The Midwest Faculty Seminar
presents

Troubled Waters

March 5-7, 2009

Issues of water scarcity have plagued civilization for millennia, but in recent decades the scale and number of problems around water have dramatically multiplied. Today's high-intensity industrial agriculture has quickened the pace of water's depletion and pollution, even as growing populations increase the demand for food and water. Under heavy use, rivers and aquifers are being drained, while rain runs too quickly off deforested farmland, polluting rivers and depleting groundwater. In many countries water resources have been privatized, further reducing their availability to needy people. The growing scarcity of fresh water threatens to undermine global political stability: UN Secretary-General Ban Ki-Moon recently warned that "water wars" might fuel the major conflicts of this century. While oil and energy scarcities continue to dominate news and politics, this conference aims to focus scholarly attention on water and the political, cultural, and scientific stakes of understanding and managing this most essential of resources.

Technological innovation represents a threat as well as a promise to the stability of water on Earth. The constant search for more cost-efficient industrial methods has tended to deplete and pollute water supply, as environmental concerns lost ground before economic forces. Even "green" technologies can threaten water supplies; for example, one recent study concluded that hybrid cars consumed three times as much water as conventional ones. On the other hand, other new technologies may offer the best hope for maintaining adequate water levels. Agricultural techniques and products that require less water, distribution systems that enable the transfer of water from flooded to dry areas, and devices for desalinating and purifying polluted reservoirs are all under development.

While finding pragmatic solutions for water management might seem more pressing than theoretical and conceptual work on water, scientists engaged in deepening our understanding of water have shown that what appears to be purely academic study often proves useful in the practical realm. A recent Argonne study on water's ionization tendencies, for example, offered important new information about why and how water gets contaminated. The ice found this year by the Phoenix Mars Lander contributes to astronomers' understanding of the history of the solar system—and it may ultimately help determine whether Mars could be hospitable to human life. With some of the secrets of water's unique molecular properties still uncovered, and the implications of these secrets impossible to imagine, scientific research on water calls out for attention.

This conference will bring together scientific, environmental, political, and cultural perspectives on water by bringing together speakers from across the University. Speakers will include: Theodore Steck (Biochemistry and Molecular Biology), David Archer (Geophysical Sciences), Mark Lycett (Anthropology), and Kathleen Morrison (Anthropology).