

Amazon

Tocantins-Araguaia

Paraguay

Paraná

Parnaíba

São Francisco

Uruguay

Southeast Atlantic

South Atlantic

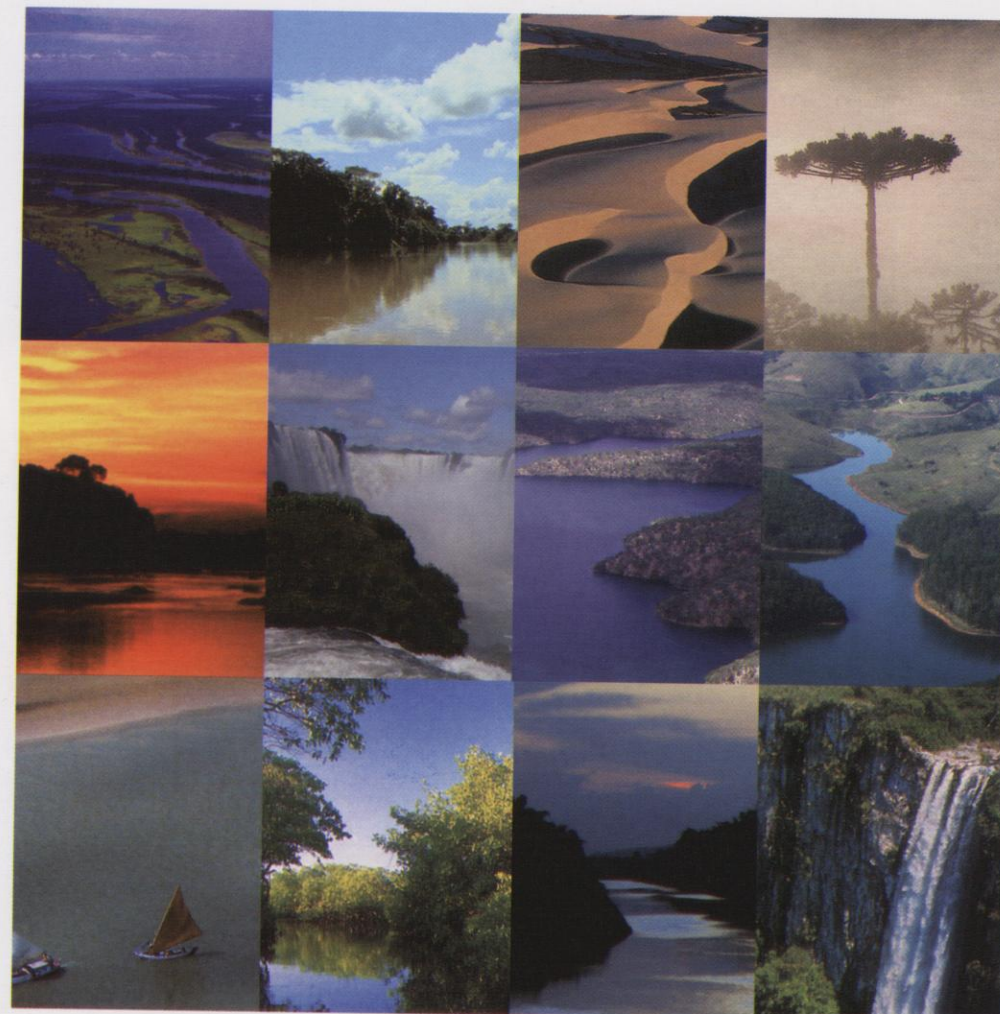
Occidental Northeast Atlantic

Oriental Northeast Atlantic

East Atlantic

# Hydrographic Regions in Brazil

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## ANA and water management in Brazil

Brazil's **National Water Agency (ANA)** was founded in 2000, with the mission of implementing and coordinating shared and integrated management of water resources, regulating access to water, promoting sustainable use for the benefit of current and future generations, and meeting the challenge of implementing the National Water Resources Policy, instituted by Law 9.433/97, also known as the Water Law.

Like Brazil itself, this challenge is vast, reflecting the huge expanses of territory and immense volumes of fresh water reserves involved. Just to exemplify, average annual discharges of Brazil's rivers amount to 180,000 cubic meters (the equivalent of 72 Olympic swimming pools)

per second. This amounts to roughly 12% of the world's available surface fresh water.

ANA's task must take into account Brazil's political structure as a federated state, where rivers may be under either federal or state-level jurisdiction. The National Water Resources Management System (SISNAREH) was designed to reflect the interests of a broad array of stakeholders; representatives of federal government bodies, of Brazil's 26 states and Federal District, and of organized civil society, including basin committees and water-user sectors. The principles of democracy and decentralization are the key to Brazil's efforts to institute and strengthen water-resources management.

### Basin Committees

Establishment of Basin Committees is an example of Brazil's democratic and innovative approach to water-resources management. The river basin is the basic planning unit for water-resources management in Brazil, even though this implies that governance responsibilities may extrapolate borders of states and municipalities.

Basin committees serve as veritable "water parliaments", where representatives of federal government bodies, of the states, and of the municipalities hold 40% of the seats; water users, such as industries, sanitation companies, irrigated farms, mining companies, and the hydroelectric-power sector also hold 40% of the seats; whereas members of bodies representing civil society hold the remaining 20%. Basin committees are collectively responsible for preparing policies and setting standards for water use at the regional level.

### Public access to hydrological data

Information collected by the Hydro-meteorological Network is publicly available on the internet via the National Water Resources Information System (SNIRH). The aim of this System is to gather, provide consistency to, and disclose data on water quality and available supplies in Brazil, and to serve as inputs for planning for such sectors as hydroelectric-power generation and irrigation. ANA is responsible for the organization, deployment and management of this System.

Full information on hydro-meteorological stations in a given area, including maps and/or high-resolution satellite images is available at the website [www.ana.gov.br/portalsnirh](http://www.ana.gov.br/portalsnirh). By clicking on the symbols corresponding to the stations of interest, information can be accessed in various formats including, for example, historical series.

### Multiple use and licensing

Though all water-resources user segments (industry, irrigation, navigation, hydroelectric-power generation, etc.) have rights of access to water, in situations of scarcity, priority is awarded to human water supply and watering of livestock.

When water users of different sectors compete for limited supplies, conflicts may result. To ensure orderly allocation of water from rivers under federal jurisdiction, ANA has sought to regularize the status of water users through the issuing of licenses. Registration and licensing aim to ensure that users' rights of access to water are respected, while at the same time, enabling the Agency to maintain effective control of the availability of supplies and water quality.

### Monitoring of Brazil's rivers

The National Hydro-meteorological Network, coordinated by ANA in conjunction with other public and private bodies, is responsible for securing the quantitative and qualitative data necessary for management of Brazil's water resources.

Throughout Brazil, 16,658 hydro-meteorological stations gather information on river depths, flow levels and sediments, rainfall, temperature and evaporation, and monitor water quality in Brazil's river basins.

### Capacity building and rational water use

ANA carries out a number of activities targeted at enhancing capacities of water managers and raising awareness of Brazilian society with respect to water resources issues. This entails focusing on various segments of the public, ranging from staff of water-resources management bodies and members of basin committees, to water users, opinion makers, youths and children.

The Agency also has a number of initiatives targeted at spreading best practices for water use. The aim of such activities is to curtail losses and waste, combat discharges of toxic effluents, and reduce environmental pollution. With a view to promoting rational use of water resources, ANA invests in the production of manuals, provides training for water users, and deploys pilot projects.

Another focus of ANA's integrated management activities is revitalization of river basins. To this end, the **Water Producer's Program** was launched, with the aim of stimulating the adoption of best practices for water and soil conservation, environmental services for which farmers receive compensation.

### Inspection and register of water users

The National Register of Water Resources Users (CNAUH), developed by ANA in partnership with state-level water resources management bodies, was established for the purpose of providing information on water resources users, encouraging regularization of their status, and ensuring availability of supplies of water for multiple use.

Alongside efforts to register all major water users, ANA is also responsible for inspecting abstractions of water from rivers under federal jurisdiction. The aim of such inspection activities is to ensure that water users comply with the law, to prevent abuses, and to inform unregistered users of measures necessary to regularize their status. Regularization entails the filling out of a declaration of quantities abstracted and a description of the type of water use, with a view to obtaining a license.

### Critical events

ANA maintains a Situation Room, from which it monitors hydrological trends throughout Brazil and carries out simulations, with a view to providing early flood warnings, drawing up emergency plans, and mitigating the most serious impacts of flooding. In areas afflicted by drought, ANA carries out systematic monitoring of the situation at the municipal level, and assists with the planning of relief strategies for local populations.

With a view to mitigating the worst effects of drought, up until 2006, ANA coordinated the Subprogram for Sustainable Development of Water Resources in Brazil's Semi-arid Areas (*Proadua Semi-árida*). Over 2,500 kilometers of water mains were installed, bringing benefit to a population of 4.7 million in the semi-arid region. With funding from the Brazilian government and the World Bank, the Program has since been extended to other areas of Brazil, with a view to fostering investments in both physical infrastructure and water-resources management.

### Water resources plans

Water resources plans are designed to provide long-term guidance for water resources managers. Since its founding, ANA has provided support for planning activities at the river-basin level, relying on the same participatory approaches adopted during drafting of the National Water Resources Plan.

### Water-use charges

Water use charges represent a public price, set by means of a pact between water users and basin committees and should not be regarded as a tax. Since 2001, through joint actions with state-level water managers and basin committees, ANA has been preparing the groundwork for deployment of water-use charges.

The purpose of water-use charges is threefold: stimulating rational water use; making it clear to users that water is not a free good and has a price; and obtaining financial resources for the funding of initiatives for improving environmental conditions in river basins. Another positive aspect of water-use charges is that they discourage pollution, by reinforcing the principle that the polluter pays.

### ANA special projects

#### Prodes

Lowering pollution loads in rivers by fostering installation of sewage-treatment plants is the aim of the Program for Depollution of River Basins (PRODES). Rather than providing funding directly for engineering works or equipment, disbursements under the Program are only effected after the treatment plant is in full operation and in accordance with pre-established pollution-control targets.

#### Atlas Nordeste

With a view to contributing toward planning, and improving living standards of the 34 million Brazilians that live in semi-arid areas, ANA prepared the Northeast Atlas of Urban Water Supply. This publication suggests alternatives for attending to demand for water in 1,300 towns in the nine states of Brazil's Northeast region and the north of the State of Minas Gerais. Studies of this type will shortly be extended to encompass all regions of Brazil.

For further information on activities of Brazil's National Water Agency (ANA) visit our website: [www.ana.gov.br](http://www.ana.gov.br).



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