SIGMA XI McGill Montréal

The McGill-Montreal Chapter

Sigma Xi :: The Scientific Research Society ::

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PUBLIC LECTURE

when:
Monday
22 January 2007
6:00 P.M.

McGill University
Otto Maass Chemistry
room 10

Council Meeting:
4:30 P.M.
Member Reception:
5:30 P.M.

WATER, WATER EVERYWHERE,
But not a drop to drink

Canada has over 10% of the world's water resources and the general perception is that Canada is water rich. While this is true from a broad national perspective, there are parts of the country which experience water shortages, particularly in the prairie region and the North. A more serious consideration in Canada is the restriction being imposed on the use of our freshwater resources due to water pollution by anthropogenic sources. So while we might appear to have an abundance of freshwater, there are serious challenges with respect to the protection and management of the resource. We also need to be mindful of the severe problems of water shortages, and the lack of access to water and sanitation facilities by people particularly in the developing world.

Some 1 billion people have inadequate access to safe drinking water, and 2.6 billion lack basic sanitation. More alarmingly, about 1.8 million children die each year from diseases caused by unclean water and poor sanitation. These staggering statistics are difficult to comprehend or justify when we consider that over 70% of the earth's surface is covered by water. The presentation will explore the root causes of today's global water crisis, and will also describe potential roles for Canada in breaking down the barriers to poverty and disease caused by water insecurity.

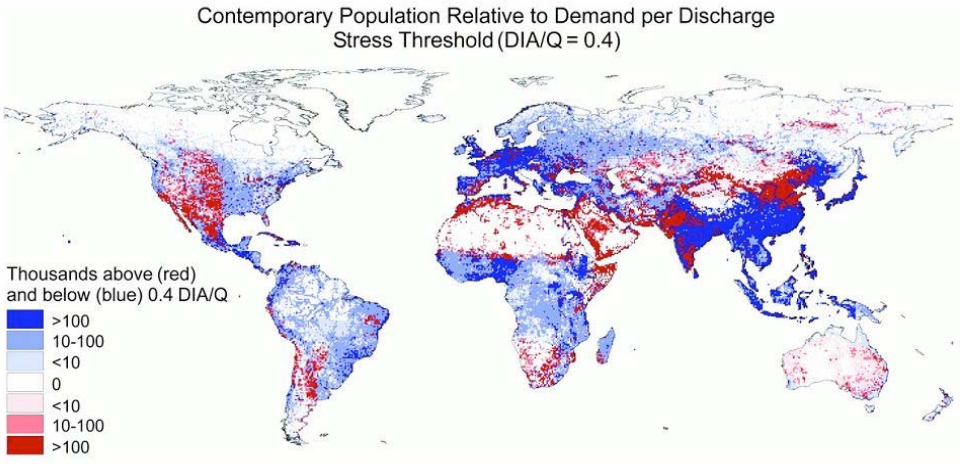

Fig. 1) Global distribution of population in 1985 with respect to relative water stress threshold of DIA/Q = 0.4 indicating severe water scarcity. A 30' resolution is used for this map. Mapping reflects a mean global runoff of ~40,000 km^3/year and aggregate water withdrawals of 3100 km^3/year. These estimates are highly dependent on contemporary water use statistics, which reflect a degree of uncertainty (e.g., assessments made in 1987 vary > 1300 km^3/year). Use with caution. [From *Global Water Resources: Vulnerability from Climate Change and Population Growth*, 2000, C.J. Vorosmarty et al., Science, Vol. 289, pg. 284-288]