

Pakistan

Capital city: Islamabad
Inhabitants: 212.2 Million



INSTITUTIONAL SETTING AND PURPOSE

The Ministry of Water Resources takes the lead on behalf of the Federal Government for development of the water sector. In this regard, the Scarp Monitoring Organization (SMO) is working under the Umbrella of the International Waterlogging and Salinity Research Institute (IWASRI) of the Water and Power Development Authority (WAPDA).

The Water and Sanitation Agency (WASA) of several major municipalities carry out some groundwater monitoring within urban centres but this does not extend to rural or agricultural

areas (Bhatti et al, 2016). In addition to WASA's groundwater monitoring within urban cities, Pakistan Council of Research in Water Resources (PCRWR), Islamabad, is also working on the observation of water table depth. Moreover, the Geological Survey of Pakistan conducts work on groundwater resources exploration.

Provinces may have their own groundwater monitoring programme, as the one from the Directorate of Land Reclamation (DLR) of the Punjab Irrigation Department.

CHARACTERISTICS OF THE NETWORK

Since 1968, SMO conducts hydrological monitoring pre and post monsoon (depth to water table and water quality) biannually in the Indus Basin Irrigation System (IBIS).

Compared to other provinces of Pakistan, the DLR of the Punjab Irrigation Department has a much more systematic groundwater monitoring program with 3,000 observation wells. DLR measures the water levels in piezometers manually, twice a year.

PROCESSING AND DISSEMINATION

Data collected in approximately 9000 observation wells in Punjab and 3000 in Sindh from 49 canal commands of Punjab, Khyber Pakhtunkhwa, Sindh and Balochistan provinces is analysed by SMO and maps are developed using GIS.

The interactive map on the website of Punjab Irrigation Department (<https://irrigation.punjab.gov.pk/>) presents the aquifer status of last two pre and post monsoon seasons from 2013 till 2018. The depth of the groundwater level is indicated in feet. By changing pre- and post-monsoon periods, it is possible to see the fluctuation of the groundwater level. However, neither time-series nor download of data is available.

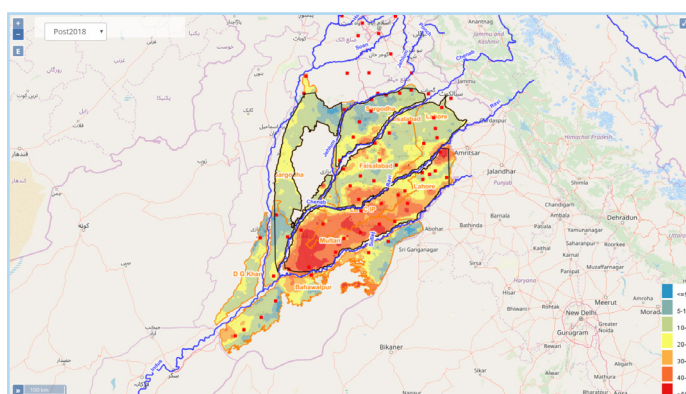


Figure 1 – Groundwater monitoring in Punjab post 2018

Sources

- **Feedback from the Ministry of Water Resources** - received on 10-11-2020;
- **Punjab Irrigation Department** - <https://irrigation.punjab.gov.pk/>;
- **Year book 2018-19, Geological Survey of Pakistan** - <https://www.gsp.gov.pk/images/year-book-2018-19-pdf-final.pdf>; and
- **Ministry of Water Resources, Government of Pakistan** - <http://mowr.gov.pk/>.