



## INSTITUTIONAL SETTING AND PURPOSE

The Department of Groundwater Resources (DGR) is responsible for the quantity and quality assessment of groundwater, as well as for the development of protection requirements to support groundwater management. Some of the specific tasks of the DGR are the selection of sampling sites, the analysis and transfer of data.

The objective of the national monitoring programme of Thailand is to identify spatial and temporal trends and to understand the causes of change of the groundwater status.

## CHARACTERISTICS OF THE NETWORK

The groundwater monitoring network of Thailand started its operation in 1977. Nowadays it has a total of 1,312 stations encompassing about 2,535 wells. One station included approximately 2 to 8 wells.

Groundwater levels are recorded both manually and automatically. Groundwater quality sampling is performed twice a year. Recently, DGR developed a mobile phone application to assist data collection.

Collected metadata are name and location of the well, ground surface elevation, date of measurement, depth to groundwater, elevation of groundwater surface, note of well status (pumping or not pumping) and any surrounding conditions that might affect groundwater levels. Moreover, a reference point is checked to assure consistency in the measure of groundwater depth.



Figure 1 – Protection of the observation well (left) and the process of reading the measurements (right)

# PROCESSING AND DISSEMINATION

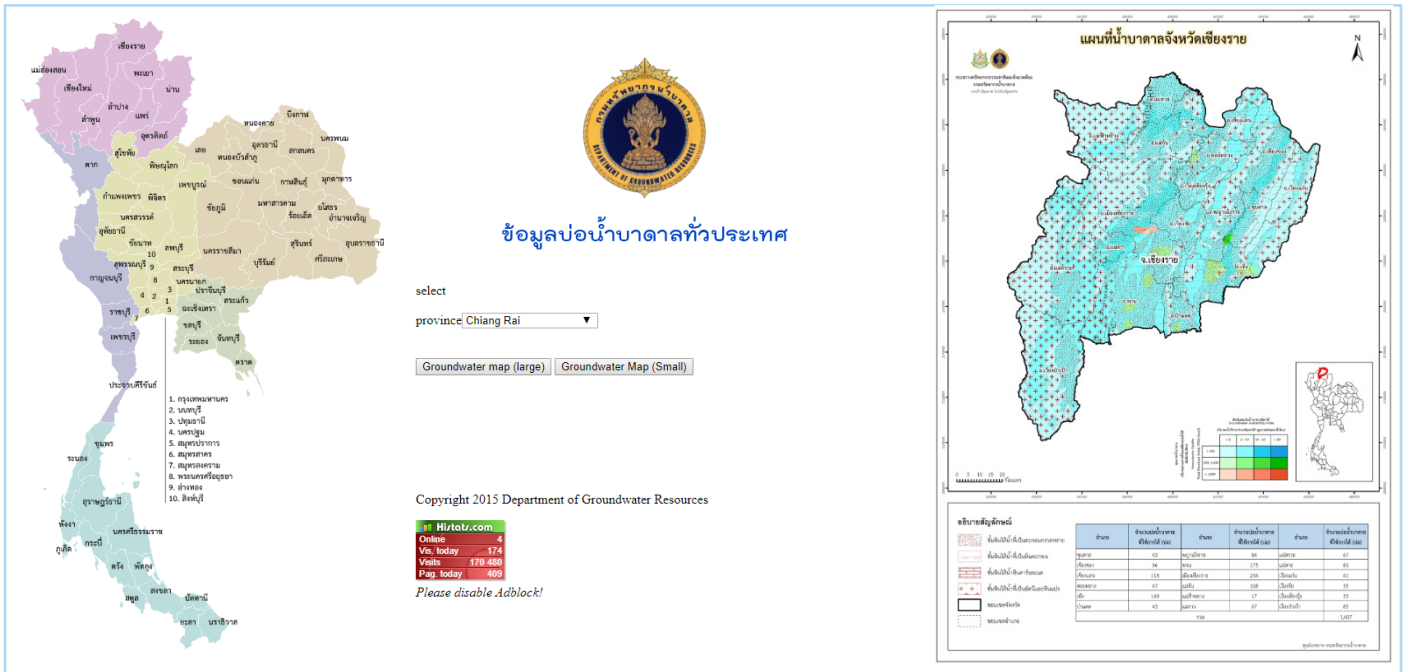


Figure 2 – Groundwater well map in Thailand. Source: Groundwater Resources Information System Group

Groundwater level data are used to make Groundwater level maps (potentiometric surfaces) and maps to represent the changes in groundwater levels. DGR website has a section for groundwater level and status. Currently, DGR manages the Thailand Groundwater Monitoring System (TGMS) (in Thai, link in Sources).

Data are also stored in the Pusuthara Information System (in Thai), where people can register to search, capture and store data. Spatially distributed data (GIS) are also available. The system consists of the Pasuthara database, a portal for groundwater surveillance and monitoring at remote stations and various information portals: for groundwater control, groundwater management in groundwater crisis areas and for conjunctive use.

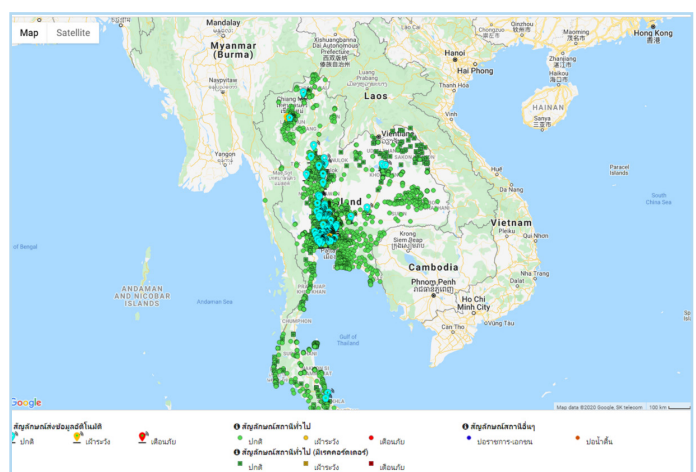


Figure 3 – Thailand Groundwater Monitoring System (TGMS). Source: DGR.

## Sources

- Department of Groundwater Resources - <http://www.dgr.go.th/th/public-service/36>;
- Department of Groundwater Resources, Public service - <http://www.dgr.go.th/th/public-service/41>;
- Feedback from the Department of Groundwater Resources - received on 09-10-2020;
- GGMN South East Asia Workshop - 2016;
- Groundwater Resources Information System Group, 2015 - <http://app.dgr.go.th/newpasutara/xml/Krabi.files/show3.php?d-dlGeo=45&btn2=>;
- Ministry of Agriculture, Livestock and Irrigation. Irrigation and Water Utilization Management Department. Presentation on Pilot Project of Groundwater Monitoring in Myanmar (includes information about Thailand) - [https://www.dwir.gov.mm/images/world-water-day/05\\_GW%20Monitoring%20in%20Myanmar\\_U%20Thant%20in.pdf](https://www.dwir.gov.mm/images/world-water-day/05_GW%20Monitoring%20in%20Myanmar_U%20Thant%20in.pdf); and
- Thailand Groundwater Monitoring System (TGMS) - <http://tgms.dgr.go.th/#/home>.