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Oregon  
Health  
Authority



# Today's Presentation

- **Climate Impacts on Health**
  - What people in Oregon need to know
  - Recap on the health risks
- **Health Effects: Now and in the Future**
  - Current health effects and costs
  - Projected health effects and costs
- **Public Health Action**
  - Oregon Health Authority action
  - Local Public Health Authority action
  - Interagency Climate Adaptation Framework



# Climate Impacts on Health

## What people in Oregon need to know:

- Climate change is already affecting health in Oregon and is projected to get worse in the years to come.
- Some communities will be affected more than others and existing health disparities will be made worse.
- Actions to build adaptive capacity within Oregon's communities will result in improved public health and health cost savings for the State of Oregon.

### Heat-related illness

**Climate Change:** Oregon's average temperatures and number of heat waves are increasing.

**Health Risks:** Heat-related death, heat stroke, birth defects, heat exhaustion, heat syncope, heat cramps, dehydration, heat rash.

### Mental health

**Climate Change:** Displacement, job/income loss, changes to landscape, loss of culture, natural disasters, community-wide stressors.

**Health Risks:** Suicide, PTSD, anxiety, depression, substance abuse, chronic stress.

### Allergies

**Climate Change:** Pollen counts and potency are increasing due to rising temperatures and CO2. Increased floods lead to more mold exposure.

**Health Risks:** Rhinitis, anaphylaxis, asthma attacks, hives, itchy eyes.

### Respiratory disease and illness

**Climate Change:** Air pollution from increased wildfire smoke and ozone (smog).

**Health Risks:** Asthma attacks, heart attacks, stroke, respiratory diseases.

### Vector-borne disease

**Climate Change:** More stagnant water bodies due to drought conditions provide habitat for pests like mosquitoes and ticks.

**Health Risks:** West Nile virus, Lyme disease, and other vector-borne diseases.

### Gastrointestinal disease

**Climate Change:** Storms, flooding and harmful algal blooms can contaminate water with toxic chemicals, viruses, parasites or bacteria.

**Health Risks:** GI illness, paralytic shellfish poisoning, liver damage, "blue-baby syndrome", cancer.

### Injury

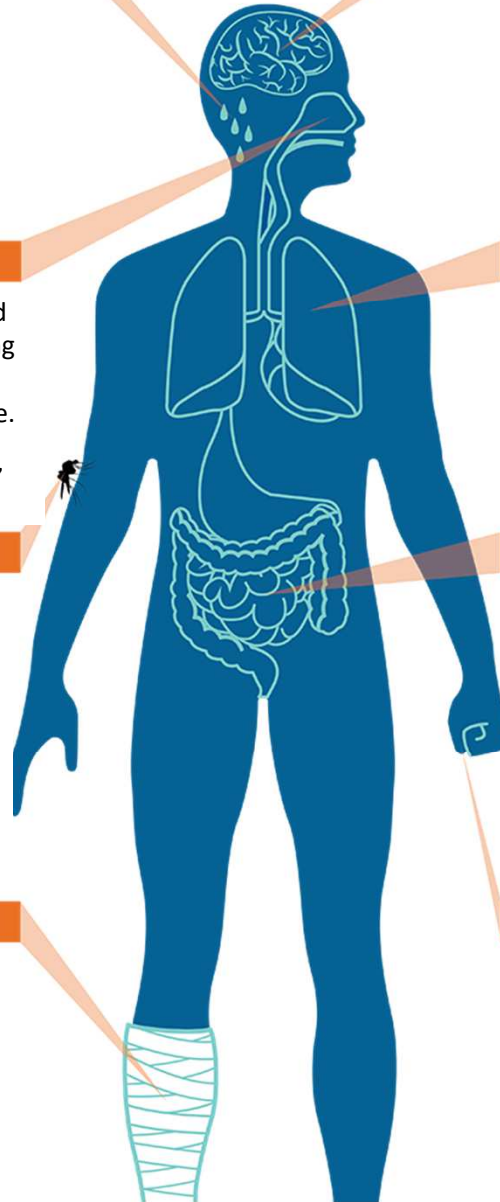
**Climate Change:** More extreme weather events.

**Health Risks:** Injuries from falling hazards, unsafe structures, and landslides.

### Violence

**Climate Change:** Heat can increase heart rate, blood pressure, and metabolic changes associated with the sympathetic nervous system.

**Health Risks:** Violent behavior.



# Health Effects: Now and in the Future

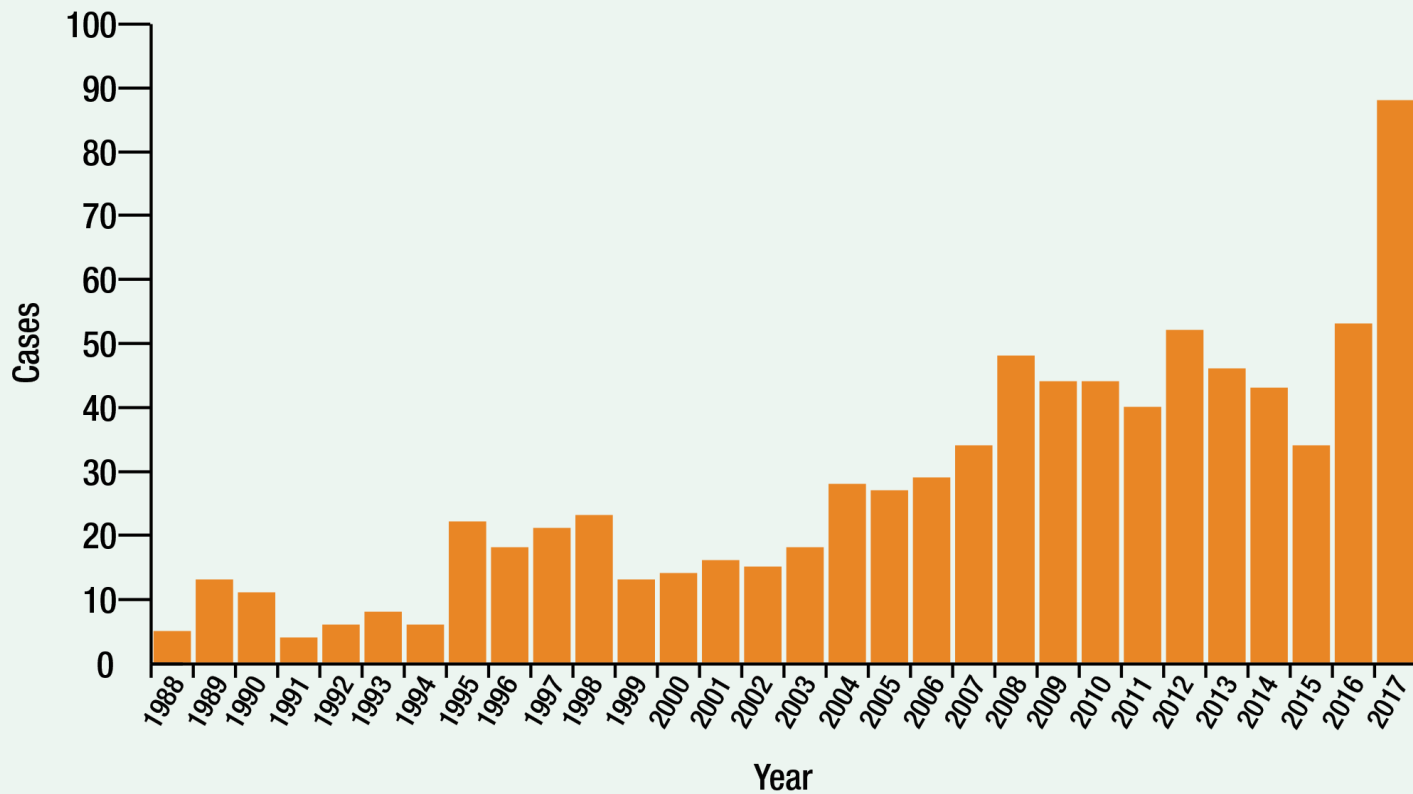
## What are the current health effects and costs?

The State will be responsible for increased healthcare costs among populations covered by the Oregon Health Plan and is already beginning to pay for them...



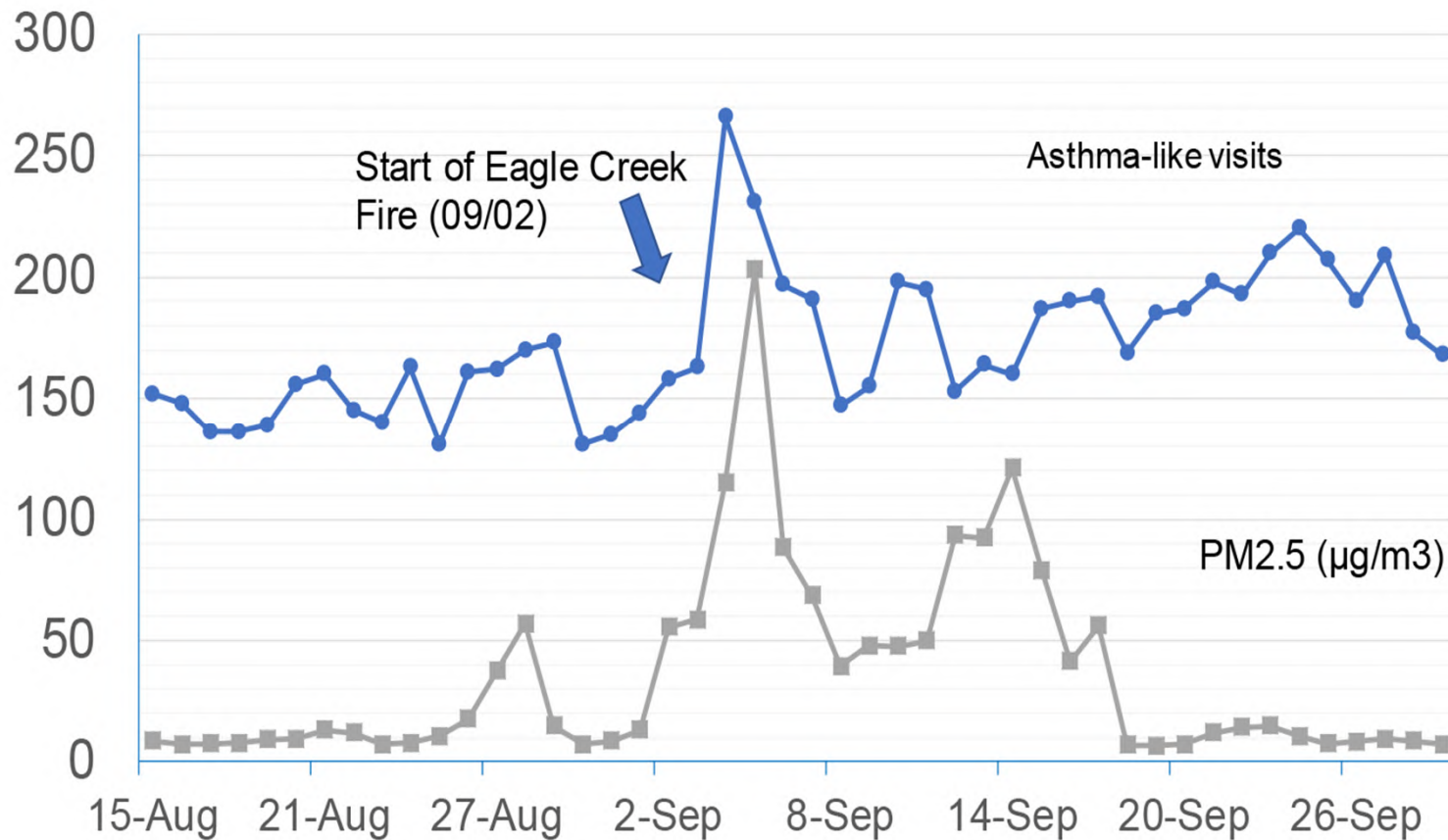
# Number of confirmed cases of Lyme disease by year in Oregon

Lyme disease by year: Oregon, 1988–2017





# E.D. visits for asthma-like symptoms and PM2.5 maximum daily concentrations before and during the 2017 Eagle Creek Fire.



# Projected Air Pollution

- Airborne particulate levels from wildfires are projected to increase 160% by 2050.
  - Heart attack (\$1.1 billion/year in 2011)
  - Stroke (\$254 million/year in 2011)
  - Respiratory diseases
  - Some types of cancer





## More projections...

- The city of Portland can expect 80 additional **heat-related deaths** annually by 2050.
- Climate change may cause 26,000 more U.S. **suicides** by 2050.
- US **wildfire smoke deaths** could double by 2100, from 15,000/year to 40,000.
- More than 7,700 Oregonians live in areas that will be inundated due to **sea level rise** by 2100.



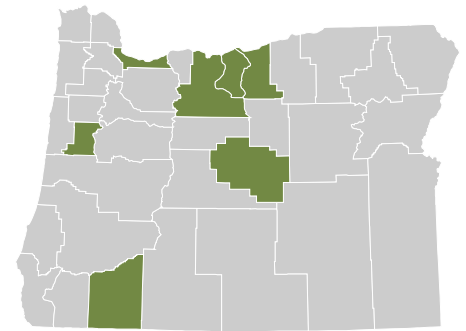
# Public Health Action

## What is OHA doing about it?

- Assessing, planning, and building workforce capacity
- Providing technical tools and assistance to partners
- Preparing and responding to emergencies
- Analyzing data and addressing research gaps
- Informing and engaging with communities

# What about local health departments?

- 97% (or 32 out of 33) Local Public Health Authorities reported that they are not equipped to identify and address existing environmental health hazards.
- 5 Local Public Health Authorities received OHA grants to develop local climate and health adaptation plans in 2013



## Examples of local climate and health interventions

**Benton County** convened county-wide interagency climate adaptation assessment & planning and the County Commissioners adopted a climate adaptation resolution.

**Crook County** analyzed air quality data with asthma ER visits and co-hosted public workshops on climate and health risks with OSU Extension.

**Jackson County** improved a countywide alert system to inform public school administrators about wildfire smoke risks and provided health and climate expertise for natural hazard mitigation planning.

**Multnomah County** informed athletic event organizers of extreme heat risks, incorporated information into the event permitting process, and assessed the health co-benefits of proposed transportation policies.

**North Central Health District** educated residents reliant on private drinking water wells of drought-related health risks and provided free water quality testing services.



# State of Oregon Climate Adaptation Framework 2020



<b>Climate investments in other sectors</b>	<b>Health co-benefits</b>
<b>Clean Mobility</b> (Active Transp., Public Transit, Electric Vehicles)	<ul style="list-style-type: none"> <li>• <b>Decreased risk of chronic diseases</b> due to increased physical activity and reduced air pollution</li> <li>• <b>Fewer injuries</b> due to enhanced safety</li> </ul>
<b>Green infrastructure and healthy ecosystems</b>	<ul style="list-style-type: none"> <li>• <b>Reduced heat-related illness and death</b> due to reduced temperature; urban heat islands</li> <li>• <b>Decreased risk of chronic diseases</b> due to reduced air pollution</li> <li>• <b>Reduced injury, displacement, water contamination and mold exposures</b> due to flood mitigation</li> </ul>
<b>Reduced building energy use</b>	<ul style="list-style-type: none"> <li>• <b>Decreased risk of food insecurity, mental health impacts</b> due to reduced energy cost burden</li> <li>• <b>Decreased risk of heat-related illness and death, domestic violence</b> due to cooler homes</li> </ul>
<b>Resilient local food systems</b>	<ul style="list-style-type: none"> <li>• <b>Decreased risk of food insecurity, mental health impacts</b> due to economic stability and improved access to healthy foods</li> </ul>



“To support community change we have to be grounded in what the community needs, not just what we perceive they need.”



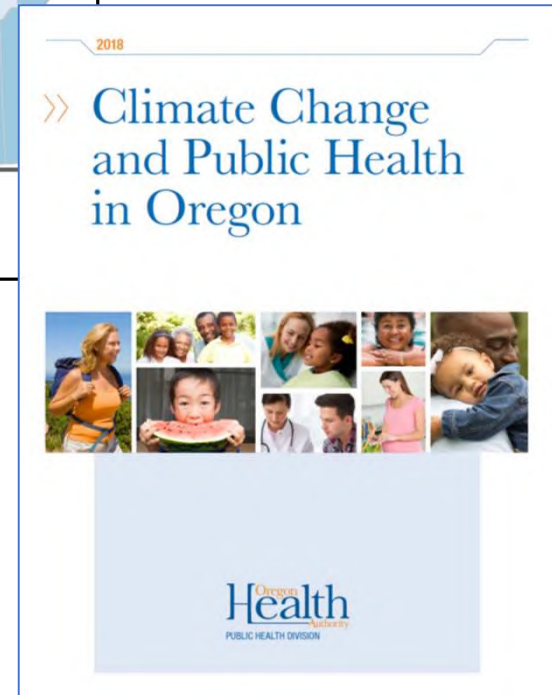
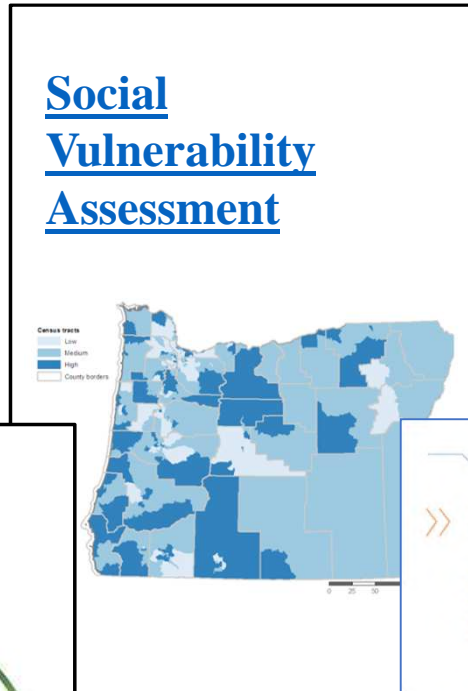
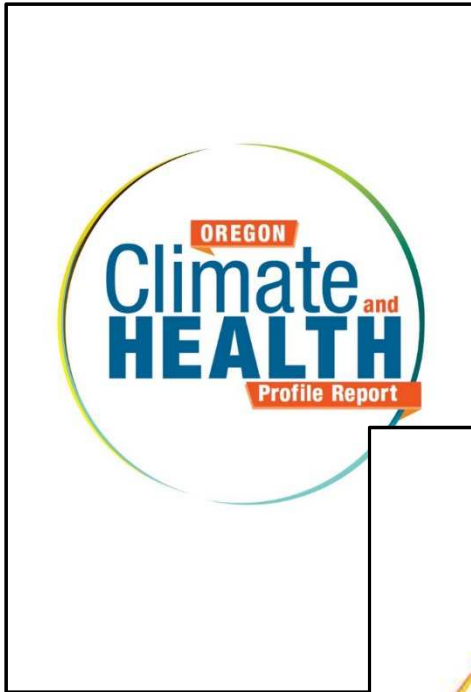
- Charmaine Kinney, MPA-HA  
Multnomah County Mental  
Health

# Climate change is a “threat multiplier”

## Examples of existing threats to health:

- 1 in 2 households in Oregon are considered “Cost burdened”; paying 30% or more of their income on rent or a mortgage.
- African Americans, American Indian and Alaskan Natives, and Pacific Islanders are more than twice as likely to die from diabetes as white people in Oregon.
- People living in rural and frontier areas have higher rates of chronic diseases compared to people living in urban areas
- About 1 in 4 people in Oregon are living with a disability.





These and other resources can be found at: [healthoregon.org/climate](https://healthoregon.org/climate)



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