

Total Water Footprint of National Consumption, by Sector and Country, 1996-2005

Description

The data in this table are similar to those for data table 14 on both internal production and external imports by economic sector. Conventional estimates of national water use have historically been restricted to statistics on water withdrawals within national boundaries. In recent years, a new approach has been developed and applied to calculate water “footprints,” which include water use (typically withdrawals and consumption, estimated separately), the use of “green water” and “grey water,” and information on water used in other countries to produce imported products. Quantifying these national water footprints is an evolving field.

The data here include the total water footprint for internal and external water consumption by country and sector (agricultural, industrial, domestic), measured in millions of cubic meters per year (Mm^3/yr) and averaged over the decade 1996–2005. Data on population assumptions are also provided. A distinction is made between green water and blue water. In addition, the authors include the grey water footprint in the estimation of the water footprint in each sector, an estimate of the footprint of farm animal products, and details on the water footprints of national imports and exports.

Freshwater footprints are reported in terms of water volumes consumed (evaporated or incorporated into a product) or polluted per unit of time. A water footprint has three components: green, blue, and grey. The “blue water” footprint refers to use of surface water and groundwater. The “green water” footprint is the volume of rainwater consumed, which is particularly relevant in agricultural production. The “grey water” footprint is a measure of freshwater pollution and is defined as the volume of freshwater required to assimilate a load of pollutants.

Limitations

While the concept of the water footprint is an extremely valuable one, the process for computing footprints continues to evolve, and data sets continue to improve. For example, water withdrawal numbers are often not accurately or consistently reported (see, e.g., the description of data table 2). Estimates of agricultural water use depend on a mix

of implicit and explicit assumptions about actual irrigation levels, climatic data for certain crop types, and irrigation technologies. Some consumer categories are not included or accurately estimated. Estimates of the water footprint of imported goods are produced using global averages because of constraints on information of the location of exported goods. The grey water footprint estimates are based on a limited set of pollutants—leaching and runoff of nitrogen fertilizers—and exclude the potential effects of other agricultural chemicals, including pesticides.

See the original source for far more detail on the fundamental assumptions and limitations of the footprint approach.

Source

Mekonnen, M. M., and A. Y. Hoekstra. 2011. National Water Footprint Accounts: The Green, Blue and Grey Water Footprint of Production and Consumption. Value of Water Research Report Series No. 50. Delft, Netherlands: UNESCO-IHE Institute for Water Education. <http://www.waterfootprint.org/Reports/Report50-NationalWaterFootprints-Vol1.pdf>.

DATA TABLE 15 Total Water Footprint of National Consumption, by Sector and Country, 1996–2005 (Mm³/yr)

Country	Water Footprint of Consumption of Agricultural Products						Water Footprint of Consumption of Industrial Products						Water Footprint of Domestic Water Consumption	
	Internal (WFcons, nat, int, agr)			External (WFcons, nat, ext, agr)			Internal (WFcons, nat, int, ind)			External (WFcons, nat, ext, ind)			Blue	Grey
	Green	Blue	Grey	Green	Blue	Grey	Blue	Grey	Blue	Grey	Blue	Grey	Blue	Grey
Albania	1,857.8	274.1	112.5	1,519.8	238.8	121.7	7.9	148.6	3.9	52.4	46.0	414.0	46.0	414.0
Algeria	19,523.7	2,731.4	294.4	21,555.6	1,555.6	1,835.6	21.7	196.8	18.3	187.1	133.0	851.1	133.0	851.1
Angola	11,663.8	198.9	34.9	1,584.0	213.1	192.0	0.9	13.2	2.0	17.6	8.0	72.0	8.0	72.0
Antigua and Barbuda	30.3	0.1	—	64.1	6.8	5.8	0.0	0.7	1.0	9.6	0.3	2.7	0.3	2.7
Argentina	47,746.2	3,258.0	1,682.4	1,298.1	146.0	111.2	115.9	1,255.5	61.5	656.5	491.0	2,724.0	491.0	2,724.0
Armenia	1,595.1	326.4	82.4	1,391.0	125.8	126.6	5.0	60.0	3.5	54.9	84.3	590.0	84.3	590.0
Australia	33,170.9	3,323.8	1,562.8	2,634.0	232.4	195.2	88.7	200.5	182.4	2,013.0	352.0	762.5	352.0	762.5
Austria	3,192.9	16.0	422.4	5,947.3	517.2	652.8	40.8	64.6	147.4	1,534.7	74.0	261.7	74.0	261.7
Azerbaijan	4,158.9	1,306.1	143.1	2,533.4	205.1	74.2	82.4	1,077.5	6.9	116.1	52.1	396.6	52.1	396.6
Bahamas	61.5	—	—	413.2	42.9	41.9	—	—	8.4	85.5	—	—	—	—
Bangladesh	67,849.0	7,717.2	10,353.4	13,923.7	3,177.6	1,587.5	11.6	200.8	18.6	261.2	401.6	3,614.4	401.6	3,614.4
Barbados	139.9	0.4	6.3	238.1	27.4	30.5	1.7	31.3	2.3	20.8	3.0	27.0	3.0	27.0
Belarus	10,944.5	75.5	1,998.8	2,164.1	375.3	108.0	53.0	46.2	68.3	1,133.9	65.0	195.5	65.0	195.5
Belgium	359.2	1.2	103.6	12,285.4	963.5	1,012.3	150.1	1,165.5	290.0	2,947.2	74.3	280.0	74.3	280.0
Belize	294.0	4.1	62.8	30.8	8.7	6.6	4.9	78.0	1.1	11.5	1.0	8.3	1.0	8.3
Benin	6,957.5	7.1	35.3	458.9	136.5	58.7	1.4	26.8	1.9	22.7	4.1	36.9	4.1	36.9
Bermuda	0.4	0.1	0.3	107.5	9.5	8.1	—	—	5.0	57.7	—	—	—	—
Bolivia	25,764.0	376.8	66.4	2,488.5	124.4	97.3	3.8	49.0	4.0	38.7	18.0	129.9	18.0	129.9
Bosnia and Herzegovina	2,393.3	17.0	120.6	1,482.6	88.3	228.7	—	—	16.2	215.3	—	—	—	—
Botswana	2,074.4	14.7	—	969.4	309.6	59.3	1.3	23.7	0.7	7.9	7.9	71.1	7.9	71.1
Brazil	288,345.2	8,497.8	9,704.9	27,980.8	2,074.9	1,074.5	420.1	5,878.7	147.1	1,522.0	1,202.0	8,525.7	1,202.0	8,525.7
Brunei Darussalam	8.6	0.0	0.0	941.8	110.2	57.0	—	—	2.3	32.1	—	—	—	—
Bulgaria	11,814.2	60.1	995.8	2,638.3	361.3	157.2	109.6	1,115.3	18.6	260.0	110.6	706.6	110.6	706.6

Burkina Faso	19,121.3	188.4	241.1	447.0	172.3	47.7	0.3	5.5	1.8	20.8	10.4	93.6
Burundi	4,505.5	93.8	5.6	87.5	8.3	8.6	0.8	15.7	0.4	4.6	4.9	44.1
Cambodia	12,266.0	688.1	26.9	612.6	103.3	53.8	0.4	3.1	2.6	17.5	6.0	54.0
Cameroon	18,409.0	148.1	137.4	603.7	337.6	109.9	2.9	53.3	3.3	35.6	18.0	162.0
Canada	41,548.5	769.7	5,326.5	7,874.8	1,868.5	952.3	794.3	4,348.1	411.9	3,793.7	899.0	3,487.0
Cape Verde	265.2	9.9	—	219.1	28.2	20.6	0.0	0.4	0.5	5.0	0.2	1.4
Central African Republic	4,329.9	70.8	0.1	54.5	10.9	11.5	0.1	2.0	0.1	0.9	2.0	18.0
Chad	12,275.2	171.2	0.0	66.2	22.0	11.9	—	—	0.5	4.2	4.0	36.0
Chile	6,994.0	2,100.8	1,895.0	5,070.5	278.1	261.8	93.2	311.5	32.3	335.3	142.0	373.0
China	784,627.8	125,741.5	217,182.4	110,077.5	13,906.1	6,719.4	3,218.7	40,523.2	392.2	5,329.3	6,753.0	53,532.5
Colombia	35,863.2	1,367.9	1,223.2	9,100.9	715.6	798.6	15.7	291.3	33.1	323.6	539.0	4,851.0
Comoros	786.5	1.6	—	72.5	60.1	12.9	0.0	0.4	0.2	2.1	0.5	4.3
Congo, Democratic Republic	27,577.5	88.6	15.5	530.4	174.4	133.3	1.1	19.6	0.6	6.3	19.0	171.0
Congo, Republic	1,568.7	20.0	3.1	592.2	147.8	66.4	0.1	0.8	0.4	2.7	3.2	28.8
Costa Rica	2,725.2	148.3	170.9	1,381.0	186.7	168.8	12.4	226.1	10.6	96.2	79.0	700.9
Côte d'Ivoire	20,184.3	116.2	260.9	792.2	631.8	211.4	4.5	83.6	5.5	60.2	22.0	198.0
Croatia	4,035.7	2.6	615.0	2,089.9	129.1	224.6	2.5	31.4	36.4	462.9	—	—
Cuba	13,194.0	830.5	458.9	1,943.7	130.0	296.2	46.5	539.1	9.4	114.3	156.0	993.4
Cyprus	288.2	174.5	21.8	1,042.3	84.4	76.5	0.1	1.9	10.5	131.3	6.8	48.2
Czech Republic	8,372.5	10.2	1,525.8	4,277.0	574.8	417.3	40.2	153.1	85.3	921.9	105.0	399.8
Denmark	2,737.5	19.6	401.8	3,787.8	354.6	314.6	10.4	24.3	84.2	859.5	41.0	92.5
Dominica	147.8	—	1.6	24.6	5.5	3.1	—	—	0.2	2.2	—	—
Dominican Republic	6,589.8	826.1	—	3,263.2	210.5	393.1	2.1	35.4	13.5	122.6	109.0	906.9
East Timor	1,517.4	37.3	—	41.8	9.2	11.8	—	—	—	—	—	—
Ecuador	17,174.5	1,440.2	498.3	2,464.1	133.9	198.9	33.3	621.8	11.8	123.0	212.0	1,908.0
Egypt	10,697.6	35,246.2	13,446.0	23,682.2	1,394.1	1,609.1	168.0	3,165.7	32.2	414.6	530.0	4,770.0
El Salvador	3,441.3	42.1	270.5	1,482.0	214.7	150.0	7.0	127.4	7.4	75.3	32.0	288.0
Eritrea	2,018.6	7.1	1.9	1,871.0	102.1	83.2	0.0	0.9	0.6	7.1	3.1	27.9

continues

DATA TABLE 15 *continued*

Country	Water Footprint of Consumption of Agricultural Products						Water Footprint of Consumption of Industrial Products						Water Footprint of Domestic			
	Internal (WFcons, nat, int, agr)			External (WFcons, nat, ext, agr)			Internal (WFcons, nat, int, ind)			External (WFcons, nat, ext, ind)			Blue	Grey	Grey	
	Green	Blue	Grey	Green	Blue	Grey	Blue	Grey	Blue	Grey	Blue	Grey	Blue	Grey	Blue	Grey
Estonia	978.1	0.3	106.9	826.2	190.8	48.0	1.7	5.9	13.0	142.0	9.0	38.8	9.0	38.8	9.0	38.8
Ethiopia	73,675.2	1,512.4	335.5	1,357.8	116.8	209.2	1.0	19.2	5.1	67.0	33.3	299.7	33.3	299.7	33.3	299.7
Fiji Islands	960.3	0.8	23.8	334.0	45.8	14.4	0.4	8.2	1.7	20.7	1.0	9.0	1.0	9.0	1.0	9.0
Finland	3,373.3	6.2	90.8	2,105.0	248.4	208.9	52.9	167.3	70.3	815.8	34.0	153.5	34.0	153.5	34.0	153.5
France	43,704.2	1,375.0	3,753.5	36,738.7	4,576.9	2,077.9	876.3	3,320.4	579.5	6,280.1	628.0	2,221.3	628.0	2,221.3	628.0	2,221.3
French Polynesia	215.8	0.6	1.5	150.0	32.3	19.7	—	—	2.7	23.8	—	—	—	—	—	—
Gabon	1,270.7	12.5	8.3	337.6	68.0	37.6	0.2	3.6	0.7	7.5	6.0	54.0	6.0	54.0	6.0	54.0
Gambia	717.9	1.6	7.2	326.4	69.1	39.0	0.1	2.7	0.3	3.7	0.7	6.3	0.7	6.3	0.7	6.3
Georgia	5,756.9	359.4	200.9	2,772.6	161.5	138.7	26.4	483.7	5.2	77.0	72.0	648.0	72.0	648.0	72.0	648.0
Germany	25,576.8	83.9	7,055.1	60,940.9	4,672.9	5,116.2	809.5	854.9	845.4	8,982.9	581.0	1,632.0	581.0	1,632.0	581.0	1,632.0
Ghana	21,592.2	37.7	94.8	1,140.8	408.5	191.2	4.1	75.4	7.6	90.0	23.5	211.5	23.5	211.5	23.5	211.5
Greece	9,744.3	2,253.0	962.0	8,324.7	1,053.9	854.9	11.0	29.9	120.3	1,529.7	127.0	561.8	127.0	561.8	127.0	561.8
Grenada	128.6	0.2	—	64.6	9.1	11.5	—	—	0.4	4.0	—	—	—	—	—	—
Guatemala	8,136.5	148.6	573.9	1,552.9	201.8	226.0	10.1	114.8	12.9	128.0	13.0	96.3	13.0	96.3	13.0	96.3
Guinea	12,628.3	43.0	21.4	446.4	222.7	86.3	0.8	11.7	1.0	10.6	12.0	104.6	12.0	104.6	12.0	104.6
Guinea-Bissau	1,363.8	83.6	—	41.4	53.1	14.7	0.3	5.5	0.2	2.1	2.3	20.7	2.3	20.7	2.3	20.7
Guyana	794.4	73.3	87.2	125.4	16.8	30.1	0.4	6.9	1.0	9.9	3.0	27.0	3.0	27.0	3.0	27.0
Haiti	6,808.8	224.6	—	1,229.8	433.9	208.3	0.4	7.4	1.6	14.6	5.0	45.0	5.0	45.0	5.0	45.0
Honduras	5,754.3	113.2	350.1	776.5	172.3	101.2	2.2	36.7	4.1	36.7	7.0	63.0	7.0	63.0	7.0	63.0
Hungary	15,780.8	73.7	2,039.6	3,765.5	353.3	249.8	104.7	674.9	67.1	753.6	71.0	380.9	71.0	380.9	71.0	380.9
Iceland	4.1	—	1.6	414.5	23.2	24.9	3.9	32.3	5.6	58.5	5.0	21.4	5.0	21.4	5.0	21.4
India	720,644.0	221,346.8	96,332.9	23,546.0	2,179.1	1,885.5	1,261.9	23,850.5	98.5	1,219.8	5,224.0	47,016.0	5,224.0	47,016.0	5,224.0	47,016.0
Indonesia	176,695.4	9,413.1	15,941.2	16,089.3	4,969.0	1,553.2	17.2	280.0	57.9	673.6	662.0	5,886.7	662.0	5,886.7	662.0	5,886.7
Iran	50,325.3	37,496.5	8,253.6	19,445.0	1,347.5	1,002.6	37.1	643.5	43.6	553.4	620.0	5,580.0	620.0	5,580.0	620.0	5,580.0

Ireland	1,078.6	0.2	145.7	2,556.3	351.6	253.5	11.1	46.1	31.4	416.6	26.0	117.4
Israel	1,272.1	823.4	333.3	9,710.6	606.4	546.4	4.0	8.1	56.8	595.0	63.0	105.7
Italy	36,197.9	2,526.9	5,416.4	62,764.0	6,727.6	4,740.8	500.7	2,741.5	523.4	5,628.4	807.0	3,891.9
Jamaica	2,162.1	44.7	41.8	1,510.2	164.5	195.2	2.6	48.6	6.3	57.5	14.0	126.0
Japan	22,377.2	1,388.0	2,109.0	105,550.2	6,930.0	10,513.4	583.7	3,392.7	889.4	10,500.5	1,740.0	8,805.1
Jordan	557.6	375.7	50.0	5,582.1	812.0	514.0	1.4	11.5	17.2	210.4	29.1	155.5
Kazakhstan	25,933.0	5,218.5	250.7	1,229.6	249.1	197.6	111.9	1,881.6	22.4	342.2	59.0	531.0
Kenya	27,947.7	295.5	273.0	4,976.8	744.8	277.2	4.3	76.5	8.0	101.6	47.0	418.9
Kiribati	199.0	—	—	26.8	12.6	4.1	—	—	0.0	0.5	—	—
Korea, Democratic	12,405.1	1,328.4	—	2,080.0	382.1	333.3	95.7	1,810.6	5.7	83.9	179.0	1,611.0
People's Republic												
Korea, Republic	11,724.0	454.3	1,130.6	47,962.4	3,700.9	4,266.6	86.6	306.0	266.5	2,895.8	662.0	2,214.1
Kuwait	14.9	51.6	14.4	3,181.1	553.9	311.3	0.5	9.8	11.1	116.9	40.1	360.5
Kyrgyzstan	2,458.1	1,194.9	71.3	2,944.6	133.6	83.5	12.1	160.2	4.8	84.2	32.0	260.3
Laos	4,839.6	348.8	0.8	148.4	21.4	13.2	6.4	117.0	1.8	29.6	13.0	117.0
Latvia	2,455.4	0.5	254.2	686.6	93.9	58.0	4.0	23.3	37.5	548.3	16.0	78.2
Lebanon	1,158.0	667.3	128.7	4,751.5	544.5	292.8	6.9	41.8	20.5	265.1	38.0	143.7
Lesotho	2,898.7	5.4	1.3	76.0	62.0	20.9	0.6	10.0	0.3	4.0	2.0	18.0
Liberia	2,970.9	3.3	—	180.7	85.2	63.2	0.8	16.1	7.5	87.1	3.0	27.0
Libya	1,630.0	1,470.3	87.3	5,310.9	1,226.9	568.8	3.4	61.6	5.5	56.7	61.0	549.0
Lithuania	3,670.9	1.1	99.6	764.3	137.3	96.3	1.4	6.3	29.8	379.4	21.0	100.5
Luxembourg	229.3	0.0	45.6	645.2	30.7	39.3	0.7	0.8	12.7	122.6	2.5	3.3
Macedonia	1,210.6	71.4	85.3	769.4	77.4	61.7	6.8	94.1	9.0	115.1	21.5	187.4
Madagascar	20,644.5	2,253.5	41.5	562.6	247.9	74.4	9.6	181.8	3.2	37.1	42.0	378.0
Malawi	9,654.3	148.7	539.9	581.6	36.0	62.4	2.4	44.6	1.5	19.9	15.0	135.0
Malaysia	29,102.0	1,148.7	1,338.6	11,805.6	2,202.7	1,329.5	23.6	310.3	57.1	502.0	152.0	1,368.0
Maldives	60.7	1.2	2.4	222.5	44.0	24.3	0.0	—	0.9	14.1	0.3	1.9
Mali	18,936.7	1,496.0	0.3	586.4	116.8	60.7	2.7	51.7	2.3	27.2	59.0	531.0
Malta	29.0	3.8	2.7	625.9	69.0	50.8	0.0	0.2	4.0	45.2	4.0	31.7
Mauritania	3,341.8	206.8	0.0	2,745.6	224.0	80.6	1.6	29.3	1.1	11.8	15.0	135.0

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DATA TABLE 15 *continued*

Country	Water Footprint of Consumption of Agricultural Products						Water Footprint of Consumption of Industrial Products						Water Footprint of Domestic Water Consumption			
	Internal (WFcons, nat, int, agr)			External (WFcons, nat, ext, agr)			Internal (WFcons, nat, int, ind)			External (WFcons, nat, ext, ind)			Blue	Grey	Grey	
	Green	Blue	Grey	Green	Blue	Grey	Blue	Grey	Blue	Grey	Blue	Grey	Blue	Grey	Blue	Grey
Mauritius	446.1	10.0	4.0	1,486.1	258.2	124.5	0.7	8.3	4.7	55.7	21.4	172.1				
Mexico	83,840.7	8,654.2	8,796.4	65,986.0	8,475.0	5,950.0	134.6	1,674.0	358.5	3,174.9	1,359.0	9,021.8				
Moldova	3,983.3	364.6	119.8	225.6	53.6	18.9	42.5	295.3	6.3	98.4	22.0	145.2				
Mongolia	3,171.4	85.6	72.8	5,319.3	129.0	127.0	3.5	55.8	2.6	37.2	9.0	81.0				
Morocco	28,420.2	4,819.7	1,326.6	12,286.8	1,062.2	858.5	12.8	45.9	29.8	334.2	123.0	632.9				
Mozambique	18,980.3	145.8	115.9	1,147.6	171.8	122.4	0.3	4.9	1.2	12.1	7.0	63.0				
Myanmar	52,447.8	1,921.6	815.6	837.9	52.5	57.8	6.1	107.2	6.1	82.9	41.0	369.0				
Namibia	2,150.6	34.3	21.7	624.5	124.9	44.1	0.6	10.2	0.9	8.9	7.3	65.7				
Nepal	23,338.5	2,811.3	206.1	2,344.9	241.2	302.9	2.3	39.9	4.6	71.9	30.0	270.0				
Netherlands	695.2	44.0	241.5	16,142.5	1,586.3	1,359.8	109.7	19.2	266.2	2,755.3	49.0	104.4				
New Caledonia	119.4	0.0	7.8	238.6	25.6	17.2	—	—	2.2	21.7	—	—				
New Zealand	1,864.3	242.4	89.9	2,811.9	191.6	137.8	8.4	31.6	36.4	400.5	102.0	288.0				
Nicaragua	3,498.2	134.4	82.2	536.3	99.5	62.8	1.2	22.3	4.0	43.9	19.0	171.0				
Niger	37,783.4	718.2	55.8	666.2	254.3	83.3	0.3	5.0	0.6	6.2	9.0	81.0				
Nigeria	145,305.7	1,375.3	699.1	5,557.1	1,459.0	941.5	13.0	197.6	9.0	88.5	169.0	1,521.0				
Norway	1,551.9	8.8	54.3	3,055.6	394.7	251.0	38.3	150.9	59.5	606.5	50.0	183.4				
Occupied Palestinian Territory	2,540.9	367.3	—	97.1	21.3	127.8	3.4	64.7	0.2	2.6	17.2	154.7				
Pakistan	80,221.9	60,459.4	20,480.7	28,718.7	2,252.7	1,220.2	126.9	2,383.0	21.5	274.0	327.0	2,943.0				
Panama	2,226.0	54.4	158.8	928.0	95.5	131.4	1.4	10.9	7.6	79.2	55.0	314.4				
Paraguay	9,672.6	214.5	248.3	141.1	59.5	23.6	1.8	29.4	6.5	75.1	10.0	82.6				
Peru	13,141.8	3,299.5	1,458.4	8,050.4	404.0	567.8	74.5	362.4	17.8	195.1	168.0	720.5				
Philippines	78,032.3	3,356.3	3,722.9	10,433.7	2,020.2	1,704.4	132.9	2,405.8	34.7	419.0	584.8	5,263.2				
Poland	29,880.5	65.3	5,829.9	8,934.8	1,391.5	906.6	438.5	3,080.7	153.4	1,921.1	210.0	1,167.7				

Portugal	7,156.9	1,513.3	627.4	11,901.3	2,023.9	982.3	42.7	264.4	45.3	476.5	108.0	610.2
Romania	26,137.0	529.9	1,295.1	3,567.9	770.2	387.0	170.7	2,205.2	54.7	724.8	169.0	1,292.9
Russian Federation	200,827.8	6,300.2	7,257.7	25,437.2	5,649.8	1,528.4	520.3	8,682.6	61.3	825.2	1,340.0	12,060.0
Rwanda	5,996.7	19.0	4.0	189.1	41.3	47.2	0.5	10.0	0.5	6.7	3.6	32.4
Saint Kitts and Nevis	27.5	0.0	0.1	32.8	5.4	4.0	—	—	0.5	5.4	—	—
Saint Lucia	8.9	0.0	—	180.4	17.4	19.3	—	—	0.7	6.3	1.3	11.3
Saint Vincent/ Grenadines	95.1	—	—	64.3	10.2	10.0	—	—	0.3	2.9	—	—
Samoa	319.0	—	0.1	29.6	11.1	4.4	—	—	0.2	2.3	—	—
São Tomé and Príncipe	206.6	0.1	—	22.1	8.4	6.8	—	—	0.1	0.6	—	—
Saudi Arabia	2,667.5	7,019.4	1,115.7	21,217.6	2,149.9	1,893.1	17.7	302.0	48.1	485.6	213.0	1,917.0
Senegal	7,620.5	321.4	49.5	2,662.0	538.0	200.0	2.5	36.1	4.4	50.1	9.8	79.9
Serbia and Montenegro	13,138.5	116.0	1,055.6	1,153.9	275.5	114.6	433.1	8,200.1	23.8	349.5	78.0	702.0
Seychelles	53.0	3.1	0.0	81.4	11.8	7.3	0.2	3.0	0.7	8.1	0.8	7.2
Sierra Leone	4,990.7	48.3	—	1,095.2	100.4	68.0	0.4	6.4	0.6	6.6	2.0	18.0
Slovakia	3,786.8	59.2	406.8	1,667.2	238.8	176.5	15.1	91.4	38.8	395.5	42.8	261.7
Slovenia	742.6	1.1	407.6	1,930.4	130.7	185.9	18.6	157.1	22.8	246.6	20.1	134.1
Solomon Islands	223.7	—	—	58.5	9.1	11.0	—	—	0.2	2.4	—	—
South Africa	35,551.6	3,466.1	2,253.2	10,867.1	483.9	566.2	22.6	183.2	48.3	522.9	390.4	2,368.3
Spain	41,038.9	8,759.6	5,805.6	32,561.5	3,237.5	2,782.2	246.0	—	394.3	4,194.6	479.0	1,020.9
Sri Lanka	14,569.5	1,993.7	1,036.6	3,922.7	1,016.3	504.2	10.0	173.1	12.3	173.4	30.0	270.0
Sudan	50,305.0	6,914.0	358.3	1,985.8	162.6	155.0	9.6	175.4	5.8	79.3	99.0	891.0
Suriname	352.7	54.0	37.2	122.5	8.0	13.1	0.5	8.9	0.7	6.5	3.0	27.0
Swaziland	527.3	49.8	—	703.6	156.6	23.1	0.5	9.2	0.4	5.2	2.4	21.6
Sweden	4,772.0	13.8	764.1	4,479.4	453.9	477.2	39.1	118.5	97.6	1,128.1	109.0	271.6
Switzerland	1,328.1	0.7	326.8	6,157.6	569.7	597.2	49.8	32.1	145.2	1,624.1	62.0	161.0
Syria	20,023.1	5,713.0	2,506.6	4,566.1	642.1	293.0	17.4	261.5	10.2	133.9	142.6	1,216.9
Tajikistan	4,017.0	2,776.2	296.5	6,629.8	92.0	56.9	23.9	409.3	3.6	58.2	44.0	396.0

continues

DATA TABLE 15 *continued*

Country	Water Footprint of Consumption of Agricultural Products						Water Footprint of Consumption of Industrial Products						Water Footprint of Domestic Consumption	
	Internal (WFcons, nat, int, agr)			External (WFcons, nat, ext, agr)			Internal (WFcons, nat, int, ind)			External (WFcons, nat, ext, ind)			Blue	Grey
	Green	Blue	Grey	Green	Blue	Grey	Blue	Grey	Blue	Grey	Blue	Grey	Blue	Grey
Tanzania	31,712.9	799.1	147.6	1,836.6	344.1	174.9	1.2	22.1	4.3	58.2	52.7	474.3	273.9	2,465.1
Thailand	59,129.4	8,471.4	4,050.3	9,367.2	1,477.0	683.8	76.0	1,275.9	105.5	1,248.1	8.9	80.1	21.0	183.8
Togo	4,484.9	6.1	27.3	501.0	79.4	47.4	0.1	2.3	1.1	12.7	36.5	220.2	556.0	3,636.7
Trinidad and Tobago	108.2	0.1	0.5	1,588.2	115.5	140.7	1.7	21.9	4.4	39.1	42.0	378.0	13.0	117.0
Tunisia	12,324.7	1,201.5	400.8	4,785.7	1,285.0	548.3	3.3	30.2	17.0	169.9	207.0	242.8	456.0	4,104.0
Turkey	62,426.0	11,221.3	6,903.6	14,441.1	4,756.7	1,165.3	160.1	1,646.4	202.6	2,642.0	61.7	555.3	6,544.0	25,557.4
Turkmenistan	5,631.8	3,269.1	0.7	841.6	42.7	52.8	3.6	33.6	4.0	33.1	277.0	2,493.0	—	—
Uganda	25,440.5	10.7	28.4	897.1	245.5	85.9	2.5	46.5	3.0	44.1	—	—	—	—
UK	14,449.5	56.0	3,160.0	39,873.5	4,264.0	3,617.4	245.6	117.0	725.5	7,687.4	381.0	3,429.0	554.0	4,986.0
Ukraine	54,470.5	1,372.2	3,022.2	2,726.0	375.2	214.9	426.7	7,781.3	99.4	1,696.1	27.2	242.6	29.0	261.0
United Arab Emirates	1,374.4	466.5	40.9	5,023.0	1,285.9	617.1	2.1	32.2	83.6	899.7	58.9	530.1	42,022.9	282,005.3
Uruguay	5,183.7	176.6	129.4	1,285.6	13.1	39.5	1.7	32.0	8.4	102.6	—	—	—	—
USA	462,444.5	39,447.3	64,568.7	106,318.7	10,839.9	9,160.3	8,915.9	47,583.7	3,276.9	36,696.4	6,544.0	25,557.4	277.0	2,493.0
Uzbekistan	12,695.0	8,630.3	0.3	6,362.5	76.8	145.3	47.5	883.8	12.1	200.6	—	—	—	—
Vanuatu	245.0	—	—	8.8	14.3	6.5	—	—	0.2	2.6	—	—	—	—
Venezuela	21,550.6	1,194.1	817.3	12,984.8	547.2	706.6	16.1	299.5	21.4	194.4	381.0	3,429.0	381.0	3,429.0
Vietnam	50,495.0	5,381.6	7,459.0	4,146.3	507.5	334.6	479.7	9,014.5	30.1	429.5	554.0	4,986.0	554.0	4,986.0
Yemen	1,320.7	2,335.5	94.1	10,199.2	1,669.4	709.8	2.0	34.2	3.1	37.8	27.2	242.6	27.2	242.6
Zambia	7,972.4	294.1	169.0	805.8	83.6	52.0	3.0	53.6	1.4	16.2	29.0	261.0	29.0	261.0
Zimbabwe	11,846.5	713.2	426.4	1,002.0	81.7	68.6	10.1	188.7	2.5	26.7	58.9	530.1	58.9	530.1
World	4,902,626.4	659,210.5	555,954.8	1,346,910.7	204,557.4	131,506.6	23,614.9	211,278.3	13,918.9	151,457.2	42,022.9	282,005.3	42,022.9	282,005.3

Global Cholera Cases Reported to the World Health Organization, by Country, 1949-2011

Description

Annual cases of cholera are shown here for all reporting countries. Cholera is one of many waterborne diseases that are a consequence of the lack of sanitation services and access to clean drinking water. Some data on cholera cases and deaths are available as early as 1922 from reports to the League of Nations, but consistent reports are available from the World Health Organization only since 1949. The data here are given annually from 1949 to 2011.

In 2011, a total of fifty-eight countries from all continents reported approximately 590,000 cases of cholera to the World Health Organization, of which 32 percent were in Africa and 61.2 percent were in the Americas (defined as North, Central, and South America and the Caribbean). These data reflect a massive upsurge in the Americas from previous years. A particularly severe outbreak started in Haiti at the end of October 2010 and also affected the Dominican Republic.

These data also show the rapid and severe spread of cholera in Latin America during the seventh pandemic, starting with the appearance of cholera in Peru in 1991 and spreading rapidly. That sharp spike in cholera was the first manifestation of the seventh pandemic in the Americas and was the first time that the Americas had seen more than a handful of indigenous cases in over a century.

Limitations

There are serious problems with the reporting of cholera. In particular, the data here represent only the cases identified and reported to the World Health Organization and do not include undiagnosed or unreported cases. The true number of cholera cases is known to be much higher than reported here. Many countries refuse to report cholera cases, or define many severe diarrheal diseases as something other than cholera, often as “acute watery diarrhea.” As many as 500,000 to 700,000 cases of acute watery diarrhea occur annually in areas of Central and Southeast Asia and in some African countries.

As a result, the totals shown in the table are likely to seriously underrepresent total cholera cases.