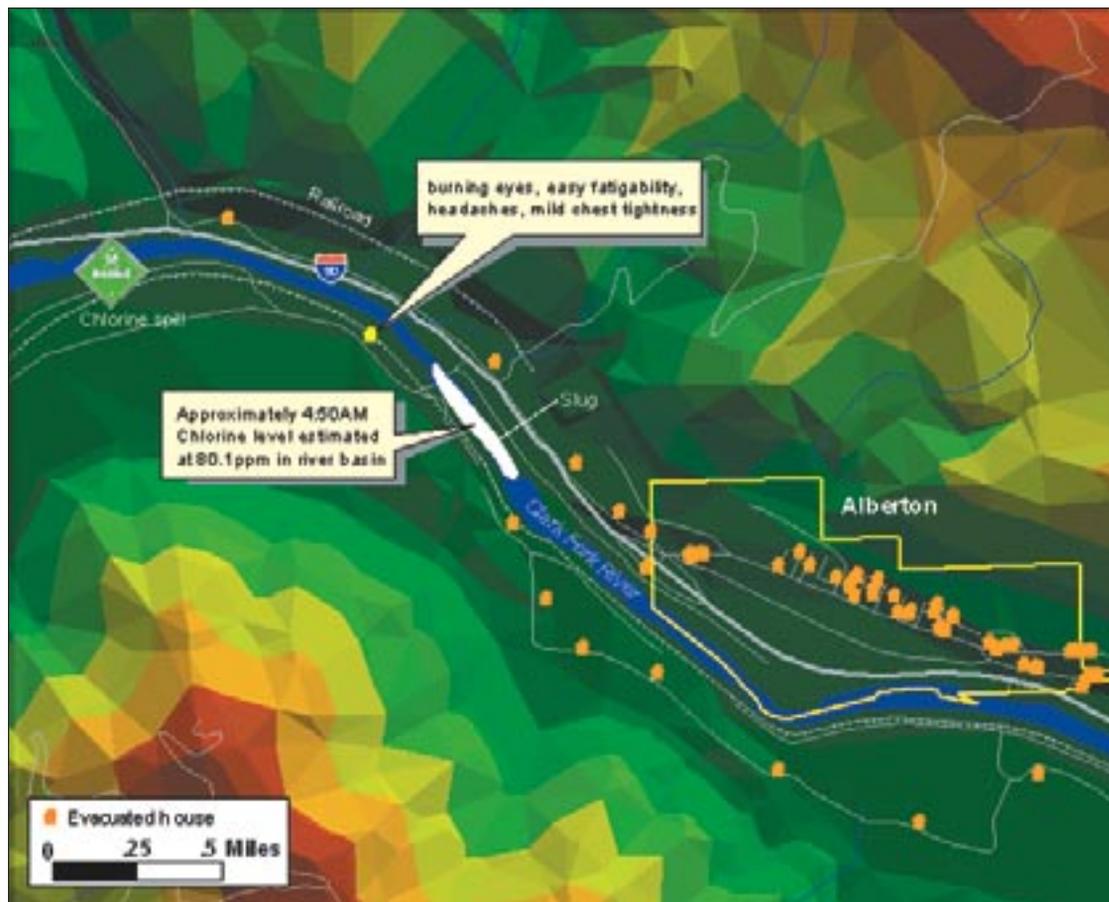


## HEALTH AND DISEASE

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Map courtesy the Agency for Toxic Substances and Disease Registry.

A train wreck in Montana (near the town of Alberton and the Idaho River in the northwest part of the state) caused plumes, or slugs, of lethal chlorine gas to leak from a derailed car and creep through the valley of the Clark Fork River. This map shows the location of a slug thirty-five minutes after the wreck. An atmospheric scientist specializing in plume/slug movement used a gas-dispersion algorithm to map the predicted movement and dissipation of the gas.

### Definition

Health is the condition of animals, plants, and people when all the biological organs and systems that comprise their bodies are functioning normally. Another word for this condition is *homeostasis*, which means that dynamic systems (continuously operating, fluctuating, changing, and growing) are stable. Disease is the disruption of these conditions, organic interference that degrades the quality of an organism or causes death.

### Description

Environmental conditions play important roles in the health of human beings. That is to say, not only must our air and water be “healthy,” but the plants and animals around us must be, too. Medical science has made astounding improvements in the technologies, techniques, and substances that promote health. People now are generally less prone to disease, and consequently live longer. However, the people of some regions of the world still must contend with grave and widespread threats to their well-being. A huge “health gap” exists between rich, developed countries and poor, undeveloped countries, where a vicious cycle of retarded development and disease makes progress next to impossible. For example, millions of people in poorer countries die each year due to environmentally related—and preventable—illnesses such as diarrhea and acute respiratory infections.

While some diseases appear to have been eliminated over the course of the last century, new ones have emerged (HIV/AIDS, for a well-known example). Malaria, a great killer from the nineteenth century, has re-emerged. It is now a health problem in more than ninety countries, with a combined total population of 2.5 billion people. Between three hundred million and five hundred million cases of malaria are reported annually, of which approximately two million prove fatal.

Disease and death in developing countries can be directly tied to poor environmental conditions, particularly at the household and local level. Many health problems are associated with poverty and lack of essential resources such as clean water and air, sanitation systems, adequate food, shelter, and fuel. Lack of drinkable water, proper sanitation, and basic hygiene is responsible for about 7 percent of all deaths and disease globally. Even developed countries are vulnerable: cases of asthma, for example, are rising dramatically in the United States. The cause? Air pollution.

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### Web sites

[www.unep.net](http://www.unep.net)

Information, links, and references about the global environment.

[www.wri.org](http://www.wri.org)

World Resources Institute.

[www.who.int/home-page](http://www.who.int/home-page)

World Health Organization International.

### Further reading

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