

GROUND WATER LEVEL BULLETIN

August 2024

SIKKIM

ABSTRACT

Present Bulletin prepared on ground water scenario of Sikkim state highlighting the findings, status of ground water level in different aquifers and its seasonal & annual fluctuation during August -2024.

CGWB, Eastern Region Kolkata

1.0 INTRODUCTION

Groundwater bulletin is prepared by Central Ground Water Board (CGWB) depicting changes in groundwater regime of the country through different seasons. It is an effort to obtain information on groundwater levels through representative monitoring wells. The important attributes of groundwater regime monitoring are groundwater level.

Groundwater levels are being measured by CGWB, ER every month in Sikkim state (through Participatory monitoring since June,2024).

2.0 STUDY AREA

The Eastern Region of Central Ground Water Board has jurisdiction over the State of West Bengal having an area of 88752 km², Andaman & Nicobar Islands (UT) having an area of 8,249 sq. km. (Andaman-6408 sq. km., Nicobar-1841 sq. km.) and Sikkim (7096 sq.km.).

The state of Sikkim is located in the North Eastern part of the Country and lies between 27° 04' - 28° 08' N latitude 88° 00' to 88° 54' E longitudes covering an area of 7096 sq. Km; divided into 06 districts namely, Gangtok and Pakyong (East Districts), Gyalshing and Soreng (West Districts) Mangan (North District), Namchi, (South District). Sikkim with a vertical strip of rugged mountainous terrain of roughly 65 to 100 kms broad and 170 kms deep has the second highest peak of the world, the mountain Kanchendzonga (figure-1). The attitude varies from 300 meters in low areas to 8500 metres in highland. The plain area is very small, limited to the intermontane valley. Two-third of the state consist largely snow clad high hills with deep ravines/gorges. About 30% of the state is forest covered.



Figure- 1: Administrative Map of Sikkim State

3.0 GROUND WATER LEVEL MONITORING

Central Ground Water Board, Eastern Region, has set up 04 Ground Water Monitoring Stations (GWMS) (04 PZ) in Sikkim State as on 31-03-2024 (figure-2).

The district-wise breakup of the water level monitoring stations is given in Table-1.

Table-1: District-wise distribution of water level monitoring stations in Sikkim

Sl. No	Name of the District	Number of GW Monitoring Stations (April 2024)				
		Dug Well	Piezometer	Handpump	Spring	Total
	Sikkim					
1	Namchi	0	1	0	0	1
2	Pakyong	0	3	0	0	3
	Total	0	4	0	0	4

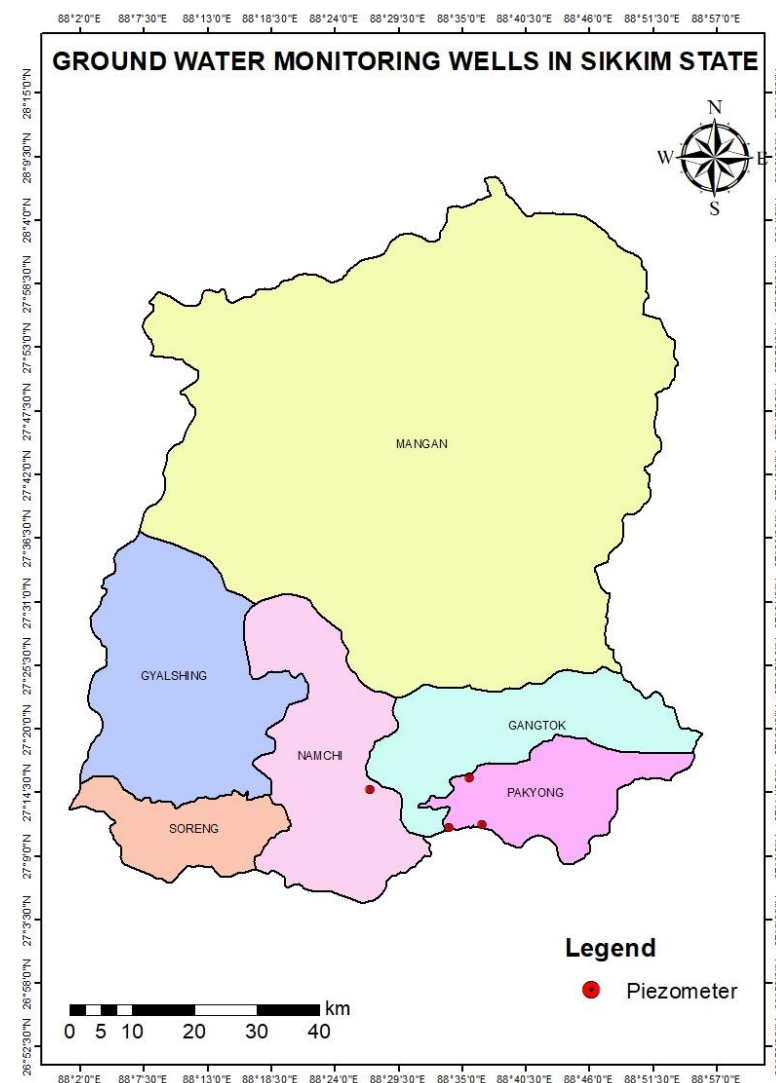


Figure-2: Map showing locations of monitoring wells (GWMS) in Sikkim

4.0 GROUND WATER LEVEL SCENARIO (AUGUST 2024) for SIKKIM

During April-2023, 04 nos. of Piezometers (PZ) has been established for monitoring purpose in Sikkim State for the first time. In the year 2023, the water level has been monitored for Pre & Post-Monsoon 2023. The wells have been taken for participatory monitoring every month since June, 2024 for strengthening of monitoring Network in the State.

During August 2024 (Monsoon Season), the maximum WL was reported at Daring block of Namchi district (21.67 m bgl) and minimum WL found at Pakyong Block of Pakyong district (3.04 m bgl).

Seasonal Fluctuation of Piezometric Level in confined Aquifer (April 2024 to August 2024)

Out of 04 wells analyzed 1 well showed fall in 0-2m fluctuation category in Namchi district and other 3 wells of Pakyong block shows rise of 0-2m range.

Annual Fluctuation of Piezometric Level in confined Aquifer (August 2023 to August 2024)

Since the water level has been monitored only for Pre & Post-Monsoon during 2023 so no data available for annual comparison.

5.0 SUMMARY

As a component of the National Ground Water Monitoring Programme, CGWB, ER, Kolkata conducts ground water monitoring every month in Sikkim (through Participatory monitoring since June, 2024).

As on March 2024, the Eastern Region, Kolkata has 04 monitoring stations in the state of Sikkim. The state receives good rainfall and about 72% of springs get recharge through rainfall.

In the state of Sikkim only 4 wells are being monitored with depth to water level ranging from 3.04 to 21.67 m bgl.

The seasonal fluctuation shows rise in water level except for 1 well showing fall of 1.32 m

Overall the state falls in the 'Safe' category as per Ground water Resource Assessment-2023-24.



CONSERVE WATER FOR FUTURE

Central Ground Water Board

Department of Water Resources, River Development &
Ganga Rejuvenation Ministry of Jal Shakti, Govt. of India

Eastern Region, 'BHUJALIKA'

Block : CP6, Sector-V, Bidhannagar,
Kolkata- 700091, West Bengal

Phone : +91 (0) 33 2367 3081

Fax : +91 (0) 33 2367 3080

Email : rder-cgwb@nic.in

