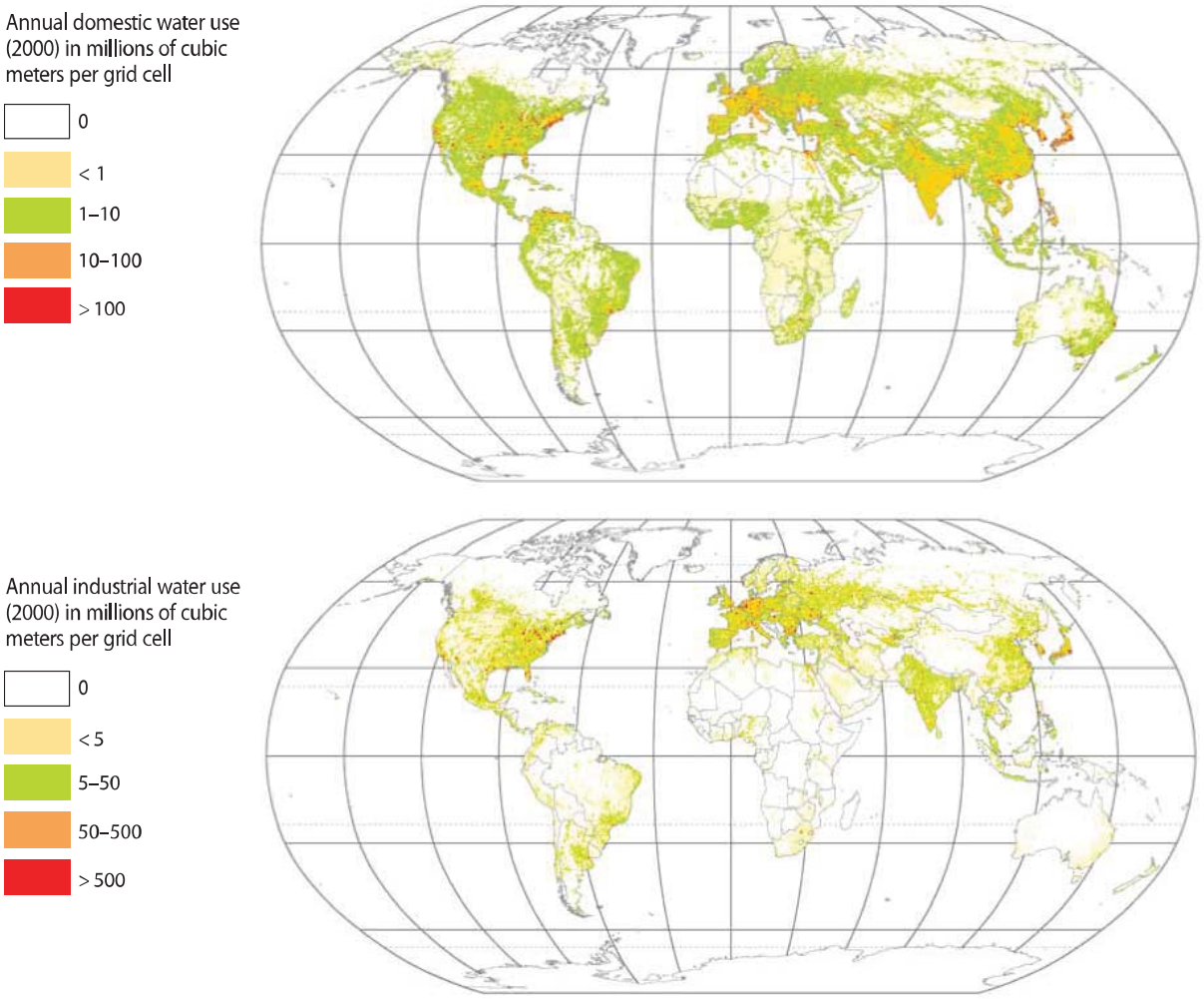
Indicator name	**Domestic and industrial water use**



Prepared by	Water Systems Analysis Group, University of New Hampshire (UNH)
Example	**WWDR2, Section 3, Global Map 5** **WWDR3 Chapter 7, Table 7.1 and Figure 7.1**
Rationale	Domestic water demand Industrial water demand
Position in DPSIR chain	Pressure, State
Definition of indicator	Domestic and Industrial water demand.
Underlying definitions and concepts	The indicator is based on the following definitions: • Domestic Water Demand: Volume of water required for domestic use per grid cell. • Industrial Water Demand: Volume of water required for industrial use per grid cell.
Specification of determinants needed	Population per grid cell Per capita country or sub national level domestic water demand Per capita country or sub national level industrial water demand
Computation	The indicator is computed as: (Sectoral per capita water use)(population)

	Where sectoral per capita water use (in m^3/yr/person) and population (number of people) are available at national or sub-national scales. Reported water withdrawals by country (WRI, 1998) were used to estimate domestic and industrial water use. The reporting year for the withdrawal statistics of each country varied so these national statistics were normalized to year 2000 by applying regional water use trends (Shiklomanov, 1996). Domestic water use was computed by multiplying normalized per capita water use by total year 2000 population for each country. Industrial water use was computed by multiplying normalized per capita industrial water use by year 2000 urban populations. The national statistics were then combined with a gridded 30-minute (latitude x longitude) population dataset (Vörösmarty et al., 2000).
Units of measurements	National or sub-national statistics reported in m^3/person; aggregated to millions of m^3/ yr.
Data sources, availability and quality	All data for this indicator is available from the Water Systems Analysis Group at University of New Hampshire: http://wwdrii.sr.unh.edu/download.html FAO/AQUASTAT and CAWMA (Accessed 3 March 2009)
Scale of application	Local for basins exceeding 25, 000 km^2 (within a city or community); regional (within a sub-national region); national (for a country); international (across several countries or globally).
Geographical coverage	Global, gridded dataset at 30-minute grid cell resolution Africa, gridded dataset at 6-minute grid cell resolution
Interpretation	This indicator provides a measure of the water demand pressures from the domestic and industrial sectors and can be aggregated to basin, national, continental or global scales. A broad spectrum of water use arises, with high levels associated with dense settlement and level of economic development. Maps of water use can be linked with those depicting water supply to define patterns of water scarcity and stress.
Linkage with other indicators	This indicator represents one in a series of indicators dealing with water pressures on available resources. Other indicators in this venue are: • Agricultural Water Demand • Water Reuse Index • Relative Water Stress Index • Non-sustainable Water Use
Alternative methods and definitions	This indicator is currently based on country level estimates of water demand and can be improved by using sub-national (county/province) water demand statistics. Higher quality data on the extent of irrigated areas would also increase the quality of this indicator.
Related indicator sets	None reported
Sources of further information	Charles J. Vörösmarty, Pamela Green, Joseph Salisbury, and Richard B. Lammers Global water resources: Vulnerability from climate change and population growth. *Science* 289: 284-288 (in Reports). Charles J. Vörösmarty, Ellen M. Douglas, Pamela A. Green, and Carmen Revenga. Geospatial Indicators of Emerging Water Stress: An Application to Africa, *Ambio*, 34 (3): 230-236, 2005. Shiklomanov, I., ed. 1996. Assessment of water resources and water availability in the world: scientific and technical report, State Hydrological Institute, St. Petersburg, Russia. World Resources Institute (WRI), 1998. *World Resources: A Guide to the Global Environment 1998-99*, Washington, DC.
Involved agencies	Water Systems Analysis Group, University of New Hampshire http://www.wsag.unh.edu/ (Accessed 3 March 2009) World Resources Institute http://www.wri.org (Accessed 3 March 2009)