

Paraguay

Capital city: Asunción

Inhabitants: 7 Million



INSTITUTIONAL SETTING AND PURPOSE

The Ministry of the Environment and Sustainable Development (MADES), former Secretary of the Environment (SEAM) is a government agency responsible for policymaking, coordination, supervision and implementation of environmental actions, programs and projects concerning preservation and management of natural resources. In water management, MADES collaborates with the National Environmental Sanitation Service (SEN-ASA), a government entity under the Ministry of Public Health

and Social Welfare.

The General Directorate of Protection and Conservation of Water Resources (DGPCRH) of the MADES is in charge of monitoring the Patiño Aquifer, in conjunction with SENASA. Groundwater levels are monitored to understand impacts of growing aquifer exploitation from industry, households and agriculture.

CHARACTERISTICS OF THE NETWORK

Thanks to international cooperation (Inter-American Development Bank), there is a groundwater monitoring plan for the Patiño Aquifer since 2018. This plan includes a network of 47 wells for piezometric observation, where seven of them are equipped with data loggers for automatic recording of water levels and physical parameters. From these seven wells, four have data available on the website of the Directorate of Meteorology and Hydrology (DMH). The remaining 3 wells are in an adaptation stage in order to be available on the platform as well. Monitoring of the Patiño aquifer has been carried out since 2006, with an irregular frequency of data collection both regarding groundwater quantity and quality. However, in 2014 there were improvements in the data collection. In total, 30 of the 47 wells are fully operational, while the rest are being recovered. The piezometers were distributed covering the upper, middle and lower basins of the Patiño aquifer area.

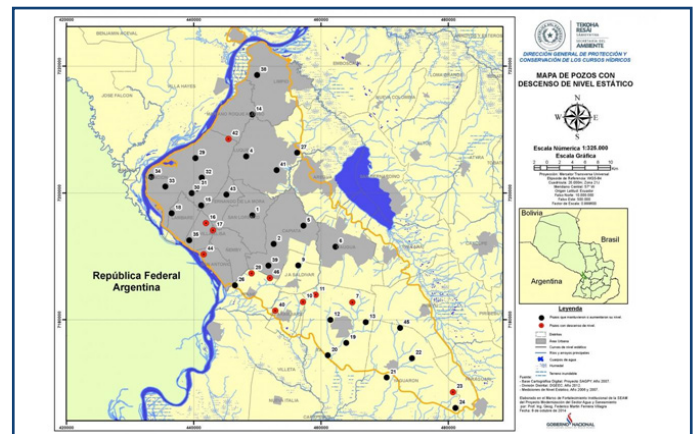


Figure 1 – Location of monitoring wells in the Patiño aquifer. Black boreholes represent stable water level and red boreholes show decreasing water levels. Source: SEAM

PROCESSING AND DISSEMINATION

There are 2 hydrogeological databases of 550 and 665 wells respectively available in Excel and PWIS (Paraguay Well Information System) formats. Each well has a unique identifying number, with a corresponding name.

PWIS contains information on water level, discharge and water quality, but also information on lithology and well characteristics. Information on this is available at the DGPCRH.

Sources

- **Directorate of Meteorology and Hydrology (DMH), Groundwater Levels** - <https://www.meteorologia.gov.py/nivel-pozo/>;
- **Feedback from the General Directorate of Protection and Conservation of Water Resources (DGPCRH), MADES** - received on 06-10-2020;
- **GGMN Workshop Montevideo (2013)** - <https://www.un-igrac.org/news/regional-ggmn-workshop-latin-america-held-montevideo/>;
- **Inter-American Development Bank. Study of Water Resources and Climate Vulnerability of the Patiño Aquifer (in Spanish), information provided by CeReGAS** - https://publications.iadb.org/publications/spanish/document/Estudio_de_recursos_h%C3%ADricos_y_vulnerabilidad_clim%C3%A1tica_del_acu%C3%ADfero_Pati%C3%B1o_es.pdf; and
- **SEAM 2016** - Modernization of the Potable Water and Sanitation Sector Project (PMSAS 7710-PY).