



Climate change in Vermont

Health impacts and opportunities



Jared Ulmer

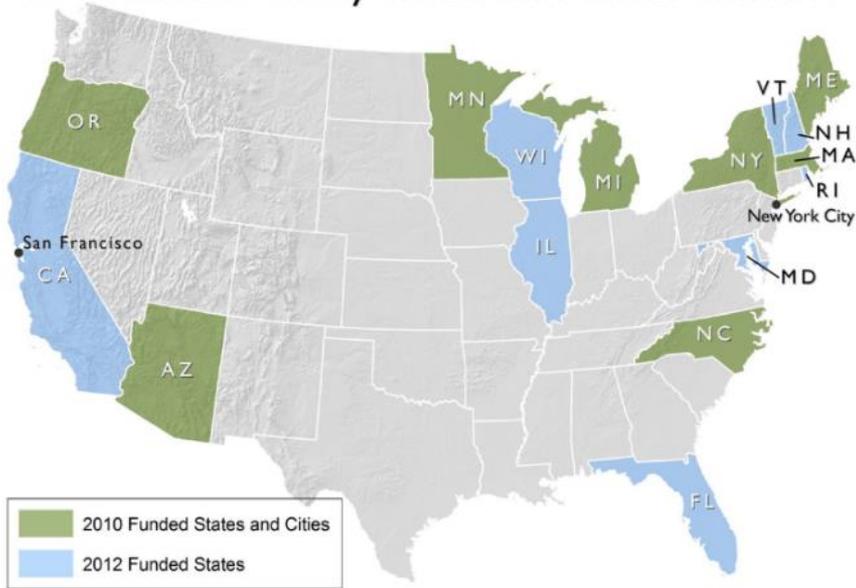
Climate & Health Program Manager

January 15, 2020

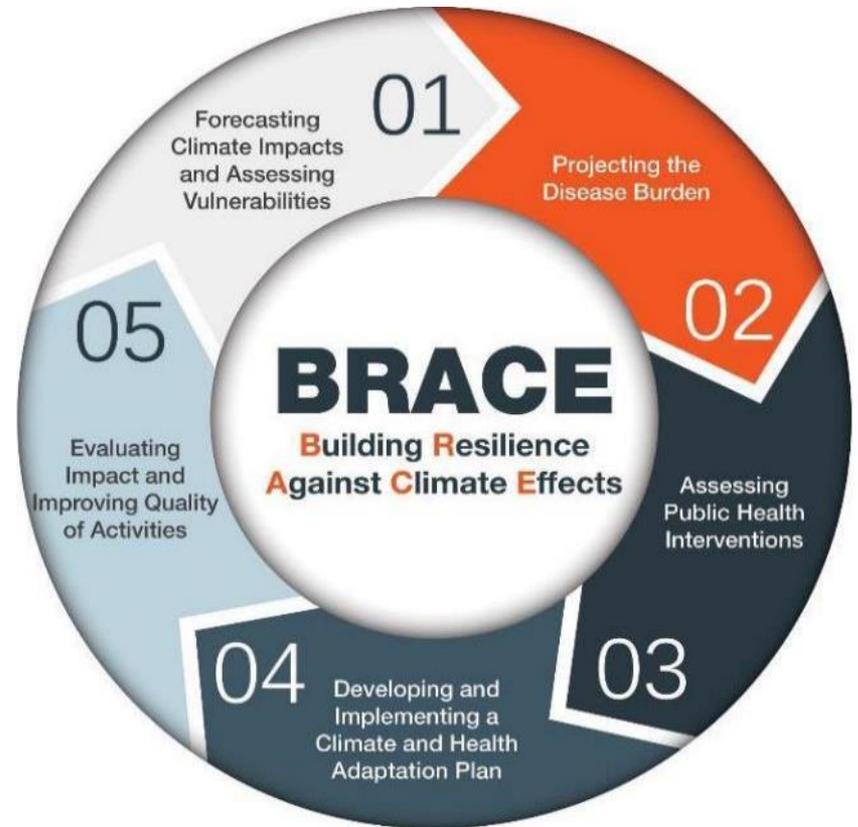


Building Resilience Against Climate Effects

CDC Climate Ready States and Cities Initiative

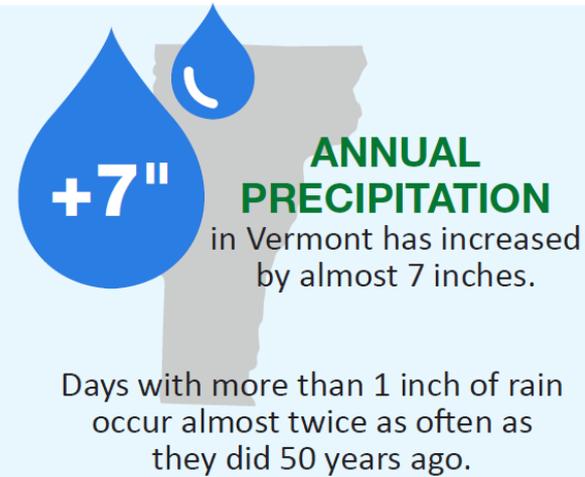
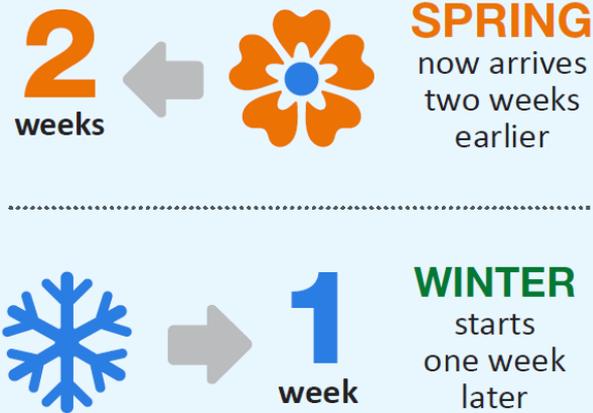
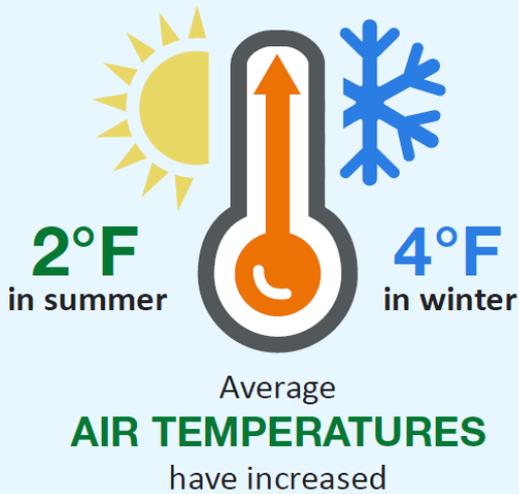


16 states, 2 cities



Climate change is already happening, and is expected to continue

IN THE PAST 50 YEARS:



NEARLY 100% OF CLIMATE SCIENTISTS AGREE:

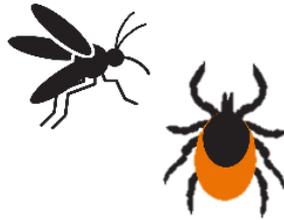
Greenhouse gas emissions from fossil fuel combustion in cars, power production, and manufacturing are causing the temperature of the earth to rise.

Climate change is increasing health risks in Vermont

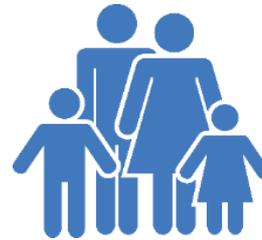
Water and foodborne diseases



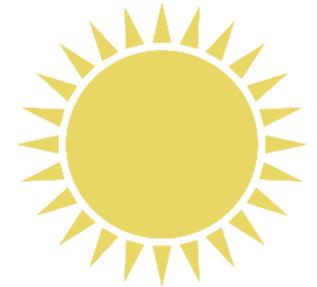
Vectorborne diseases



Mental health



Hot weather



Cyanobacteria



Extreme storm events



Air pollution and pollen

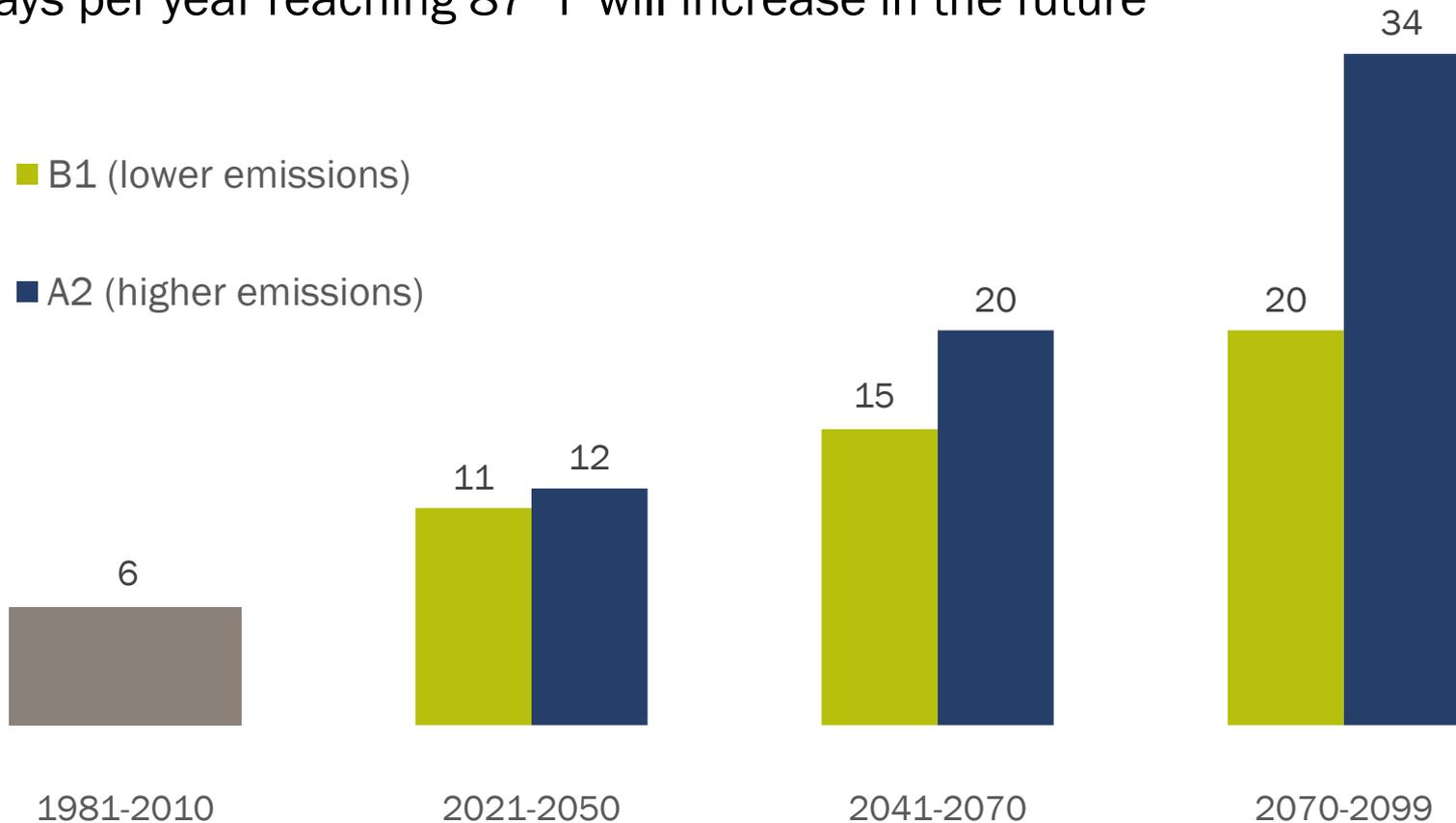


Vermonters are at higher risk for heat illnesses when temperatures reach 87°F or warmer

Days per year reaching 87°F will increase in the future

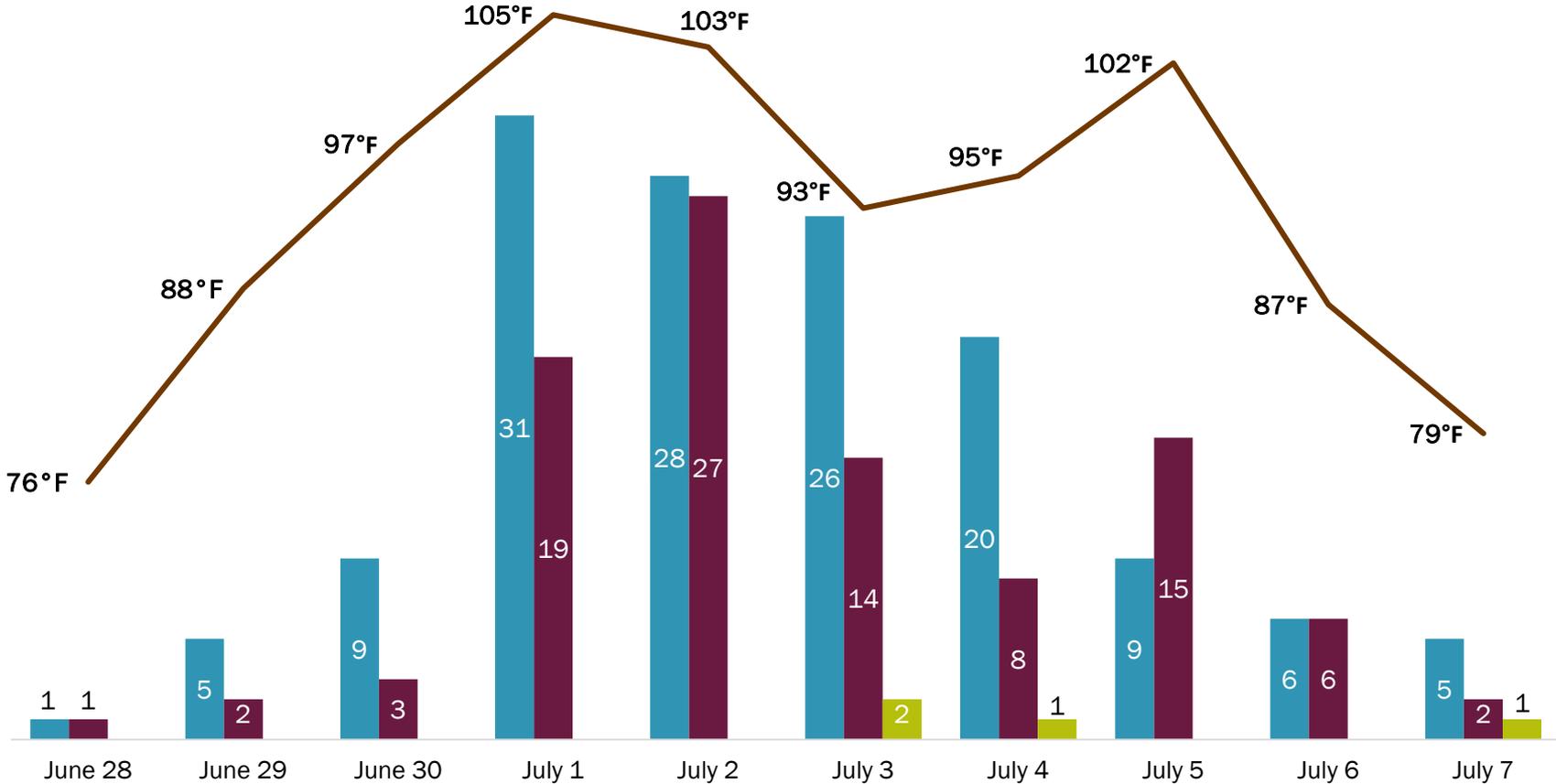
■ B1 (lower emissions)

■ A2 (higher emissions)



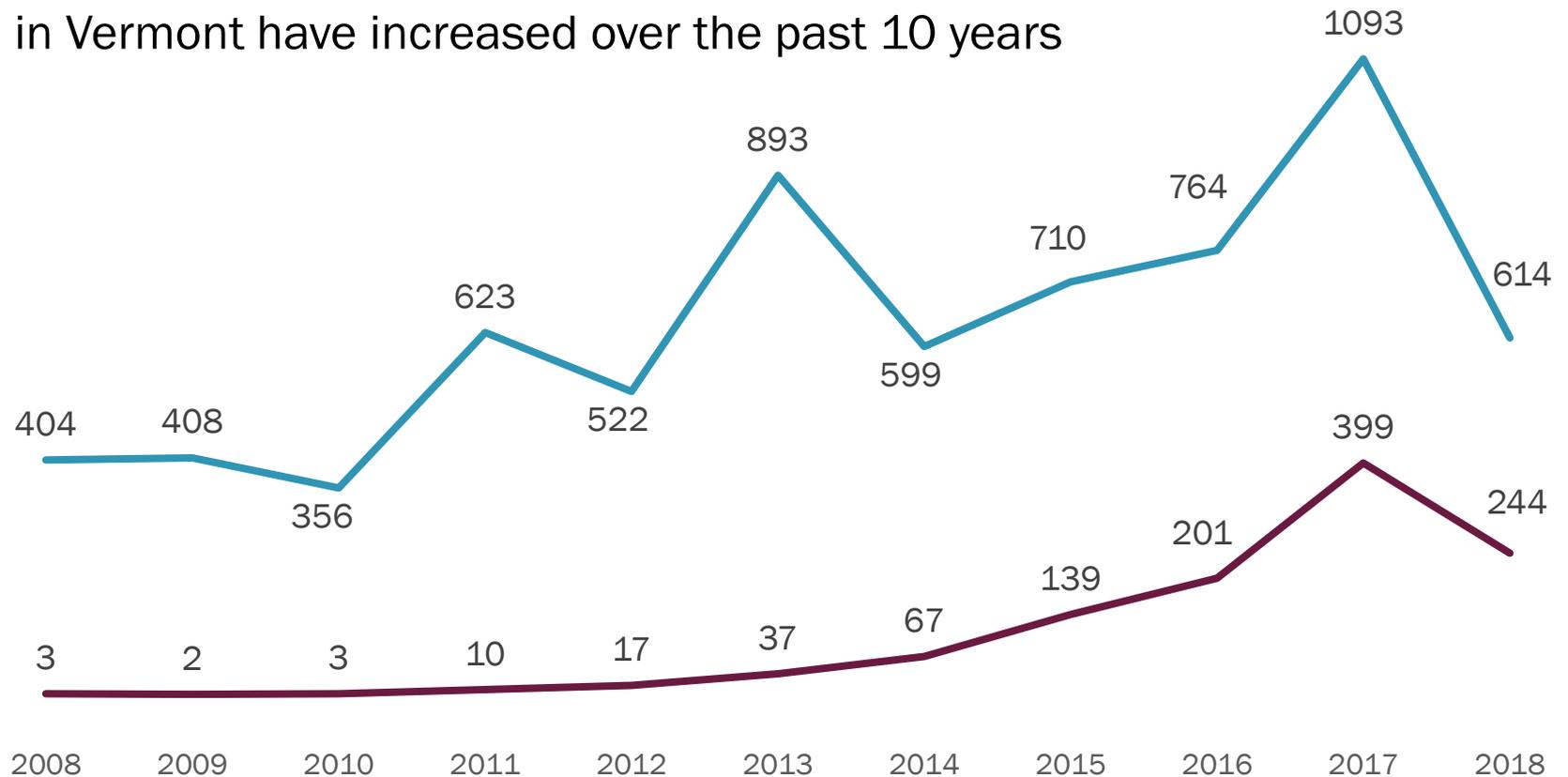
2018 Heat Wave impacts

Heat-related EMS calls and ED visits increased with the heat index during the heat wave of July 2018. There were also four heat-related deaths.



Warmer conditions contribute to increased risk of tick and mosquito-borne diseases

Reported cases of **Lyme Disease*** and **Anaplasmosis** in Vermont have increased over the past 10 years



* Includes confirmed and probable cases

Extreme weather events have become more frequent and costly, with immediate and ongoing health impacts



Vermont woman loses health, home to post-Irene mold

By DAVE GRAM / Associated Press

POSTED: 07/16/2012 03:00:00 AM EDT

Monday July 16, 2012

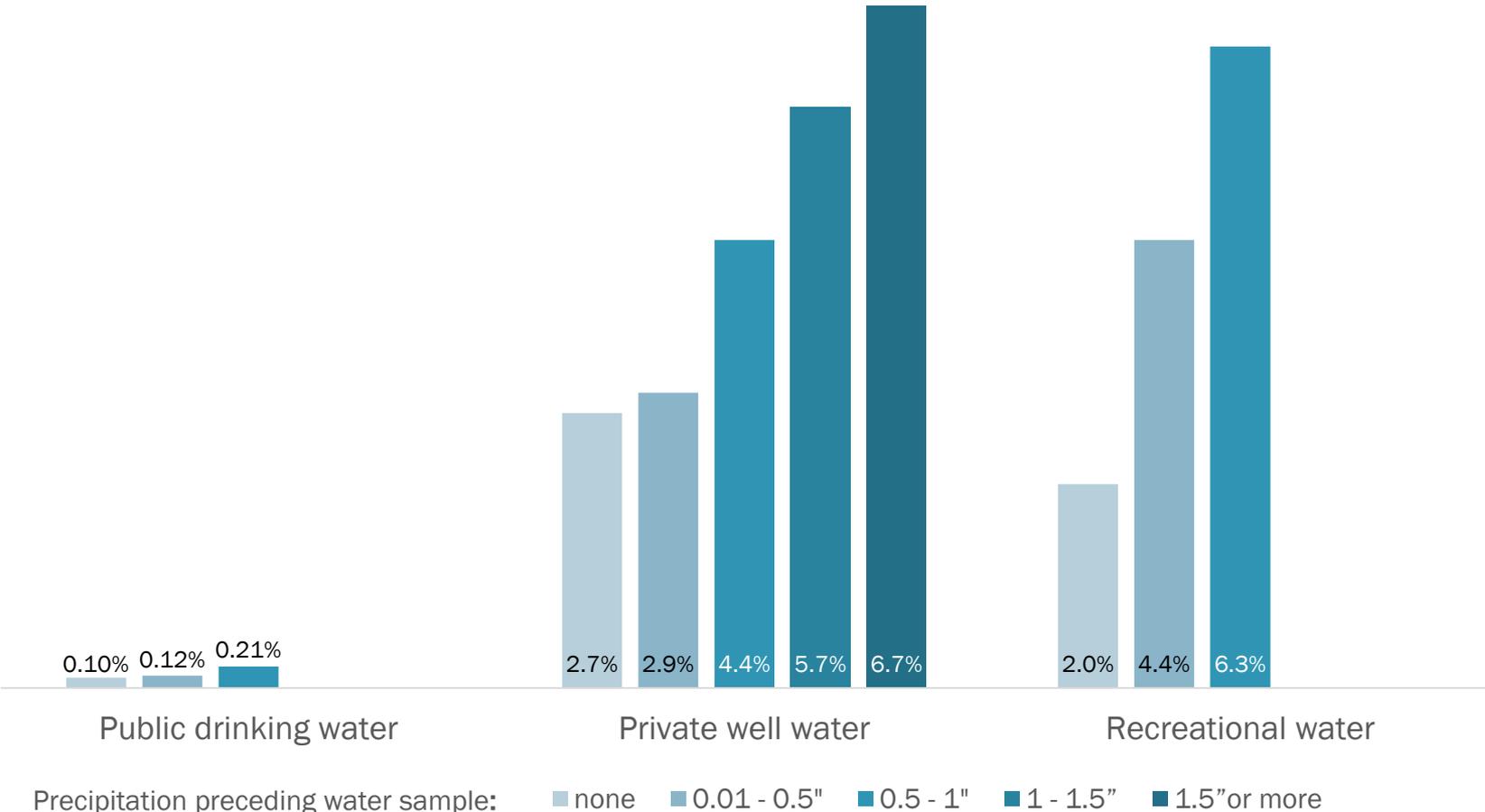
NORTHFIELD -- It was bad enough when Tropical Storm Irene sent the Dog River spilling over its banks, filling Chandar Hall's basement, destroying the stairs and back door, toppling her oil tank and destroying thousands of dollars' worth of stored books and clothing.

But since the storm more than 10 months ago, Hall, 39, says she has suffered such severe health problems from mold left behind by the flood that she had to stop working and move out. As of Monday, when money for emergency housing in a hotel runs out, she may be homeless.

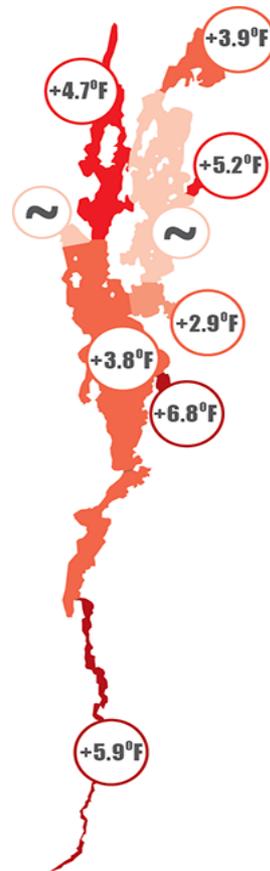
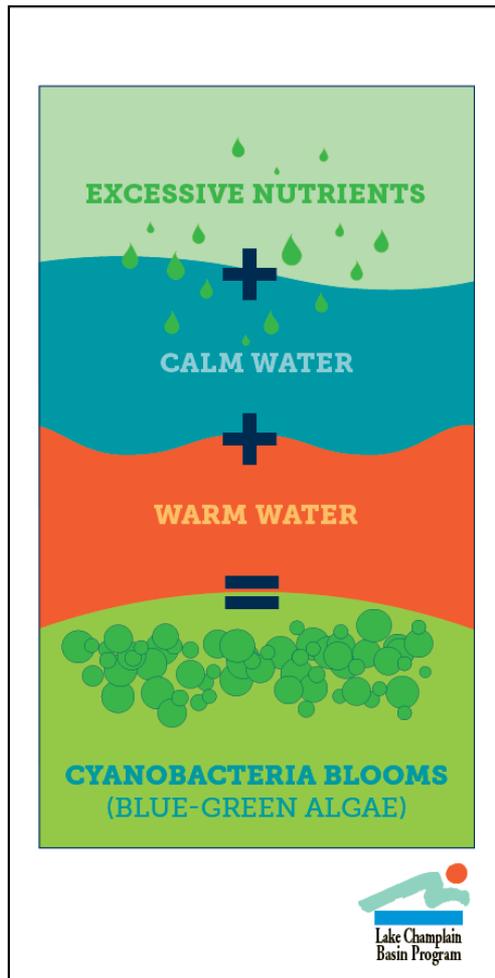


Heavy rains can increase contaminated runoff into drinking and recreational waters, leading to illness

E. coli detections increase after heavier precipitation



Warmer water temperatures increase risk for cyanobacteria blooms that can produce harmful toxins

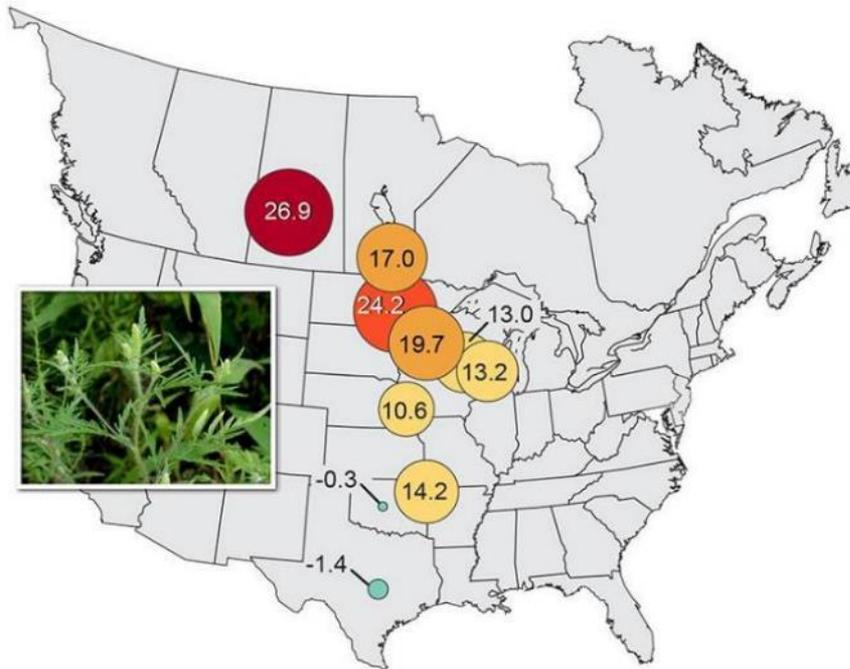


Change in Lake Champlain temperature, 1964-2009



Longer warm season and more CO₂ increase pollen, triggering allergies & asthma attacks

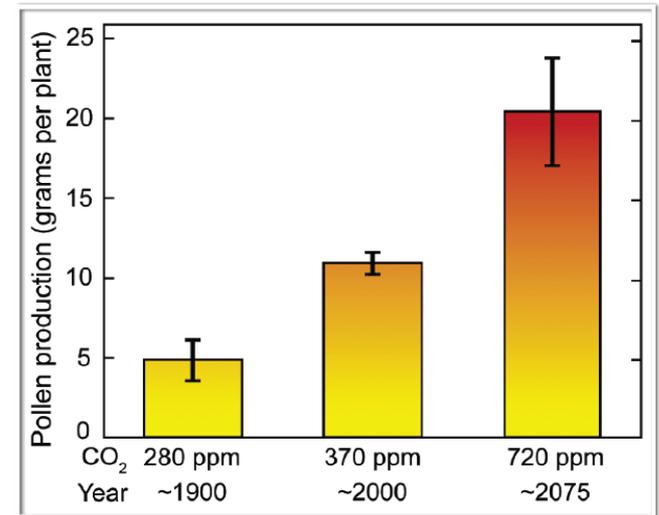
Ragweed Pollen Season Lengths



Change in Ragweed Season Length (Days)



Pollen Counts Rise with Increasing Carbon Dioxide



Everyone's health is threatened by climate change, though the threat is greater for some

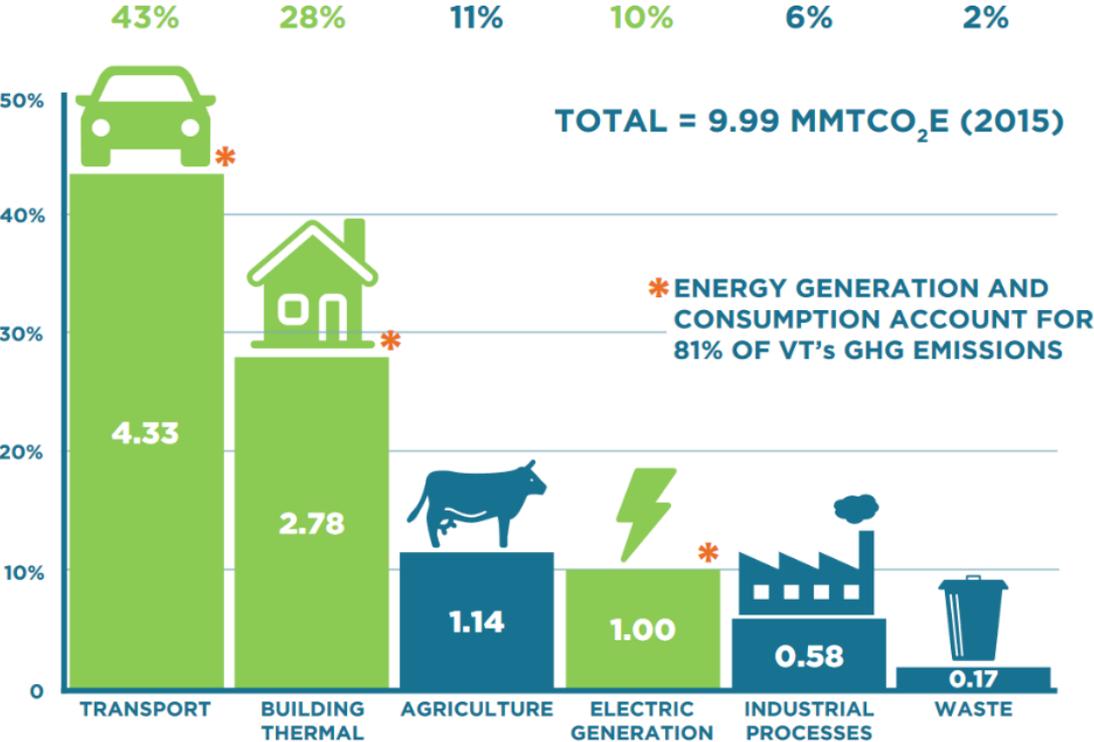


Climate change will disproportionately affect:

- People more exposed to climate effects
- People with pre-existing health vulnerabilities
- People with limited adaptation resources

Responding to climate change can benefit health now and in the future

Vermont's GHG emissions by sector



1. 2018 Greenhouse Gas Emissions Inventory Brief (1990-2015), VT Agency of Natural Resources.

Meeting Vermont's transportation goals will also benefit our health

If we can meet the transportation goals in Vermont's Comprehensive Energy Plan, we can expect the following benefits by 2050:



2,000 lives saved

due to more physical activity, cleaner air, and safer roads



\$1.1 billion

in costs avoided from reduced health care costs and increased productivity



38% less CO₂

from passenger vehicles, due to less driving and more efficient vehicles

What are the goals?



80% electric vehicles by 2050



Reduce driving alone by 20%*



Increase walk, bike, and bus trips by 100%*



*by 2030, compared to 2011

Increasing walking and biking benefits health much more than electric vehicles



Electric vehicles are critical for reducing greenhouse gas emissions





Thank you!

Let's stay in touch.

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