



RESOURCE

The Water Footprint of Humanity

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Description / Abstract

This study quantifies and maps the water footprint (WF) of humanity at a high spatial resolution. It reports on consumptive use of rainwater (green WF) and ground and surface water (blue WF) and volumes of water polluted (gray WF). Water footprints are estimated per nation from both a production and consumption perspective. International virtual water flows are estimated based on trade in agricultural and industrial commodities. The global annual average WF in the period 1996–2005 was 9,087 Gm³/y (74% green, 11% blue, 15% gray). Agricultural production contributes 92%. About one-fifth of the global WF relates to production for export. The total volume of international virtual water flows related to trade in agricultural and industrial products was 2,320 Gm³/y (68% green, 13% blue, 19% gray). The WF of the global average consumer was 1,385 m³/y. The average consumer in the United States has a WF of 2,842 m³/y, whereas the average citizens in China and India have WFs of 1,071 and 1,089 m³/y, respectively. Consumption of cereal products gives the largest contribution to the WF of the average consumer (27%), followed by meat (22%) and milk products (7%). The volume and pattern of consumption and the WF per ton of product of the products consumed are the main factors determining the WF of a consumer. The study illustrates the global dimension of water consumption and pollution by showing that several countries heavily rely on foreign water resources and that many countries have significant impacts on water consumption and pollution elsewhere.

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