUTS



Reduce energy use and learn other ways to be energy efficient

## SAVE MONEY REDUCE HOME ENERGY USE



READ MORE ABOUT HOW YOU CAN REDUCE ENERGY IN YOUR HOME AND SAVE MONEY



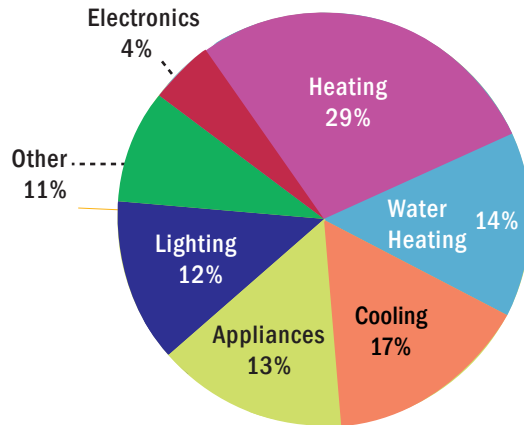
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## WHO DO I CALL IN CASE OF AN EMERGENCY? Life Threatening call 911

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 City of Oakland Office of Emergency Services 510.238.3938  
 EBMUD 510.835.3000  
 PG&E 1800.743.5000  
 National Response Center (Toxic Spills) 1 800.424.8802

## What uses the most household energy?



Source: Lawrence Berkeley National Laboratory, 2009

## LOCAL RESOURCES

PG&E's California Alternative Rates for Energy (CARE) Program

Monthly discount on energy bills  
 1-800-743-5000

Low Income Home Energy Assistance Program  
 Financial assistance to offset cost of heating and cooling  
 1-866-675-6623

Family Electric Rate Assistance Program

Income qualified of 3 or more who do not qualify for CARE  
 1-866-743-2273

Weatherization Assistance Program  
 510-881-0300

Energy Upgrade California

https://energyupgradeca.org/overview  
 California Youth Energy Service (CYES)  
 Free Green House Calls  
 510-665-1501 ext. 16

While most California households spend 1 to 2% of their income on electricity bills, low-income households spend 8% or more on electricity expenditures.

Almost 9 out of 10 multi-family buildings in Oakland were built before 1980, which means that there are many opportunities for energy upgrades, saving energy and money.



## HOW DO I REDUCE MY ELECTRICITY BILL?



For Renters and Homeowners:

### 1. CHANGE LIGHT BULBS

Switching incandescent lightbulbs (older model with wire) to energy-efficient light bulbs. These bulbs use a quarter of the energy and last longer, saving you money.

### 2. TURN OFF

If you're not using appliances, turn them off. Use a powerstrip for your TV, DVD player, and computer to reduce up to 15% of your energy use.

### 3. USE NATURAL LIGHT

Take advantage of sunlight to reduce energy costs.

## HOW DO I REDUCE MY ELECTRICITY BILL?

### 4. LOAD IT UP

Wash only full loads of laundry and dishes

### 5. WASH IN COLD

Wash clothes in cold water and try to air dry laundry or try not to over-dry clothing

### 6. CLOSE THE BLINDS

Shades and curtains are a good way to block the heat

### 7. ADJUST THE HEAT

Reduce your thermostat at night or when you're not in your home



## HOW DO I REDUCE MY ELECTRICITY BILL?

For Homeowners:

### 1. SCHEDULE AN ENERGY AUDIT.

A less expensive option may also be to have someone look specifically at your heating, ventilation and air conditioning, which can reduce energy and save money by 20%.  
*See Local Resources section for more info.*

### 2. WEATHERIZE! YOU CAN DO THIS BY:

- Insulating and installing window air conditioners
- Installing white window shades to reflect heat
- Weather stripping doors and sills

### 3. CHOOSE ENERGY EFFICIENT APPLIANCES

There are many state rebates and tax credits for energy efficient appliances.  
*See energystar.gov*

## ADAPTATION STRATEGIES THAT YOU CAN SUPPORT

1. Promote local renewable energy such as solar and wind power
2. Support energy conservation, including weatherization assistance programs for low-income renters. *See Local Resources.*
3. Incentivize new housing to be built near transit in urbanized areas

## WHAT THE CITY OF OAKLAND CAN DO

1. Implement laws that require building owners to upgrade units to save energy, like mandatory improvement ordinances in Berkeley and San Francisco
2. Develop and implement rebate programs for multifamily building owners
3. Support Community Choice Energy programs. The community decides where the electricity will come from in these programs while building local energy resources.

## WHAT YOU CAN DO TO PROTECT YOUR COMMUNITY

1. Plant trees and increase green space
2. Promote energy conservation in homes as well as in senior centers and schools
3. Educate neighbors about energy efficiency and renewable resources



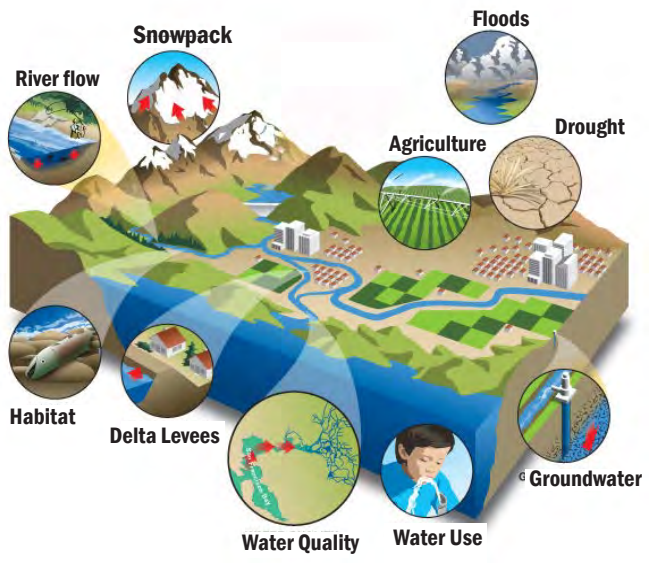
Alameda County Flood Control and Water Conservation District  
 (510) 670-5480  
 East Bay Municipal Utility District (EBMUD)  
 Provides free water saving devices and rebates  
 1-866-403-2683  
 Stopwaste.org  
 Bay-Friendly (www.bayfriendly.com)  
 Water-Energy Calculator  
<http://www.wecal.org>  
 Water Saver Home  
<http://www.whollyh2o.org/>  
 Wholly H2O-Water conservation and reuse non-profit  
 Look for the WaterSense label when looking for water efficient fixtures

## LOCAL RESOURCES

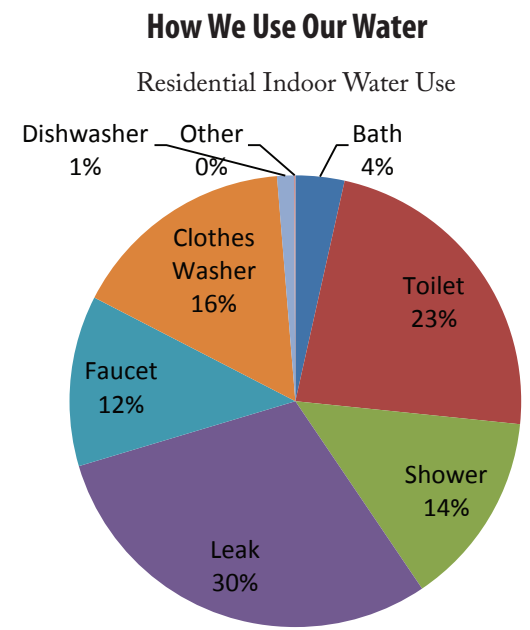
## WHO DO I CALL IN CASE OF AN EMERGENCY? Life Threatening call 911

**Other Emergency Contacts**

Alameda County Office of Emergency Services 925.803.7800  
 Alameda County Poison Control 1800.523.2222  
 American Red Cross 510.595.4400  
 City of Oakland Fire Dispatch 510.444.1616  
 City of Oakland Police Dispatch 510.777.3211  
 City of Oakland Office of Emergency Services 510.238.3938  
 EBMUD 510.835.3000  
 PG&E 1800.743.5000  
 National Response Center (Toxic Spills) 1800.424.8802



Source: California Department of Water Resources



Source: EBMUD, 2008

## HOW CAN OAKLAND RESIDENTS IMPROVE WATER EFFICIENCY?



**WATER EFFICIENCY**  
 Climate change impacts will affect the availability of water resources for Oakland residents

READ MORE ABOUT HOW YOU CAN SAVE WATER AND MONEY



This factsheet was made possible with the support from The San Francisco Foundation

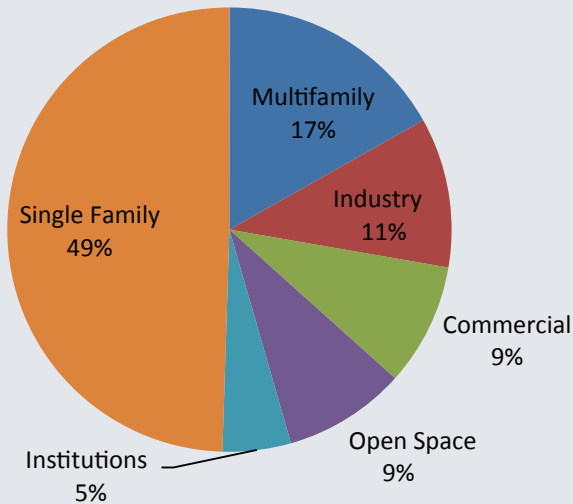
## How Does Climate Change Affect Water Resources?

Climate change will accelerate and intensify the water cycle, altering water availability, timing, quality, and demand. In particular, models project:

- Less rain and snow
- More intense rainfall events during the winter
- More precipitation will fall as rain rather than snow, reducing the snowpack
- Earlier snowmelt, increasing flows in rivers and streams during the winter but reducing flows in the summer
- More frequent and intense droughts
- Saltwater intrusion in groundwater and bays due to rising sea levels

Fold out this factsheet and learn more about what you can do to save water

## How Our Community Uses Water



Source: EBMUD, 2008

## WHAT ARE SOME WAYS TO SAVE WATER?

### Cost-effective water and money saving tips

- 1. Check for and repair leaks!**  
*Check and repair leaks in fixtures both indoors and outdoors, especially toilets, faucets, showerheads, and sprinkler systems.*
- 2. Install a new, water-efficient showerhead**  
*Efficient showerheads are inexpensive and can save water, energy, and money. EBMUD often has free giveaways.*
- 3. Replace your old, water-wasting toilet**  
*Toilets account for about 30% of your household water use. But while old, wasteful toilets use up to 6-7 gallons per flush, newer, more efficient toilets use 1.3 gallons per flush or less.*

## WHAT ARE SOME WAYS TO SAVE WATER?

### For Homeowners

- 4. Install a faucet aerator and turn-off the faucet when shaving and brushing your teeth.**  
*These simple devices reduce the flow from your faucet, saving water, energy, and money. You can get free aerators at EBMUD.*
- 5. Replace part of your lawn with native d'Ubrjor or other low water-use plants.**  
*Natives are accustomed to dry weather and require less maintenance.*
- 6. Look for the WaterSense label!**  
*The EPA has developed a label for water-efficient appliances and fixtures that perform well. Look for the new WaterSense label on all of your water-using appliances and fixtures.*



## ADAPTATION STRATEGIES THAT YOU CAN SUPPORT

- 1. Support water conservation and efficiency efforts**
- 2. Develop open space plans that encourage water conservation by planting native species and low water use plants**
- 2. Integrate water use with land use policies**
- 4. Create a portfolio of water sources which include water storage, rain water harvesting, and recycled water strategies**

## WHAT THE CITY OF OAKLAND CAN DO

- 1. Use water efficient fixtures and appliances in City buildings and buildings that are managed by the City, like low-income housing**
- 2. Outreach to tenants about rebates and the free water saving devices such as aerators and shower heads available to them**
- 3. Encourage the City and developers to landscape with native species and other low water use plants**
- 4. Develop an affordability program with EBMUD by providing rebates and incentives to low-income households between EBMUD and the City**

## WHAT YOU CAN DO TO PROTECT YOUR COMMUNITY

- 1. Establish systems of neighborhood leaders who are trained and charged with outreaching to local residents**
- 2. Volunteer and support local organizations that work towards water efficiency and pollution prevention**
- 3. Educate residents about saving water, \ck ...'hc'cVHU]b free 'k UHYf!gJj ]b[ 'XYj ]WgZfca '96A I 8ž ...'and Oakland's rainwater barrel dfc[ fUa**



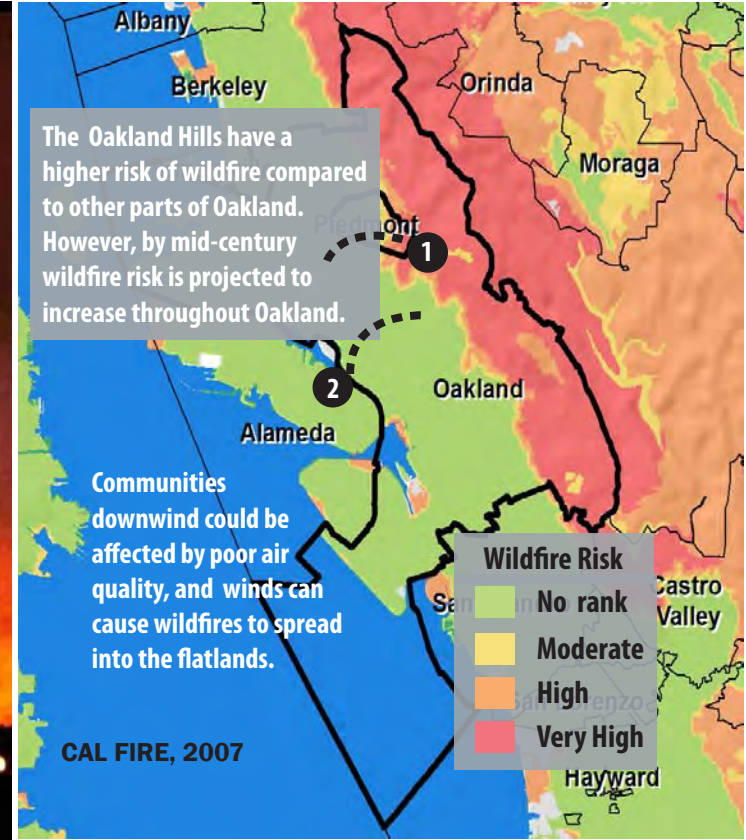
City of Oakland Wildfire Prevention Hotline  
<http://www.oaklandnet.com/wildfireprevention/>  
 510-238-7388  
 Tree Removal Permits/Tree Assessments  
 510-615-5850  
 Ready for a Wildfire  
<http://www.readyforwildfire.org/>  
 California Air Resources Board (CARB)  
 Air Pollution Complaints  
 1-800-952-5588  
 Bay Area Air Quality Management District  
 Issues Spare the Air alerts on days with poor air quality  
 Air Pollution Complaints  
 1-800-334-ODOR (1-800-334-6367)  
 Wildfire Prevention Tips  
<http://www.oaklandnet.com/wildfireprevention/>

## LOCAL RESOURCES

## WHO DO I CALL IN CASE OF AN EMERGENCY? Life Threatening call 911

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## HOW WILL WILDFIRES IMPACT OAKLAND?

**WILDFIRE RISK**

The warming trends of climate change will increase the risk of wildfires and will have direct impact on the health of Oakland residents



READ MORE ABOUT HOW YOU CAN REDUCE YOUR RISK TO K&RE: IRE



This factsheet was made possible with the support from The San Francisco Foundation

DRY, WARMER TEMPERATURES WILL INCREASE THE PROBABILITY OF WILDFIRE. WILDFIRE CAN CAUSE:

- PROPERTY LOSS AND DAMAGE
- POOR AIR QUALITY THROUGHOUT OAKLAND, NOT ONLY WHERE THE FIRE IS OCCURRING
- RESPIRATORY DISEASES
- LOSS OF LIFE

Fold out this factsheet and learn the best ways to prevent property loss and injury

## HOW DO I REDUCE MY WILDFIRE RISK?

### FIRE PREVENTION CHECKLIST

- Does my rental management perform fire drill exercises or have an escape route plan?
- Are my gutters clear of leaves and debris?
- Do my smoke detectors work? Do I have spare batteries for them?

### LANDSCAPING TIPS

- Group plants based on height and water requirements
- Plant native, fire resistant, and drought tolerant plants, and remove dead plants and weeds

### BUILDING MATERIALS

- Use flame retardant building materials. Class A materials have the highest resistance to fires. This includes brick, tile, clay, and metal.

## HOW DO I PREPARE FOR A WILDFIRE?

1. Create an evacuation plan that includes a meeting area, escape routes, and a point of contact
2. Have fire extinguishers on hand and train your family how to use them
3. Ensure that your family knows where your gas, electric, and water main shut-off controls are located and how to safely shut them off
4. Put together an emergency kit  
*(Go to [ready.gov](http://ready.gov) for more information)*
5. Purchase home insurance

## WHAT DO I DO DURING A WILDFIRE ?

1. Listen to the radio, stay indoors, and close windows and doors. Officials will announce specific locations to evacuate and escape routes to use
2. Locate emergency supplies
3. Immediately during a fire, cover up to protect against heat and flying embers. Wear long pants, long sleeve shirt, heavy shoes/boots, cap, cover your face, and use goggles or glasses. 100% cotton is preferable
4. Locate pets and take them with you

## ADAPTATION STRATEGIES THAT YOU CAN SUPPORT

1. Develop wildfire and air quality warning systems that are in multiple languages and accessible to all communities
2. Create public education and safety programs on how to reduce wildfire risk
3. Develop comprehensive community-based plans for emergency evacuation, response, and recovery in the event of a wildfire
4. Identify high fire risk areas that would allow for the safe burial of existing power lines to avoid interruptions during wildfire events
5. Limit development in fire prone areas, when possible

## WHAT THE CITY OF OAKLAND CAN DO

1. Provide resources to partner with community-based groups to develop and implement community education and outreach programs
2. Provide spark arresters to households with very high levels of wildfire risk
3. Establish centrally located shelters for homeless and low-income residents
4. Provide free transportation to shelters
5. Ensure that the Fire Department cites and clears vacant and developed lots that are not in compliance with the Fire Code
6. Design streets so that they provide adequate clearance and access for emergency service vehicles

## WHAT YOU CAN DO TO PROTECT YOUR COMMUNITY

1. Establish systems of neighborhood leaders who are trained and charged with outreach to local residents
2. Let others in your neighborhood know about wildfire conditions and impacts
3. Create a phone tree system with neighbors to alert each other if there is an emergency
4. Send group cell phone texts to notify and keep neighbors updated





Thank you to all of the people and organizations who helped create and pilot the activities contained in this guidebook.



For an online version of this guidebook, please visit:  
[www.pacinst.org/reports/climate\\_change\\_survivor](http://www.pacinst.org/reports/climate_change_survivor)