

## Inventory of Glacial Lakes/ Water bodies in Himalayan region

The work of monitoring of glacial lakes/water bodies was taken up by Central Water Commission (CWC) during XI plan period. The details of lakes and water bodies located in high altitude, in Himalayan region were not available therefore first requirement was to make an inventory of glacial lakes and water bodies in Himalayan region. As this work involved processing of satellite imageries and usage of Remote sensing and GIS techniques, CWC signed an MOU with National Remote Sensing Centre (NRSC), Hyderabad in 2009 for making an inventory and monitoring of Glacial Lakes / Water Bodies in the Himalayan region catchment which contributes to rivers flowing in India.

The Satellite images of Advanced Wide Field Sensor (AWiFS) of Indian Remote Sensing Satellite Resourcesat-1 were collected during the month May-November, 2009 of Himalayan region. Glacial lakes and Water Bodies were delineated based on the visual interpretation of above satellite imageries using ERDAS Imagine and Geographical Information System (GIS) software. The inventory of glacial lakes /water bodies having water spread area more than 10 ha has been prepared and published in June 2011. The information in inventory includes location of the lake (Latitude, Longitude and Elevation), name of lake (if available) and water spread area.

[\*\*Inventory and Monitoring of Glacial Lakes/Water Bodies in the Himalayan Region of Indian River Basins Report \(Click here to download\).\*\*](#)

The main conclusions of the study are as under:

- There are 2028 Glacial Lakes and Water Bodies having water spread area more than 10 Ha in the Himalayan region catchment which contributes to rivers flowing in India. Out of these 503 are glacial lakes and 1525 water bodies.
- 1169 Glacial Lakes / Water Bodies are located in the elevation zone from 4000 m to 500 m above sea level.
- Basin-wise details of Glacial Lakes / Water Bodies (having water spread area more than 10 Ha) in the Himalayan region catchment which contributes to rivers flowing in India are as follows.

Basin Name	Glacial Lakes	Water Bodies	Total
Brahmaputra	294	1099	1393
Ganga	178	105	283
Indus	31	321	352
Total	503	1525	2028

Table 1: Basin-wise details of Glacial Lakes / Water Bodies in Himalayan Region

- Size-wise details of Glacial Lakes / Water Bodies (having water spread area more than 10 Ha) in the Himalayan region catchment which contributes to rivers flowing in India are as follows.

Water spread area(ha)	Glacial Lakes	Water Bodies	Total
< 50	404	1191	1595
50 - 100	62	139	201
100 - 1000	37	146	183
1000 - 10000	-	35	35
> 10000	-	14	14
<b>Total</b>	<b>503</b>	<b>1525</b>	<b>2028</b>

Table 2: Size-wise details of Glacial Lakes / Water Bodies in Himalayan Region

- Country-wise details of Glacial Lakes / Water Bodies (having water spread area more than 10 Ha) in the Himalayan region catchment which contributes to rivers flowing in India.

Country	Glacial Lakes	Water Bodies	Total
India	60	448	508
Bhutan	77	124	201
Nepal	57	45	102
China	309	904	1213
Myanmar	-	4	4
	<b>503</b>	<b>1525</b>	<b>2028</b>

Table 3: Country-wise details of Glacial Lakes / Water Bodies in Himalayan Region