

## pH and water quality

Excessively high and low pHs can be detrimental for the use of water. High pH causes a bitter taste, water pipes and water-using appliances become encrusted with deposits, and it depresses the effectiveness of the disinfection of chlorine, thereby causing the need for additional chlorine when pH is high. Low-pH water will corrode or dissolve metals and other substances.

Pollution can change a water's pH, which in turn can harm animals and plants living in the water. For instance, water coming out of an abandoned coal mine can have a pH of 2, which is very acidic and would definitely affect any fish crazy enough to try to live in it! By using the logarithm scale, this mine-drainage water would be 100,000 times more acidic than neutral water -- so stay out of abandoned mines.

## Variation of pH across the United States

The pH of precipitation, and water bodies, vary widely across the United States. Natural and human processes determine the pH of water. The National Atmospheric Deposition Program has developed maps showing pH patterns, such as the one below showing the spatial pattern of the pH of precipitation at field sites for 2002. You should be aware that this contour map was developed using the pH measurements at the specific sampling locations; thus, the contours and isolines were created using interpolation between data points. You should not necessarily use the map to document the pH at other particular map locations, but rather, use the map as a general indicator of pH throughout the country.

