OBJECTIVES

Get to Know the Facts

• What is climate change?
• What is extreme heat?
• How does it impact SF?
• What are the health effects of heat?
• How do we prepare for extreme heat?
What is Climate Change?
WHAT IS CLIMATE CHANGE?
CLIMATE CHANGE EFFECTS

- Changing Rain and Snow Patterns
- Changes in Animal Migration and Life Cycles
- Higher Temperatures and More Heat Waves
- More Droughts and Wildfires
- Less Snow and Ice
- Thawing Permafrost
- Rising Sea Level
- Changes in Plant Life Cycles
- Damaged Corals
- Stronger Storms
EXTREME HEAT PROJECTION

Number of Extreme Heat Days by Year

Annual timestep from 1950 to 2099

Historical Avg. # Extreme Heat Days: 4
Extreme Heat Day Threshold: 77 F
All values based on modeled data
Extreme Heat in the City

“What is extreme heat?”
WHAT IS EXTREME HEAT IN SF?

• High temperatures; above average
• San Francisco: ~85°F+
WHY IS EXTREME HEAT IMPORTANT?

• Unseen hazard
• A major public health concern
• #1 cause of weather-related deaths
• Heat related illnesses are preventable!
A Tale of Two Neighborhoods
Chicago Heat Wave of 1995
2017 San Francisco Labor Day Heat Wave
High Temperature Forecast
Saturday, Sep 02, 2017

- Oppressive Heat again Today!
- Stay hydrated by drinking plenty of water & limit outdoor strenuous activities.
- Check on the sick, elderly, and those without access to air conditioning.
- Stay in air conditioned areas if possible.
- Do not leave kids or pets in vehicles.

Excessive Heat Warning in Effect for all Locations Through 9 PM PDT.

National Weather Service San Francisco Bay Area
weather.gov/bayarea

NWS Bay Area
@NWSBayArea
San Francisco continues to climb. Latest high temperature for downtown is an incredible 106 degrees! #cawx #caheat #heatwave
2:51 PM - Sep 1, 2017

15 219 195
2017 SAN FRANCISCO LABOR DAY HEAT WAVE

• Peaked at 106°
• High night temperature
• Most vulnerable: older adults, people with medical conditions, and individuals with access and functional needs
WHAT MAKES SF VULNERABLE?

- Not adapted
- No AC
- Infrastructure
- "Urban heat island"
- Population
Predicted distribution of the health impacts of an extreme heat event in San Francisco, by census tract
VULNERABLE NEIGHBORHOODS

✓ Chinatown
   Nob Hill
   Financial District
✓ Downtown Civic Center
   South of Market
   Western Addition
✓ Mission

Potrero Hill
✓ Bayview
   Excelsior
   Haight Ashbury
   Castro/Upper
   Market Noe Valley
Be Aware

“What are the health effects of extreme heat?”
HEALTH EFFECTS

• Exacerbate heat related illnesses & pre-existing conditions
  • Heat stroke
  • Dehydration
  • Heart-disease
  • Renal failure
  • Diabetes
  • Respiratory illness
  • Asthma
  • Allergies
WHO IS AT-RISK?

- Infants & young children
- Older adults
- Persons with access and functional needs
- Chronic conditions
- Use certain medications/illegal drugs
- Work or exercise outside
WHAT ARE HEAT ILLNESSES?

Heat Exhaustion
- Slightly elevated body temperature
- Cool, moist, pale skin
- Sweating
- Rapid/shallow breathing
- Headache
- Nausea/vomiting
- Dizziness/weakness/fatigue
- Dark urine
- Muscle cramps

Heat Stroke
- Very high body temperature; >104°F
- Hot, dry, red skin
- No sweating
- Rapid pulse
- Difficulty breathing
- Confusion/irritability/hallucination
- Loss of consciousness
HEAT EXHAUSTION OR HEAT STROKE

- Faint or dizzy
- Excessive sweating
- Cool, pale, clammy skin
- Nausea or vomiting
- Rapid, weak pulse
- Muscle cramps

- Throbbing headache
- No sweating
- Body temperature above 103°
- Red, hot, dry skin
- Nausea or vomiting
- Rapid, strong pulse
- May lose consciousness

CALL 9-1-1

- Get to a cooler, air conditioned place
- Drink water if fully conscious
- Take a cool shower or use cold compresses
- Take immediate action to cool the person until help arrives

SacramentoReady.org
@SacramentoOES
WHEN TO SEEK MEDICAL HELP

Call 911 immediately if:

- Attempts to decrease body temperature fail
- Chest pain, abdominal pain
- Persistent vomiting, unable to keep fluids down
- Signs of heat stroke
- Symptoms worsen or do not subside in an hour
- Body temperature reaches 103°F or higher
- Victim is an at-risk person
Be Prepared

“How can we prepare for extreme heat?”
HOW TO STAY COOL

Cool Down
• Shade
• Cool compresses
• Loose, lightweight, breathable fabrics

Hydrate
• Drink more water than usual

Rest
• No vigorous activity between 10am-4pm
WHAT TO DO

- Eat small meals & drink water
- Take cool showers or baths
- Monitor weather conditions
- Check on older adults & those with access and functional needs
WHAT NOT TO DO

AVOID

- Being in the sun during peak hours; 10am-4pm
- Intense exercise
- Alcoholic or sugared drinks
- Foods high in protein or salt
- Use of illegal drugs
WHAT TO DO AT HOME

- Avoid use of stove or oven
- Get a home thermometer
- Be aware of high indoor temperature
- Go to lowest floor
WHAT TO DO AT HOME

If air-conditioning is not available:

• Shade windows
• Open windows for breeze
• House fan
• Find a cool place
WHAT TO DO OUTSIDE

- Avoid direct sunlight, 10am-4pm
- Find shaded areas
- Wear hats and sunscreen
- Wear loose, breathable fabrics
- Drink water, 4 cups/hour
- Use hand-held fans
- NEVER leave an infant, child, or pet in vehicle
ACTIONS FOR YOUR AGENCY

• Present to your staff & clients
• Partner with other agencies
• Emphasize the buddy system
HOW THE CITY WILL RESPOND

• Public notifications
  • sf72.org
  • AlertSF.org (subscribe)
  • Text zip code to 888-777

• Messaging to partners
  • KGO 810
  • KCBS 740
  • KNBR 680
RESOURCES

San Francisco Department of Public Health – Climate Change Initiative, sfclimatehealth.org

California Department of Public Health
www.bepreparedcalifornia.ca.gov

Centers for Disease Control
www.cdc.gov/extremeheat

San Francisco Department of Public Health – Population Health Division, Emergency Preparedness and Response
Thank you!

San Francisco Department of Public Health
Climate & Health Program
Public Health Emergency Preparedness & Response