ANA AGÊNCIA NACIONAL DE ÁGUAS
MINISTÉRIO DO DESENVOLVIMENTO REGIONAL
IBGE
MINISTÉRIO DA ECONOMIA
National Accounts n. 72 • ISSN 1415-9813





Environmental-Economic Accounts for Water: Brazil 2013-2017

EEA-W

ISBN 978-65-87201-16-0

Water resources have an extensive variety of functions and uses, ranging from supporting the integrity of terrestrial ecosystems to human consumption. They are also important when we think about food production, electricity generation, inputs in productive processes, or as a sink for the disposal and dilution of domestic and industrial effluents.

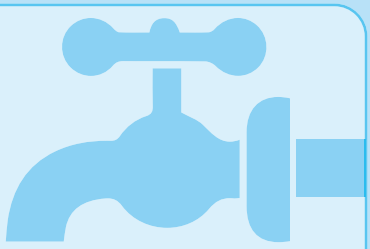
Given the importance of water resources for economic development, it will be necessary to adopt policies that integrate sectoral planning with the management of water resources. Therefore, integrating economic, social and hydrological information will be essential to attain sustainable management of natural resources. Hereto, in order to provide such an integrated information system, the United Nations Statistics Division developed a methodology named the System of Environmental-Economic Accounting for Water (SEEA-Water).

Consistent with this international methodology, the second publication of the Environmental-Economic Accounts for Water in Brazil (EEA-W)[1] aims to continue the compilation and dissemination of information regarding the balance between water availability and water demand of the economy. The development of the EEA-W is the result of the joint efforts of technicians of the National Water Agency (Agência Nacional de Águas – ANA) and the National Statistical Office (Instituto Brasileiro de Geografia e Estatística – IBGE in order to expand the knowledge about these themes, under the Natural Capital Accounting and Valuation of Ecosystem Services (NCAVES) project, with the support of the International Agency for German Cooperation for Sustainable Development (Deutsche Gesellschaft für Internationale Zusammenarbeit - GIZ GmbH), through the cooperation between the Brazilian Ministry of the Environment (MMA); and the European Union[2] Partnership Instrument, UN Environment and UN Statistics Division.

[1] By editorial decision, the publication has two parts: the first corresponds to this newsletter, which highlights the main results of the research, the second part consists of the Technical Notes, among other textual elements, presenting considerations of a methodological nature about the research. The result tables, Technical Notes and other information about the present study are available on the IBGE website, at: <https://www.ibge.gov.br/estatisticas/economicas/contas-nacionais/20207-contas-economicas-ambientais-da-agua-brasil.html?=&t=o-que-e>.

[2] The content of the EAA-W Brazil: 2013-2017 does not necessarily reflect the opinion of the European Union.

Main results
Brazil
2017



116 liters/day — Household water use per capita

3.7 million hm³ — Total water withdrawal by the economy

**6.3 liters/R$** — Water consumption for each R$ 1.00 of Gross Value Added[1]

R$ 56.5 billions — Water and Sewerage production value

R$ 3.06 R$/m³ — Average cost of water supply and sewerage services in the economy

Sources: 1.IBGE. 2. Agência Nacional de Águas - ANA.
(1) There are no estimates of soil water.

EEA-W 2013-2017

The second publication of the EEA-W presents national results, as well as results disaggregated by the five major regions of Brazil (North - N, Northeast - NE, Southeast - SE, South - S, and Midwest - MW) for the period from 2013 to 2017, with physical and monetary indicators of the supply and use of water in Brazil, by economic activities and by *Households*. As they are an initial set of regional data subject to improvement and expansion, these results may be reviewed later. Additionally, it is important to highlight that during the elaboration process of the second publication of the EEA-W, the following advances were made: (i) revision and production of new estimates; (ii) construction of EEA-W for major regions; and (iii) the extension of the time series (2013 to 2017). It is important to highlight the new estimates on soil water use. In the first publication of the EEA-W, estimates of water use by *Agriculture, forestry and fishing* referred only to surface and groundwater use. Therefore, for the analysis of the results, it will be important to distinguish which types of water use are being evaluated.

The indicators presented provide a conceptual framework for the organization of hydrological and economic information that allows describing the interaction between the economy and the environment, analyzing the contribution of water to the production processes of economic activities and to the demand of *Households*, as well as the impact of economic activities on water resources. Thus, the construction of the EEA-W is important for water management, allowing to account for, identify, and monitor the withdrawal, supply, use and return of water by economic agents, as well as serving as an analysis tool for policies regarding the rational use of water resources.

The present informative consists of four sets of information. First, the Asset Accounts show the increases and decreases in the stock of water resources. Second, the Physical Supply and Use Tables (Physical SUTs) describe the withdrawals of water from the environment by the economy, the water flows within the economy and the water flows from the economy back into the environment. Third, the Hybrid Supply and Use Tables (Hybrid SUTs) relate the physical information on water with monetary values of production, consumption and costs associated with the *Water supply and Sewerage* activities. Lastly, the tables provide an analysis of regional results. The breakdown by economic activities of EEA-W was based on the National Classification of Economic Activities (in Portuguese CNAE 2.0) and the recommendations of SEEA-Water 2012.

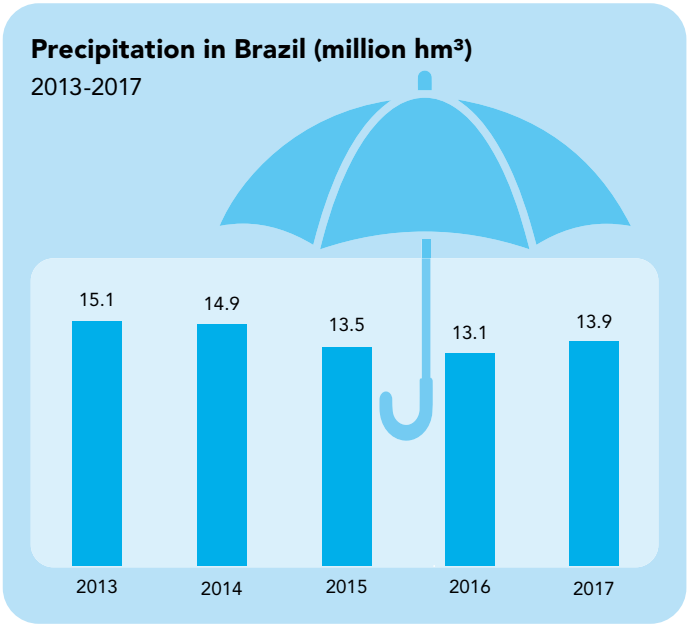
Asset accounts

The EEA-W asset accounts show how increases and decreases of water from the environment affect the existing volumes of surface water, groundwater and soil water between the beginning and the end of a year.

Increases in stocks consist of precipitation (rainfall), inflows of water from rivers outside Brazil and the return of water used by economic activities to the environment. On the other hand, evaporation, the transpiration of plants (evapotranspiration), the withdrawal of water by economic activities, outflows of water from rivers to the sea or to other countries form the decreases in stocks.

In 2017, the total increases to Brazil's water stocks were 27 million hm³. Precipitation was the main driver (51.1%), followed by inflows (36.4%) and returns to the environment by economic activities (12.5%).

In the same year, the total decreases in water stock in Brazil were 33 million hm³. The outflows were the main driver (61.9%), followed by evaporation/evapotranspiration (27.0%) and water withdrawal by economic activities (11.1%). Regarding the behavior of the main driver for the increases in the total water stock in Brazil, it is observed that the volume of precipitation dropped 13% between 2013 and 2016, growing again between 2016 and 2017 (6%). The highest rainfall in the period of study series was in 2013 (15.1 million hm³) and the lowest recorded volume was in 2016 (13.1 million hm³).



Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

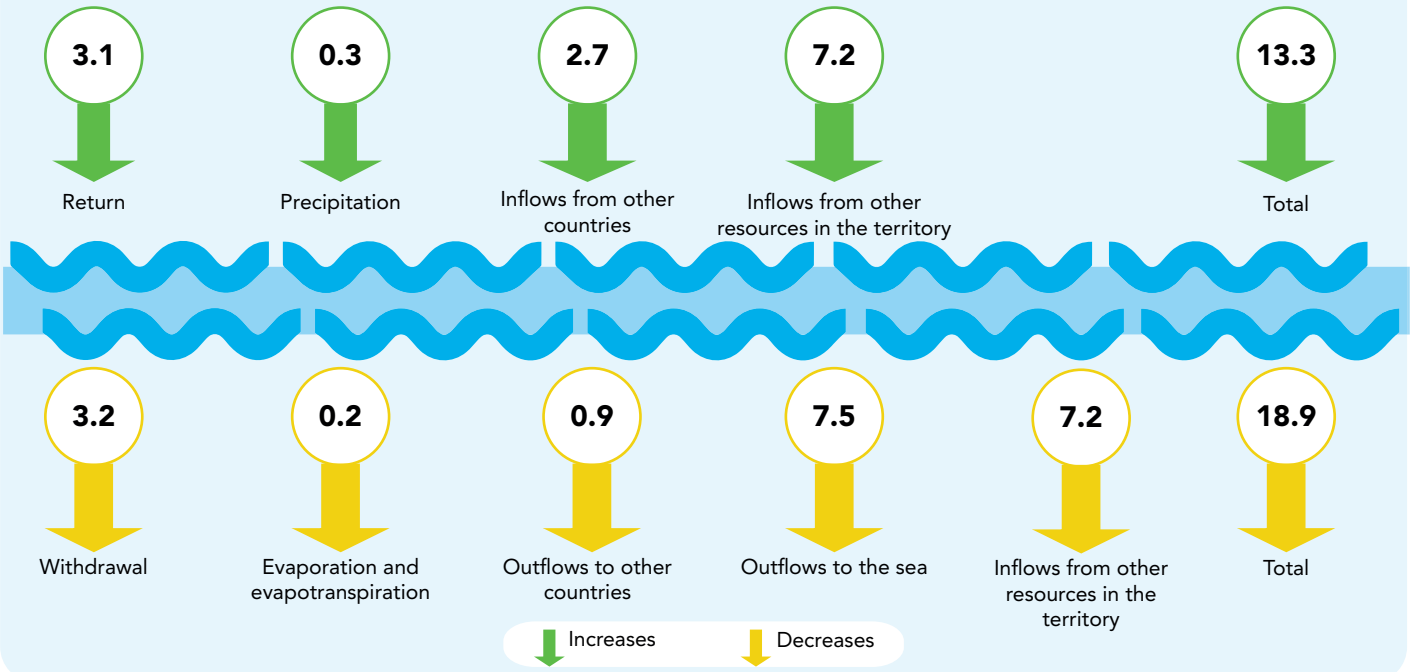
With regard to the total increase in the surface water stock (13.3 million hm³) in the country in 2017, 3.1 million hm³ corresponded to the return to surface water (artificial reservoirs, rivers, streams and lakes) by economic activities, representing approximately 24% of the increase in surface water stocks in the country. The total inflows were 9.9 million hm³, with 2.7 million hm³ coming from other countries upstream.

As for the decreases in surface water stocks in Brazil in 2017 (18.9 million hm³), the withdrawals of surface water for the economy was responsible for 3.2 million hm³. Outflows totaled 15.6 million hm³, with water flowing from rivers and streams into the sea 7.5 million hm³ and to other countries downstream 0.9 million hm³.

Surface water asset - changes in stocks in 2017 (million hm³)

Brazil

2017



Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

Physical supply and use tables

Physical SUTs depict the flows (relationships) of water between the economic system and the environment, which can consist of the following flows: from the environment to the economic system, within the economic system itself, and from the economic system back into the environment. The SUTs measure the volume of water from its withdrawal by the economic system, through supply and consumption, until the return to the environment.

In Brazil, in 2017, there was a total withdrawal of approximately 3.7 million hm³ of water, which comprises both the withdrawal for own-use as well as the withdrawal of water for distribution purposes. Nationally, the economic activity that contributes most to the total withdrawal volume is *Electricity and gas supply*, due to the large amount of water used by hydroelectric dams and the importance of hydropower in Brazilian electricity generation. In 2017, hydropower's share was 83.0% although the volume of water captured by this activity is predominantly used and returned in the same quantity and quality, which is characterized as a non-consumptive use.

In the activity *Sewerage*, the withdrawal of water corresponds to the collection of rainwater that is drained through mains (pipes), recorded with the same volume both in withdrawals and in returns to the environment (in 2017, this volume corresponded to 0.8 % of total water withdrawal).

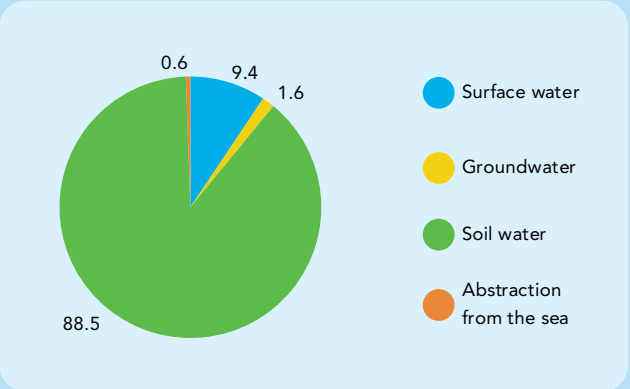
Thus, excluding *Energy and gas supply* and *Sewerage*, the main activities responsible for direct water withdrawals for consumptive use are: *Agriculture, forestry and fishing* (94.5%) and *Water collection, treatment and supply* (3.2%).

We can also analyze the total withdrawal of water by economic activities by type of water resource.

Total withdrawal for consumptive uses by economic activities, according to water resource (%)

Brazil

2017



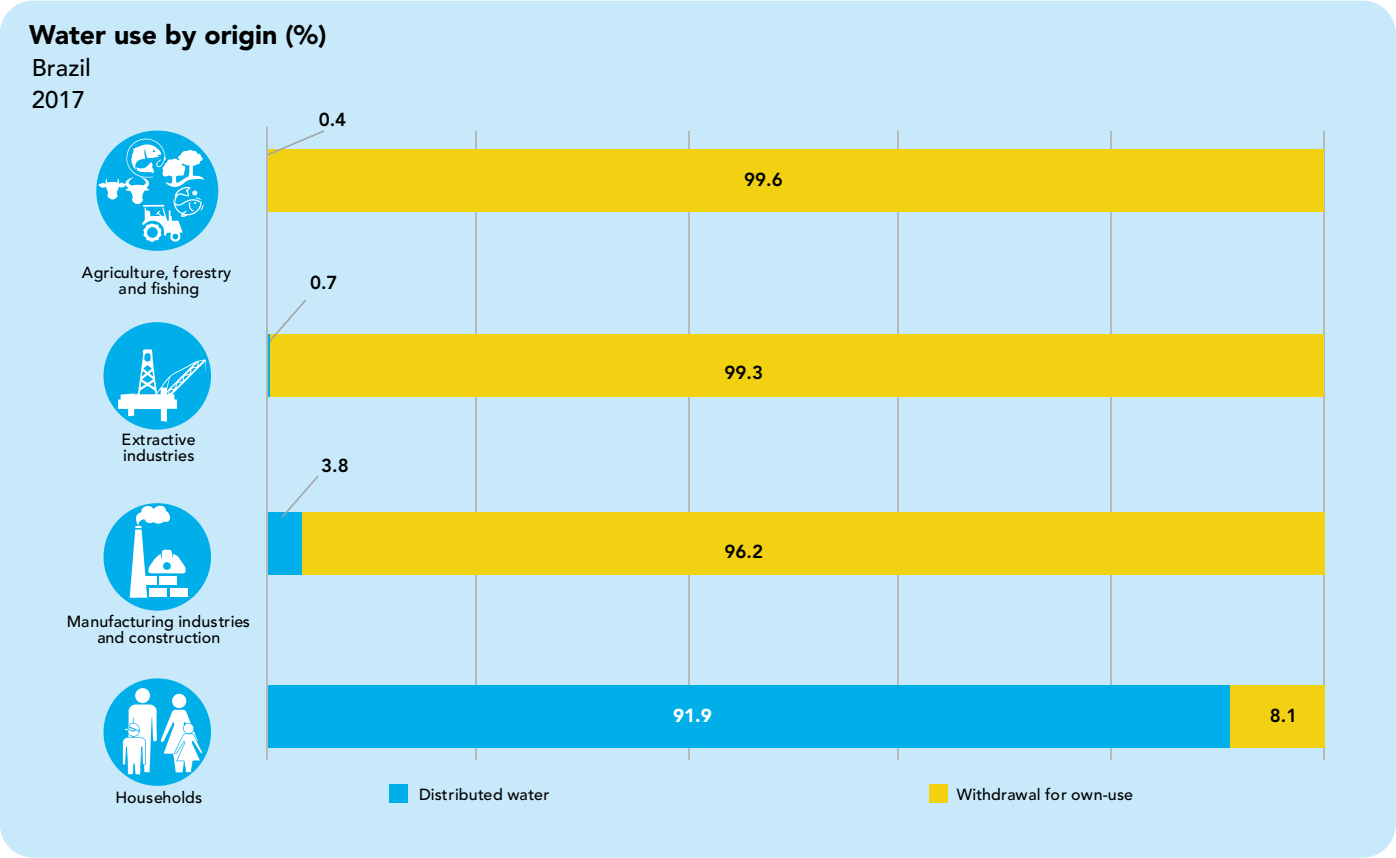
Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

In this context, it is important to identify the types of water used by *Agriculture, forestry and fishing*. In 2017, 93.5% of the volume of water withdrawn came from water stored in the soil (used mainly by rainfed agriculture - not irrigated), and the rest was withdrawn from surface and groundwater bodies.

Considering only the withdrawal of surface water and groundwater by economic activities for consumptive use in 2017, the total amount was 66.0 thousand hm³. *Agriculture, forestry and fishing* were the main responsible (55.9%), followed by the activities of *Water collection, treatment and supply* (29.6%) and *Manufacturing and construction* (9.1%).

The water used by economic activities and *Households* can come from autonomous withdrawal (own-use) or from a *Water collection, treatment and distribution service*, such as the companies that operate the water supply services or provide water for public perimeters of irrigation (PPIs). Considering only the volume of water distributed for economic activities, the PPI contributed 54.6% in 2017. Regarding water use by economic activities, own-use of water dominates compared to water received from *Water collection, treatment and supply*. For *Households*, the opposite is true.

There is no estimate of withdrawals for own-use for the group *Other activities* (commerce, public administration, services, among others). However, these activities have characteristics of water use similar to that of *Households*, using primarily water from the water supply service.



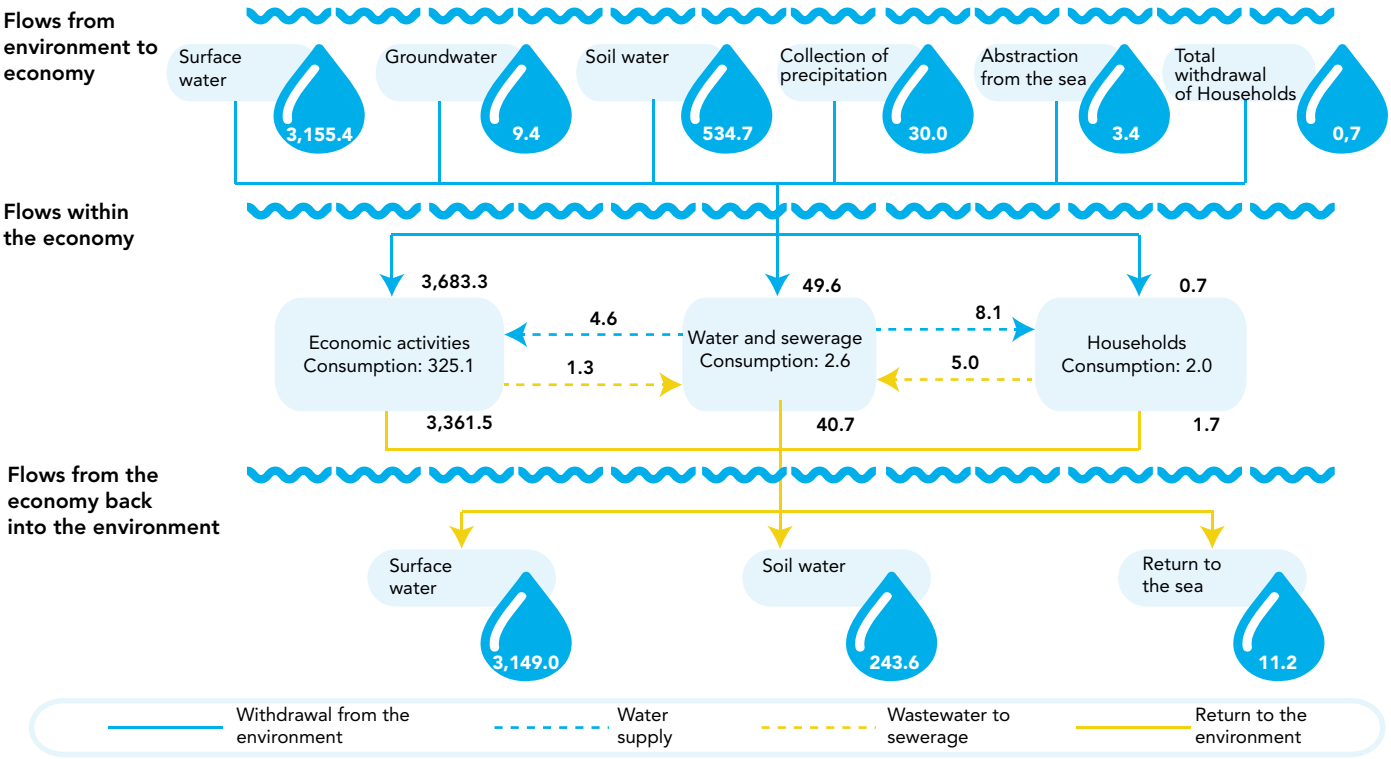
Sources: 1. IBGE. 2. Ministério do Meio Ambiente. 3. Agência Nacional de Águas - ANA.

In 2017, the total water consumption, which corresponds to the water used minus the water returned to the environment, was 329.8 thousand hm³. The largest water consuming sector was *Agriculture, forestry and fishing* (97.4%), with an emphasis on the role of rainfed agriculture. This sector was followed by *Manufacturing and construction* (1.0%) and *Water and sewerage* (0.8%).

The return of water to the environment can occur through the activity *Water and sewerage* or through direct release by economic activities and *Households*. In 2017, the total returns amounted to 3.4 million hm³. Excluding *hydropower*, the rainwater that is collected through mains (pipes) and the *Agriculture, forestry and fishing* activity, which is characterized by not using the sewerage system for return flows, we have a total return of 22.1 thousand hm³. Of this total amount, 28.9% of the return flows occurred through sewerage systems and the remainder was released directly into the environment.

In the case of *Households*, the percentage of return flows that passes through the sewerage sector in relation to water use is 57.2%, that is, 42.8% of the total water that *Households* use is released directly into the environment.

Summary of SUT physics flows (thousand hm³/year)
Brazil
2017



Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

Hybrid supply and use tables

Hybrid SUTs juxtapose the physical information on the withdrawal, supply and use of water within the economy, with monetary information on production, intermediate consumption and final consumption of economic activities and households as described in the monetary supply and use tables of the System of National Accounts (SNA). They also represent the discharge of wastewater to the sewerage network and/or directly into the environment, as described in the Physical SUTs.

In order to align with the SEEA-Water methodology, several adjustments were made to the SUTs published in the SNA from 2013 to 2017, such as a reallocation of the production of water for distribution and of sewerage services that are recorded in the *Public Administration* activity in the SNA to the *Water and sewerage* activity in the EEA-W. Another adjustment made was to increase intermediate consumption expenditures of the *Agriculture, forestry, and fishing* activity with water for distribution and sewerage services, in order to account for the amount of water charged in public irrigation perimeters.

Usually, the Brazilian SNA treats the water supply and sewerage activities together, however, the methodology proposed by SEEA-Water suggests that they be separated. Therefore, in the EEA-W, water and sewerage activities were treated separately in terms of producing water for distribution and sewerage services, respectively.

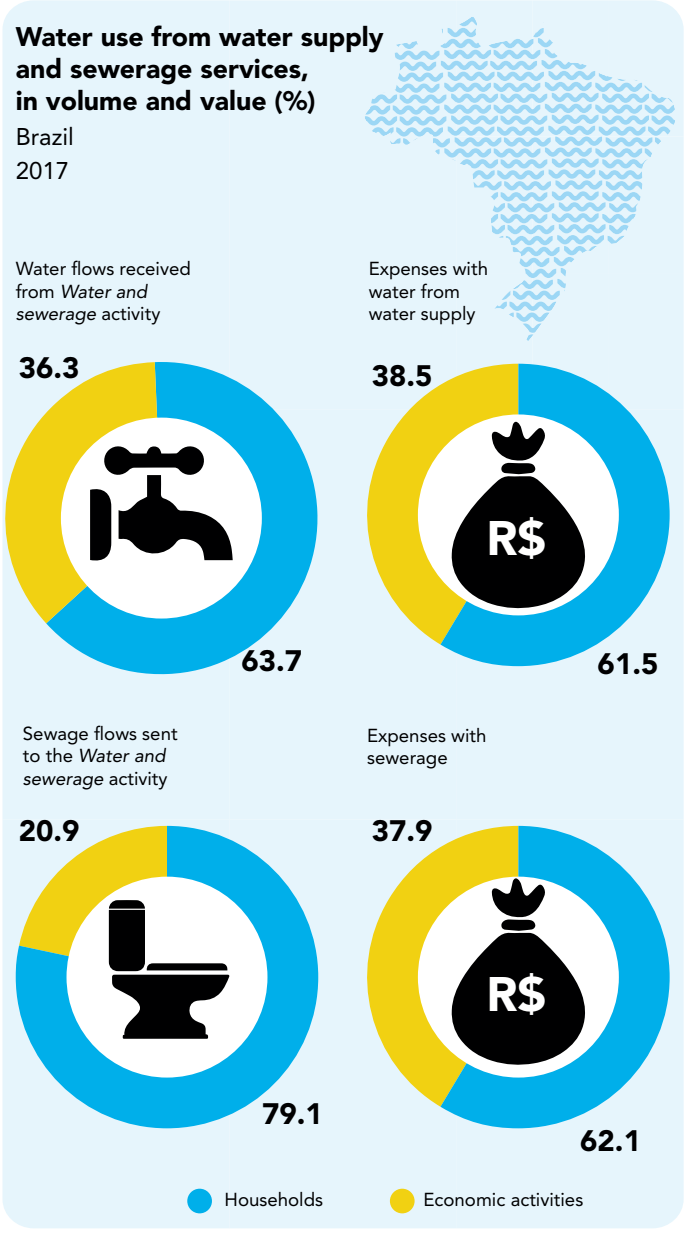
The values of production of water for distribution and sewerage services are recorded in the activity *Water supply and sewerage* (divisions CNAE 36 and 37). They include, in addition to the supply of treated water for domestic and business purposes and sewerage services, the supply of water for irrigation purposes.

The values of intermediate and final consumption of water for distribution refer exclusively to the use of water from the activity *Water supply and sewerage*. The values of intermediate and final consumption of sewerage services refer to sewerage collected via the network of mains (pipes) by the activity *Water supply and sewerage*. These values do not include payment for water abstracted directly from the environment through charging for the use of water resources, which is used as a management tool for the National Water Resources Policy.

In the SNA, these charges are characterized as compensation for the use of a natural resource and, therefore, they are not registered in the SUT, consequently, they are not included in the intermediate consumption expenditures of the hybrid SUT.

EEA-W 2013-2017

Among the results obtained in the Hybrid SUTs, we have that in 2017 the economic activity *Water supply and sewerage* corresponded to 0.6% of the current Gross Value Added (GVA) of the total economy. The value of the production of water for distribution and sewerage services was R$ 56.5 billion in 2017, with water for distribution accounting for 65.9% of this total.



Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

On the demand side, that is, spending, in 2017, *Households* were the main user of water for distribution (61.5%) and sewerage services (62.1%) in monetary units.

The hybrid accounts allow to relate the intermediate consumption expenditures on distributed water with the physical water flows received from the activity *Water supply and sewerage* to obtain an average cost per volume of water used. The results for 2017 show that this average cost for *Agriculture, forestry and fishing* was R$ 0.06/m³, where the volume of water used by this sector was predominantly from the PPI. For the total of economic activities, excluding *Water supply and sewerage*, the average cost of water used was R$ 3.12/m³. Similarly, the average cost of final consumption, amounted to R$ 2.96/m³ for *Households*.

Analyzing the activity *Water collection, treatment and supply* from a temporal perspective, there is a cumulative drop in the volume of water withdrawn for distribution (2.7%) between 2013 and 2015, followed by accumulated growth between 2015 and 2017 (3.3%). From 2013 to 2017 the average growth was 0.1%. The downward movement, followed by recovery, was influenced by the water crisis that occurred in the years 2014 and 2015. The biggest users, that is, *Households*, *Agriculture, forestry and fishing* and *Other activities*, were responsible for 63.7%, 19.8% and 14.5% of the use of water in the economy in 2017, respectively. Between 2013 and 2017, *Households* and *Other activities* had, on average, a slight drop in the total water use per year (0.1% and 2.2% respectively). On the other hand, the *Agriculture, forestry and fishing* activity showed an average growth of 2.0% in the same period. With regard to spending in the 2013 and 2017 time series, it was found that expenditure on water supply for *Households* and *Other activities* increased in the period (respectively 10.6% and 6.8% on average).

The water intensity indicator measures the amount of water consumed (in liters) for each real unit of GVA generated by economic activities. In 2017, the result of this indicator for the *Agriculture, forestry and fishing* activity was 1,061 liters/R$. In general, the agricultural sector is responsible for the largest flows consumed in the country, due to its inherent characteristics. Over the 2013-2017 period the intensity of water consumption fell 19.9%. If we exclude the volume of soil water used by agriculture, the indicator is 96 liters/R$ in 2017.

It should be noted that the intensity indicator could have been calculated based on total water use, rather than based on water consumption. In that case, it would show a greater intensity of water use by hydropower plants in the *Electricity and gas supply* activity.

Intensity of water consumption (liters/R$)

Brazil

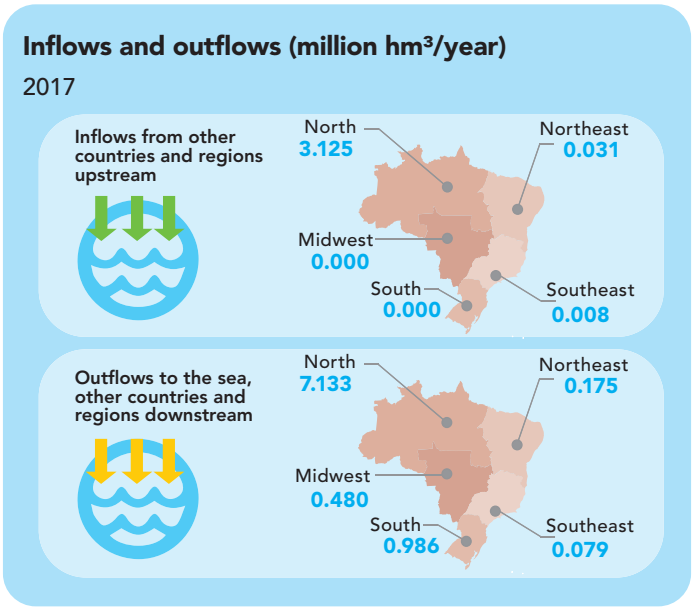
Economic activities	2013	2014	2015	2016	2017
Agriculture, forestry, and fishing	1,324.9	1,265.0	1,290.2	1,053.8	1,060.5
Agriculture, forestry, and fishing (1)	104.9	108.9	109.5	95.5	95.5
Extractive industries	1.4	1.5	2.5	5.2	3.4
Manufacturing industries and construction	4.4	3.9	3.6	3.4	3.4
Electricity and gas	1.5	1.8	1.2	0.8	0.7
Other activities	0.2	0.1	0.1	0.1	0.1

Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.
(1) Without soil water.

Regional results

The Asset account for 2017 shows that the region that contributed most to the inflows of water into the country's stock was the North, corresponding to 98.8%, which is explained by the large inflows of water from countries upstream of the Amazon basin. The main region responsible for the largest outflow of water from the country's stock of water was also the North (80.6%), followed by the South (11.1%) and the Midwest (5.4%).

Inflows and outflows (million hm³/year)
2017



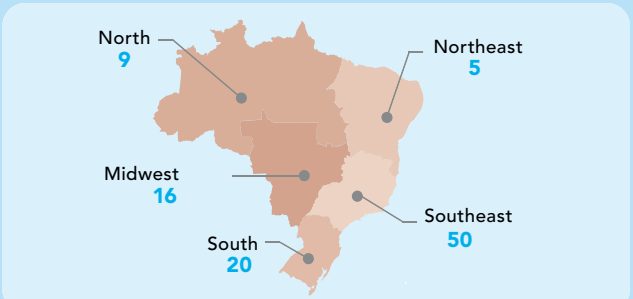
Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

Regarding total water withdrawals, the economic activity responsible for the highest volumes, in all major regions was *Electricity and Gas supply*. The Southeast is the region with the largest share in total water withdrawal in Brazil in all years of the 2013-2017 series.

If only the consumptive uses of water are considered, then the largest volume of total water withdrawal takes place in the Midwest (30%), followed by the Southeast (26%), South (25%), Northeast (12%) and North (7%). In this case, the Midwest, as the main grain producer in Brazil, becomes the region with the largest share of water withdrawals, mainly because of rainfed agriculture, characterized by the use of soil water, resulting from precipitation.

When analyzing only surface and groundwater for consumptive use, we arrive at the following distribution of water withdrawal in 2017: Southeast (35%), South (26%), Northeast (23%), Midwest (10%) and North (6%). The most important economic activity involved in these types of water withdrawals was, in all major regions, *Agriculture, forestry and fishing*. However, it is important to highlight that the share of this activity in the total abstraction of surface and groundwater differs across regions, with predominance in those regions where irrigated agriculture has greater importance.

Regional share in total water withdrawal (%)
2017

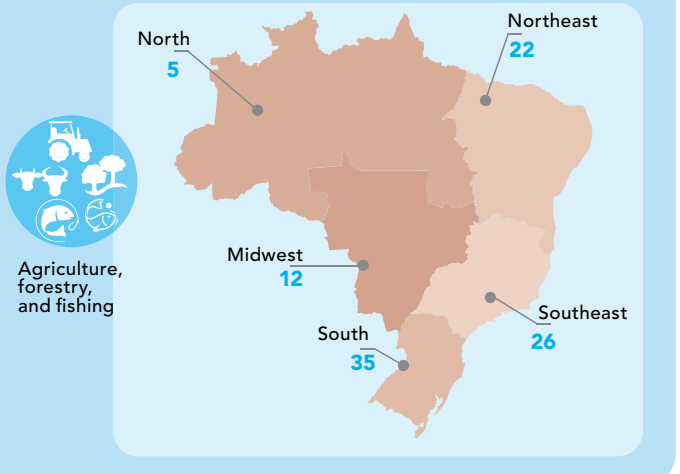


Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

The results show that in all the main regions, in the economic activities, the withdrawal of water for own-use predominates in relation to the water coming from the sector of *Water collection, treatment and water supply*. Similar to what occurs at the national level, also in all regions, the *Water collection, treatment and supply* activity is the main supplier of water used by *Households*.

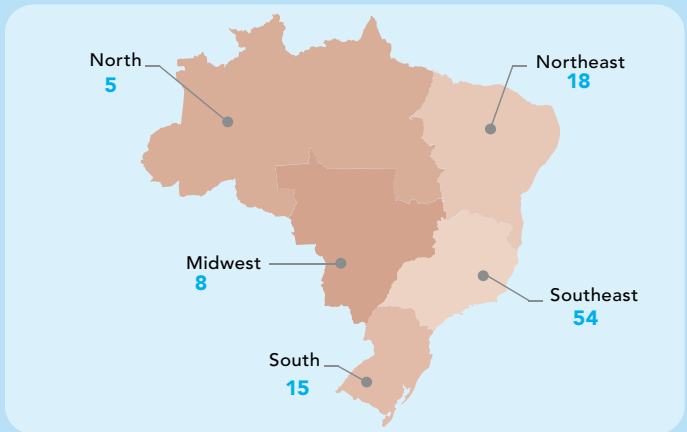
Regarding the use of water for distribution, the region with the largest share, in 2017, was the Southeast (45%), followed by the Northeast (29%), the South (14%), the Midwest (6%) and North (6%). This result is partly explained by the fact that 75% of the water flow from the PPI is concentrated in the Northeast region. If only the distribution of treated water from the supply companies is considered, the Southeast would be responsible for more than half of the total distributed water used in the country.

Total withdrawal of surface and groundwater by Agriculture, forestry, and fishing (%)
2017



Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

Use of distributed water, by region (%)
2017



Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.
Note: Except PPI.

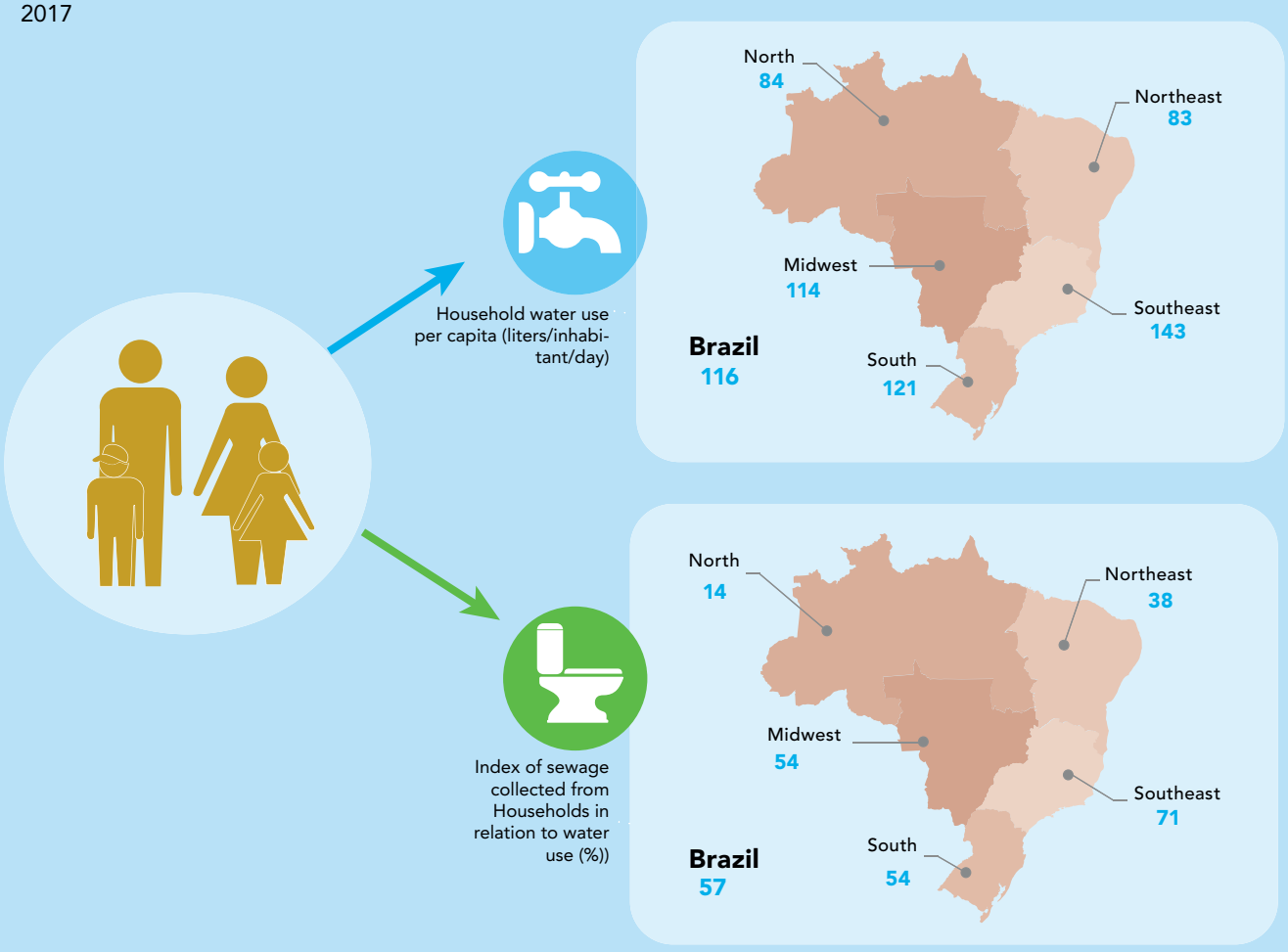
In 2017, in Brazil, water use per capita by *Households* amounts to 116 liters daily (liters/inhabitant/day). The Southeast region has the highest use per capita, with 143 liters, while the lowest use is registered in the Northeast, with 83 liters per inhabitant/day.

For *Households*, regarding the share of the sewage volume collected by the sewerage network in relation to the volume of water used, we can see that the region that has the highest percentage in 2017 is the Southeast with 71%. In the Northern region, only 14% of the water used by *Households* is returned to the environment through the collection network.

Regarding the data of the Hybrid SUT, the regional results are presented for the year 2017.

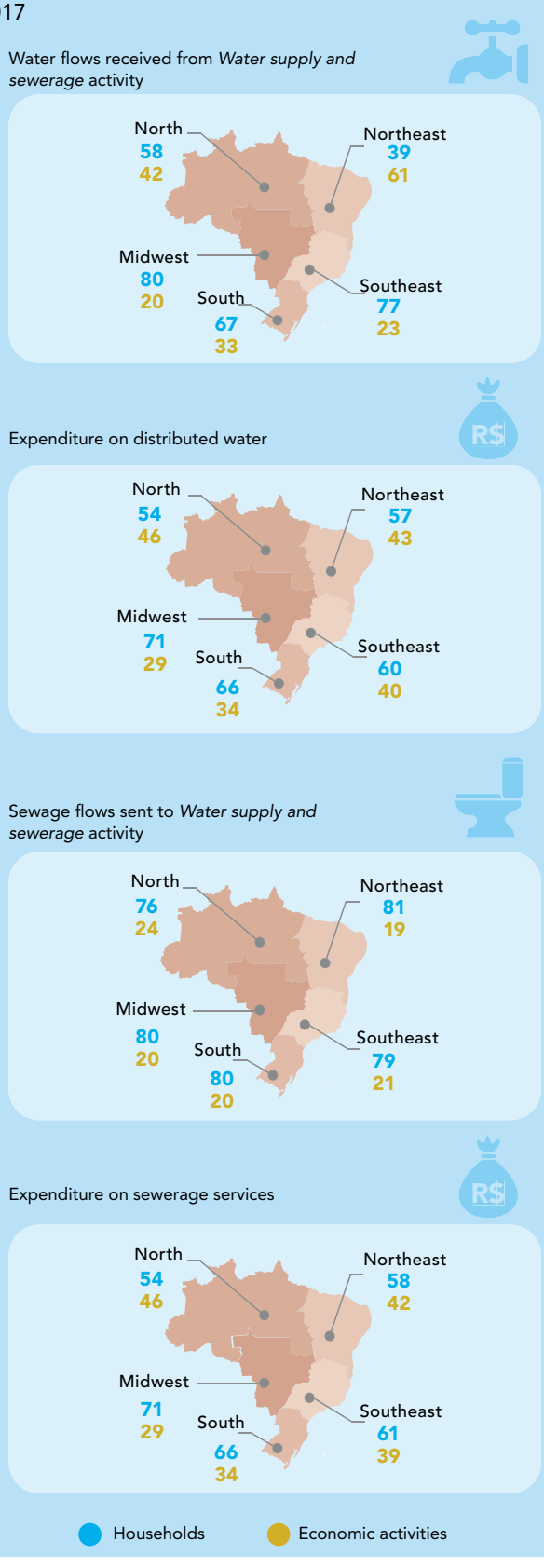
In the regions South, Midwest and Northeast, the *Water supply and sewerage* activity corresponded to about 0.6% of current GVA. In the North and Southeast this percentage was 0.3% and 0.7%, respectively.

Households
Major Regions
2017



Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

Share in the use of distributed water and sewerage services in volume and value (%)
2017



Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

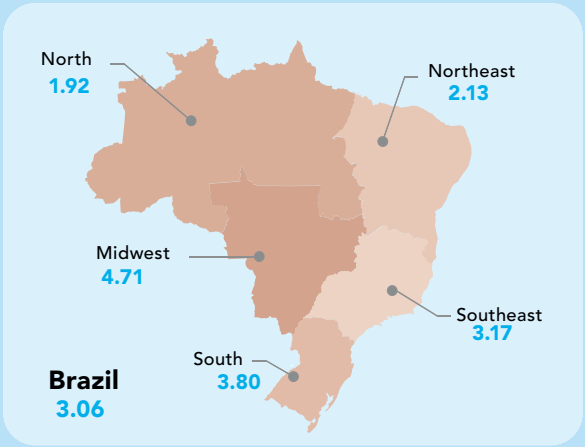
Concerning the volume of water supplied by the *Water supply and sewerage* activity, *Households* were the main consumers in all major regions as compared with economic activities, with the exception of the Northeast region. There, the water demand for irrigation purposes, supplied by the *Water supply and sewerage* activity exceeded the demand for water by *Households* by 30% in 2017. This was mainly due to the large volume of water originated from the PPI, demanded by the activity *Agriculture, forestry and fishing*.

With regard to water expenditure, *Households* had a larger share than economic activities, including in the Northeast.

Regarding the volume of expenditures on sewerage services, the share of *Households* was higher in all major regions than the share of economic activities.

As for the cost of water distribution and sewerage services, the Midwest had the highest values in 2017, with R$ 4.71 for each 1,000 liters. The regions with the lowest values were the North and the Northeast.

Cost of distributed water and sewerage services for the total economy (R$/m³)
2017



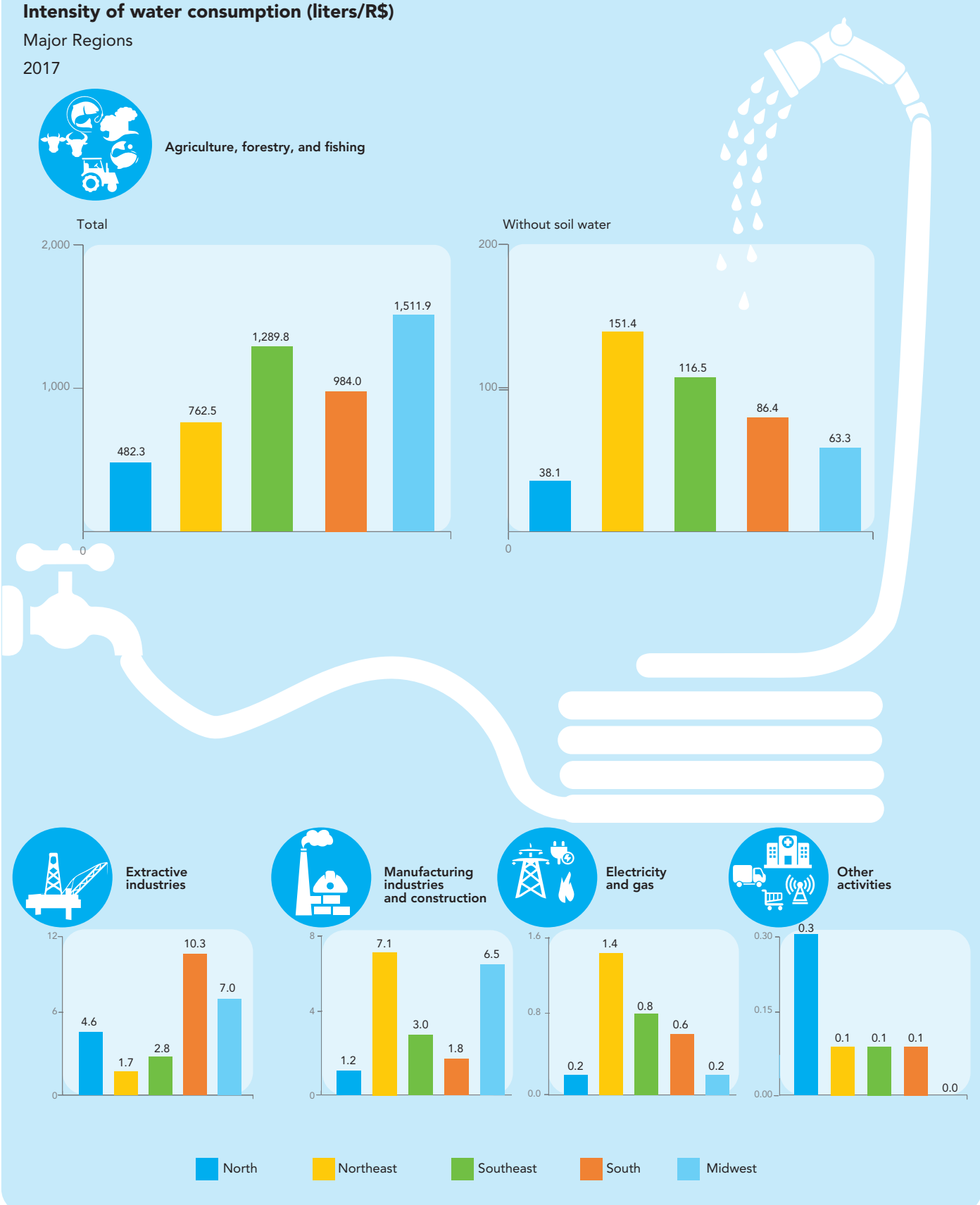
Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

Regarding the intensity of water consumption, *Agriculture, forestry and fishing* was the most intensive activity in all major regions. This is mainly due to the water demand inherent in agricultural crops. In 2017, the region with the highest water consumption intensity was the Midwest, with 1,511.9 liters for each R$ 1 value added generated in the region. This can be explained, among other factors, by the large concentration of rainfed agricultural activities. If we calculate the intensity of water consumption – excluding the use of soil water –, the Northeast region has the highest intensity, with 151.4 liters for each R$ 1 that the activity generates, mainly due to its semi-arid climatic characteristics as well as the physiological characteristics of the main crops grown in the region.

Intensity of water consumption (liters/R$)

Major Regions

2017



Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

Synthetic overview on the Environmental-Economic Accounting for Water (EEA-W), according to the main indicators - Major Regions

2017

Main indicators	Unit	North	Northest	Southeast	South	Midwest
ASSET INDICATORS						
Total Renewable Water Resources (TRWR)	hm³/year	6,554,811	-58,667	227,892	487,891	830,082
Total Renewable Water Resources per capita	m³/inhabitant/year	365,451	-1,025	2,621	16,458	52,286
Withdrawal as a proportion of the TRWR - Withdrawal Index	%	0.6	-127.4	66.7	31.0	21.8
PHYSICAL INDICATORS						
Economic activities						
Total water withdrawal	hm³/year	335,794	196,122	1,874,777	740,245	585,959
Water use from other economic activities	hm³/year	417	3,047	5,437	1,491	591
Total water supply for other economic activities	hm³/year	763	3,841	6,581	1,993	852
Total return	hm³/year	318,355	151,527	1,776,835	657,968	497,425
Total consumption	hm³/year	17,093	43,801	96,798	81,776	88,273
Total water use - total economic activities	hm³/year	336,211	199,169	1,880,214	741,736	586,550
Agriculture, forestry, and fishing	hm³/year	40,322	69,408	138,775	147,022	178,605
Extractive industries	hm³/year	335	20	587	69	34
Manufacturing industries and construction	hm³/year	172	1,351	2,927	1,124	679
Electricity and gas	hm³/year	290,373	116,406	1,712,246	583,560	402,074
Water and sewerage	hm³/year	4,898	11,677	24,654	9,697	5,025
Other activities	hm³/year	111	308	1,024	265	134
Households						
Household water use per capita per day	liters/inhabitant/day	84	83	143	121	114
Index of sewerage collected from households in relation to water use	%	14.3	38.1	71.1	54.4	53.8
HYBRID INDICATORS						
Water consumption efficiency (includes soil water)	R$/m³	19.23	19.18	30.47	11.82	6.63
Agriculture, forestry, and fishing	R$/m³	2.07	1.31	0.78	1.02	0.66
Extractive industries	R$/m³	215.31	576.36	362.82	96.96	141.90
Manufacturing industries and construction	R$/m³	866.60	140.62	330.13	554.08	154.24
Electricity and gas	R$/m³	4,122.21	739.30	1,277.05	1,717.61	4,771.30
Water and sewerage	R$/m³	4.91	7.38	16.71	17.79	21.45
Other activities	R$/m³	3,675.16	16,136.06	13,165.10	10,401.10	35,326.50
Cost of distributed water and sewerage						
Total of economy	R$/m³	1.92	2.13	3.17	3.80	4.71

Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

EEA-W 2013-2017

Synthetic overview on the Environmental-Economic Accounting for Water, according to the main indicators - Brazil

2013-2017

Main indicators	Unit	2013	2014	2015	2016	2017
ASSET INDICATORS						
Total Renewable Water Resources (TRWR)	hm³/year	8,497,599	8,629,076	7,482,731	6,690,048	7,593,325
Total Renewable Water Resources per capita	m³/inhabitant/ year	42,270	42,556	36,599	32,463	36,566
Withdrawal as a proportion of the TRWR - Withdrawal Index	%	7.3	7.0	8.2	8.9	7.9
PHYSICAL INDICATORS						
Economic activities						
Total water withdrawal	hm³/year	3,429,672	3,442,125	3,623,494	3,656,401	3,732,897
Water use from other economic activities	hm³/year	10,453	10,609	10,562	10,875	10,983
Total water supply for other economic activities	hm³/year	14,036	14,050	13,845	14,003	14,030
Total return	hm³/year	3,100,722	3,115,675	3,279,623	3,323,702	3,402,110
Total consumption	hm³/year	325,367	323,009	340,588	329,571	327,740
Total water use - total economic activities	hm³/year	3,440,125	3,452,734	3,634,056	3,667,276	3,743,880
Agriculture forestry and fishing	hm³/year	590,514	573,531	588,872	569,916	574,131
Extractive industries	hm³/year	957	1,001	944	994	1,044
Manufacturing industrries and construction	hm³/year	6,853	6,724	6,371	6,182	6,252
Electricity and gas	hm³/year	2,783,624	2,813,381	2,981,240	3,033,381	3,104,660
Water and sewerage	hm³/year	56,166	56,095	54,702	55,000	55,950
Other activities	hm³/year	2,011	2,002	1,927	1,805	1,842
Households						
Household water use per capita per day	liters/inhabitant/ day	121	119	114	116	116
Index of sewerage collected from households in relation to water use	%	51.0	52.5	53.0	56.1	57.2
HYBRID INDICATORS						
Water consumption efficiency (includes soil water)	R$/m³	14.00	15.40	15.14	16.45	17.30
Agriculture forestry and fishing	R$/m³	0.75	0.79	0.78	0.95	0.94
Extractive industries	R$/m³	736.99	687.48	401.26	191.50	297.22
Manufacturing industries and construction	R$/m³	227.61	253.25	274.18	291.37	291.16
Electricity and gas	R$/m³	673.04	565.46	836.65	1,300.81	1,401.06
Water and sewerage	R$/m³	10.30	11.10	10.89	12.69	13.94
Other activities	R$/m³	6,298.76	7,286.40	8,168.64	11,048.37	12,244.61
Cost of distributed water and sewerage						
Total of economy	R$/m³	2.18	2.29	2.40	2.76	3.06

Sources: 1. IBGE. 2. Agência Nacional de Águas - ANA.

Credits

Drafting text
Department of Surveys, Sector of National Accounts

Text standardization
Center for Documentation and Dissemination of Information, Documentation Department

Graphics
Center for Documentation and Dissemination of Information, Editorial Department

Photographs
Pixabay

Printing
Center for Documentation and Dissemination of Information, Digital Graphics

Links

Tables of results, technical notes and other information on the study

https://www.ibge.gov.br/estatisticas/economicas/contas-nacionais/20207-contas-economicas-ambientais-da-agua-brasil.html?=&t=o-que-e>.