



## Reader's Guide

Water is important and special because it takes part in almost all of the processes that form and shape the Earth. Water is also essential to life. Without water, life—in all its many forms—would not be possible. The study of water science helps toward understanding how and why water plays such an important role.

Water also unites and divides us. Water is the subject of numerous treaties, laws, and agreements between nations, states, and communities. However, because water is an increasingly important and scarce resource, there are often complex legal and political issues surrounding the use of water. Many wars and court cases have arisen over who owns a body of water, who has a right to use it, or how water should be divided and used among those who claim it. To assure an adequate supply of water to meet broad needs of humans around the world, the development of scientifically sound strategies for sustainable water development are critical.

In many cases, disputes over water are related to preserving the quality of waters that nourish and protect both human and natural communities. To better understand these issues, one also needs to know the essentials of water science.

### Scope and format

*U•X•L Encyclopedia of Water Science* takes an international perspective in exploring water science and water issues. The encyclopedia features more than one hundred entries in three volumes, with each volume broken into separate chapters:

Volume 1 (Science): Basics of water science; Oceans and salt-water; Fresh water; Estuaries and wetlands; Ice; Water, weather, and climates

Volume 2 (Economics and Uses): Science and technology; Science and research; Economic uses of water; Recreational uses of water; History and culture

Volume 3 (Issues): Environmental issues; Legal and political issues

Within each chapter, entries are arranged alphabetically. Among the topics covered in Volume 1 are the Hydrologic cycle; Kelp and seaweed; Lakes; Wetlands; Glaciers; and Clouds. Volume 2 covers Dams and reservoirs; Marine biology; Petroleum exploration and recovery; Tourism on the oceans; Dangerous waters; and Exploration of the oceans. And Volume 3 includes topics such as Acid rain; Groundwater issues; Oil spills; Sediment contamination; Endangered species laws; and Exclusive economic zones.

Each entry provides definitions for scientific terms and sources for further research. In addition, a general glossary, a research and activities section, and a cumulative index to the set are included in each volume. Numerous sidebars highlight significant facts and describe water-related activities. More than 150 black-and-white photos—as well as a different set of color photo inserts in each volume—help illustrate *U•X•L Encyclopedia of Water Science*.

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### **Dedication**

The editors lovingly dedicate this book to the brave men and women of the U.S. Navy and the U.S. Coast Guard.

“The sea, washing the equator and the poles, offers its perilous aid, and the power and empire that follow it.... ‘Beware of me,’ it says, ‘but if you can hold me, I am the key to all the lands.’” —Ralph Waldo Emerson (1803–1882), *The Conduct of Life*, “Wealth”

### **Comments and suggestions**

We welcome your comments on *U•X•L Encyclopedia of Water Science*. Please write: Editors, *U•X•L Encyclopedia of Water Science*, U•X•L, 27500 Drake Rd., Farmington Hills, MI 48331; call toll-free: 1-800-877-4253; fax: 248-699-8097; or send e-mail via <http://www.gale.com>.

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