International World Water Day is held annually on 22 March as a means of focusing attention on the importance of freshwater and advocating for the sustainable management of freshwater resources.

An international day to celebrate freshwater was recommended at the 1992 United Nations Conference on Environment and Development (UNCED). The United Nations General Assembly responded by designating 22 March 1993 as the first World Water Day.

What defines the quality of water?

Water quality is an important parameter touching on all aspects of ecosystems and human well-being such as the health of a community, food to be produced, economic activities, ecosystem health and biodiversity. Therefore, water quality also is influential in determining human poverty, wealth and educational levels.

From a management perspective, water quality is defined by its desired end use. Consequently, water for recreation, fishing, drinking, and habitat for aquatic organisms require higher levels of purity, whereas for hydropower, quality standards are much less important. For this reason, water quality takes on a broad definition as the 'physical, chemical, and biological characteristics of water necessary to sustain desired water uses' (UN/ECE 1995). It needs to be noted that after its use water usually returns back to the hydrological system and if left untreated can severely affect the environment.

What is the state of water quality on our planet?

Worldwide water quality is declining mainly due to human activities. Increasing population growth, rapid urbanization, discharge of new pathogens and new chemicals from industries and invasive species are key factors that contribute to the deterioration of water quality. In addition, climate change will further affect water quality. Major risks are the lack of water quality data and monitoring worldwide as well as lack of knowledge about the potential impact of natural and anthropogenic pollutants on the environment

and on water quality. The lack of prioritization of water quality in many countries has resulted in decreased allocation of resources, weak institutions and lack of coordination in addressing water quality challenges.

How does climate change influence water quality?

Climate change and in particular increasing temperatures and changes in hydrological patterns such as droughts and floods will affect water quality and exacerbate water pollution from sediments, nutrients, dissolved organic carbon, pathogens, pesticides and salt, as well as thermal pollution. Further, sea-level rise is projected to extend areas of salinisation of groundwater and estuaries and thereby impacting the availability of freshwater for humans and ecosystems in coastal areas. Gaps still exist in the knowledge about the impacts of climate change on water, especially its quality. Although observational data are required for adaptive management, many observational networks are shrinking. There is a need to improve the understanding and modelling of climate changes with respect to the hydrological cycle at scales that is relevant to decision-making. Information about water-related climate change impacts is inadequate, particularly regarding water quality, aquatic ecosystems and groundwater.

How does water quality affect human health?

Sufficient quality of water is critical to ensure a healthy environment and human health. The basic requirement per person per day is 20 to 40 liters of water free from harmful contaminants and pathogens for the purposes of drinking and sanitation, rising to 50 liters when bathing and kitchen needs are considered.

In many countries, however, the amount of water required daily for drinking and sanitation is not provided in the required quality. Developing countries undergoing rapid urbanization suffer from lack of sewage treatment facilities which results in the contamination of drinking water, thus it becomes a major cause of illness (which impacts poverty and education) and death.

Key facts - According to the World Health Organization (WHO)

Diarrhoea is the 2nd highest single cause of child mortality after pneumonia (WHO, 2005).

• Nearly one in five child deaths – about 1.5 million each year – is due to diarrhoea (UNICEF/WHO, 2009).

• Diarrhoea kills more young children than AIDS, malaria and measles combined (UNICEF/WHO, 2009).

• Point-of-use water treatment alone can reduce diarrhoeal morbidity by 39% (Fewtrell et al., 2005).
• The bacteriological quality of drinking water significantly declines after collection in many settings, and this decline is proportionately greater where faecal and total coli form counts in source water are low (Wright et al., 2004).

• Household interventions are more effective in preventing diarrhoea than those at the source (Clasen et al., 2006).

• The annual number of diarrhoeal cases that could be avoided by universal point-of-use water treatment is estimated to be 1.9 billion (Hutton and Haller, 2004).

• Almost 1 billion school days a year could be gained due to reduced diarrhoeal illness as a result of universal point-of-use water treatment (Hutton and Haller, 2004).

• Globally, over 130 million people are now estimated to be potentially exposed to arsenic in drinking water at concentrations above the WHO guideline value of 10 µg/l (UNICEF, 2008).

Are there any international agreements regarding water quality?

There are no global binding environmental agreements obliging states to safeguard water resources against pollution as this is a national government responsibility. However, the importance of protecting freshwater resources has been recognized in international non-binding instruments such as Agenda 21, adopted in 1992 by the United Nations Conference on Environment and Development.

At the regional level, there are a number of agreements which address the issue of water quality. Of particular importance are the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes and the 2000 Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC).

The European Union has established a framework for Community action in the field of water policy in the EU Water Framework Directive (Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000).

A great number of agreements concerning specific river/lake basins have been concluded by relevant riparian countries to establish an institutional and legal framework for the joint management and sustainable use of the shared resource, e.g. the International Joint Commission of Canada and the United States.

More information:
http://www.worldwaterday2010.info/
http://www.jpicpassionist.org/

Booklet for the liturgy:
http://www.jpicpassionist.org/Water/English/World%20Water%20Day.pdf