BACKGROUND

When we burn fossil fuels, such as coal and gas, we release carbon dioxide (CO₂). CO₂ builds up in the atmosphere and causes Earth’s temperature to rise, much like a blanket traps in heat. This extra trapped heat disrupts many of the interconnected systems in our environment.

Climate change also affects human health by impacting the quality and safety of both our water supply and our recreational water. As the earth’s temperature rises, surface water temperatures in lakes and oceans also rise. Warmer waters create a more hospitable environment for some harmful algae and other microbes to grow. Climate change can also lead to heavier downpours and floods. Flood waters often contain a variety of contaminants. In some cases, floods can overwhelm a region’s drainage or wastewater treatment systems, increasing the risk of exposure to bacteria, parasites, and other unhealthy pollutants.

THE CLIMATE-HEALTH CONNECTION

Warmer waters and flood conditions introduce a number of public health concerns.

 Certain marine bacteria that make humans sick are more likely to survive and grow as oceans get warmer. *Vibrio parahaemolyticus* is responsible for diarrheal illnesses linked with consuming raw or undercooked oysters from the Gulf of Mexico. *Vibrio vulnificus* causes vomiting, diarrhea, and abdominal pain in healthy adults. *Vibrio vulnificus* is more severe than *Vibrio parahaemolyticus* and is responsible for most of the seafood-related deaths in the United States. Both can also cause serious infections through contact with contaminated water while swimming.
**ACTIONS WE CAN TAKE TO PREPARE FOR CLIMATE CHANGE**

We can responsibly manage the problems facing our environment by taking sensible steps toward protecting human health and safety. Whether measures are meant to reduce future climate change impacts or address the health impacts of climate change that are happening already, early action provides the greatest health benefits. It makes sense to invest in creating the strongest climate-health adaptation and preparedness programs we can.

Reducing the release of heat-trapping gases like CO₂ can help protect our health and wellbeing by decreasing impacts on our climate system. Activities that reduce the amount of heat-trapping CO₂ in the atmosphere are many of the same things we already know prevent health problems. Active modes of transport like biking or walking can help reduce traffic-related air pollution and encourage physical activity, which has public health benefits including reduced rates of obesity, heart disease, and diabetes.

**ACTIONS WE CAN TAKE TO PROTECT OUR WATER**

We also can take actions to prepare our communities for present and future effects of climate change. In fact, some communities are already implementing effective programs to address climate-sensitive health issues associated with water quality. Cities like Philadelphia and Chicago have initiatives to convert non-absorbent land cover (concrete) to “green cover” (plants) that more efficiently absorb water. Portland, Oregon, has updated its laws to ensure that new buildings have designs and features that manage stormwater on-site.

**Sensible steps to manage health threats associated with poor water quality could include:**

- Public health agencies monitoring and testing drinking and recreational water for harmful contaminants.
- Health officials tracking disease rates to help protect communities from risks.
- Local governments and utility agencies taking steps to better manage stormwater and improve drinking water quality.
- Public health agencies developing and implementing climate adaptation plans.
- Private well owners monitoring water quality annually.