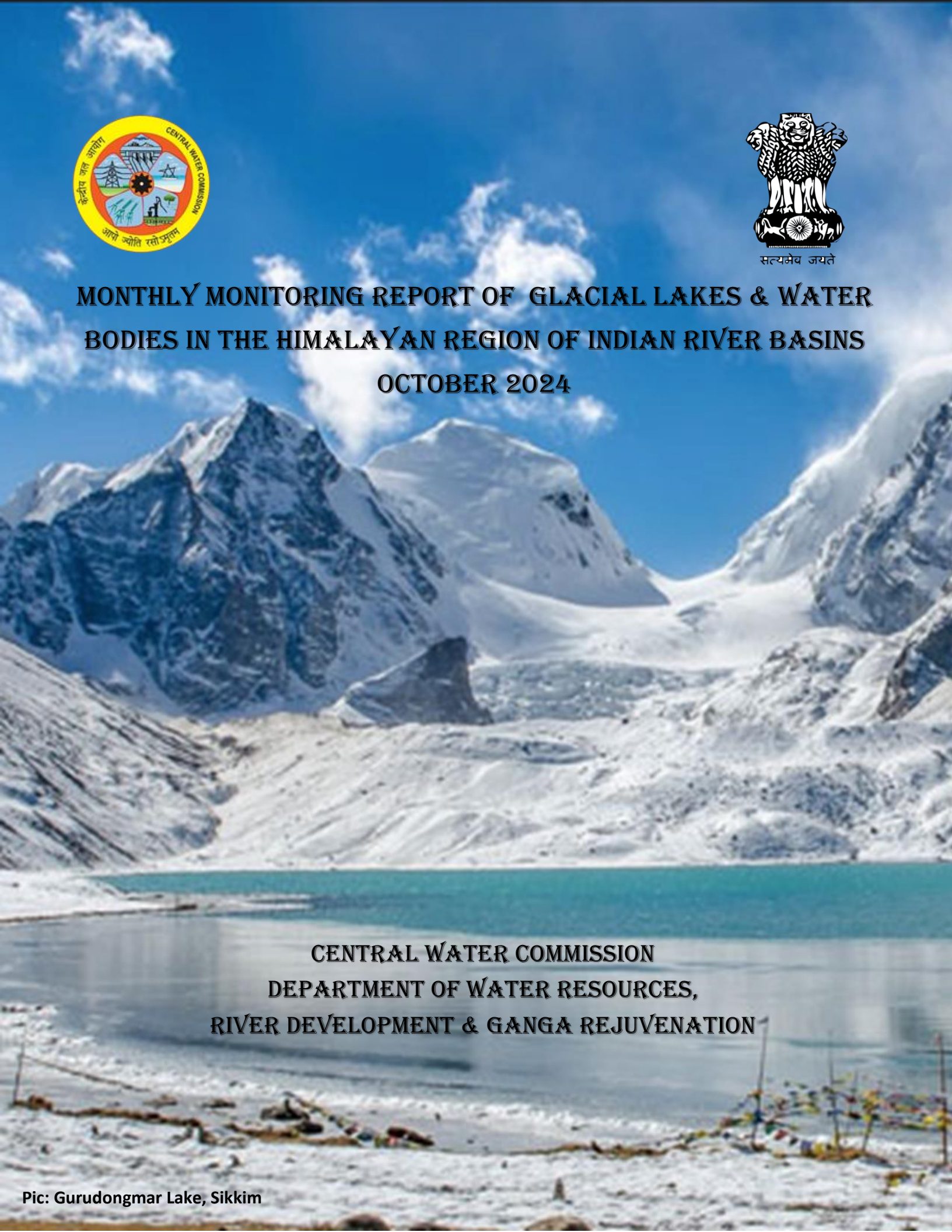


सत्यमेव जयते

MONTHLY MONITORING REPORT OF GLACIAL LAKES & WATER BODIES IN THE HIMALAYAN REGION OF INDIAN RIVER BASINS

OCTOBER 2024

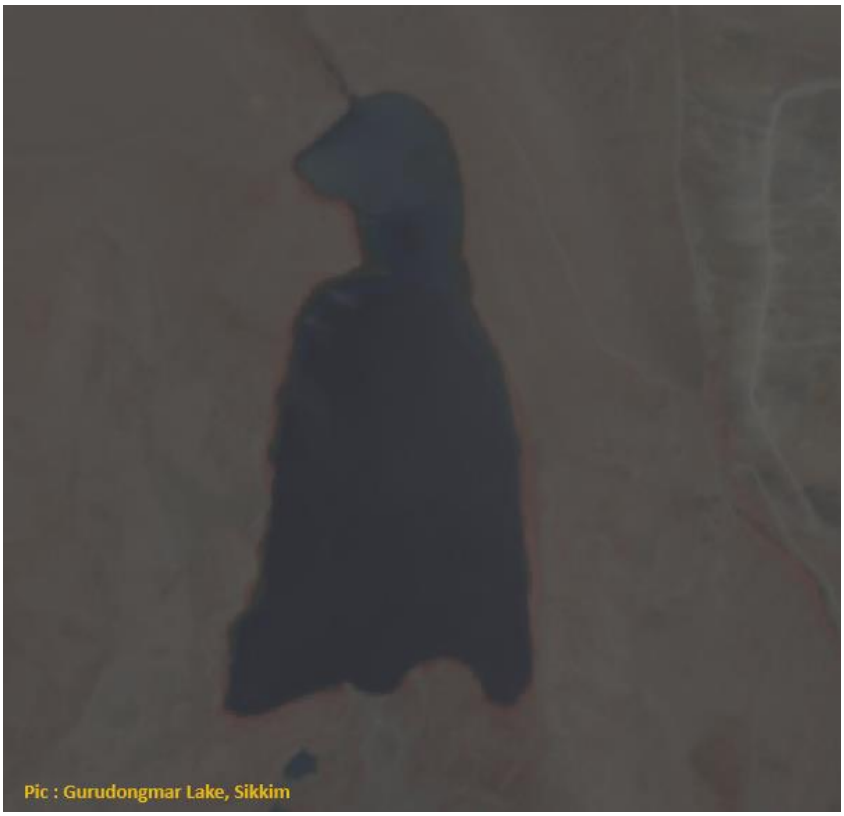
CENTRAL WATER COMMISSION

DEPARTMENT OF WATER RESOURCES,

RIVER DEVELOPMENT & GANGA REJUVENATION

Pic: Gurudongmar Lake, Sikkim

Monthly Monitoring Report of Glacial Lakes & Water Bodies in the Himalayan Region of Indian River Basins- October 2024



Morphology & Climate Change Directorate

Planning & Development Organisation

Central Water Commission

Department of Water Resources, River Development & Ganga Rejuvenation

Ministry of Jal Shakti, New Delhi

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<tr><td>10.</td><td colspan="5">Abstract (with Keywords): CWC monitors 902 Glacial Lakes & Water Bodies in the Himalayan region and Tibetan region, draining to India on monthly basis using Remote Sensing Data. This report presents the monitoring of 902 Glacial Lakes & Water Bodies for October 2024. The Glacial Lakes located in India requiring vigorous monitoring for disaster purpose has also been identified.

Keywords: Glacial Lake, Water Bodies, Indian Himalayan Region, Satellite Images, Remote Sensing, Google Earth Engine.</td></tr>
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ABBREVIATIONS	
AR	Arunachal Pradesh
CWC	Central Water Commission
DoWR, RD & GR	Department of Water Resources, River Development & Ganga Rejuvenation
DWRIS	Development of Water Resources Information System
GEE	Google Earth Engine
GL(s)	Glacial Lake(s)
GLOF	Glacial Lake Outburst Flood
FCC	False Color Composite
ha	Hectare
HP	Himachal Pradesh
J&K	Jammu & Kashmir
LAT	Latitude
LONG	Longitude
LU/LC	Land Use /Land Cover
NDWI	Normalized Difference Water Index
NDMA	National Disaster Management Authority
NIR	Near-Infrared
NRSC	National Remote Sensing Centre
SAR	Synthetic Aperture Radar
SDC	Swiss Agency for Development and Cooperation
SK	Sikkim
TAR	Tibet Autonomous Region
UID	Unique Identification
UK	Uttarakhand
WB(s)	Water Body(ies)

Executive Summary

The Himalayan Region (HR) is facing important challenges in coping withthe adverse effects of climate change. Physically, the shrinking of mountain glaciers and expansion of Glacial Lakes are amongst the most recognizable and dynamic impacts of climate warming in this environment. In combination with this, altered stability of surrounding rock and ice walls, the potential threat from Glacial Lake Outburst Flood (GLOF) is evolving over time. Therefore, under such changing environment, a close watch on the relative change in water spread area of even smaller lakes has become very crucial in this region.

Analysis of worldwide literature on the outburst of glacial lakes and the field and theoretical experience have led to the conclusion that it is not feasible to make a reliable prediction of a specific occurrence on the basis of our existing knowledge. As direct predictions cannot be made, there is an urgent need to monitor a careful selection of prioritized lakes on a regular basis. This should be carried out in collaboration with other institutions, both nationally and internationally.

The work of monitoring of Glacial Lakes/Water Bodies (GLs/WBs) using remote sensing technique was taken up by CWC, DoWR, RD&DR, Ministry of Jal Shakti, during XI Plan period in the year 2009 under DWRIS Plan scheme. The inventory of GLs/WBs was published in October, 2011 in association with National Remote Sensing Centre (NRSC), Hyderabad based on the satellite data of Advanced Wide Field Sensor (AWiFS) of the Indian Remote Sensing Satellite, Resourcesat-1 collected from May-Nov, 2009. This inventory is therefore hereafter referred as *Inventory of Glacial Lakes & Water Bodies (2011).* As per this inventory, there are 2028 GLs/WBs with size more than 10 ha in the Himalayan Region draining towards India. The country wise & basin wise details of the inventory are given in **Table ES.1.**

Table ES.1: Country wise & Basin wise Distribution of Glacial lakes and Water bodies above 10 Ha(in Nos.)

Country-wise Distribution			
Country	**Glacial Lakes (>10 Ha)**	**Water Bodies (>10 Ha)**	**Total (>10 Ha)**
India	60	448	508
Bhutan	77	124	201
Nepal	57	45	102
China	309	904	1213
Myanmar	-	4	4
Total	**503**	**1525**	**2028**

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

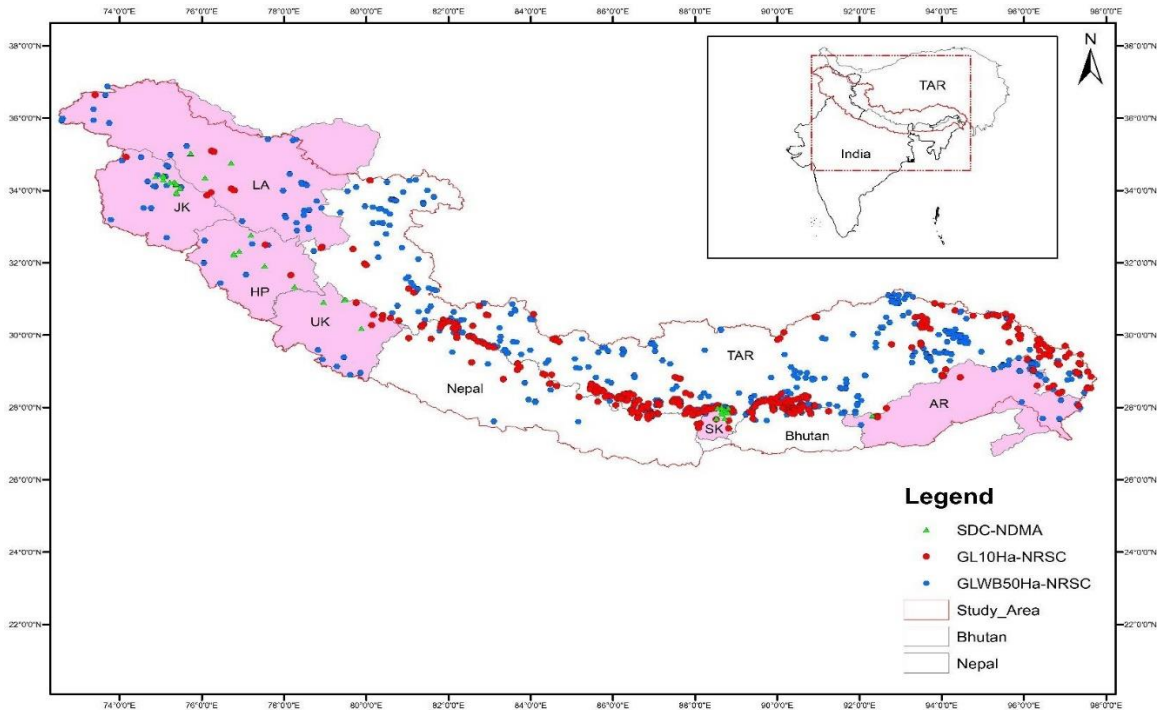
Monitoring of 477 GLs/WBs with size more than 50 ha, sourced from Glacial Lake Inventory 2011, for change in water spread area, was carried out during monsoon season (October to October) every year since 2011. The monitoring activity initiated in NRSC was continued till 2015. CWC has taken up monitoring during 2016 and the work was undertaken by downloading and manually digitising Advanced Wide Field Sensor (AWiFS) Satellite imageries procured/ downloaded from NRSC and processing them in Arc GIS. This continued till 2021. From 2022, monitoring of additional 425 GLs with sizes of 10ha to 50ha was also included. This includes 385 Glacial Lakes with water spread area between 10-50 Ha from Glacial Lake Inventory (2011) and 40 high priority Glacial Lakes identified by Swiss Agency for Development and Cooperation (SDC) for NDMA. Thus, currently CWC is monitoring a total of 902

GLs/WBs. High resolution multi-spectral and microwave (SAR) images of foreign satellites at 10 m resolution have been processed and analysed in open-source cloud computing platform Google Earth Engine using automatic algorithm which has been developed in-house. Visual inspection & manual digitisation has been used to supplement the automatic algorithm to complete the task. The Monthly Monitoring Report is shared with all stakeholders through email for further necessary action. The reports are also e-published on CWC website for any time access by the concerned *(https://cwc.gov.in/glacial-lakeswater-bodies-himalayan-region)*. The abstract of 902 GL/WB is given in **Table ES.2.**

Table ES.2: Abstract of 902 GLs/WBs

Country/ Area	State/ Union Territory	No of Glacial Lakes					No of Water Bodies				Grand Total
		Indus Basin	Ganga Basin	Brahma-putra Basin	Total		Indus Basin	Ganga Basin	Brahma-putra Basin	Total	
India	Ladakh	15	0	0	15		26	0	0	26	41
	Jammu & Kashmir	15	0	0	15		16	0	0	16	31
	Himachal Pradesh	10	0	0	10		5	0	0	5	15
	Uttarakhand	0	9	0	9		0	6	0	6	15
	Sikkim	0	0	42	42		0	0	1	1	42
	Arunachal Pradesh	0	0	9	9		0	0	25	25	35
	Total	40	9	51	100		47	6	26	79	179
	India Total	100					79				179
Transboundary	China	12	110	187	309		49	19	191	259	568
	Bhutan	0	0	71	71		0	0	11	11	82
	Nepal	0	64	0	64		0	9	0	9	73
	Total	12	174	258	444		49	28	202	279	723
	Transboundary Total	444					279				723
Grand Total		544					358				902

Map of Study Area showing Glacial Lakes and Water Bodies being monitored by CWC



Limitations and Assumptions:

Limitations:

- Glacial lake identification can be done either using visual interpretation or automatic mapping methods. The automatic mapping procedures have limitations due to varying terrain conditions such as lakes situated in the shadow portions of mountains, presence of snow cover, cloud cover, lakes being partly frozen, etc. As lake water absorbs the incident radiation making it appear in darker tone and colour in the standard FCC of satellite data, similar response also prevails over shadow region of clouds or mountains on surface, which may lead to incorrect mapping. Moreover, a mountain shadow covering a lake partly/completely within its vicinity, also makes it difficult to accurately map the lake boundary.
- A few Glacial lakes could not be mapped owing to the constraints such as Glacial lakes being under frozen condition, presence of snow or cloud cover over the lakes, lakes under mountain shadow or lakes in dried up condition.

Assumptions:

- Inclusion or exclusion of water pixels near lake boundaries depending on more than or less than certain fraction of its area falling within the lake boundary.

This document presents the analysis and results of monitoring of 902 GL&WBs for October 2024. The lakes are analysed for change in water spread area with respect to area of Inventory 2011 and are categorized into 5 classes.

(i) increase in water spread area greater than 40%

(ii) increase in water spread area up to 40%

(iii) no change in water spread area

(iv) decrease in water spread area

(v) change detection not performed due to reasons such as frozen condition, dried up condition, cloud cover etc.

The change detection in water spread area of 477 GLs & WBs greater than 50 Ha have been calculated for the following three cases.

- Difference between the current area of lake and base year area(2011)
- Difference between the current area of lake and Last five years average area(2019-2023)
- Difference between the current area of lake and Last ten years average area(2014-2023)

The minimum of change observed from the above three cases has been adopted to identify increase, decrease and no change in water spread area.

As the monitoring of 385 GLs with water spread area between 10 Ha & 50 Ha was initiated in 2022, the change detection in water spread area has been calculated for the following two cases

- Difference between the current area of lake and base year area(2011)
- Difference between the current area of lake and last two years average area(2022-2023)

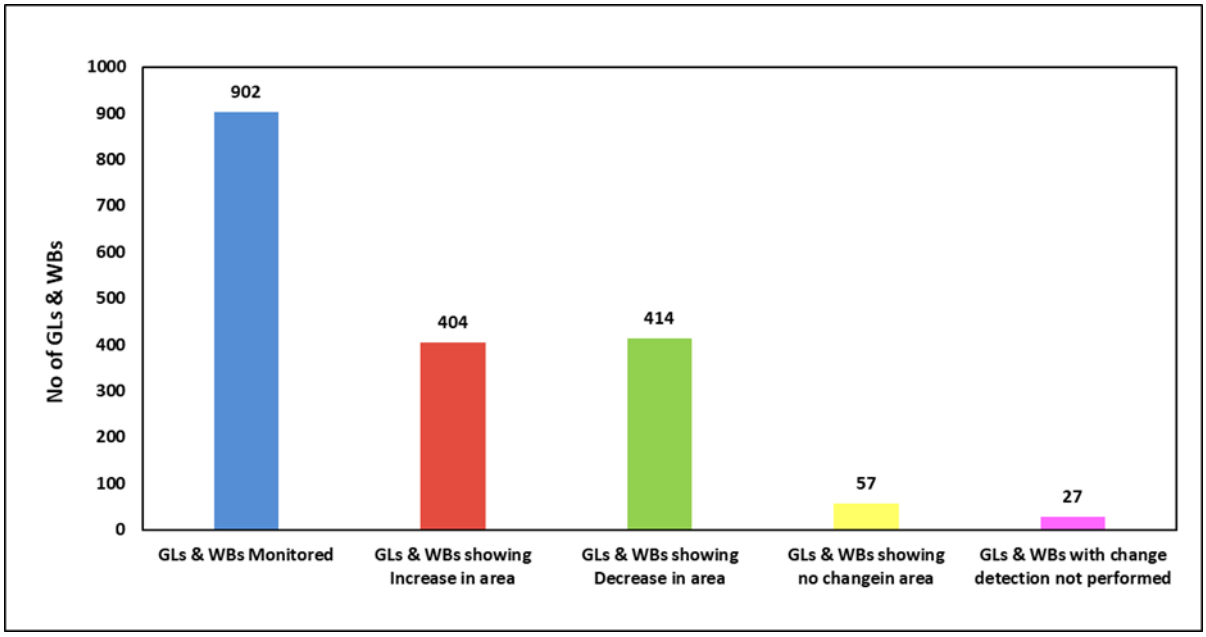
The minimum of change observed from the above two cases has been adopted to identify increase, decrease and no change in water spread area.

For the remaining 40 GLs, as the inventory details (base year 2011) are not available and monitoring data being available only since 2022, the change detection in water spread area has been calculated as the

- Difference between the current area of lake and last two years average area(2022-2023)

The number of lakes in each class has been identified. The lakes showing an increase in water spread area greater than 40% have been identified as those requiring vigorous monitoring for disaster purpose.

Results:



Results of Monitoring October 2024

Conclusions:

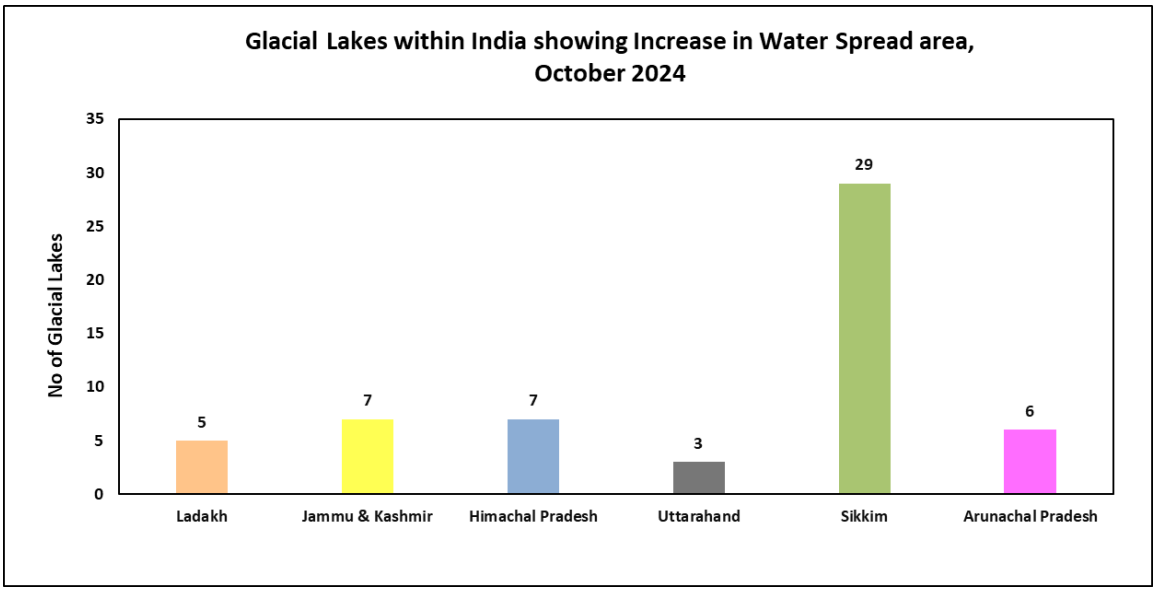
- **2 Glacial Lake and 14 Water Bodies** (>50Ha area) show increase in area greater than 40% when change detection was carried out with respect to base year area(2011), average area of last 5 years(2019-2023) & average area of last 10 years(2014-2023). The Glacial Lake and Water Bodies are in China
- 26 nos. of Glacial Lakes & Water Bodies have been merged to 13 nos. of Glacial Lakes & Water Bodies & combined area of merged glacial lakes and water bodies has been shown against respective glacial lakes and water bodies. However, merging and demerging of lakes is a dynamic process; hence figure of 902 Glacial Lakes & Water Bodies has been kept intact for analysis part. Details of merged Glacial Lakes & Water Bodies are as under.

Sl. No.	ID	GL/WB	Location	Remarks
1	03_71G_008	WB	China	Merged with nearby lake not in inventory 2011
2	03_71K_011	WB	China	Merged with nearby lake not in inventory 2011
3	03_82N_032	GL	China	Merged with nearby lake not in inventory 2011
4	03_62O_040	WB	China	Merged with nearby lake not in inventory 2011
5	01_61C_014	WB	China	Merged with each other
	01_61C_015			
6	03_78E_009	WB	China	Merged with each other
	03_78E_010			
7	03_62O_041	WB	China	Merged with each other
	03_62O_042			
8	03_71K_007	WB	China	Merged with each other
	03_71K_009			
9	03_91C_035	GL	China	Merged with each other
	03_91C_036	GL		
10	02_71P_018	WB	China	Merged with each other
	02_71P_019	GL		
	02_71P_020	GL		
11	03_77L_048	GL	China	Merged with each other
	03_77L_053	GL		
12	01_61C_002	WB	China	Merged with each other
	01_61C_004	WB		
	01_61C_005	WB		
	01_61C_010	WB		
	01_61C_011	WB		
13	01_52H_003	GL	India (Himachal Pradesh)	Merged with each other
	01_52H_004			

- **15 Glacial Lakes (10 ha-50 Ha area)** show increase in area greater than 40% when change detection was carried out with respect to base year area (2011), average area of last 2 years (2022-2023). 8 Glacial Lakes are in China. The remaining Glacial lakes are in India **(Jammu & Kashmir- 3, Uttarakhand-1, Sikkim -2 & Arunachal Pradesh-1).**
- The total Inventory area of **Glacial Lakes and Water Bodies** was 5,33,584 Ha during the year 2011 which has increased to 5,89,443 Ha during the year 2024 (October). There is a **10.46%** increase in area. (*Out of 902 GL & WB, only 838 lakes were considered for this interpretation. The remaining lakes include 40 SDC lakes which have no inventory details as well GLS/WBs which were not analyzed/have been merged during the month of October, 2024.)* This is shown in Figure below.
- The total Inventory area of **Glacial Lakes** was 20,787 Ha during the year 2011 which has increased to 24,440 Ha during the year 2024 (October). There is a **17.57%** increase in area.

(Out of 544 GL, only 494 lakes were considered for this interpretation. The remaining lakes include 40 SDC lakes which have no inventory details as well as lakes which were not analyzed/ have been merged during the month of October, 2024.). This is shown in Figure below.

- The total Inventory area of **Glacial Lakes within India** was 1,948 Ha during the year 2011 which has increased to 2,539 Ha during the year 2024 (October). There is a **30.34%** increase in area. (*Out of 100GL, only 56 lakes were considered for this interpretation. The remaining lakes include 40 SDC lakes which have no inventory details as well as 6 lakes which were not analysed/have been merged during the month of October, 2024.)*. This is shown in Figure below.
- **57 Glacial Lakes** (out of 100) located within India, as shown below, display increase in water spread area during the month of October 2024, and hence demand vigorous monitoring for disaster purpose *(Ladhak-5, Jammu & Kashmir-7, Himachal Pradesh-7, Uttarakhand- 3, Sikkim – 29 & Arunachal Pradesh-6)*.



1. Introduction

1.1 Glacial Lakes and Water Bodies

A glacial lake is a body of water with origins from a glacier. It is formed when a glacier erodes the surface before melting and the melt water fills the resulting depression. The water in Glacial Lakes accumulates behind loose naturally formed 'glacial/moraine dams' made of ice, sand, pebbles and ice residue as the glaciers melt. Various types of lakes may have different levels of hazard potential depending upon many factors such as the nature of damming materials, position of the lake, volume of the water, the nature and position of the associated mother glacier, physical and topographical conditions, and other physical conditions of the surroundings. Interaction between the risk factors and triggering processes such as ice avalanches, debris flows, rock fall, earthquake or landslides reaching a lake strongly affect the risk of a lake outburst. Moraine-dammed lakes located at the snout of a glacier have a high probability of breaching with high hazard potential and can breach suddenly leading to catastrophic floods. Such outburst floods are known as Glacial Lake Outburst Flood (GLOF).

A water Body referred in this report is the body of water retained permanently due to obstruction created naturally or artificially but not directly associated with Glaciers.

1.2 Glacial Lakes in Indian Himalayan Region

The Indian Himalayan Region (IHR) contains the world's largest number of glaciers and snow outside the Polar Regions and are aptly called Third Pole of the world. It consist of three major river systems, ie, Indus, Ganga and Brahmaputra stretching over five countries viz. India, China, Nepal, Pakistan and Bhutan.

1.3 Inventory of Glacial Lakes & Water Bodies 2011

The work of monitoring of Glacial Lakes/Water Bodies (GLs/WBs) was taken up by CWC, DoWR, RD&DR, Ministry of Jal Shakti, during XI Plan period in the year 2009, under DWRIS Plan scheme. The inventory of glacial lakes and water bodies of the Himalayan region of Indian river basins published in October, 2011 was done in association with National Remote Sensing Centre (NRSC), Hyderabad based on the satellite data of Advanced Wide Field Sensor (AWiFS) of the Indian Remote Sensing Satellite, Resourcesat-1 collected from May to November, 2009. The inventory consisted of a total of 2028 glacial lakes and water bodies with water spread area greater than 10 Ha. The country-wise and basin-wise details of the Inventory are furnished in **Table No. 1.1** and **Table No. 1.2**

Table 1.1: Country-wise details of Glacial Lakes & Water Bodies of Inventory (2011)

Country	Glacial Lakes >10 Ha (Nos.)	Water Bodies >10 Ha (Nos.)	Total >10 Ha (Nos.)
India	60	448	508
Bhutan	77	124	201
Nepal	57	45	102
China	309	904	1213
Myanmar	-	4	4
Total	**503**	**1525**	**2028**

Table 1.2: Basin-wise details of Glacial Lakes & Water Bodies of Inventory (2011)

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

1.4 Objectives

The broad objectives of the study are

- To monitor the spatial extent in terms of water spread area of the Glacial Lakes &Water Bodies from the inventory on monthly basis during October to October.
- To detect temporal changes in water spread area of Glacial Lakes & Water Bodies.
- To share the report with concerned stakeholders including National Disaster Management Authority / State Disaster Management Authority for suitable action.

1.5 Limitations and Assumption

Limitations

- Glacial lake identification can be done either using visual interpretation or automatic mapping methods. The automatic mapping procedures have limitations due to varying terrain conditions such as lakes being situated in the shadow portions of mountains, presence of snow cover, cloud cover, lakes being partly frozen, etc. As lake water absorbs the incident radiation making it appear in darker tone and colour in the standard FCC of satellite data, similar response also prevails over shadow region of clouds or mountains on surface, which may lead to incorrect mapping. Moreover, a mountain shadow covering a lake partly/completely within its vicinity, also makes it difficult to accurately map the lake boundary.

- A few Glacial lakes could not be mapped owing to the constraints such as they being under frozen condition, presence of snow or cloud cover over the lakes, lakes under mountain shadow or lakes in dried-up condition.

Assumptions:

- Inclusion or exclusion of water pixels near lake boundaries depending on more than or less than certain fraction of its area falling within the lake boundary.

2. Monitoring of Glacial Lakes and Water Bodies

2.1 Study Area

The present study area covers the Glacial Lakes & Water Bodies (GLs & WBs) lying in the region of Himalaya and TAR, that drain to India, based on 2011 Inventory of NRSC. The study area extends across the countries of India, Nepal, Bhutan and China.

The Glacial Lakes and Water Bodies taken up for monitoring in the study area are as follows:

(i) **477** Glacial Lakes/Water Bodies, with water spread area greater than 50Ha which have been sourced from the inventory of Glacial Lakes & Water Bodies in the Indian Himalayan region(2011) (Ref: NRSC Report No. NRSC-RS&GISAA-WRG-CWC-Lakes- May2011-TR255).

The state-wise and basin-wise details of the 477 GLs/WBs above 50 Ha are shown in **Table.2.1**

Table 2.1: State-wise and Basin-wise details of the 477 GLs/WBs above 50 Ha (Nos.)

Country/ Area	State/UT	Glacial Lake>50Ha				Water Body >50Ha				Grand Total
		Indus Basin	Ganga Basin	Brahma-putra Basin	Total	Indus Basin	Ganga Basin	Brahma-putra Basin	Total	
India	Ladakh	3	0	0	3	26	0	0	26	26
	Jammu & Kashmir	0	0	0	0	16	0	0	16	16
	Himachal Pradesh	2	0	0	2	5	0	0	5	7
	Uttarakhand	0	0	0	0	0	6	0	6	6
	Sikkim	0	0	10	10	0	0	1	1	11
	Arunachal Pradesh	0	0	0	0	0	0	25	25	25
	Total	5	0	10	15	47	6	26	79	94
	India Total	15				79				94
Transboundary	China	1	36	40	77	49	19	191	259	336
	Bhutan	0	0	15	15	0	0	11	11	26
	Nepal	0	12	0	12	0	9	0	9	21
	Total	1	48	55	104	49	28	202	279	383
	Total Transboundary	104				279				383
Grand Total		Total Glacial Lakes = 119				Total Water Bodies = 358				477

(ii) **385** Glacial Lakes, with spatial extent greater than 10 ha, have been taken from the inventory of Glacial Lakes & Water Bodies in the Indian Himalayan region(2011) (Ref: NRSC Report No. NRSC-RS&GISAA-WRG-CWC-Lakes-May2011-TR255).

(iii) **40** Glacial Lakes, which have been listed as high priority lakes, as per "Synthesis report on GLOF hazard and risk across the Indian Himalayan Region" prepared by Swiss Agency for Development and Cooperation (SDC) for NDMA.

This adds up to a total of **425 Glacial Lakes of water spread area between 10Ha and 50Ha.** The state-wise and basin-wise details of these lakes are shown in **Table No. 2.2.**

Table 2.2: State-wise and Basin-wise details of the 425 GLs/WBs with water spread area between 10Ha and 50 Ha

Country/Area	Glacial Lake of size 10Ha -50 Ha				Grand Total (Nos.)
	State/UT	Indus Basin (Nos.)	Ganga Basin (Nos.)	Brahmaputra Basin (Nos.)	
India	Ladakh	12	0	0	12
	Jammu & Kashmir	15	0	0	15
	Himachal Pradesh	8	0	0	8
	Uttarakhand	0	9	0	9
	Sikkim	0	0	32	32
	Arunachal Pradesh	0	0	9	9
	Total	35	9	41	85
	India Total	85			
Transboundary	China	11	74	147	232
	Bhutan	0	0	56	56
	Nepal	0	52	0	52
	Total	11	126	203	340
	Total Transboundary	340			
Grand Total		425			

Currently, a total of **902 Glacial Lakes and Water Bodies** are being monitored by CWC. Of these, 544 are Glacial Lakes and 358 are Water Bodies. The break-up of Glacial Lakes and Water Bodies is shown in **Figure 2.1**. The abstract of state-wise and basin-wise details of the 902 GLs & WBs being monitored by CWC on monthly basis are furnished in **Table no. 2.3.**

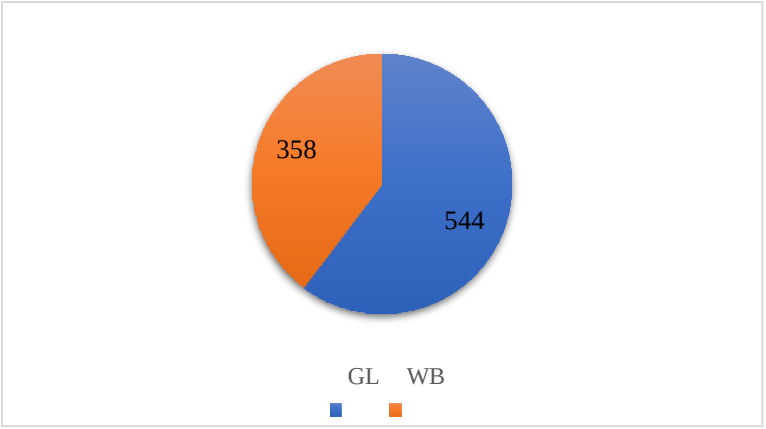


Figure 2.1: Lake Type Distribution

Table 2.3: Abstract of State-wise & Basin-wise details of GLs&WBs being monitored monthly by CWC

Country/ Area	State/ Union Territory	No of Glacial Lakes					No of Water Bodies				Grand Total
		Indus Basin	Ganga Basin	Brahma-putra Basin	Total		Indus Basin	Ganga Basin	Brahma-putra Basin	Total	
India	Ladakh	15	0	0	15		26	0	0	26	41
	Jammu & Kashmir	15	0	0	15		16	0	0	16	31
	Himachal Pradesh	10	0	0	10		5	0	0	5	15
	Uttarakhand	0	9	0	9		0	6	0	6	15
	Sikkim	0	0	42	42		0	0	1	1	42
	Arunachal Pradesh	0	0	9	9		0	0	25	25	35
	Total	40	9	51	100		47	6	26	79	179
	India Total	100					79				179
Transboundary	China	12	110	187	309		49	19	191	259	568
	Bhutan	0	0	71	71		0	0	11	11	82
	Nepal	0	64	0	64		0	9	0	9	73
	Total	12	174	258	444		49	28	202	279	723
	Transboundary Total	444					279				723
Grand Total		544					358				902

The index map of the study area is shown in **Figure. 2.2,** and the location map of the study area showing the glacial lakes and Water Bodies being monitored by CWC is shown in **Figure.2.3**.

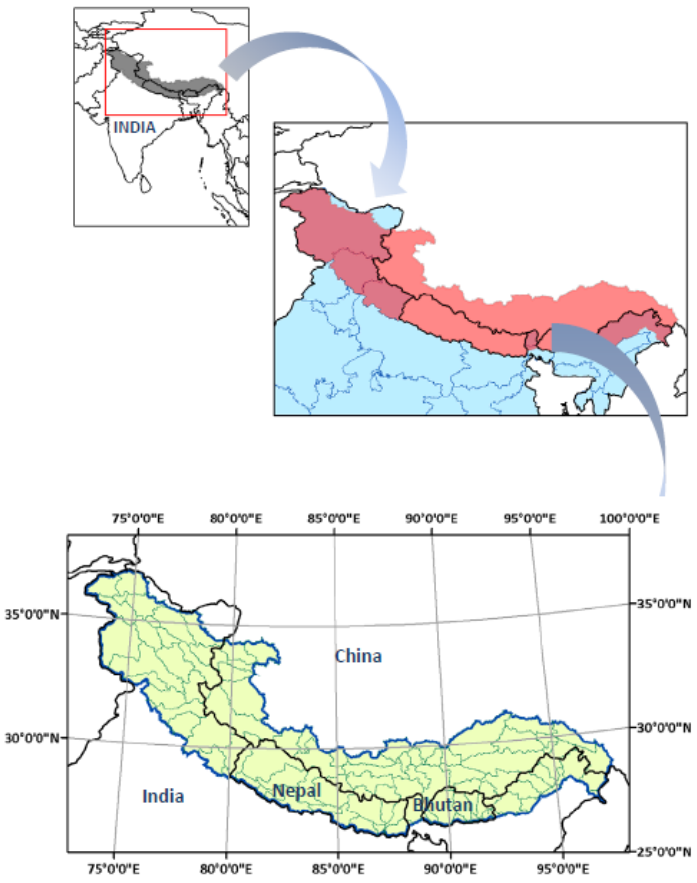


Figure 2.2: Index Map of Study Area

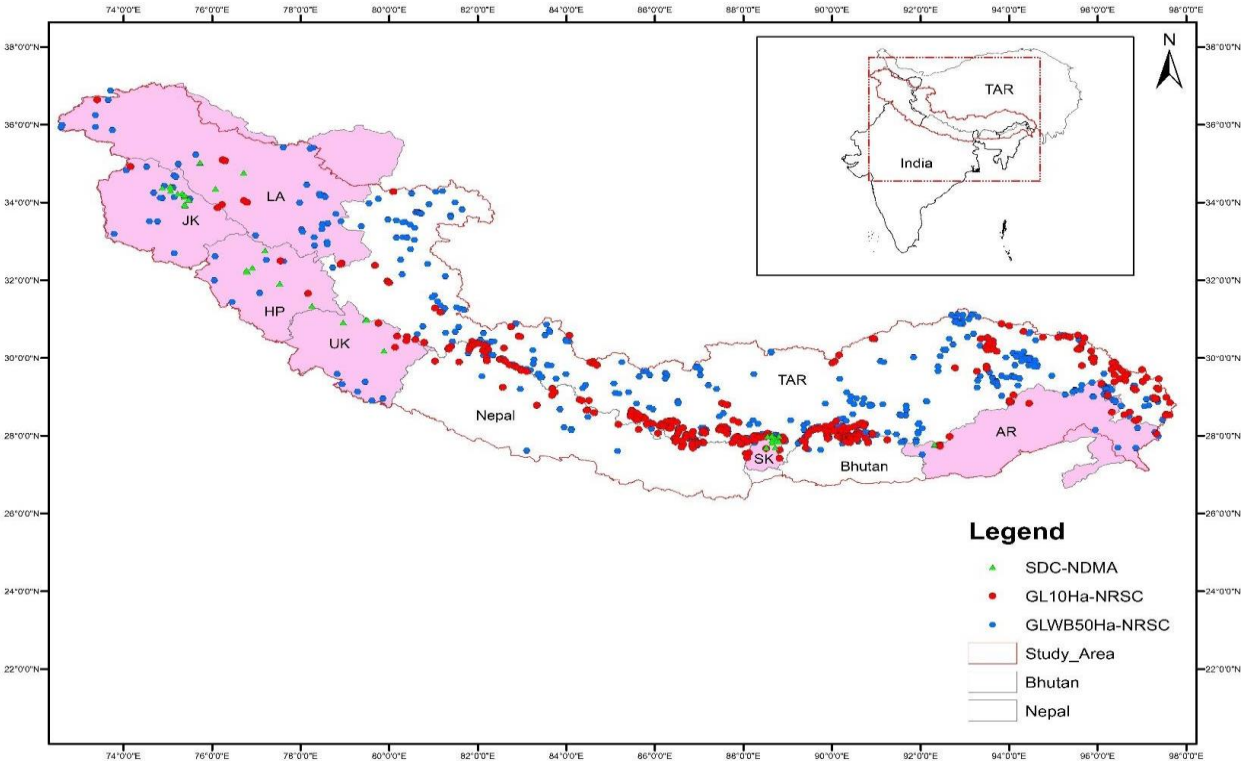


Figure 2.3: **Map of Study Area showing Glacial Lakes and Water Bodies being monitored by CWC**

The GLs & WBs are mostly located at an elevation range of 3000m to 5500m. A few of them are located above elevation of 5500m and some below 3000m. The elevation of Waterbodies range from 200 m to 5000m. This can be visualized by comparing the location map of study area (**Figure 2.3**) with the relief map of the study area shown in **Figure 2.4**. The elevation range of GLs & WBs being monitored by CWC is shown in **Figure 2.5.**

Figure 2.4: **Relief Map of the Study Area**

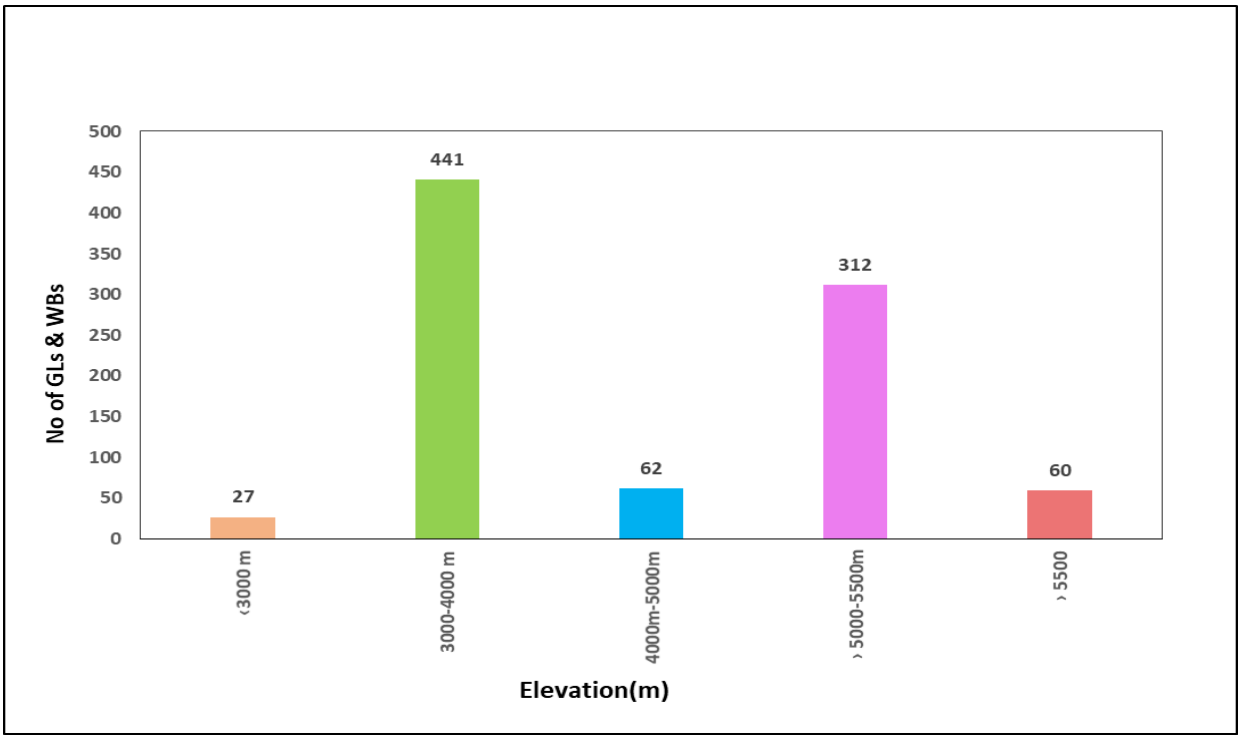


Figure 2.5: Elevation Range of GLs & WBs within Indian Himalayan Region being monitored by CWC

The country-wise distribution of Glacial Lakes & Water Bodiess being monitored by CWC is shown in **Figure 2.6**.

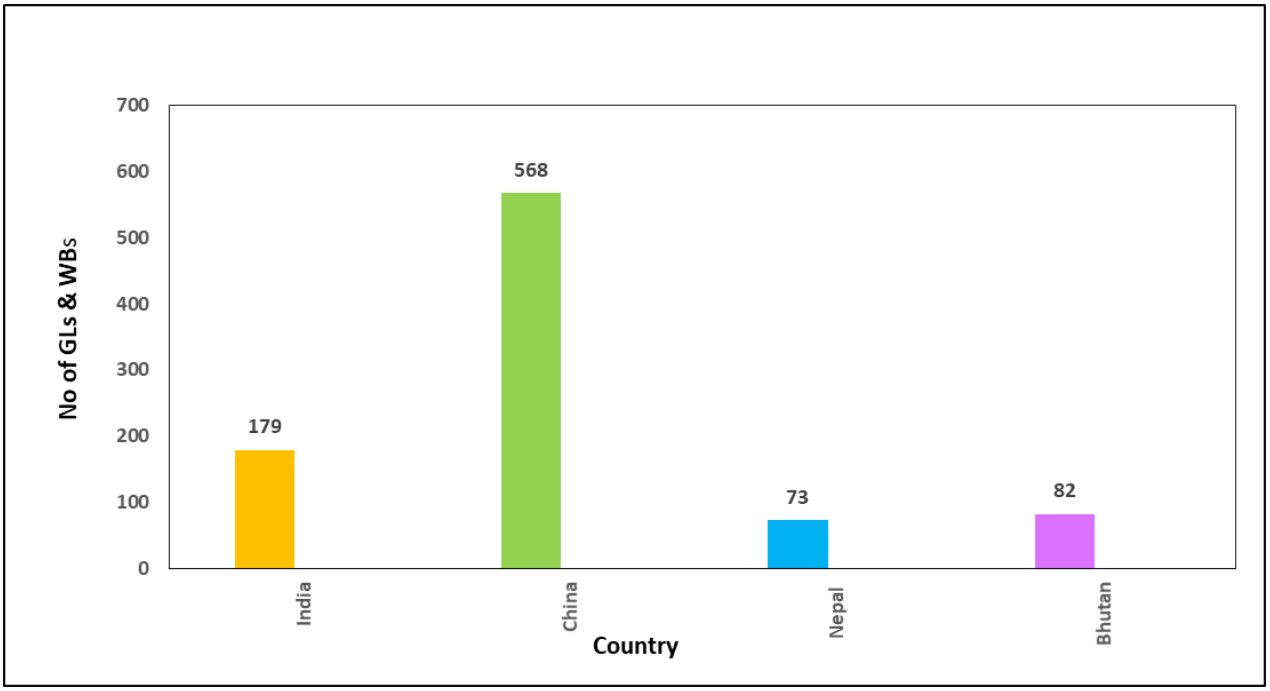


Figure 2.6:**Country-wise distribution of GLs & WBs in Indian Himalayan Region being monitored by CWC**

The state-wise distribution of Glacial Lakes being monitored by CWC within India is shown in **Figure 2.7**.

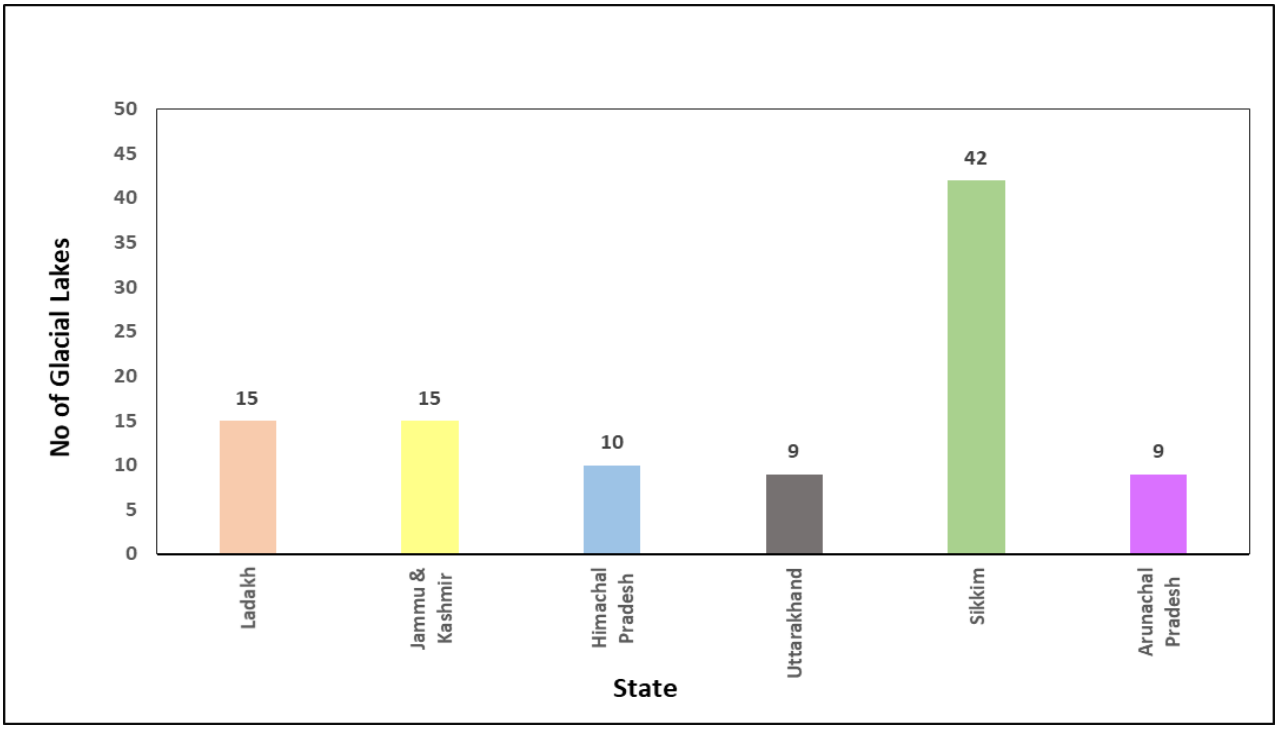


Figure: 2.7: State-wise Distribution of Glacial Lakes within India being monitored by CWC

The State-wise distribution of Water Bodies within India being monitored by CWC is shown in **Figure 2.8.**

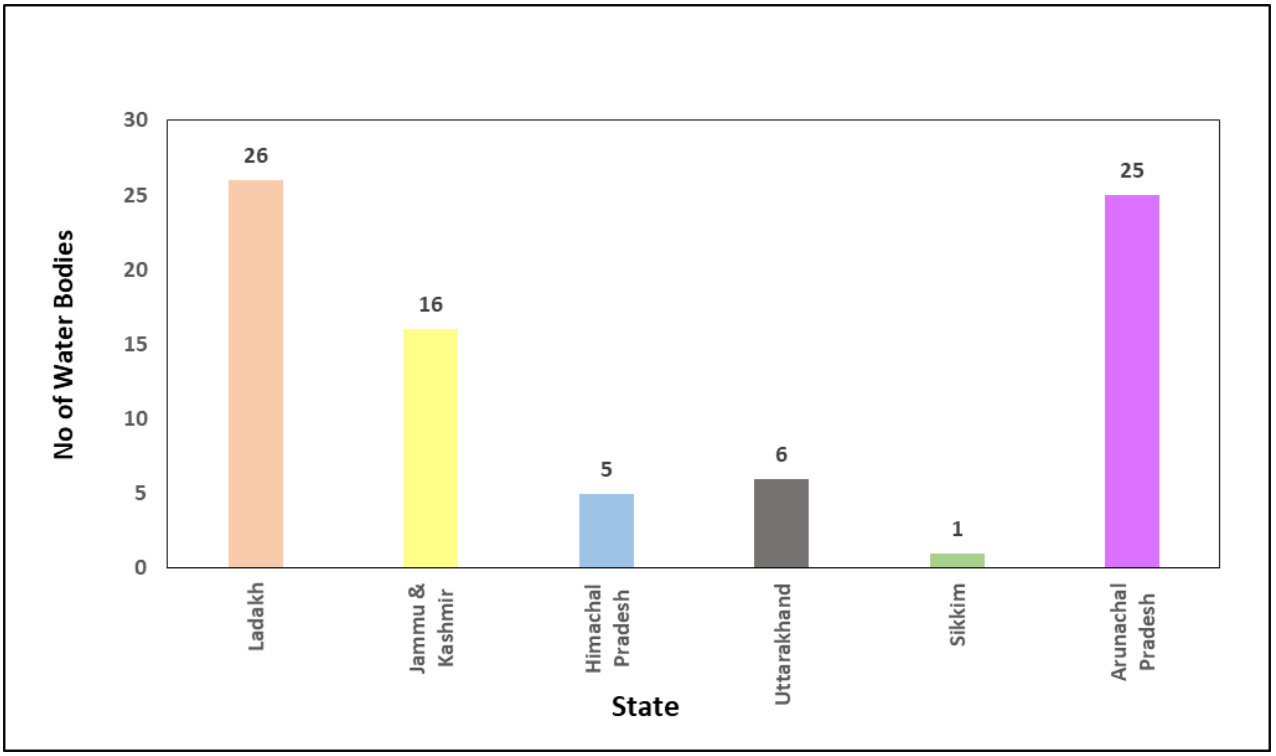


Figure: 2.8 State-wise Distribution of Water Bodies being monitored by CWC

2.2 Remote Sensing Technology

Remote sensing is the science of acquiring information about the Earth's surface without actually being in contact with it. This is done by sensing and recording reflected or emitted energy and processing, analysing, and applying that information. Satellite remote sensing technology has contributed significantly to the acquisition of Earth's resources, thus helping in their better management. They also plays a complementary role to the conventional data collection procedures. Satellite remote sensing offers several unique advantages like quick and repetitive data collection, reliability, accuracy, geometric integrity and digital storage, which makes it an ideal tool for mapping, inventorying and monitoring the natural resources.

Monitoring of glacial lakes located in remote mountain areas with rugged terrain and inclement weather by traditional means is very tedious and difficult. Hence Remote Sensing data plays a greater role in generating information on glacial lakes. Satellites with high spatial, spectral and temporal resolution sensors are useful in deriving lake information with better accuracy at regular intervals. Visual and digital image processing and analysis techniques integrated with Geographic Information Systems (GIS) are very useful for the study and monitoring of Glacial Lakes and Water Bodies.

The monitoring was done by downloading and manually digitising Advanced Wide Field Sensor (AWiFS) Satellite imageries procured/ downloaded from NRSC till 2021. High resolution SENTINEL-2 Multi-Spectral Imagery (MSI) and *Sentinel-1* Synthetic Aperture Radar (SAR) data (Microwave Imagery) have been utilized for the study, thereafter in Google Earth Engine platform.

2.2.1 Sentinel-2 Multi Spectral Imagery

The Sentinal-2 mission comprises of a constellation of two polar-orbiting satellites placed in the same sun-synchronous orbit, phased at 180° to each other. It is a wide-swath, high-resolution, multi-spectral imaging mission for monitoring of vegetation, soil and water cover, inland waterways and coastal areas. The SENTINEL-2 Multi-SpectralInstrument (MSI) has visible, near infrared and shortwave infrared sensors sampling 13 spectral bands - 4 bands at 10 m, 6 bands at 20 m and 3 bands at 60 m spatial resolution with a swath width of 290 km. The revisit frequency of each single SENTINEL-2 satellite is 10 days and the combined constellation revisit is 5 days. The Green, Red and NIR bands have been utilized for this study.

2.2.2 Sentinel-1 Synthetic Aperture Radar (Microwave Imagery)

The *Sentinel-1* mission comprises a constellation of two polar-orbiting *satellites, Sentinel-1A and Sentinel-1B, sharing the same orbital plane.* It has C-band synthetic aperture radar (SAR) active

sensor. Synthetic Aperture Radar (SAR) has the advantage of operating at wavelengths not impeded by cloud cover or a lack of illumination and can acquire data over a site during day or night time under all weather conditions. SAR actively transmits microwave signals towards the Earth and receives a portion of transmitted energy as backscatter from the ground. The SAR instrument provides radar backscatter measurements influenced by the terrain structure and surface roughness. Generally, the more roughness or structure on the ground, the greater the backscatter. Rough surfaces will scatter the energy and return a significant amount back to the antenna resulting in a bright feature. The C-band imaging operates in four exclusive imaging modes with different resolution (down to 5 m) and coverage (up to 400 km). It provides dual polarisation capability, very short revisit times and rapid product delivery. It can transmit a signal in either horizontal (H) or vertical (V) polarisation, and then receive in both H and V polarisations. For each observation, precise measurements of spacecraft position and altitude are available. The repeat orbit cycle of each Sentinel-1 satellite is 12-day. The backscatter intensity of vertical transmit-vertical receive (X) band (VV band) data has been utilized for the study.

3. Methodology

Google Earth Engine(GEE) has been used to process the Multispectral and Microwave Sentinel image data for the monitoring of Glacial Lakes & Water Bodies. Google Earth Engine (GEE) is a cloud-based geospatial analysis platform that enables users to visualize and analyze satellite images. The Microwave and Multispectral Satellite works on different principle, and hence separate methodology has been adopted to compute the water spread area of GL&WBs in an automatic manner.

Multispectral data consist of visible and infrared bands. The spectral combination of NIR, red & green bands is used to generate false colour composite (FCC). The Normalised Difference Water Index (NDWI) is computed using green and NIR band. The process of calculation of NDWI and FCC is repeated for each GL&WB. The OTSU algorithm is further used to identify the threshold of NDWI for segregating water pixels from other types of features. The detected water pixels are further summed to calculate water spread area in the region of interest.

Microwave data of Sentinel-1 is a phase-preserving dual polarisation SAR system. The backscatter intensity of vertical transmit vertical receive (X) band has been used to distinguish water pixels from other types of features. The OTSU algorithm is further used to identify the threshold of backscatter intensity for segregation. The water spread area of each lake has been calculated by summation of water pixels in the region of interest.

The automated area of the GLs&WBs are then verified manually in GEE. The lakes which show discrepancy in automated area extraction are required to be delineated manually based on the visual interpretation. This is required as the region being monitored has rugged terrain with high mountains and deep valleys, which may lead to effects like foreshortening, layover, mountain shadows etc in the microwave/SAR data. Cloud cover hinders the performance of Multispectral Satellite images. The change detection in water spread area of 477 GLs & WBs greater than 50 Ha have been calculated for the following three cases.

- Difference between the current area of lake and base year area(2011)
- Difference between the current area of lake and Last five years average area(2019-2023)
- Difference between the current area of lake and Last ten years average area(2014-2023)

The minimum of change observed from the above three cases has been adopted to identify increase, decrease and no change in water spread area.

As the monitoring of 385 GLs with waterspread area between 10 Ha & 50 Ha was initiated in 2022, the change detection in water spread area has been calculated for the following two cases

- Difference between the current area of lake and base year area(2011)
- Difference between the current area of lake and last two years average area(2022-2023)

The minimum of change observed from the above two cases has been adopted to identify increase, decrease and no change in water spread area.

For the remaining 40 GLs, as the inventory details (base year 2011) are not available and monitoring data being available only since 2022, the change detection in water spread area has been calculated as the

- Difference between the current area of lake and last two years average area(2022-2023)

Thereafter the GLs & WBs are categorized as those with increase in water spread area greater than 40%, increase in water spread area up to 40%, no change in water spread area, decrease in water spread area and analysis not performed due to limitations in remote sensing technology such as cloud cover, frozen condition, dried up condition etc.

The detailed flow-chart on methodology for automatic monitoring of Glacial Lakes and Water Bodies using satellite images is given below in **Figure 3.1**

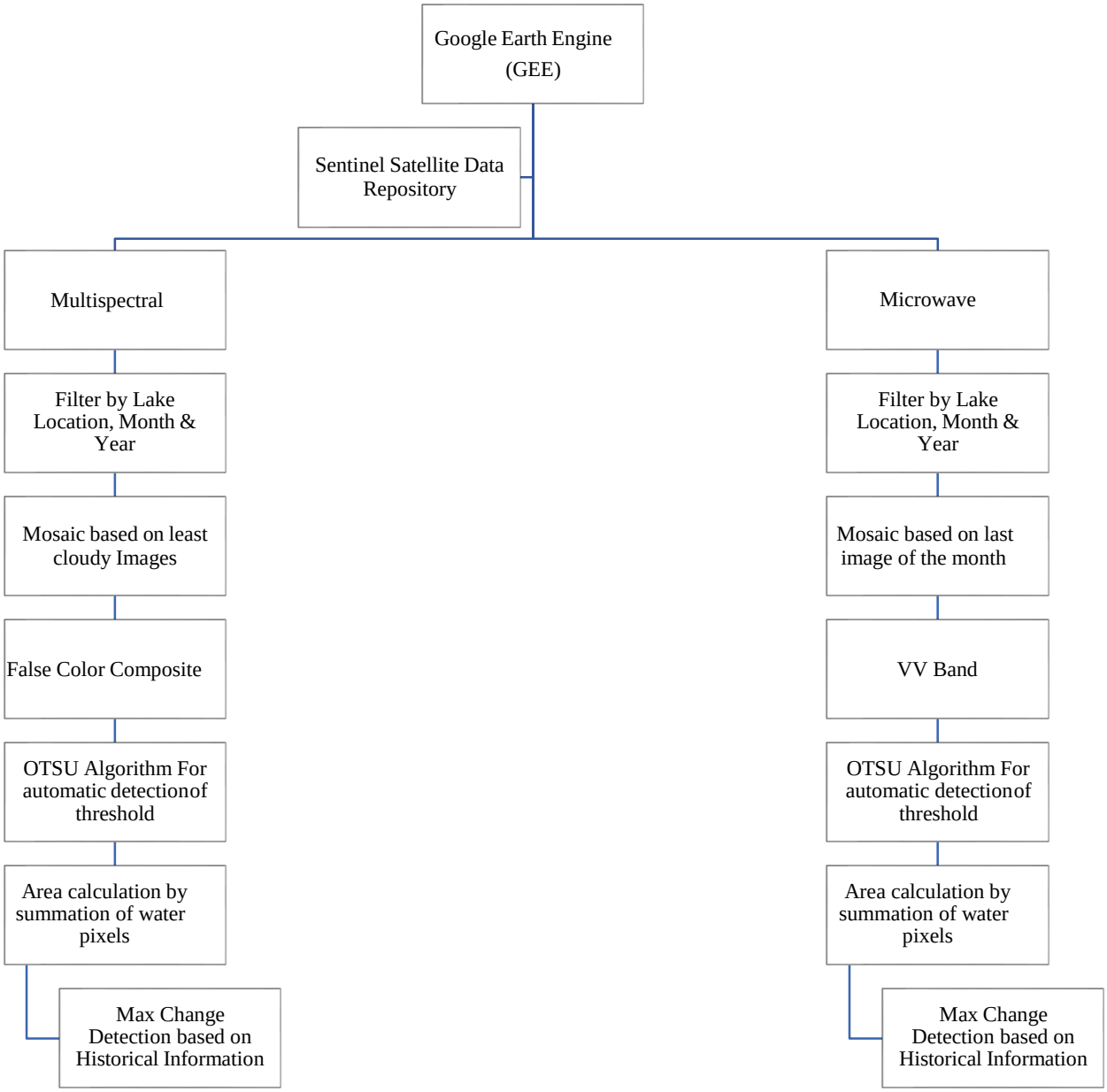


Figure 3.1: **Flowchart on Methodology for automatic monitoring of Glacial Lakes & Water Bodies using Satellite Images**

4. Results

4.1 Results of Monitoring of Glacial Lakes & Water Bodies

The water spread area of 902 Glacial Lakes & Water Bodies was calculated for the month of October 2024 in an automatic manner and manually digitized wherever required using the methodology described above. It includes **477 GL & WBs** with water spread area greater than 50ha which are being monitored since the year 2011 and **425 GLs** with water spread area between 10 Ha to 50 ha being monitored from the year 2022.

The results of change detection in water spread area of 477 GL & WBs are shown in Table 4.1 to Table 4.5.

It is observed that out of **477 GL&WBs**,

i. **16** show increase in water spread area greater than 40%

ii. **208** show increase in water spread area but less than 40%

iii. **29** show no change in water spread area

iv. **211** show decrease in water spread area

v. change detection for remaining **13** could not be performed due to reasons such as like frozen condition, dried up condition, cloud cover etc.

The results of change detection in water spread area of remaining **425 GLs** are shown in Table 4.6 and Table 4.7.

It was observed that out of 425 Glacial Lakes,

i. **15** show increase in water spread area greater than 40%

ii. **165** show increase in water spread area but less than 40%

iii. **28** show no change in water spread area

iv. **203** show decrease in water spread area

v. change detection for remaining **14** could not be performed due to reasons such as like frozen condition, dried up condition, cloud cover etc.

The same is shown in Figure.4.1.

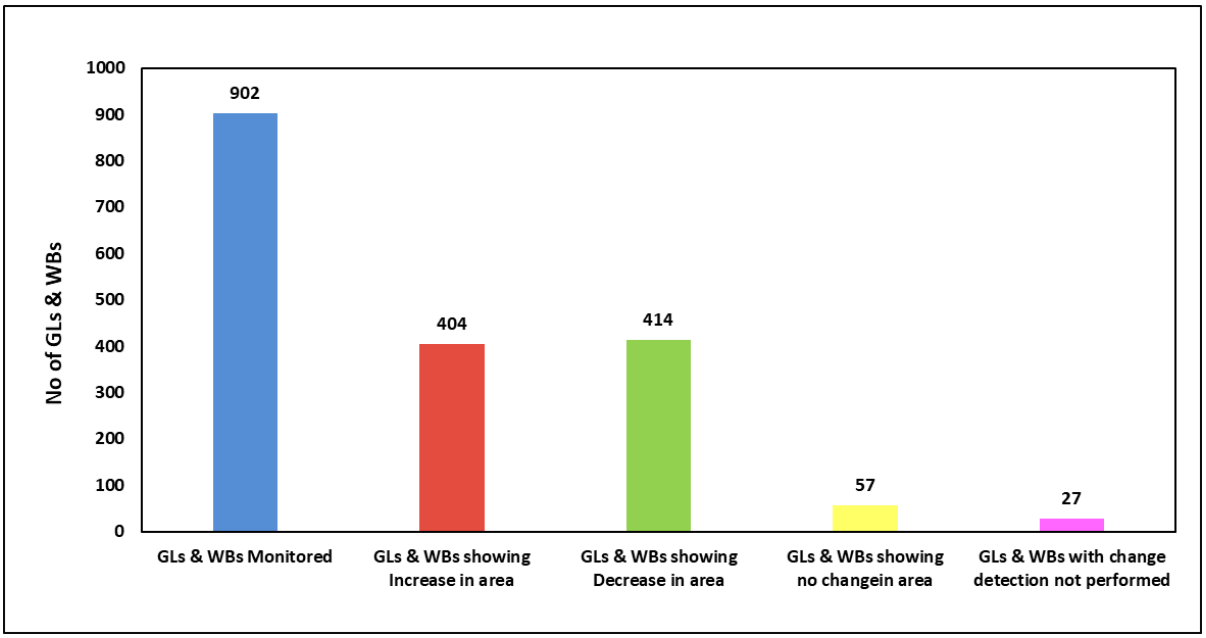


Figure 4.1: Outcome of Monitoring of GLs & WBs, October 2024

4.2 Glacial Lakes located in India requiring vigorous monitoring

Out of the 902 GLs & WBs monitored, 100 Glacial Lakes (15 GLs>50 Ha & 85GLs – 10 to 50 Ha) are located in India. The analysis indicates that

Out of 15 GLs

(i) **7** show increase in water spread area

(ii) **6** show decrease in water spread area

(iii) **1** show no change in water spread area

(iv) change detection of **1** GL could not be performed

Out of 85 GLs

(i) **50** show increase in water spread area

(ii) **22** show decrease in water spread area

(iii) **6** shows no change in water spread area

(iv) change detection of **7** GL could not be performed

The results of change detection in water spread area of 15 GLs (>50Ha) and 85 GLs (10ha-50ha) are shown in Table 4.8 and Table 4.9 respectively. The results of change detection in water spread area of **15 GLs** (>50Ha) and **85 GLs** (10ha-50ha) are shown in Table 4.8 and Table 4.9 respectively.

The state-wise distribution of Glacial Lakes located in India analyzed for the month of October 2024 is shown in figure 4.2. The lakes showing increase in water spread demand vigorous monitoring.

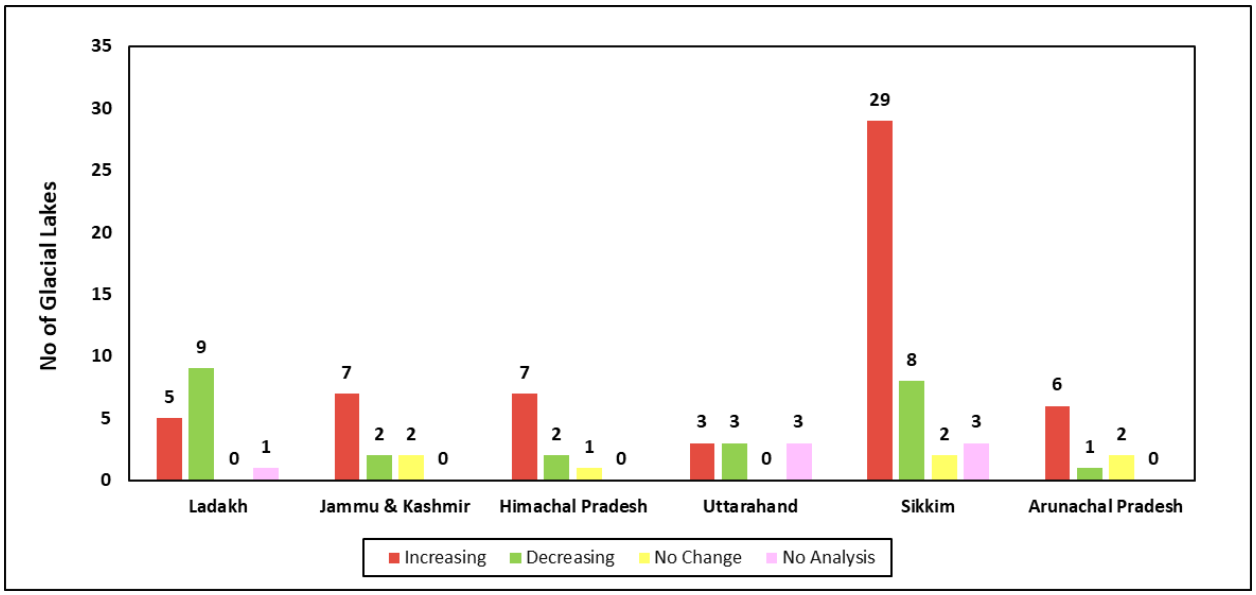


Figure 4.2: State-wise distribution of Outcome of monitoring of GLs within India, October 2024

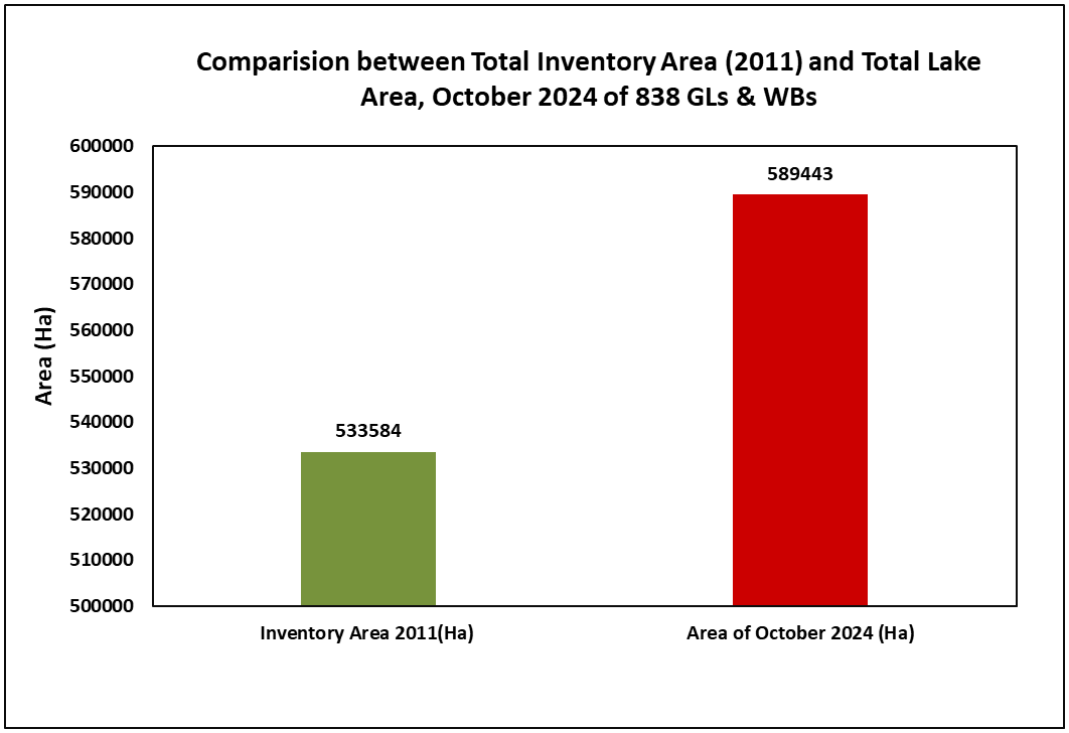
5.0 Conclusion

- **2 Glacial Lake and 14 Water Bodies** (>50Ha area) show increase in area greater than 40% when change detection was carried out with respect to base year area(2011), average area of last 5 years(2019-2023) & average area of last 10 years(2014-2023). The Glacial Lake and Water Bodies are in China.
- 26 nos. of Glacial Lakes & Water Bodies have been merged to 13 nos. of Glacial Lakes & Water Bodies & combined area of merged glacial lakes and water bodies has been shown against respective glacial lakes and water bodies. However, merging and demerging of lakes is a dynamic process; hence figure of 902 Glacial Lakes & Water Bodies has been kept intact for analysis part. Details of merged Glacial Lakes & Water Bodies are as under.

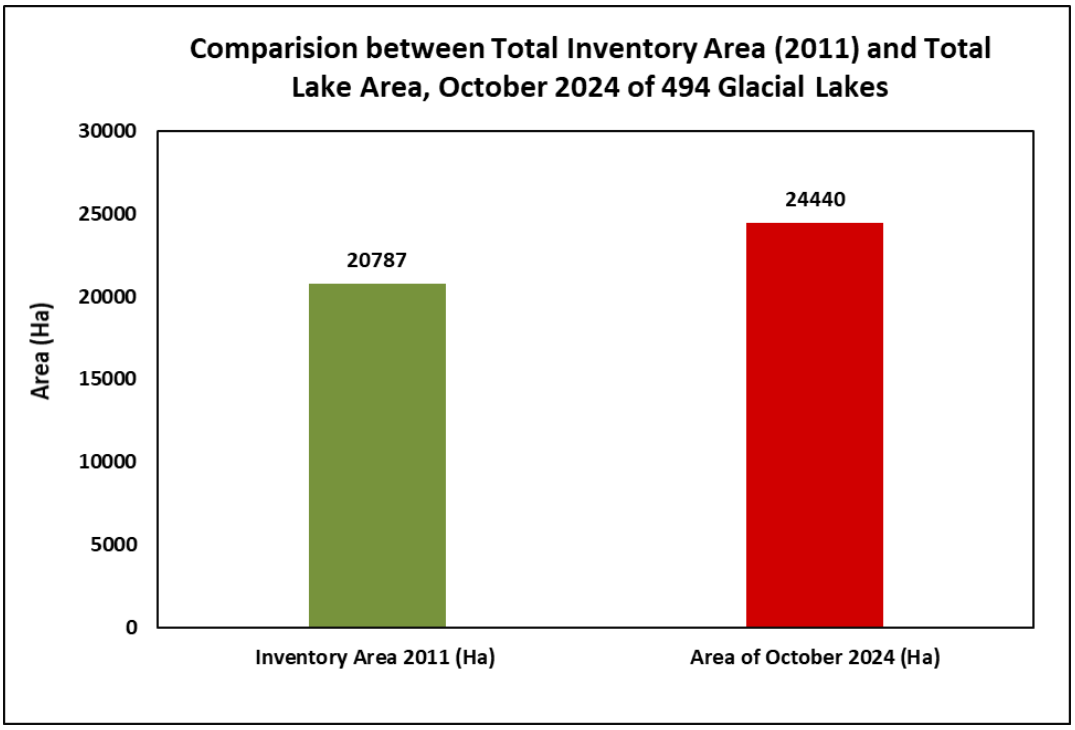
Sl. No.	ID	GL/WB	Location	Remarks
1	03_71G_008	WB	China	Merged with nearby lake not in inventory 2011
2	03_71K_011	WB	China	Merged with nearby lake not in inventory 2011
3	03_82N_032	GL	China	Merged with nearby lake not in inventory 2011
4	03_62O_040	WB	China	Merged with nearby lake not in inventory 2011
5	01_61C_014	WB	China	Merged with each other
	01_61C_015			
6	03_78E_009	WB	China	Merged with each other
	03_78E_010			
7	03_62O_041	WB	China	Merged with each other
	03_62O_042			
8	03_71K_007	WB	China	Merged with each other
	03_71K_009			
9	03_91C_035	GL	China	Merged with each other
	03_91C_036	GL		
10	02_71P_018	WB	China	Merged with each other
	02_71P_019	GL		
	02_71P_020	GL		
11	03_77L_048	GL	China	Merged with each other
	03_77L_053	GL		
12	01_61C_002	WB	China	Merged with each other
	01_61C_004	WB		
	01_61C_005	WB		
	01_61C_010	WB		
	01_61C_011	WB		
13	01_52H_003	GL	India (Himachal Pradesh)	Merged with each other
	01_52H_004			

The details of these lakes are given as footnote under Table Nos 4.1 to 4.6.

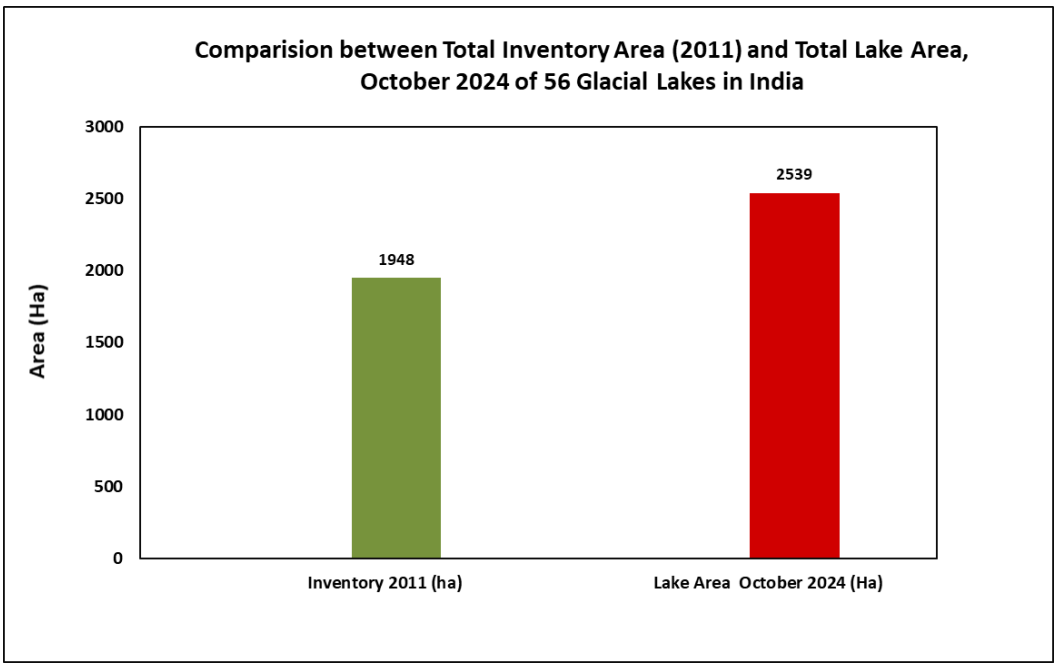
- **15 Glacial Lakes (10 ha-50 Ha area)** show increase in area greater than 40% when change detection was carried out with respect to base year area (2011), average area of last 2 years (2022-2023). 8 Glacial Lakes are in China. The remaining Glacial lakes are located in India **(Jammu & Kashmir- 3, Uttarakhand-1, Sikkim -2 & Arunachal Pradesh-1).**
- The total Inventory area of **Glacial Lakes and Water Bodies** was 5,33,584 Ha during the year 2011 which has increased to 5,89,443 Ha during the year 2024 (October). There is a **10.46%** increase in area. (*Out of 902 GL & WB, only 838 lakes were considered for this interpretation. The remaining lakes include 40 SDC lakes which have no inventory details as well GLS/WBs which were not analyzed/have been merged during the month of October, 2024.)* This is shown in Figure below.



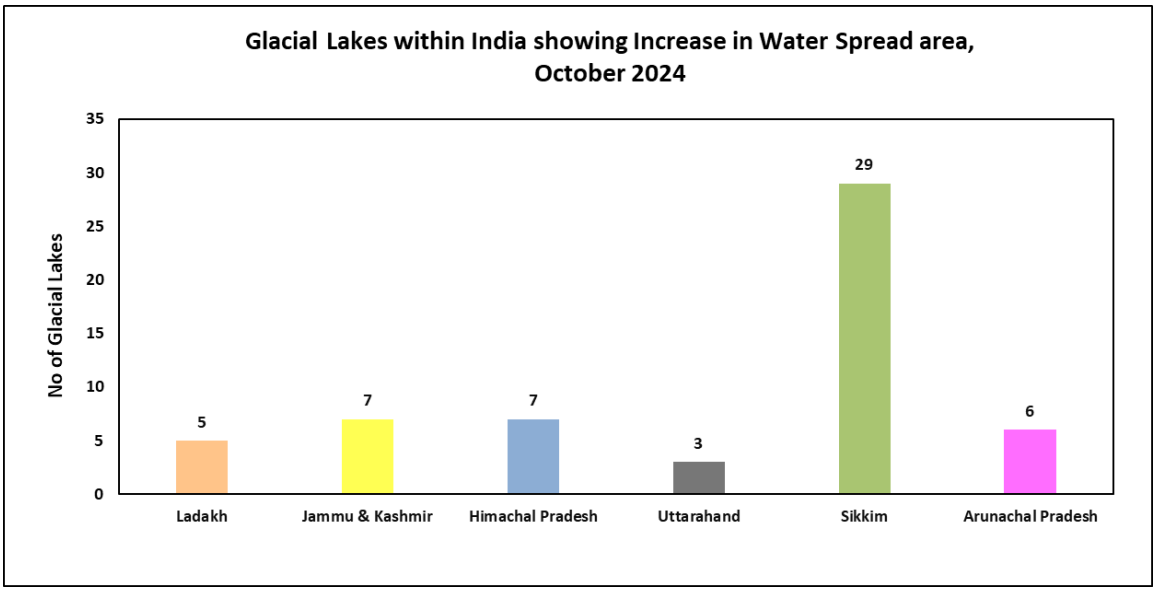
- The total Inventory area of **Glacial Lakes** was 20,787 Ha during the year 2011 which has increased to 24,440 Ha during the year 2024 (October). There is a **17.57%** increase in area. *(Out of 544 GL, only 494 lakes were considered for this interpretation. The remaining lakes include 40 SDC lakes which have no inventory details as well as lakes which were not analyzed/ have been merged during the month of October, 2024.)*. This is shown in Figure below.



- The total Inventory area of **Glacial Lakes within India** was 1,948 Ha during the year 2011 which has increased to 2,539 Ha during the year 2024 (October). There is a **30.34%** increase in area. (*Out of 100GL, only 56 lakes were considered for this interpretation. The remaining lakes include 40 SDC lakes which have no inventory details as well as 6 lakes which were not analysed/have been merged during the month of October, 2024.)*. This is shown in Figure below.



- **57 Glacial Lakes** (out of 100) located within India, as shown below, display increase in water spread area during the month of October 2024, and hence demand vigorous monitoring for disaster purpose *(Ladhak-5, Jammu & Kashmir-7, Himachal Pradesh-7, Uttarakhand- 3, Sikkim – 29 & Arunachal Pradesh-6)*.



- Use of a combination of Microwave satellite images in conjunction with multispectral satellite images (MSI) has largely overcome the short-comings due to obscurity from cloud cover and this has led to almost all-time and all-weather monitoring of all 902 Lakes. This has increased availability of satellite images at shorter frequency interval and will facilitate in reducing the monitoring interval in future.
- The use of Sentinel satellite images has brought the improvement of spatial resolution from 56m to10m leading to enhancement of monitoring accuracy. Sentinel images have also aided in improving temporal resolution.
- Most of GLs & WBs exhibiting 40% or more increase in water spread area, are located in transboundary region.

Table 4.1: Results of Analysis of GLs & WBs with water spread area greater than 50 ha showing "More than 40% Increase" in area

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
1	01_61C_004	NRSC			4495	WB	33°45'16.2"	80°38'37.68"	Indus	Indus	China	3021	21	#	#	14010
2	01_61C_010	NRSC		CH_38	4495	WB	33°43'28.92"	80°41'25.08"	Indus	Indus	China	3021	88	145	148	1936
3	01_61C_005	NRSC		CH_33	4495	WB	33°44'54.96"	80°38'29.76"	Indus	Indus	China	3021	139	449	335	573
4	01_61C_011	NRSC		CH_39	4494	WB	33°43'13.44"	80°43'16.68"	Indus	Indus	China	3021	403	597	515	406
5	03_71K_007	NRSC		CH_430	4752	WB	29°34'46.2"	86°15'39.6"	Brahmaputra		China	480	99	81	76	383
6	03_62O_042	NRSC		CH_387	4964	WB	29°29'56.04"	83°25'40.44"	Brahmaputra		China	278	57	60	57	360
7	02_71P_019	NRSC		CH_207	4199	GL	28°21'8.64"	87°52'30.36"	Ganga	Arun Kosi	China	225	48	58	55	287
8	03_78E_010	NRSC		CH_606	4582	WB	27°57'48.96"	89°24'45.72"	Brahmaputra		China	180	49	39	40	270
9	01_61C_002	NRSC		CH_30	4494	WB	33°45'3.96"	80°35'51.72"	Indus	Indus	China	3021	685	851	800	255
10	01_61C_014	NRSC		CH_42	4279	WB	33°29'57.12"	80°20'60"	Indus	Indus	China	855	286	307	295	178
11	02_71P_018	NRSC		CH_206	4199	WB	28°21'27.72"	87°53'6.72"	Ganga	Arun Kosi	China	225	51	87	67	159
12	03_62O_040	NRSC		CH_385	4896	WB	29°34'56.64"	83°21'20.16"	Brahmaputra		China	278	107	118	114	135
13	03_71K_009	NRSC		CH_432	4750	WB	29°33'26.28"	86°15'58.68"	Brahmaputra		China	480	230	219	194	109
14	02_71L_034	NRSC	89G	CH_188	5095	GL	28°2'0.96"	86°29'46.32"	Ganga	Sun Kosi	China	97	46	62	56	57
15	03_71K_011	NRSC		CH_434	4761	WB	29°28'32.88"	86°13'50.88"	Brahmaputra		China	585	387	347	352	51
16	03_82A_007	NRSC		CH_626	4911	WB	31°2'10.32"	92°47'12.84"	Brahmaputra		China	136	85	94	89	44

Note: G stands for Ganga, I for Indus and B for Brahmaputra under the rank of vulnerability,

" -" Inventory Data not available , "#" indicates frozen/ dried lakes.

A Water Body of China of Lake ID: 03_71K_011 has have merged with a nearby lake. The combined area has been shown against the lake.

A Water Body of China of Lake ID: 03_62O_040 has have merged with a nearby lake. The combined area has been shown against the lake.

The Waterbodies of China of Lake ID : 01_61C_002, 01_61C_004, 01_61C_005, 01_61C_010 & 01_61C_011 have merged with each other and combined area has been shown against each lake.

The Waterbodies of China of Lake ID : 02_71P_018 has merged with nearby Glacial lakes of Lake ID: 02_71P_019 & Lake ID: 02_71P_020 and combined area has been shown against each lake.

The Waterbodies of China of Lake ID : 03_71K_007 &03_71K_009 have merged with each other and combined area has been shown against each lake

The Waterbodies of China of Lake ID : 03_62O_041 &03_62O_042 have merged with each other and combined area has been shown against each lake

The Waterbodies of China of Lake ID : 01_61C_014 &01_61C_015 have merged with each other and combined area has been shown against each lake

Table 4.2: Results of Analysis of GLs & WBs with water spread area greater than 50 ha showing "Increase in area upto 40%"

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
1	03_62O_041	NRSC		CH_386	4963	WB	29°30'39.6"	83°26'39.48"	Brahma putra		China	278	206	208	209	33
2	01_43G_001	NRSC		JK_67	346	WB	33°12'47.16"	73°42'41.76"	Indus	Jhelum	India	29760	14989	20855	22406	33
3	03_77H_003	NRSC		CH_478	4714	WB	28°24'1.8"	89°3'41.04"	Brahma putra		China	284	220	192	164	29
4	02_71P_025	NRSC		CH_213	4807	WB	28°12'51.12"	87°28'5.88"	Ganga	Arun Kosi	China	167	104	132	125	27
5	02_53K_001	NRSC		UK_1	355	WB	29°34'10.2"	78°45'46.8"	Ganga	Ramganga	India	6853	3880	5390	5253	27
6	03_77L_006	NRSC		CH_522	4533	WB	28°53'40.2"	90°24'19.44"	Brahma putra		China	55	44	29	32	26
7	02_72E_001	NRSC		NP_57	1554	WB	27°36'6.48"	85°9'25.2"	Ganga	Bagmati	Nepal	197	158	148	141	24
8	03_78A_021	NRSC		SK_26	5431	GL	27°49'28.2"	88°14'57.12"	Brahma putra	Teesta	India	96	56	78	56	23
9	03_77H_007	NRSC		CH_481	4424	WB	28°16'25.68"	89°20'44.52"	Brahma putra		China	1058	866	502	565	22
10	03_77L_008	NRSC		CH_524	4448	WB	28°49'31.8"	90°41'11.04"	Brahma putra		China	85	71	62	71	19
11	03_77H_018	NRSC		CH_488	4699	WB	28°10'50.52"	89°32'3.84"	Brahma putra		China	96	80	81	75	18
12	01_43J_022	NRSC		JK_100	1583	WB	34°7'11.28"	74°49'50.52"	Indus	Jhelum	India	73	60	62	60	18
13	02_53P_003	NRSC		UK_11	207	WB	28°54'3.6"	79°37'22.8"	Ganga	Ramganga	India	1265	1078	831	828	17
14	03_71O_006	NRSC		CH_442	4738	WB	29°33'21.6"	87°1'39"	Brahma putra		China	133	104	113	109	17
15	03_82J_019	NRSC		CH_849	3944	GL	30°5'49.56"	94°16'10.92"	Brahma putra		China	95	45	82	68	16

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
16	03_78E_007	NRSC		BH_60	5008	GL	27°56'29.04"	89°55'48"	Brahma putra	Puna Tsang Chhu	Bhutan	73	61	63	56	15
17	03_77L_017	NRSC		CH_533	5340	WB	28°23'8.52"	90°19'9.12"	Brahma putra		China	90	74	78	69	15
18	02_78A_004	NRSC	194G	CH_270	5603	GL	27°55'58.08"	88°4'0.48"	Ganga	Arun Kosi	China	124	84	109	99	14
19	02_71L_010	NRSC	185G	CH_165	5387	GL	28°20'54.96"	86°13'30"	Ganga	Sun Kosi	China	67	47	59	52	14
20	03_77P_023	NRSC		CH_593	4235	WB	28°1'55.56"	91°0'6.12"	Brahma putra	Kuri Chhu	China	81	45	71	58	14
21	03_77D_003	NRSC		SK_3	5098	WB	28°0'47.52"	88°45'20.88"	Brahma putra	Teesta	India	114	84	100	94	14
22	03_82G_017	NRSC		CH_778	4437	WB	29°32'32.28"	93°49'49.44"	Brahma putra		China	61	53	52	49	14
23	03_78I_085	NRSC		BH_166	4764	WB	27°47'58.56"	90°13'50.16"	Brahma putra	Puna Tsang Chhu	Bhutan	80	70	69	58	14
24	03_82O_062	NRSC		AP_55	3612	WB	29°0'18.36"	95°54'19.44"	Brahma putra	Dibang	India	59	52	52	42	13
25	01_61D_002	NRSC		CH_54	4313	WB	32°32'12.12"	80°13'42.96"	Indus	Indus	China	1725	1216	1530	1504	13
26	01_43J_004	NRSC	5I	JK_82	4078	WB	34°55'15.24"	74°31'14.88"	Indus	Jhelum	India	74	59	66	64	13
27	01_43M_003	NRSC		JK_120	2663	WB	35°13'54.84"	75°37'49.44"	Indus	Shigar (Indus)	India	244	187	212	217	12
28	03_62O_032	NRSC		CH_377	5012	WB	29°41'21.48"	83°11'24.36"	Brahma putra		China	59	49	53	52	12
29	03_77K_015	NRSC		CH_517	4455	WB	29°7'3.36"	90°20'9.24"	Brahma putra		China	122	108	109	105	12
30	03_71P_001	NRSC		CH_448	5302	WB	28°49'56.64"	87°33'36"	Brahma putra		China	144	112	129	122	12

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
31	03_78E_002	NRSC		BH_57	5110	GL	27°58'21"	89°55'47.64"	Brahma putra	Puna Tsang Chhu	Bhutan	65	58	49	47	12
32	02_71L_001	NRSC		CH_156	5106	WB	28°53'12.84"	86°30'52.2"	Ganga	Arun Kosi	China	101	83	90	81	12
33	02_72I_004	NRSC	9G	CH_244	5074	GL	27°56'45.96"	86°26'47.4"	Ganga	Sun Kosi	China	218	121	194	178	12
34	02_71P_043	NRSC	18G	CH_231	5206	GL	28°5'36.6"	87°38'15"	Ganga	Arun Kosi	China	87	67	78	68	12
35	03_78I_023	NRSC		BH_104	5055	GL	27°56'22.56"	90°32'5.28"	Brahma putra	Manas Chhu & Mangde Chhu	Bhutan	60	51	54	45	11
36	02_71H_012	NRSC		CH_132	5379	GL	28°33'49.68"	85°36'14.76"	Ganga	Arun Kosi	China	141	89	127	118	11
37	02_78A_003	NRSC	24G	CH_269	5522	GL	27°56'46.68"	88°4'30.72"	Ganga	Arun Kosi	China	177	124	160	140	11
38	02_72I_011	NRSC	1G	NP_64	5034	GL	27°53'58.2"	86°55'15.96"	Ganga	Sun Kosi	Nepal	186	107	167	134	11
39	01_61F_004	NRSC		CH_61	4814	WB	34°1'19.92"	81°36'47.88"	Indus	Indus	China	42091	36392	37961	37980	11
40	02_77D_006	NRSC		CH_261	4894	GL	28°3'21.6"	88°25'35.4"	Ganga	Arun Kosi	China	104	80	89	94	11
41	01_53A_001	NRSC		HP_9	409	WB	31°59'21.84"	76°3'1.44"	Indus	Beas	India	20776	16946	18732	18149	11
42	02_72I_025	NRSC	66G	NP_78	4884	GL	27°46'44.4"	86°36'48.96"	Ganga	Sun Kosi	Nepal	149	108	135	114	10
43	01_52J_009	NRSC		JK_205	5576	WB	34°9'2.16"	78°33'11.52"	Indus	Shyok	India	64	57	58	54	10
44	02_71L_028	NRSC	38G	CH_183	5027	GL	28°8'8.88"	86°31'45.48"	Ganga	Sun Kosi	China	112	79	102	90	10
45	03_82B_015	NRSC		CH_641	5124	WB	30°20'56.4"	92°44'7.08"	Brahma putra		China	89	75	81	73	10
46	03_78E_026	NRSC		CH_613	5161	GL	27°48'31.32"	89°13'37.2"	Brahma putra	Amo Chhu	China	58	36	53	51	10
47	03_91D_010	NRSC		AP_109	3323	WB	28°55'8.4"	96°22'58.8"	Brahma putra	Dibang	India	55	46	51	45	9
48	02_72I_027	NRSC	41G	NP_80	4977	GL	27°45'17.28"	86°57'28.8"	Ganga	Sun Kosi	Nepal	89	82	81	72	9

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49	01_43K_010	NRSC		JK_111	3946	WB	33°31'8.4"	74°35'1.32"	Indus	Jhelum	India	73	66	67	63	9
50	03_82K_045	NRSC		CH_901	4572	WB	29°49'0.12"	94°7'58.8"	Brahma putra		China	54	49	46	40	9
51	03_82G_060	NRSC		CH_821	4577	WB	29°17'13.92"	93°44'10.68"	Brahma putra		China	64	59	54	50	9
52	03_82B_020	NRSC		CH_646	4986	WB	30°12'59.04"	92°30'59.76"	Brahma putra		China	53	49	48	45	9
53	01_62E_002	NRSC		CH_77	5139	WB	31°36'58.32"	81°1'0.48"	Indus	Indus	China	175	161	146	145	9
54	02_77D_006	NRSC		CH_1032	3345	WB	28°3'21.6"	88°25'35.4"	Brahma putra	Dihang	China	102	80	89	94	9
55	02_72I_023	NRSC	227G	NP_76	5232	GL	27°46'59.16"	86°57'24.84"	Ganga	Sun Kosi	Nepal	88	81	72	67	8
56	01_52H_005	NRSC		HP_6	4286	WB	32°28'53.76"	77°36'52.56"	Indus	Chenab	India	49	45	45	42	8
57	03_82K_020	NRSC		CH_876	4364	WB	29°53'47.76"	94°27'41.4"	Brahma putra		China	87	77	80	71	8
58	01_62E_010	NRSC		CH_85	5233	WB	31°16'26.76"	81°35'41.64"	Indus	Indus	China	168	156	151	145	8
59	03_77L_011	NRSC		CH_527	4533	WB	28°45'34.92"	90°50'49.2"	Brahma putra		China	1305	1209	1170	1149	8
60	01_43N_020	NRSC		JK_147	4112	WB	34°41'50.28"	75°8'12.84"	Indus	Jhelum	India	67	61	62	60	8
61	01_61H_001	NRSC		CH_66	4619	WB	32°7'7.68"	81°16'9.84"	Indus	Indus	China	321	282	297	285	8
62	01_52D_001	NRSC		HP_1	780	WB	32°36'52.92"	76°1'53.76"	Indus	Ravi	India	819	725	729	757	8
63	03_62K_009	NRSC		CH_313	5079	GL	29°50'25.8"	82°47'0.6"	Brahma putra		China	312	250	291	284	7
64	03_82O_064	NRSC		AP_57	3689	WB	29°3'41.76"	95°15'45"	Brahma putra	Dihang	India	50	44	47	40	7

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65	03_78I_056	NRSC		BH_137	4794	WB	27°51'42.48"	90°35'27.6"	Brahma putra	Manas Chhu & Mangde Chhu	Bhutan	82	76	76	67	7
66	03_82J_014	NRSC		CH_844	3703	WB	30°10'24.6"	94°20'44.52"	Brahma putra		China	197	183	183	167	7
67	02_72M_005	NRSC	139G	CH_251	5141	GL	27°56'57.12"	87°55'51.96"	Ganga	Arun Kosi	China	81	71	76	69	7
68	03_82G_023	NRSC		CH_784	4377	WB	29°30'45"	93°37'11.64"	Brahma putra		China	90	84	83	79	7
69	02_71L_003	NRSC		CH_158	5324	WB	28°49'55.92"	86°31'21"	Ganga	Arun Kosi	China	288	258	269	254	7
70	03_78A_013	NRSC		SK_19	5470	GL	27°55'7.68"	88°9'39.6"	Brahma putra	Teesta	India	86	67	80	79	7
71	01_53A_002	NRSC		HP_10	495	WB	31°23'7.8"	76°32'6"	Indus	Sutlej	India	12587	10256	11140	11816	7
72	03_77L_030	NRSC		BH_12	5305	GL	28°16'43.32"	90°13'32.88"	Brahma putra		Bhutan	92	79	87	82	6
73	03_62J_031	NRSC		CH_303	4897	GL	30°6'14.04"	82°16'10.56"	Brahma putra		China	234	160	221	199	6
74	02_71P_015	NRSC		CH_203	4153	WB	28°34'35.76"	87°32'38.76"	Ganga	Arun Kosi	China	1139	838	1079	933	6
75	03_77H_020	NRSC		CH_490	4473	WB	28°8'59.64"	89°20'58.92"	Brahma putra		China	4875	4588	4500	4563	6
76	03_62O_039	NRSC		CH_384	4555	WB	29°35'21.48"	83°59'19.68"	Brahma putra		China	310	236	294	272	6
77	02_71L_004	NRSC	5G	CH_159	5518	GL	28°23'40.92"	86°22'45.12"	Ganga	Arun Kosi	China	125	79	118	101	6
78	03_78E_028	NRSC		BH_72	2161	WB	27°38'21.12"	89°44'24.36"	Brahma putra	Puna Tsang Chhu	Bhutan	50	47	43	41	6
79	03_82F_008	NRSC		CH_733	4828	WB	30°32'5.64"	93°3'29.16"	Brahma putra		China	92	83	87	81	6

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80	03_82A_004	NRSC		CH_623	5008	WB	31°6'9"	92°41'55.68"	Brahma putra		China	51	46	48	46	6
81	03_77P_004	NRSC		CH_575	4452	WB	28°48'36"	91°8'42.72"	Brahma putra		China	210	143	194	198	6
82	01_52K_014	NRSC		JK_222	4535	WB	33°15'6.84"	78°2'34.44"	Indus	Indus	India	455	405	431	419	6
83	02_71D_004	NRSC	16G	NP_45	4064	GL	28°29'19.68"	84°29'8.52"	Ganga	Trishuli	Nepal	103	74	99	90	5
84	03_91C_074	NRSC		CH_1102	4258	GL	29°1'48"	96°13'22.8"	Brahma putra	Dibang	China	49	47	46	38	5
85	01_52H_004	NRSC		HP_5	4155	GL	32°29'47.04"	77°33'5.76"	Indus	Chenab	India	154	46	146	132	5
86	01_52J_005	NRSC		JK_201	5430	WB	34°11'9.96"	78°30'28.08"	Indus	Shyok	India	46	44	44	40	5
87	03_78I_048	NRSC		BH_129	4169	WB	27°52'0.84"	90°48'58.32"	Brahma putra	Manas Chhu & Mangde Chhu	Bhutan	55	52	52	45	5
88	03_82G_045	NRSC		CH_806	4523	WB	29°24'19.44"	93°42'28.44"	Brahma putra		China	76	71	72	68	5
89	03_91C_024	NRSC		CH_1075	3977	GL	29°17'53.16"	96°48'59.04"	Brahma putra		China	313	262	298	283	5
90	03_71G_007	NRSC		CH_416	5153	WB	29°39'14.4"	85°48'31.68"	Brahma putra		China	201	191	191	186	5
91	01_62E_013	NRSC		CH_88	5345	WB	31°14'29.4"	81°41'9.96"	Indus	Indus	China	174	166	159	155	5
92	03_82B_005	NRSC		CH_631	4888	WB	30°56'4.56"	92°49'45.12"	Brahma putra		China	232	195	221	201	5
93	01_62E_004	NRSC		CH_79	5161	WB	31°21'24.48"	81°8'59.28"	Indus	Indus	China	258	233	245	237	5
94	03_91C_078	NRSC		CH_1106	3694	WB	29°0'30.24"	96°13'4.44"	Brahma putra	Dibang	China	50	48	43	38	5
95	02_62J_003	NRSC	254G	NP_19	4854	WB	30°4'4.08"	82°7'35.04"	Ganga	Karnali	Nepal	61	49	58	53	5

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96	03_82O_054	NRSC		CH_1046	3311	WB	29°7'41.88"	95°26'17.88"	Brahmaputra	Dibang	China	54	51	46	44	5
97	03_92A_005	NRSC		AP_203	3391	WB	27°41'23.64"	96°51'38.16"	Brahmaputra	Lohit	India	53	50	50	43	5
98	01_62A_003	NRSC		CH_69	5142	WB	31°34'40.08"	80°59'22.2"	Indus	Indus	China	1425	1355	1336	1284	5
99	03_82K_068	NRSC		CH_924	4320	WB	29°32'40.92"	94°4'0.48"	Brahmaputra		China	54	52	49	47	5
100	02_72M_009	NRSC	51G	NP_86	4932	GL	27°52'13.08"	87°52'3.36"	Ganga	Tamor Kosi	Nepal	67	65	65	61	4
101	02_71P_047	NRSC	81G	CH_235	5614	GL	28°4'9.48"	87°2'53.88"	Ganga	Arun Kosi	China	94	80	90	84	4
102	03_62N_017	NRSC		CH_334	5454	WB	30°27'55.44"	83°59'4.2"	Brahmaputra		China	82	77	79	78	4
103	03_62J_015	NRSC		CH_287	5207	WB	30°23'52.08"	82°11'32.28"	Brahmaputra		China	85	70	81	80	4
104	03_82J_005	NRSC		CH_835	4134	GL	30°37'34.68"	94°26'42"	Brahmaputra		China	76	67	73	66	4
105	03_82C_010	NRSC		CH_665	4921	WB	29°46'44.04"	92°23'17.16"	Brahmaputra		China	158	153	151	138	4
106	03_78M_020	NRSC		BH_195	4157	WB	27°50'15.72"	91°36'18.36"	Brahmaputra	Dangme Chhu	Bhutan	70	65	67	60	4
107	02_77D_009	NRSC	71G	CH_264	5296	GL	28°0'37.08"	88°15'29.52"	Ganga	Arun Kosi	China	62	58	60	54	4
108	03_82N_004	NRSC		CH_975	4290	GL	30°36'3.96"	95°10'59.16"	Brahmaputra		China	128	92	123	102	4
109	02_71P_054	NRSC		CH_242	4859		#N/A	#N/A	Ganga	Arun Kosi	China	104	-	100	87	4
110	03_82B_010	NRSC		CH_636	4990	WB	30°52'42.24"	92°52'50.16"	Brahmaputra		China	54	52	48	45	4
111	03_82K_017	NRSC		CH_873	4397	WB	29°55'0.48"	94°16'46.56"	Brahmaputra		China	185	151	179	163	4

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112	03_78M_003	NRSC		CH_614	4459	WB	27°54'3.96"	91°53'48.84"	Brahma putra	Dangme Chhu	China	218	207	210	196	4
113	03_77L_077	NRSC		BH_45	5136	WB	28°0'54.36"	90°12'37.08"	Brahma putra	Puna Tsang Chhu	Bhutan	54	51	52	44	4
114	01_62F_003	NRSC		CH_94	4586	WB	30°41'5.28"	81°28'12.36"	Indus	Sutlej	China	42240	40552	40466	40731	4
115	03_77L_012	NRSC		CH_528	5014	WB	28°33'58.68"	90°23'47.04"	Brahma putra		China	30290	28771	29192	29023	4
116	03_62K_001	NRSC		CH_305	4834	WB	29°59'8.16"	82°32'4.56"	Brahma putra		China	407	370	392	364	4
117	02_72M_007	NRSC	33G	CH_253	4950	GL	27°55'35.04"	87°46'11.64"	Ganga	Arun Kosi	China	105	94	101	87	4
118	02_62P_003	NRSC	4G	NP_36	4937	GL	28°41'31.92"	83°51'9"	Ganga	Trishuli	Nepal	355	315	340	292	4
119	01_43N_001	NRSC		JK_128	4142	WB	34°59'28.32"	75°14'9.96"	Indus	Shingo (Indus)	India	132	127	125	124	4
120	01_61C_023	NRSC		CH_51	4350	WB	33°5'57.48"	80°10'38.64"	Indus	Indus	China	676	623	649	601	4
121	03_82E_003	NRSC		CH_721	5027	WB	31°6'12.96"	93°8'36.6"	Brahma putra		China	101	98	95	93	4
122	03_82P_010	NRSC		AP_67	1676	WB	28°8'53.16"	95°56'35.88"	Brahma putra	Dibang	India	103	99	95	86	4
123	02_71P_040	NRSC	126G	CH_228	4962	WB	28°6'50.04"	87°39'19.08"	Ganga	Arun Kosi	China	150	126	144	133	4
124	01_61G_003	NRSC		CH_64	4864	WB	33°37'59.88"	81°23'14.64"	Indus	Indus	China	88	85	60	65	4
125	03_78E_023	NRSC		CH_612	5291	GL	27°51'17.64"	89°15'59.76"	Brahma putra		China	64	38	55	61	4
126	03_82K_039	NRSC		CH_895	4128	WB	29°48'45.72"	94°25'57"	Brahma putra		China	233	224	203	194	4
127	03_62O_030	NRSC		CH_375	5013	WB	29°43'34.68"	83°6'16.56"	Brahma putra		China	107	97	103	101	3

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
128	02_62F_019	NRSC	144G	NP_12	5039	WB	30°7'46.56"	81°46'44.76"	Ganga	Karnali	Nepal	68	58	66	60	3
129	01_62F_010	NRSC	9I	CH_101	5250	GL	30°23'11.04"	81°55'47.64"	Indus	Sutlej	China	68	45	66	59	3
130	03_82N_019	NRSC		CH_990	4877	WB	30°28'24.6"	95°34'30.36"	Brahma putra		China	57	55	51	44	3
131	01_62E_005	NRSC		CH_80	5174	WB	31°18'47.88"	81°31'1.56"	Indus	Indus	China	205	189	199	190	3
132	03_71K_006	NRSC		CH_429	4847	WB	29°37'30.36"	86°14'50.28"	Brahma putra		China	2150	2096	2078	1997	3
133	03_77L_051	NRSC		BH_22	4548	GL	28°5'31.2"	90°17'60"	Brahma putra	Puna Tsang Chhu	Bhutan	166	143	161	143	3
134	03_82K_077	NRSC		CH_933	4590	WB	29°30'16.2"	94°7'58.44"	Brahma putra		China	103	100	100	91	3
135	03_71G_006	NRSC		CH_415	5065	WB	29°39'11.52"	85°44'15.72"	Brahma putra		China	1002	956	977	927	3
136	03_77H_030	NRSC		CH_495	4802	WB	28°1'32.16"	89°25'37.56"	Brahma putra		China	68	66	58	54	3
137	03_82O_061	NRSC		AP_54	3811	WB	29°0'40.32"	95°53'5.64"	Brahma putra	Dibang	India	58	54	56	48	3
138	03_62J_026	NRSC		CH_298	5078	GL	30°15'21.6"	82°12'34.2"	Brahma putra		China	138	103	134	121	3
139	01_52K_004	NRSC		JK_212	4293	WB	33°31'49.08"	78°54'37.8"	Indus	Shyok	India	5997	5741	5848	5774	3
140	03_71B_002	NRSC		CH_392	5388	WB	30°26'7.8"	84°3'33.12"	Brahma putra		China	8440	8185	8115	7956	3
141	01_52J_002	NRSC		JK_198	5359	WB	34°13'59.16"	78°25'34.32"	Indus	Shyok	India	69	67	60	55	3
142	02_71H_029	NRSC	1G	CH_149	5098	GL	28°19'14.16"	85°50'21.12"	Ganga	Sun Kosi	China	539	413	524	474	3
143	02_71L_002	NRSC		CH_157	5261	WB	28°51'29.16"	86°31'12.36"	Ganga	Arun Kosi	China	82	72	80	77	3
144	03_78E_009	NRSC		CH_605	4580	WB	27°57'37.08"	89°23'47.04"	Brahma putra		China	180	175	174	162	3
145	02_71H_035	NRSC		CH_155	4366	WB	28°10'57"	85°55'22.44"	Ganga	Sun Kosi	China	46	45	43	42	3

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
146	01_52K_010	NRSC		JK_218	5313	WB	33°27'17.64"	78°29'54.24"	Indus	Shyok	India	157	152	143	133	3
147	03_82O_044	NRSC		CH_1037	3552	WB	29°10'46.92"	95°29'6.72"	Brahmaputra	Dihang	China	94	92	89	74	3
148	03_78M_016	NRSC		CH_617	4647	WB	27°50'30.84"	91°53'34.44"	Brahmaputra	Dangme Chhu	China	154	142	150	135	3
149	03_62O_027	NRSC		CH_372	4575	WB	29°48'47.16"	83°39'15.48"	Brahmaputra		China	48	47	39	37	3
150	03_82J_025	NRSC		CH_855	4038	WB	30°0'17.64"	94°23'1.68"	Brahmaputra		China	61	59	57	53	3
151	03_77D_005	NRSC /SDC	/Very High Risk	SK_5	5249	GL	28°0'32.76"	88°41'52.44"	Brahmaputra	Teesta	India	104	88	101	86	3
152	02_71H_002	NRSC		CH_122	4650	WB	28°43'24.96"	85°52'46.56"	Ganga	Arun Kosi	China	2592	2152	2525	2391	3
153	03_82J_023	NRSC		CH_853	4315	WB	30°2'45.96"	94°9'24.84"	Brahmaputra		China	109	105	107	98	2
154	03_62K_012	NRSC		CH_316	5368	GL	29°44'7.8"	82°58'26.04"	Brahmaputra		China	90	73	88	77	2
155	03_77L_009	NRSC		CH_525	4515	WB	28°47'21.12"	90°53'38.76"	Brahmaputra		China	560	522	549	513	2
156	03_62N_021	NRSC		CH_338	5432	WB	30°25'50.88"	83°59'48.84"	Brahmaputra		China	201	197	186	187	2
157	03_78A_009	NRSC		SK_16	5044	GL	27°56'51.72"	88°19'52.68"	Brahmaputra	Teesta	India	63	55	62	58	2
158	03_82E_002	NRSC		CH_720	5008	WB	31°7'53.4"	93°10'36.48"	Brahmaputra		China	712	659	697	633	2
159	01_62E_015	NRSC		CH_90	5415	WB	31°10'56.28"	81°11'40.2"	Indus	Sutlej	China	52	51	47	44	2
160	02_71H_015	NRSC		CH_135	5367	GL	28°31'58.8"	85°36'30.96"	Ganga	Arun Kosi	China	550	515	537	484	2
161	01_62E_006	NRSC		CH_81	5055	WB	31°17'31.2"	81°14'40.92"	Indus	Indus	China	537	524	528	493	2

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
162	03_71G_001	NRSC		CH_410	5163	WB	29°53'34.08"	85°14'49.56"	Brahma putra		China	760	720	746	735	2
163	03_77L_043	NRSC		CH_552	5200	GL	28°5'21.84"	90°47'18.6"	Brahma putra	Kuri Chhu	China	243	181	238	207	2
164	01_52H_002	NRSC /SDC	4I/Very High Risk	HP_3	4101	GL	32°31'28.92"	77°13'5.88"	Indus	Chenab	India	101	62	99	88	2
165	01_52O_001	NRSC		CH_4	4242	WB	33°45'0"	79°14'23.93"	Indus	Shyok	China	69759	65825	68537	67080	2
166	03_82B_028	NRSC		CH_654	4998	WB	30°2'58.2"	92°26'35.52"	Brahma putra		China	52	48	51	46	2
167	03_78E_029	NRSC		BH_73	4250	WB	27°38'37.68"	89°27'39.96"	Brahma putra	Puna Tsang Chhu	Bhutan	46	45	40	35	2
168	01_61G_002	NRSC		CH_63	4663	WB	33°40'21.72"	81°22'16.32"	Indus	Indus	China	1388	1134	1356	1281	2
169	01_61C_015	NRSC		CH_43	4280	WB	33°29'16.44"	80°18'58.32"	Indus	Indus	China	855	742	835	775	2
170	03_77L_044	NRSC		BH_19	4385	GL	28°6'20.88"	90°14'49.56"	Brahma putra	Puna Tsang Chhu	Bhutan	136	123	133	119	2
171	03_77L_066	NRSC		BH_34	4896	GL	28°1'21.36"	90°42'29.88"	Brahma putra	Manas Chhu & Mangde Chhu	Bhutan	172	148	168	144	2
172	02_77D_008	NRSC	266G	CH_263	5285	GL	28°1'6.24"	88°17'14.28"	Ganga	Arun Kosi	China	50	45	49	45	2
173	02_62K_010	NRSC		NP_28	2975	WB	29°31'50.16"	82°5'29.04"	Ganga	Karnali	Nepal	1074	1051	1037	943	2
174	03_82A_002	NRSC		CH_621	4905	WB	31°7'12.36"	92°49'59.52"	Brahma putra		China	396	319	389	361	2
175	03_77L_001	NRSC		CH_520	4443	WB	28°57'20.52"	90°42'39.6"	Brahma putra		China	56644	55435	55508	54765	2

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
176	03_82B_007	NRSC		CH_633	4964	WB	30°53'40.92"	92°57'2.52"	Brahma putra		China	215	199	211	192	2
177	03_78M_022	NRSC		BH_197	4549	WB	27°50'2.04"	91°33'12.96"	Brahma putra	Dangme Chhu	Bhutan	70	67	69	59	2
178	03_91C_034	NRSC		AP_84	4288	WB	29°18'6.48"	96°4'55.92"	Brahma putra	Dibang	India	150	134	147	119	2
179	03_91D_081	NRSC		CH_1136	3356	WB	28°30'58.32"	96°41'54.24"	Brahma putra	Lohit	China	325	304	318	294	2
180	03_91C_044	NRSC		AP_90	4230	WB	29°13'23.16"	96°16'41.16"	Brahma putra	Lohit	India	67	63	67	59	1
181	03_77H_023	NRSC		CH_492	5313	WB	28°8'14.64"	89°32'5.28"	Brahma putra		China	48	47	45	44	1
182	03_82B_008	NRSC		CH_634	4928	WB	30°53'45.96"	92°54'35.28"	Brahma putra		China	274	254	271	255	1
183	03_82B_009	NRSC		CH_635	4963	WB	30°54'21.96"	92°49'1.56"	Brahma putra		China	177	156	175	161	1
184	03_82B_002	NRSC		CH_628	4906	WB	30°58'33.24"	92°56'28.68"	Brahma putra		China	450	405	443	418	1
185	02_78A_005	NRSC		CH_271	5376	GL	27°55'41.16"	88°0'10.08"	Ganga	Arun Kosi	China	118	89	108	117	1
186	01_52G_001	NRSC		JK_189	5008	WB	33°59'57.12"	77°58'44.04"	Indus	Shyok	India	45	45	41	41	1
187	01_43K_014	NRSC		JK_115	3521	WB	33°30'47.16"	74°46'6.96"	Indus	Jhelum	India	137	111	135	129	1
188	01_52K_016	NRSC		JK_224	4675	WB	33°6'22.32"	78°18'12.96"	Indus	Sutlej	India	511	507	497	482	1
189	01_52N_001	NRSC		CH_3	4964	WB	34°9'32.04"	79°46'45.84"	Indus	Indus	China	12360	11564	12293	12183	1
190	03_82B_004	NRSC		CH_630	4893	WB	30°56'56.04"	92°53'22.56"	Brahma putra		China	105	93	104	95	1
191	03_82G_062	NRSC		CH_823	4925	WB	29°14'25.08"	93°16'33.6"	Brahma putra		China	58	58	56	53	1

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
192	01_61C_001	NRSC		CH_29	4526	WB	33°57'12.6"	80°54'12.96"	Indus	Indus	China	11820	11154	11659	11512	1
193	03_82F_022	NRSC		CH_747	4200	GL	30°14'30.48"	93°38'14.28"	Brahma putra		China	112	103	111	101	1
194	03_82G_019	NRSC		CH_780	4460	WB	29°30'9"	93°56'12.12"	Brahma putra		China	60	59	52	44	1
195	03_82F_004	NRSC		CH_729	4508	WB	30°37'16.32"	93°10'49.8"	Brahma putra		China	711	692	701	661	1
196	02_71H_028	NRSC	15G	CH_148	5174	WB	28°19'49.08"	85°52'7.32"	Ganga	Sun Kosi	China	201	200	196	182	1
197	03_82J_024	NRSC		CH_854	4362	WB	30°0'46.44"	94°28'17.76"	Brahma putra		China	68	67	64	55	1
198	01_43N_030	NRSC		JK_157	3799	WB	34°8'21.12"	75°8'50.64"	Indus	Jhelum	India	87	86	79	82	1
199	03_62J_001	NRSC		CH_273	5449	WB	30°52'49.8"	82°51'33.12"	Brahma putra		China	149	147	141	134	1
200	03_77L_013	NRSC		CH_529	5191	WB	28°26'56.04"	90°15'24.84"	Brahma putra		China	356	319	353	318	1
201	03_77D_004	NRSC /SDC	/Very High Risk	SK_4	5287	GL	28°0'25.56"	88°42'46.08"	Brahma putra	Teesta	India	122	106	120	111	1
202	01_43E_023	NRSC		JK_47	4155	WB	35°51'54"	73°44'42.72"	Indus	Gilgit	India	87	86	84	83	1
203	01_43E_006	NRSC		JK_30	4186	WB	35°56'43.08"	73°21'52.56"	Indus	Gilgit	India	72	71	67	64	1
204	03_77N_004	NRSC		CH_563	3890	WB	30°0'32.4"	91°51'39.24"	Brahma putra		China	1311	1296	1220	1175	1
205	03_82K_075	NRSC		CH_931	4511	WB	29°31'3.36"	94°7'14.88"	Brahma putra		China	119	118	118	106	1

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
206	03_71C_011	NRSC		CH_404	4684	WB	29°13'52.32"	84°22'12"	Brahma putra		China	167	119	166	137	1
207	03_77P_020	NRSC		CH_591	4649	WB	28°5'16.44"	91°15'25.92"	Brahma putra	Kuri Chhu	China	64	63	56	52	1
208	01_43J_020	NRSC		JK_98	1584	WB	34°14'59.64"	74°40'10.2"	Indus	Jhelum	India	193	191	169	162	1

Note: G stands for Ganga, I for Indus and B for Brahmaputra under the rank of vulnerability,

" -" Inventory Data not available , "#" indicates frozen/ dried lakes.

The Waterbodies of China of Lake ID : 03_78E_009 & 03_78E_010 have merged with each other and combined area has been shown against each lake.

The Glacial Lakes of India (Himachal Pradesh) of Lake ID: 01_52H_003 & Lake ID: 01_52H_004 have with each other and combined area has been shown against each lake.

Table 4.3: Results of Analysis of GLs & WBs with water spread area greater than 50 ha showing "No Change" in area

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
1	03_62J_032	NRSC		CH_304	4857	GL	30°4'42.6"	82°20'32.28"	Brahma putra		China	89	81	89	83	0
2	03_77L_027	NRSC		CH_543	4531	WB	28°16'25.68"	90°44'12.48"	Brahma putra	Kuri Chhu	China	180	163	181	160	0
3	03_77L_029	NRSC		CH_545	5451	GL	28°16'22.8"	90°35'24.36"	Brahma putra	Kuri Chhu	China	47	45	47	46	0
4	02_71D_008	NRSC		NP_49	639	WB	28°9'13.68"	84°6'43.56"	Ganga	Trishuli	Nepal	98	98	97	91	0
5	03_77D_002	NRSC		SK_2	5156	GL	28°1'33.96"	88°42'36"	Brahma putra	Teesta	India	107	104	107	95	0
6	03_77P_009	NRSC		CH_580	5086	WB	28°32'46.68"	91°31'31.8"	Brahma putra		China	105	94	105	102	0
7	03_77L_033	NRSC		BH_13	5176	GL	28°15'56.88"	90°4'7.68"	Brahma putra		Bhutan	212	177	211	190	0
8	03_78E_019	NRSC		CH_611	5022	GL	27°52'40.44"	89°18'43.2"	Brahma putra		China	60	60	55	55	0
9	01_43P_002	NRSC		JK_167	669	WB	32°41'48.84"	75°8'44.16"	Indus	Ravi	India	55	52	55	55	0
10	02_71L_006	NRSC	3G	CH_161	5365	GL	28°22'26.76"	86°18'16.56"	Ganga	Arun Kosi	China	392	379	390	359	0
11	03_77K_017	NRSC		CH_519	4448	WB	29°0'39.6"	90°26'50.28"	Brahma putra		China	3862	3853	3750	3594	0
12	01_61B_003	NRSC		CH_28	5074	WB	34°14'5.64"	80°30'20.88"	Indus	Indus	China	225	224	206	194	0
13	02_71H_001	NRSC		CH_121	4580	WB	28°53'32.28"	85°35'8.52"	Ganga	Arun Kosi	China	27051	26825	27009	25843	0
14	03_77H_008	NRSC		CH_482	4570	WB	28°13'37.92"	89°38'17.52"	Brahma putra		China	1269	1268	1248	1172	0
15	03_62N_001	NRSC		CH_318	5102	WB	30°53'20.04"	83°34'48.72"	Brahma putra		China	14805	14300	14868	14696	0
16	01_52O_005	NRSC		CH_8	4358	WB	33°23'25.08"	79°22'1.2"	Indus	Indus	China	800	780	798	770	0

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
17	03_77B_001	NRSC		CH_452	5039	WB	30°10'5.52"	88°37'10.92"	Brahma putra		China	52	52	47	44	0
18	03_71C_003	NRSC		CH_396	5412	GL	29°51'59.76"	84°37'26.4"	Brahma putra		China	49	47	49	48	0
19	02_71H_003	NRSC		CH_123	4649	WB	28°41'10.32"	85°57'15.12"	Ganga	Arun Kosi	China	219	166	219	208	0
20	03_71K_002	NRSC		CH_425	4974	WB	29°48'4.32"	86°56'44.16"	Brahma putra		China	2321	2248	2321	2238	0
21	03_78E_012	NRSC		CH_607	4576	WB	27°56'32.64"	89°23'16.44"	Brahma putra		China	278	279	264	256	0
22	03_77L_068	NRSC		BH_36	4764	WB	28°0'12.6"	90°54'18.36"	Brahma putra	Kuri Chhu	Bhutan	86	86	81	75	0
23	03_82K_036	NRSC		CH_892	4251	WB	29°49'46.56"	94°37'55.2"	Brahma putra		China	69	69	61	51	0
24	03_82C_016	NRSC		CH_671	4679	WB	29°39'59.76"	92°23'36.6"	Brahma putra		China	54	54	47	47	0
25	03_62J_011	NRSC		CH_283	5181	WB	30°28'6.6"	82°3'33.12"	Brahma putra		China	402	401	382	359	0
26	02_72I_007	NRSC	785G	NP_62	4540	GL	27°55'25.32"	86°47'11.76"	Ganga	Sun Kosi	Nepal	59	48	53	59	0
27	01_52K_011	NRSC		JK_219	5291	WB	33°25'38.64"	78°29'16.44"	Indus	Shyok	India	185	186	175	168	0
28	03_78I_051	NRSC		BH_132	5074	GL	27°53'26.16"	90°17'24.36"	Brahma putra	Manas Chhu & Mangde Chhu	Bhutan	118	103	118	102	0
29	03_91H_017	NRSC		CH_1182	4590	WB	28°52'37.2"	97°21'19.44"	Brahma putra	Lohit	China	46	46	38	32	0

Note: G stands for Ganga, I for Indus and B for Brahmaputra under the rank of vulnerability,
" -" Inventory Data not available , "#" indicates frozen/ dried lakes.

Table 4.4: Results of Analysis of GLs & WBs with water spread area greater than 50 ha showing "Decrease" in area

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
1	02_71L_026	NRSC	73G	CH_181	5057	GL	28°11'8.52"	86°31'54.12"	Ganga	Sun Kosi	China	65	59	65	59	-1
2	03_82F_007	NRSC		CH_732	4801	GL	30°31'13.8"	93°26'41.28"	Brahma putra		China	114	115	116	108	-1
3	03_62O_038	NRSC		CH_383	4893	WB	29°36'16.92"	83°22'38.28"	Brahma putra		China	133	124	134	133	-1
4	01_62F_001	NRSC		CH_92	4571	WB	30°41'19.68"	81°13'55.2"	Indus	Sutlej	China	25307	25486	23880	24012	-1
5	03_77H_011	NRSC		BH_4	4963	GL	28°13'48.72"	89°53'15"	Brahma putra		Bhutan	152	140	153	139	-1
6	01_52K_012	NRSC		JK_220	4695	WB	33°18'46.8"	78°28'41.16"	Indus	Indus	India	165	166	161	154	-1
7	03_77L_041	NRSC		CH_550	5214	GL	28°7'24.6"	90°34'0.12"	Brahma putra	Kuri Chhu	China	64	56	65	58	-1
8	03_82N_030	NRSC		CH_1001	4462	GL	30°15'2.88"	95°36'13.68"	Brahma putra		China	131	132	133	117	-1
9	03_82E_007	NRSC		CH_725	5043	WB	31°0'14.4"	93°5'16.08"	Brahma putra		China	70	71	68	66	-1
10	01_62F_004	NRSC		CH_95	5493	WB	30°25'50.88"	81°25'58.44"	Indus	Sutlej	China	195	196	183	173	-1
11	02_71H_017	NRSC		CH_137	5314	GL	28°29'43.44"	85°38'9.24"	Ganga	Arun Kosi	China	487	493	491	443	-1
12	03_82F_030	NRSC		CH_755	3485	WB	30°1'13.8"	93°58'5.16"	Brahma putra		China	2651	2675	2684	2607	-1
13	03_77L_067	NRSC		BH_35	5231	GL	28°2'17.88"	90°21'50.4"	Brahma putra	Manas Chhu & Mangde Chhu	Bhutan	82	78	83	73	-1
14	02_71P_022	NRSC	34G	CH_210	5439	GL	28°13'45.84"	87°35'27.6"	Ganga	Arun Kosi	China	81	80	82	76	-1
15	01_61F_003	NRSC		CH_60	5256	WB	34°16'30.36"	81°3'7.56"	Indus	Indus	China	565	570	555	504	-1

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
16	03_77J_003	NRSC		CH_499	5039	WB	30°28'45.48"	90°57'58.32"	Brahma putra		China	88	89	85	80	-1
17	01_52C_003	NRSC	7I	JK_187	4512	GL	33°9'26.28"	76°59'3.48"	Indus	Indus	India	57	45	58	56	-1
18	03_77P_017	NRSC		CH_588	4751	WB	28°17'49.92"	91°56'44.52"	Brahma putra	Dangme Chhu	China	2326	2345	2236	2148	-1
19	01_52K_009	NRSC		JK_217	4921	WB	33°27'51.48"	78°36'39.24"	Indus	Shyok	India	202	204	193	188	-1
20	03_77O_001	NRSC		CH_564	3879	WB	29°55'7.68"	91°5'22.2"	Brahma putra		China	180	181	149	154	-1
21	02_71P_029	NRSC	43G	CH_217	5045	GL	28°10'42.24"	87°33'41.4"	Ganga	Arun Kosi	China	105	80	106	93	-1
22	01_52L_001	NRSC		JK_225	4523	WB	32°53'48.12"	78°18'48.6"	Indus	Sutlej	India	13990	14139	14052	14082	-1
23	03_62N_004	NRSC		CH_321	5168	WB	30°40'5.16"	83°37'30.72"	Brahma putra		China	879	878	889	891	-1
24	01_42H_001	NRSC		JK_1	4292	WB	36°52'50.16"	73°42'4.68"	Indus	Gilgit	India	272	276	270	273	-1
25	03_91D_107	NRSC		AP_163	3769	WB	28°12'8.64"	96°53'51.72"	Brahma putra	Lohit	India	66	67	65	56	-1
26	02_71P_027	NRSC	82G	CH_215	5389	GL	28°11'40.2"	87°38'26.52"	Ganga	Arun Kosi	China	51	49	51	52	-1
27	03_91H_040	NRSC		CH_1205	4324	WB	28°24'44.28"	97°27'52.56"	Brahma putra	Lohit	China	56	51	56	50	-1
28	03_82G_051	NRSC		CH_812	4735	WB	29°22'10.92"	93°41'38.04"	Brahma putra		China	49	49	46	43	-1
29	03_82J_008	NRSC		CH_838	4036	GL	30°27'0.72"	94°36'14.76"	Brahma putra		China	212	156	215	188	-1
30	02_71P_016	NRSC		CH_204	4182	WB	28°29'56.76"	87°27'7.92"	Ganga	Arun Kosi	China	134	137	133	132	-2
31	03_77L_037	NRSC		BH_15	5139	GL	28°14'15.72"	90°6'15.48"	Brahma putra		Bhutan	578	542	590	569	-2

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
32	03_91C_005	NRSC		CH_1056	4926	GL	29°49'23.16"	96°21'2.52"	Brahma putra		China	97	86	99	80	-2
33	01_52J_001	NRSC	8I	JK_197	5311	GL	34°27'27.72"	78°8'6.36"	Indus	Shyok	India	96	65	98	90	-2
34	03_62J_013	NRSC		CH_285	4934	WB	30°25'8.04"	82°18'7.92"	Brahma putra		China	909	854	927	901	-2
35	03_91C_040	NRSC		AP_87	4450	WB	29°15'19.08"	96°14'40.92"	Brahma putra	Lohit	India	92	94	85	70	-2
36	02_77D_007	NRSC	244G	CH_262	5215	GL	28°1'23.88"	88°21'16.2"	Ganga	Arun Kosi	China	56	55	57	56	-2
37	02_72M_006	NRSC	349G	CH_252	5188	GL	27°57'2.16"	87°54'31.68"	Ganga	Arun Kosi	China	64	65	64	59	-2
38	02_72I_003	NRSC	319G	NP_59	4762	GL	27°57'3.6"	86°41'22.92"	Ganga	Sun Kosi	Nepal	44	45	41	38	-2
39	03_82K_037	NRSC		CH_893	4147	WB	29°49'40.08"	94°27'43.2"	Brahma putra		China	54	55	52	47	-2
40	01_62E_003	NRSC		CH_78	5104	WB	31°27'30.24"	81°5'26.52"	Indus	Indus	China	151	136	154	148	-2
41	01_61C_022	NRSC		CH_50	4339	WB	33°5'51.36"	80°23'34.08"	Indus	Indus	China	1545	1420	1580	1481	-2
42	01_61D_004	NRSC		CH_56	4991	WB	32°9'24.84"	80°18'11.88"	Indus	Indus	China	536	550	540	509	-2
43	03_82J_020	NRSC		CH_850	3852	WB	30°3'1.08"	94°14'53.52"	Brahma putra		China	430	439	418	395	-2
44	01_62J_001	NRSC		CH_102	4784	WB	30°38'15.72"	82°8'6.36"	Indus	Sutlej	China	5737	5571	5827	5499	-2
45	03_82K_060	NRSC		CH_916	4316	WB	29°32'43.44"	94°57'53.64"	Brahma putra		China	91	93	84	76	-2
46	01_52J_006	NRSC		JK_202	5401	WB	34°10'23.88"	78°26'16.08"	Indus	Shyok	India	108	110	104	97	-2
47	02_71H_008	NRSC		CH_128	5152	GL	28°37'1.56"	85°31'35.4"	Ganga	Arun Kosi	China	106	95	108	98	-2
48	03_82F_020	NRSC		CH_745	4110	GL	30°16'3"	93°27'22.68"	Brahma putra		China	71	71	72	67	-2
49	03_62K_002	NRSC		CH_306	4858	WB	29°58'48.36"	82°35'17.16"	Brahma putra		China	48	45	50	47	-3

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
50	03_91C_029	NRSC		CH_1078	4229	WB	29°14'15.72"	96°49'25.32"	Brahma putra		China	211	216	217	205	-3
51	03_78I_018	NRSC		BH_99	5083	GL	27°58'37.92"	90°13'56.28"	Brahma putra	Puna Tsang Chhu	Bhutan	67	63	69	63	-3
52	03_82K_042	NRSC		CH_898	4364	WB	29°46'44.76"	94°36'2.88"	Brahma putra		China	199	205	182	158	-3
53	03_82N_033	NRSC		CH_1004	4357	GL	30°13'16.68"	95°35'0.24"	Brahma putra		China	86	89	85	78	-3
54	03_77L_042	NRSC		CH_551	5057	GL	28°5'56.4"	90°44'23.28"	Brahma putra	Kuri Chhu	China	69	57	71	64	-3
55	01_52L_002	NRSC		JK_226	4986	WB	32°58'54.84"	78°35'43.44"	Indus	Indus	India	429	442	426	408	-3
56	03_71O_009	NRSC		CH_445	4302	WB	29°18'31.68"	87°11'22.2"	Brahma putra		China	2171	2123	2227	2107	-3
57	03_91C_045	NRSC		AP_91	3493	WB	29°13'44.4"	96°11'29.4"	Brahma putra	Dibang	India	110	113	106	100	-3
58	02_71H_007	NRSC		CH_127	5149	GL	28°37'25.68"	85°30'33.84"	Ganga	Arun Kosi	China	121	125	118	109	-3
59	01_43J_017	NRSC	3I	JK_95	3580	WB	34°25'55.56"	74°55'27.12"	Indus	Jhelum	India	159	164	158	155	-3
60	03_91D_080	NRSC		CH_1135	4295	WB	28°32'29.76"	96°37'3.36"	Brahma putra	Lohit	China	44	45	41	35	-3
61	03_77H_004	NRSC		CH_479	4428	WB	28°19'37.56"	89°25'43.68"	Brahma putra		China	195	201	133	140	-3
62	03_77L_014	NRSC		CH_530	5289	WB	28°26'19.32"	90°10'24.96"	Brahma putra		China	46	48	44	43	-3
63	03_91H_025	NRSC		CH_1190	3741	WB	28°46'58.8"	97°9'6.84"	Brahma putra	Lohit	China	83	85	85	79	-3
64	03_77O_002	NRSC		CH_565	3806	WB	29°53'58.56"	91°10'0.12"	Brahma putra		China	88	91	67	73	-3

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
65	03_82B_006	NRSC		CH_632	4837	WB	30°56'1.68"	92°46'27.84"	Brahma putra		China	120	124	124	119	-4
66	02_71L_023	NRSC	39G	CH_178	5106	GL	28°11'50.64"	86°34'54.12"	Ganga	Arun Kosi	China	124	116	129	119	-4
67	01_43N_032	NRSC		JK_159	3595	WB	34°5'37.32"	75°29'52.44"	Indus	Jhelum	India	54	49	56	56	-4
68	01_61C_024	NRSC		CH_52	4323	WB	33°2'6.72"	80°34'51.96"	Indus	Indus	China	4973	4486	5185	4958	-4
69	01_43A_001	NRSC		JK_22	3641	WB	35°59'42"	72°36'45.36"	Indus	Gilgit	India	200	203	209	195	-4
70	02_62K_012	NRSC		NP_30	3653	WB	29°11'47.76"	82°56'54.6"	Ganga	Bheri	Nepal	470	469	489	450	-4
71	03_82K_002	NRSC		CH_858	3998	WB	29°59'14.64"	94°26'7.44"	Brahma putra		China	74	75	77	70	-4
72	02_71D_007	NRSC		NP_48	700	WB	28°10'31.8"	84°5'57.84"	Ganga	Trishuli	Nepal	288	300	289	270	-4
73	01_43N_027	NRSC		JK_154	3683	WB	34°23'17.16"	75°7'6.6"	Indus	Jhelum	India	46	48	45	43	-4
74	02_71H_021	NRSC	76G	CH_141	4463	GL	28°28'6.6"	85°31'7.68"	Ganga	Trishuli	China	46	48	45	42	-4
75	03_77P_021	NRSC		CH_592	4749	GL	28°2'15"	91°27'6.48"	Brahma putra	Dangme Chhu	China	58	61	55	51	-4
76	02_72I_014	NRSC	6G	NP_67	4574	GL	27°51'41.04"	86°28'35.04"	Ganga	Sun Kosi	Nepal	168	134	175	162	-4
77	03_82B_021	NRSC		CH_647	5041	WB	30°12'46.08"	92°34'15.96"	Brahma putra		China	60	63	54	48	-4
78	03_82K_049	NRSC		CH_905	4180	WB	29°46'31.8"	94°34'20.64"	Brahma putra		China	48	50	42	36	-4
79	03_82K_006	NRSC		CH_862	4523	WB	29°56'25.8"	94°35'18.24"	Brahma putra		China	50	52	47	44	-4
80	03_71G_008	NRSC		CH_417	5187	WB	29°33'30.96"	85°52'50.52"	Brahma putra		China	58	60	54	56	-4
81	03_62N_009	NRSC		CH_326	5241	WB	30°35'26.88"	83°31'7.32"	Brahma putra		China	281	288	294	274	-4
82	03_62J_016	NRSC		CH_288	5303	GL	30°21'43.92"	82°3'17.28"	Brahma putra		China	51	44	54	49	-5

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
83	03_62J_012	NRSC		CH_284	4883	WB	30°25'53.4"	82°21'42.12"	Brahma putra		China	157	165	162	157	-5
84	01_43N_022	NRSC		JK_149	4243	WB	34°39'59.4"	75°10'45.48"	Indus	Jhelum	India	70	73	71	70	-5
85	03_91C_070	NRSC		CH_1098	4252	WB	29°2'37.32"	96°11'36.6"	Brahma putra	Dibang	China	54	57	56	47	-5
86	03_82G_024	NRSC		CH_785	4647	WB	29°32'25.8"	93°20'42"	Brahma putra		China	95	95	100	91	-5
87	03_82G_050	NRSC		CH_811	4734	WB	29°22'57.36"	93°38'25.08"	Brahma putra		China	42	44	40	35	-5
88	03_91D_009	NRSC		AP_108	4037	WB	28°55'40.44"	96°20'19.68"	Brahma putra	Dibang	India	46	47	49	39	-5
89	02_71L_032	NRSC	122G	CH_187	5250	GL	28°2'40.2"	86°30'49.32"	Ganga	Sun Kosi	China	55	58	52	49	-5
90	03_91C_064	NRSC		AP_100	3972	WB	29°4'45.84"	96°8'40.92"	Brahma putra	Dibang	India	85	89	90	75	-5
91	02_62P_004	NRSC		NP_37	807	WB	28°13'1.2"	83°56'43.8"	Ganga	Trishuli	Nepal	385	406	389	372	-5
92	03_82O_029	NRSC	8I	JK_197	5311	GL	29°18'17.64"	95°38'20.4"	Indus	Shyok	India	71	68	74	62	-5
93	03_91D_041	NRSC		AP_135	3526	WB	28°46'32.52"	96°31'53.4"	Brahma putra	Dibang	India	125	115	131	115	-5
94	03_91H_029	NRSC		CH_1194	3325	WB	28°45'44.28"	97°3'24.12"	Brahma putra	Lohit	China	47	50	48	45	-5
95	01_43J_021	NRSC		JK_99	1582	WB	34°7'6.24"	74°51'39.6"	Indus	Jhelum	India	1176	1238	959	980	-5
96	03_82O_042	NRSC		AP_49	3093	WB	29°10'36.48"	95°36'56.16"	Brahma putra	Dibang	India	42	44	39	37	-6
97	02_71P_028	NRSC		CH_216	4997	GL	28°12'21.6"	87°3'7.56"	Ganga	Arun Kosi	China	56	50	59	60	-6
98	03_82L_009	NRSC		CH_971	3893	GL	28°51'14.04"	94°0'0.72"	Brahma putra		China	61	54	65	55	-6
99	03_77L_010	NRSC		CH_526	4457	WB	28°48'40.68"	90°29'34.44"	Brahma putra		China	44	47	47	43	-6

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
100	03_82J_018	NRSC		CH_848	3913	GL	30°6'54.72"	94°11'17.16"	Brahma putra		China	93	99	93	89	-6
101	03_82D_004	NRSC		CH_710	4481	WB	28°52'54.84"	92°9'5.4"	Brahma putra		China	366	390	376	375	-6
102	03_77L_003	NRSC		CH_521	4434	WB	28°56'57.48"	90°31'1.2"	Brahma putra		China	3816	4065	3961	3985	-6
103	03_83A_012	NRSC		AP_77	4287	WB	27°31'6.6"	92°2'2.4"	Brahma putra	Dangme Chhu	India	59	63	61	52	-6
104	03_92E_001	NRSC		AP_206	4206	WB	27°59'23.28"	97°22'8.76"	Brahma putra	Lohit	India	54	45	58	49	-6
105	02_71P_035	NRSC		CH_223	5146	WB	28°9'7.2"	87°9'27"	Ganga	Arun Kosi	China	101	107	93	93	-6
106	03_82K_018	NRSC		CH_874	4168	WB	29°53'25.44"	94°34'12"	Brahma putra		China	154	165	161	140	-7
107	03_78A_014	NRSC/SDC	/Very High Risk	SK_20	5234	GL	27°54'42.84"	88°11'54.96"	Brahma putra	Teesta	India	142	123	152	130	-7
108	03_77B_002	NRSC		CH_453	5019	WB	30°8'51.72"	88°37'36.12"	Brahma putra		China	211	227	205	184	-7
109	03_77L_072	NRSC		BH_40	5201	GL	28°0'55.8"	90°22'26.76"	Brahma putra	Manas Chhu & Mangde Chhu	Bhutan	89	91	95	86	-7
110	01_61C_016	NRSC		CH_44	4289	WB	33°25'58.44"	80°27'59.76"	Indus	Indus	China	348	344	374	366	-7
111	03_71G_013	NRSC		CH_422	4543	WB	29°6'7.56"	85°5'49.56"	Brahma putra		China	247	244	265	247	-7
112	03_77D_008	NRSC		SK_8	5039	GL	28°0'26.28"	88°29'41.64"	Brahma putra	Teesta	India	43	46	41	42	-7
113	03_71C_005	NRSC		CH_398	5551	GL	29°50'43.8"	84°40'32.16"	Brahma putra		China	53	57	51	52	-7

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114	03_62N_022	NRSC		CH_339	4599	WB	30°12'15.12"	83°14'31.92"	Brahma putra		China	183	198	192	183	-7
115	03_91H_010	NRSC		CH_1175	4433	WB	28°56'23.28"	97°15'41.04"	Brahma putra	Lohit	China	90	79	98	79	-8
116	03_78E_006	NRSC		CH_604	4572	WB	27°58'11.64"	89°22'41.52"	Brahma putra		China	62	67	60	56	-8
117	03_77L_032	NRSC		CH_547	4669	GL	28°14'32.64"	90°43'38.28"	Brahma putra	Kuri Chhu	China	97	105	101	86	-8
118	02_53O_001	NRSC		UK_4	1968	WB	29°23'9.24"	79°27'35.64"	Ganga	Ramganga	India	42	46	43	40	-8
119	03_91C_046	NRSC		AP_92	3353	WB	29°13'32.52"	96°9'36"	Brahma putra	Dibang	India	56	61	54	51	-8
120	03_82G_035	NRSC		CH_796	4386	WB	29°28'35.4"	93°37'53.04"	Brahma putra		China	80	81	87	82	-8
121	03_92A_006	NRSC		AP_204	1178	WB	27°41'50.28"	96°27'7.2"	Brahma putra	Lohit	India	76	83	76	71	-8
122	03_82F_014	NRSC		CH_739	4691	GL	30°20'52.08"	93°30'24.12"	Brahma putra		China	45	49	44	42	-8
123	03_77L_035	NRSC		BH_14	5486	GL	28°14'58.92"	90°11'13.56"	Brahma putra		Bhutan	63	68	60	56	-8
124	03_91H_005	NRSC		CH_1170	4123	WB	28°58'40.08"	97°12'50.76"	Brahma putra	Lohit	China	64	58	68	70	-8
125	03_91H_067	NRSC		AP_185	3791	WB	28°5'44.52"	97°17'20.4"	Brahma putra	Lohit	India	51	56	52	47	-8
126	01_61F_002	NRSC		CH_59	5279	WB	34°17'55.32"	81°12'5.4"	Indus	Indus	China	54	59	55	49	-8
127	03_71G_011	NRSC		CH_420	4619	WB	29°7'19.56"	85°23'54.6"	Brahma putra		China	1370	951	1486	1308	-8
128	03_78M_010	NRSC		BH_188	4496	WB	27°52'37.92"	91°38'1.68"	Brahma putra	Dangme Chhu	Bhutan	46	50	42	36	-8

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
129	03_77H_012	NRSC		CH_483	4723	GL	28°14'25.44"	89°41'41.28"	Brahma putra		China	69	76	72	73	-9
130	03_82A_003	NRSC		CH_622	4896	WB	31°6'33.12"	92°57'7.2"	Brahma putra		China	90	99	91	88	-9
131	03_62O_024	NRSC		CH_369	4637	WB	29°51'26.64"	83°15'5.76"	Brahma putra		China	826	721	912	823	-9
132	03_91C_038	NRSC		AP_85	4002	WB	29°16'8.4"	96°9'24.12"	Brahma putra	Dibang	India	103	113	94	87	-9
133	03_77H_013	NRSC		CH_484	4950	GL	28°12'32.04"	89°44'42.72"	Brahma putra		China	44	48	46	46	-9
134	01_61C_021	NRSC		CH_49	4349	WB	33°6'16.56"	80°17'10.32"	Indus	Indus	China	1095	1155	1200	1082	-9
135	01_61C_018	NRSC		CH_46	4291	WB	33°22'1.2"	80°33'11.16"	Indus	Indus	China	1770	1779	1974	1883	-10
136	01_43A_002	NRSC		JK_23	3790	WB	35°56'42.36"	72°35'40.92"	Indus	Gilgit	India	91	91	101	96	-10
137	03_77P_019	NRSC		CH_590	4637	WB	28°3'31.68"	91°56'22.92"	Brahma putra	Dangme Chhu	China	270	220	302	252	-10
138	03_82J_004	NRSC		CH_834	3957	GL	30°39'37.8"	94°29'7.8"	Brahma putra		China	497	356	552	512	-10
139	02_71H_027	NRSC	2G	CH_147	5242	GL	28°21'40.32"	85°52'12.36"	Ganga	Sun Kosi	China	453	501	458	416	-10
140	02_53P_001	NRSC		UK_9	210	WB	28°57'29.88"	79°50'32.64"	Ganga	Ganga	India	1838	2054	1509	1547	-10
141	02_71L_013	NRSC	58G	CH_168	5324	GL	28°18'12.24"	86°9'27.36"	Ganga	Sun Kosi	China	57	64	58	54	-10
142	01_61D_003	NRSC		CH_55	4453	WB	32°25'23.52"	80°51'55.08"	Indus	Indus	China	62	69	51	52	-10
143	03_78M_019	NRSC		BH_194	4697	WB	27°50'49.92"	91°34'59.88"	Brahma putra	Dangme Chhu	Bhutan	49	55	54	49	-11
144	01_62F_002	NRSC		CH_93	4592	WB	30°48'6.48"	81°33'54.72"	Indus	Sutlej	China	297	333	303	297	-11
145	01_42H_003	NRSC		JK_3	3854	WB	36°38'47.4"	73°38'50.28"	Indus	Gilgit	India	110	124	110	102	-11
146	03_77P_013	NRSC		CH_584	5155	WB	28°31'48.36"	91°33'42.84"	Brahma putra		China	54	60	45	47	-11

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
147	03_82B_014	NRSC		CH_640	4825	WB	30°29'36.96"	92°38'35.88"	Brahma putra		China	138	157	150	140	-12
148	03_71O_010	NRSC		CH_446	4296	WB	29°12'14.4"	87°23'29.04"	Brahma putra		China	863	813	982	882	-12
149	03_82K_040	NRSC		CH_896	4329	WB	29°48'28.44"	94°30'1.8"	Brahma putra		China	58	66	52	48	-12
150	03_91C_025	NRSC		CH_1076	4022	GL	29°17'40.2"	96°50'3.84"	Brahma putra		China	102	95	118	108	-13
151	01_42H_005	NRSC		JK_5	2237	WB	36°14'56.76"	73°21'41.4"	Indus	Gilgit	India	63	73	57	54	-13
152	01_61C_012	NRSC		CH_40	4282	WB	33°32'45.24"	80°9'2.16"	Indus	Indus	China	282	290	324	309	-13
153	01_43J_007	NRSC	6I	JK_85	3708	WB	34°49'45.12"	74°3'42.12"	Indus	Jhelum	India	96	95	111	95	-13
154	03_77L_007	NRSC		CH_523	4510	WB	28°49'27.12"	90°50'0.24"	Brahma putra		China	1293	1478	1347	1342	-13
155	03_71K_003	NRSC		CH_426	4982	WB	29°45'59.04"	86°55'21.36"	Brahma putra		China	86	72	98	80	-13
156	03_77H_001	NRSC		CH_476	4275	WB	28°49'46.92"	89°51'6.48"	Brahma putra		China	378	442	375	353	-14
157	03_91C_033	NRSC		CH_1079	4278	GL	29°13'46.92"	96°48'4.68"	Brahma putra		China	147	164	170	154	-14
158	03_91H_011	NRSC		CH_1176	4494	WB	28°56'43.44"	97°5'53.16"	Brahma putra	Lohit	China	56	50	65	50	-14
159	03_82K_074	NRSC		CH_930	4553	WB	29°31'33.96"	94°3'26.28"	Brahma putra		China	76	88	81	75	-14
160	02_72I_002	NRSC	645G	NP_58	4854	GL	27°58'30.72"	86°40'52.32"	Ganga	Sun Kosi	Nepal	58	68	55	54	-15
161	03_78A_003	NRSC/SDC	/Very High Risk	SK_11	4977	GL	27°58'31.08"	88°36'59.04"	Brahma putra	Teesta	India	58	58	57	68	-15
162	03_82G_009	NRSC		CH_770	4580	WB	29°37'46.2"	93°33'41.4"	Brahma putra		China	43	51	43	46	-16

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
163	03_82K_103	NRSC		CH_959	3964	WB	29°17'42.36"	94°12'6.12"	Brahma putra		China	42	50	40	35	-16
164	03_77C_006	NRSC		CH_460	4514	WB	29°35'15"	88°13'54.12"	Brahma putra		China	85	102	83	84	-16
165	03_62O_043	NRSC		CH_388	5285	WB	29°28'13.44"	83°45'49.68"	Brahma putra		China	72	86	67	65	-16
166	03_82E_004	NRSC		CH_722	5049	WB	31°3'52.92"	93°17'32.64"	Brahma putra		China	47	57	46	44	-17
167	03_82F_016	NRSC		CH_741	4632	WB	30°19'7.68"	93°20'32.64"	Brahma putra		China	48	49	45	59	-18
168	03_82K_009	NRSC		CH_865	4168	WB	29°56'48.84"	94°21'28.44"	Brahma putra		China	103	116	127	104	-19
169	02_71L_011	NRSC	61G	CH_166	5439	GL	28°20'7.44"	86°11'30.12"	Ganga	Sun Kosi	China	52	64	53	49	-19
170	02_53O_005	NRSC		UK_8	239	WB	29°8'6.72"	79°17'19.68"	Ganga	Ramganga	India	1226	1510	1028	1172	-19
171	03_78A_018	NRSC		CH_598	4880	WB	27°51'19.44"	88°56'41.28"	Brahma putra	Amo Chhu	China	54	67	46	42	-19
172	03_91D_022	NRSC		AP_118	3143	WB	28°52'33.96"	96°23'38.76"	Brahma putra	Dibang	India	35	44	42	38	-20
173	03_82G_055	NRSC		CH_816	4619	WB	29°19'55.92"	93°43'17.04"	Brahma putra		China	50	62	46	43	-20
174	01_52L_003	NRSC		JK_227	4985	WB	32°55'14.88"	78°36'0.72"	Indus	Indus	India	520	649	532	559	-20
175	03_82G_048	NRSC		CH_809	4663	WB	29°25'15.6"	93°17'27.6"	Brahma putra		China	43	55	45	42	-22
176	02_53K_002	NRSC		UK_2	260	WB	29°19'9.84"	78°55'13.08"	Ganga	Ramganga	India	1252	1597	947	931	-22
177	03_82K_007	NRSC		CH_863	4294	WB	29°57'31.68"	94°17'30.48"	Brahma putra		China	100	130	125	126	-23
178	03_91C_049	NRSC		AP_95	4261	WB	29°11'46.32"	96°12'10.08"	Brahma putra	Dibang	India	62	80	69	58	-23

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
179	03_71G_010	NRSC		CH_419	4491	WB	29°20'49.2"	85°4'58.8"	Brahma putra		China	230	304	221	236	-24
180	03_77K_009	NRSC		CH_511	3937	WB	29°28'1.2"	90°10'20.28"	Brahma putra		China	53	70	63	64	-24
181	03_77P_018	NRSC		CH_589	4707	WB	28°6'5.76"	91°56'34.44"	Brahma putra	Dangme Chhu	China	117	154	116	118	-24
182	01_52O_003	NRSC		CH_6	4252	WB	33°33'43.56"	79°57'46.8"	Indus	Indus	China	220	290	207	188	-24
183	03_91C_014	NRSC		CH_1065	4033	GL	29°35'56.4"	96°8'28.68"	Brahma putra		China	48	65	49	48	-26
184	03_78E_017	NRSC		CH_609	5253	GL	27°52'35.76"	89°17'45.96"	Brahma putra		China	48	65	43	48	-26
185	03_82D_003	NRSC		CH_709	4408	WB	28°53'37.32"	92°7'43.32"	Brahma putra		China	37	50	43	42	-26
186	03_78A_001	NRSC/SDC	/High Risk	SK_9	5371	GL	27°59'30.12"	88°48'55.8"	Brahma putra	Teesta	India	186	156	185	254	-27
187	03_62O_002	NRSC		CH_347	4587	WB	29°57'38.52"	83°16'11.64"	Brahma putra		China	42	58	48	42	-28
188	01_53E_001	NRSC		HP_12	921	WB	31°40'22.8"	77°4'44.76"	Indus	Beas	India	70	72	99	94	-29
189	01_52O_002	NRSC		CH_5	5262	WB	33°58'49.08"	79°32'35.52"	Indus	Indus	China	94	135	104	102	-30
190	03_71G_014	NRSC		CH_423	4606	WB	29°5'1.68"	85°11'22.56"	Brahma putra		China	163	60	232	191	-30
191	03_71C_010	NRSC		CH_403	4561	WB	29°18'39.6"	84°25'49.44"	Brahma putra		China	33	49	32	39	-33
192	03_71G_009	NRSC		CH_418	5032	WB	29°31'32.88"	85°38'37.32"	Brahma putra		China	119	178	133	135	-33
193	03_82F_010	NRSC		CH_735	5030	GL	30°28'13.08"	93°31'59.52"	Brahma putra		China	28	44	17	14	-36
194	03_77P_012	NRSC		CH_583	4975	WB	28°31'43.32"	91°39'54.36"	Brahma putra		China	57	91	63	57	-37

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
195	01_52I_003	NRSC		JK_195	5159	WB	35°24'37.8"	78°17'3.84"	Indus	Shyok	India	120	180	193	189	-38
196	03_82G_065	NRSC		CH_826	4148	WB	29°2'16.8"	93°50'8.52"	Brahma putra		China	49	47	66	80	-39
197	01_62B_001	NRSC		CH_73	4526	WB	30°49'22.8"	80°44'34.8"	Indus	Sutlej	China	270	440	247	273	-39
198	03_77P_016	NRSC		CH_587	4749	WB	28°19'48.72"	91°57'47.88"	Brahma putra	Dangme Chhu	China	150	251	197	203	-40
199	02_63M_002	NRSC		NP_41	112	WB	27°37'15.96"	83°6'6.12"	Ganga	Rapti	Nepal	91	153	91	102	-41
200	02_72M_016	NRSC	7G	NP_92	4572	GL	27°47'54.6"	87°5'33.36"	Ganga	Arun Kosi	Nepal	123	161	209	164	-41
201	01_52G_003	NRSC		JK_191	4533	WB	33°18'38.52"	77°59'49.2"	Indus	Indus	India	847	1473	1254	1249	-43
202	02_77D_001	NRSC		CH_256	4423	WB	28°24'16.2"	88°13'42.96"	Ganga	Arun Kosi	China	3244	5831	3378	3211	-44
203	01_52I_004	NRSC		JK_196	5141	WB	35°23'27.96"	78°13'7.68"	Indus	Shyok	India	68	124	73	83	-45
204	03_77P_006	NRSC		CH_577	4616	WB	28°39'46.44"	91°40'46.56"	Brahma putra		China	2472	4566	4900	4648	-50
205	03_71O_002	NRSC		CH_438	4909	WB	29°42'16.92"	87°1'0.84"	Brahma putra		China	21	48	47	46	-56
206	02_62B_001	NRSC		CH_106	5216	WB	30°37'4.8"	80°37'49.44"	Ganga	Karnali	China	28	67	36	39	-58
207	03_62O_028	NRSC		CH_373	4577	WB	29°47'40.92"	83°33'20.88"	Brahma putra		China	308	887	469	563	-65
208	02_77D_003	NRSC		CH_258	4364	WB	28°18'33.12"	88°19'31.08"	Ganga	Arun Kosi	China	46	119	75	141	-67
209	03_82D_010	NRSC		CH_716	5043	WB	28°11'29.4"	92°2'34.8"	Brahma putra	Dangme Chhu	China	25	76	42	51	-67

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
210	02_77D_004	NRSC		CH_259	4378	WB	28°17'38.04"	88°7'15.6"	Ganga	Arun Kosi	China	501	1875	592	648	-73
211	03_62N_003	NRSC		CH_320	5208	WB	30°42'38.16"	83°36'30.96"	Brahma putra		China	3	57	29	35	-95

Note: G stands for Ganga, I for Indus and B for Brahmaputra under the rank of vulnerability,

" -" Inventory Data not available , "#" indicates frozen/ dried lakes.

A Water Body of China of Lake ID: 03_71G_008 has have merged with a nearby lake. The combined area has been shown against the lake.

Table 4.5: GLs & WBs with water spread area greater than 50 ha "Not Analysed"

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Latitude(N)	Longitude(E)	Basin	River	Country	Area of October 2024 (Ha)	Area of Base Year of 2011 (Ha) (i)	Average Area of Last 5 Years (Ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i), (ii) & (iii)
1	01_61D_001	NRSC		CH_53	5593	WB	32°48'5.4"	80°29'0.96"	Indus	Indus	China	#	63	55	57	#
2	01_52E_001	NRSC		JK_188	5116	GL	35°25'4.8"	77°36'16.56"	Indus	Shyok	India	#	51	6	24	#
3	03_91C_052	NRSC		CH_1085	4591	WB	29°10'28.2"	96°19'32.16"	Brahma putra	Lohit	China	#	64	39	36	#
4	01_61G_001	NRSC		CH_62	4973	WB	33°49'12.72"	81°38'40.56"	Indus	Indus	China	#	85	62	66	#
5	03_77P_005	NRSC		CH_576	4619	WB	28°45'55.08"	91°40'30"	Brahma putra		China	#	112	96	96	#
6	01_52L_008	NRSC		CH_1	3873	WB	32°19'35.04"	78°43'25.68"	Indus	Sutlej	China	#	50	68	68	#
7	03_82O_047	NRSC		CH_1039	3574	WB	29°9'46.08"	95°29'27.6"	Brahma putra	Dihang	China	#	44	45	37	#
8	03_91C_059	NRSC		CH_1089	4303	WB	29°5'30.12"	96°12'39.24"	Brahma putra	Dibang	China	#	98	96	82	#
9	03_82O_016	NRSC		CH_1023	4374	WB	29°22'19.56"	95°52'18.48"	Brahma putra	Dihang	China	#	91	87	70	#
10	03_82K_080	NRSC		CH_936	4530	WB	29°28'21.72"	94°14'10.68"	Brahma putra		China	#	47	48	42	#
11	03_91C_069	NRSC		AP_101	3245	WB	29°3'3.6"	96°8'40.2"	Brahma putra	Dibang	India	#	78	76	68	#
12	03_91C_042	NRSC		AP_89	4531	WB	29°14'38.04"	96°14'39.12"	Brahma putra	Dibang	India	#	50	50	42	#
13	03_82J_017	NRSC		CH_847	3829	WB	30°7'33.24"	94°5'24"	Brahma putra		China	#	282	280	269	#

Note: G stands for Ganga, I for Indus and B for Brahmaputra under the rank of vulnerability,
" -" Inventory Data not available , "#" indicates frozen/ dried lakes.

Table 4.6: Results of analysis of GLs & WBs as per NRSC Inventory (2011) with water spread area between 10ha - 50 ha

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)&(ii)
1	03_78A_035	NRSC		GL	4998	27° 57' 3.24"	88° 21' 15.48"	Teesta	Brahmaputra	India	45	#	8.9	406
2	03_77L_048	NRSC		GL	4792	28°3'48.24"	90°54'10.08"	Kuri Chhu	Brahmaputra	China	106	21	26.4	302
3	02_71P_017	NRSC		GL	4194	28°24'25.56"	87°45'54"	Arun Kosi	Ganga	China	168	17	42.6	295
4	03_82N_032	NRSC		GL	4384	30°13'44.4"	95°35'30.84"		Brahmaputra	China	121	28	33.4	263
5	03_77L_053	NRSC		GL	4793	28°3'12.96"	90°54'8.28"	Kuri Chhu	Brahmaputra	China	106	25	38.1	178
6	02_71P_020	NRSC		GL	4200	28°20'48.84"	87°53'6.72"	Arun Kosi	Ganga	China	225	26	121.9	85
7	02_62B_004	NRSC	232G	GL	4918	30°33'52.2"	80°10'41.16"	Sarda	Ganga	India	30	19	18.7	60
8	03_82O_004	NRSC		GL	4148	29°48'18.72"	95°38'33"		Brahmaputra	China	28	18	14.0	59
9	01_62B_002	NRSC	381I	GL	4998	30°33'9.72"	80°24'6.48"	Sutlej	Indus	China	32	14	20.8	54
10	03_91C_019	NRSC		GL	3858	29°27'55.08"	96°30'4.32"		Brahmaputra	China	70	17	49.2	42
11	02_71H_005	NRSC		GL	5010	28°38'47.4"	85°29'37.68"	Arun Kosi	Ganga	China	100	27	72.3	38
12	01_62F_009	NRSC	387I	GL	5712	30°23'34.8"	81°57'48.6"	Sutlej	Indus	China	25	13	19.6	28

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
13	03_91H_036	NRSC		GL	4457	28°31'5.16"	97°31'35.76"	Lohit	Brahmaputra	China	25	19	20.0	25
14	02_72I_013	NRSC	694G	GL	5497	27°51'24.84"	86°56'13.56"	Sun Kosi	Ganga	Nepal	22	18	17.6	24
15	03_78I_037	NRSC		GL	5159	27°55'10.2"	90°24'25.92"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	17	11	13.8	23
16	03_78A_005	NRSC		GL	5201	27°58'31.44"	88°25'20.64"	Teesta	Brahmaputra	India	14	11	8.9	23
17	02_72I_022	NRSC	287G	GL	5344	27°47'33"	86°50'21.12"	Sun Kosi	Ganga	Nepal	36	16	29.2	23
18	03_91C_003	NRSC		GL	4703	29°52'59.88"	96°23'21.12"		Brahmaputra	China	35	24	28.4	23
19	03_78I_028	NRSC		GL	4792	27°55'32.88"	90°33'17.64"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	30	24	24.7	21
20	03_82J_003	NRSC		GL	4161	30°41'4.2"	94°19'25.32"		Brahmaputra	China	33	22	27.3	21
21	03_62O_031	NRSC		GL	5381	29°41'40.2"	83°1'33.96"		Brahmaputra	China	36	28	30.1	20
22	03_91H_003	NRSC		GL	4439	28°59'22.56"	97°16'4.08"	Lohit	Brahmaputra	China	14	10	11.7	20
23	03_91H_001	NRSC		GL	4429	28°59'30.84"	97°32'54.24"	Lohit	Brahmaputra	China	18	13	15.3	18

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
24	03_77L_045	NRSC		GL	5224	28°5'7.8"	90°36'17.64"	Kuri Chhu	Brahmaputra	China	37	32	30.7	17
25	03_78A_017	NRSC		GL	5545	27°53'34.8"	88°11'31.92"	Teesta	Brahmaputra	India	30	19	25.8	17
26	02_71H_023	NRSC		GL	5595	28°26'42.36"	85°46'46.92"	Arun Kosi	Ganga	China	66	41	56.9	16
27	03_78E_008	NRSC		GL	5045	27°56'27.6"	89°54'20.88"	Puna Tsang Chhu	Brahmaputra	Bhutan	14	12	11.8	16
28	03_77H_025	NRSC		GL	4312	28°6'19.44"	89°53'53.16"	Puna Tsang Chhu	Brahmaputra	Bhutan	30	26	23.1	16
29	03_83A_004	NRSC		GL	5109	27°45'47.16"	92°25'29.64"	Dangme Chhu	Brahmaputra	India	20	17	17.4	15
30	03_82F_013	NRSC		GL	4761	30°21'16.92"	93°31'40.08"		Brahmaputra	China	12	10	9.0	15
31	03_77L_073	NRSC		GL	5166	28°0'23.04"	90°34'21.36"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	14	12	12.2	15
32	02_71H_004	NRSC		GL	5239	28°39'46.08"	85°28'31.8"	Arun Kosi	Ganga	China	28	19	24.6	14

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
33	03_78I_026	NRSC		GL	5233	27°56'26.88"	90°23'49.2"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	19	17	16.2	14
34	02_71L_029	NRSC	747G	GL	5237	28°6'52.2"	86°51'45.72"	Arun Kosi	Ganga	China	57	30	50.0	14
35	02_62F_013	NRSC	256G	GL	5252	30°15'56.88"	81°20'51"	Karnali	Ganga	China	50	24	43.7	14
36	03_77D_006	NRSC/ SDC	/Very High Risk	GL	5084	28°0'51.84"	88°33'41.76"	Teesta	Brahmaputra	India	26	22	22.8	14
37	03_78A_006	NRSC		GL	5004	27°58'15.6"	88°25'45.84"	Teesta	Brahmaputra	India	14	11	12.3	14
38	03_77L_057	NRSC		GL	4897	28°3'35.28"	90°36'12.24"	Kuri Chhu	Brahmaputra		50	36	43.7	14
39	03_77L_056	NRSC		GL	4963	28°2'46.32"	90°55'6.96"	Kuri Chhu	Brahmaputra	China	18	16	14.4	14
40	03_91G_007	NRSC		GL	4785	29°13'47.28"	97°19'55.92"	Lohit	Brahmaputra	China	13	11	11.5	13
41	03_82F_025	NRSC		GL	4253	30°12'29.52"	93°30'44.28"		Brahmaputra	China	13	11	10.0	13
42	01_53M_003	NRSC	110I	GL	5511	31°56'16.08"	79°59'39.84"	Indus	Indus	China	14	12	8.8	13
43	03_78A_027	NRSC/ SDC	/Very High Risk	GL	4888	27°32'0.6"	88°5'8.52"	Teesta	Brahmaputra	India	38	33	33.7	13

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
44	03_91C_071	NRSC		GL	4339	29°2'31.2"	96°13'12"	Dibang	Brahmaputra	China	40	35	35.3	13
45	02_71L_024	NRSC	245G	GL	5263	28°11'37.68"	86°18'51.12"	Sun Kosi	Ganga	China	27	23	24.2	12
46	01_62B_003	NRSC	86I	GL	5288	30°28'36.48"	80°35'35.16"	Sutlej	Indus	India	14	12	12.0	12
47	03_82L_007	NRSC		GL	4163	28°50'15"	94°27'5.04"	Ding	Brahmaputra	India	18	16	14.8	12
48	03_91G_004	NRSC		GL	5262	29°29'48.48"	97°6'10.8"	Lohit	Brahmaputra	China	31	21	27.7	12
49	02_72I_024	NRSC	358G	GL	5165	27°47'23.28"	86°37'11.64"	Sun Kosi	Ganga	Nepal	39	35	31.4	11
50	03_77L_071	NRSC		GL	5228	28°1'41.52"	90°16'13.44"	Puna Tsang Chhu	Brahmaputra	Bhutan	24	21	21.6	11
51	03_78A_012	NRSC		GL	5130	27°54'4.32"	88°46'54.84"	Teesta	Brahmaputra	India	29	26	26.0	11
52	03_77L_047	NRSC		GL	4364	28°6'1.44"	90°13'49.08"	Puna Tsang Chhu	Brahmaputra	Bhutan	47	23	42.3	11
53	03_82O_002	NRSC		GL	4198	29°58'57.36"	95°54'12.96"		Brahmaputra	China	21	18	18.9	11
54	02_62K_011	NRSC	612G	GL	4673	29°14'57.12"	82°33'49.68"	Bheri	Ganga	Nepal	29	26	26.2	11
55	03_78A_007	NRSC/ SDC	/Very High Risk	GL	4977	27°57'38.88"	88°38'57.48"	Teesta	Brahmaputra	India	19	17	16.8	10

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
56	03_82O_001	NRSC		GL	4348	29°59'32.64"	95°51'50.4"		Brahmaputra	China	46	42	41.7	10
57	03_77J_002	NRSC		GL	5254	30°29'57.12"	90°56'52.8"		Brahmaputra	China	13	12	10.4	10
58	03_78E_003	NRSC		GL	5152	27°58'26.4"	89°53'44.88"	Puna Tsang Chhu	Brahmaputra	Bhutan	25	21	22.7	10
59	03_82L_006	NRSC		GL	4147	28°52'48.36"	94°2'22.92"		Brahmaputra	China	15	13	13.6	10
60	03_82J_001	NRSC		GL	4775	30°49'51.6"	94°0'3.24"		Brahmaputra	China	34	31	28.8	10
61	03_77H_029	NRSC		GL	5049	28°0'35.64"	89°53'0.96"	Puna Tsang Chhu	Brahmaputra	Bhutan	24	21	21.8	10
62	03_78I_015	NRSC		GL	5116	27°58'55.2"	90°14'38.76"	Puna Tsang Chhu	Brahmaputra	Bhutan	18	16	15.2	10
63	03_77J_001	NRSC		GL	5354	30°30'7.2"	90°54'46.08"		Brahmaputra	China	29	26	25.1	10
64	03_78I_036	NRSC		GL	5028	27°55'51.96"	90°12'32.76"	Puna Tsang Chhu	Brahmaputra	Bhutan	13	11	11.8	10
65	03_78E_025	NRSC		GL	4341	27°50'20.4"	89°23'16.8"	Puna Tsang Chhu	Brahmaputra	Bhutan	18	17	15.5	9

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
66	03_77L_019	NRSC		GL	5681	28°22'45.84"	90°5'41.28"		Brahmaputra	China	15	13	13.7	9
67	03_82N_008	NRSC		GL	4546	30°34'19.2"	95°15'15.48"		Brahmaputra	China	35	18	32.2	9
68	03_82K_109	NRSC		GL	4356	29°3'7.2"	94°5'49.2"		Brahmaputra	China	24	22	21.0	9
69	03_82J_006	NRSC		GL	3657	30°32'8.88"	94°45'38.16"		Brahmaputra	China	60	41	55.1	9
70	03_78E_001	NRSC		GL	5157	27°58'54.12"	89°53'47.4"	Puna Tsang Chhu	Brahmaputra	Bhutan	36	26	33.0	9
71	01_52H_003	NRSC		GL	4165	32°29'54.6"	77°32'37.32"	Chenab	Indus	India	154	28	141.0	9
72	03_83A_007	NRSC		GL	5028	27°43'39.36"	92°26'12.48"	Jia Brali	Brahmaputra	India	15	14	13.7	8
73	03_91H_034	NRSC		GL	4629	28°32'13.2"	97°37'15.6"	Lohit	Brahmaputra	China	14	13	12.9	8
74	03_62K_005	NRSC		GL	4999	29°58'10.2"	82°29'39.84"		Brahmaputra	China	23	21	21.3	8
75	03_78I_020	NRSC		GL	5331	27°58'13.8"	90°19'49.8"	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	23	18	21.2	8
76	02_62F_007	NRSC		GL	5179	30°20'18.96"	81°54'39.96"	Karnali	Ganga	Nepal	27	25	19.8	8

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
77	03_78I_004	NRSC		GL	5194	27°59'28.32"	90°25'6.24"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	39	36	31.5	8
78	03_78E_011	NRSC		GL	4952	27°55'48.72"	89°54'2.88"	Puna Tsang Chhu	Brahmaputra	Bhutan	21	13	19.6	7
79	03_82F_011	NRSC		GL	4720	30°26'26.16"	93°37'45.84"		Brahmaputra	China	13	12	9.4	7
80	03_77L_039	NRSC		GL	5457	28°12'19.44"	90°23'7.08"	Kuri Chhu	Brahmaputra	China	44	38	41.1	7
81	02_71P_001	NRSC		GL	5498	28°50'26.88"	87°30'28.08"	Arun Kosi	Ganga	China	26	24	17.7	7
82	03_91D_098	NRSC		GL	4197	28°24'10.44"	96°50'11.76"	Lohit	Brahmaputra	China	14	13	12.6	7
83	02_71H_020	NRSC		GL	5354	28°29'11.76"	85°44'8.88"	Arun Kosi	Ganga	China	75	29	70.4	7
84	02_71H_011	NRSC	775G	GL	4509	28°34'9.48"	85°27'24.12"	Trishuli	Ganga	China	27	19	25.3	7
85	02_62G_002	NRSC	599G	GL	4822	29°55'17.76"	81°1'50.52"	Karnali	Ganga	Nepal	18	16	16.9	7
86	03_91D_096	NRSC		GL	3794	28°25'56.64"	96°55'32.52"	Lohit	Brahmaputra	China	42	38	39.5	6

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
87	03_77L_078	NRSC		GL	5296	28°0'44.64"	90°16'46.92"	Puna Tsang Chhu	Brahmaputra	Bhutan	15	12	14.1	6
88	03_78I_040	NRSC		GL	5167	27°55'13.44"	90°15'46.44"	Puna Tsang Chhu	Brahmaputra	Bhutan	23	22	21.2	6
89	03_82F_023	NRSC		GL	4354	30°13'57"	93°34'35.76"		Brahmaputra	China	12	11	10.3	6
90	03_78A_025	NRSC		GL	4888	27°38'10.32"	88°48'57.96"	Amo Chhu	Brahmaputra		11	10	9.8	6
91	03_82F_009	NRSC		GL	4712	30°29'36.6"	93°21'27.72"		Brahmaputra	China	22	20	20.7	6
92	03_78E_016	NRSC		GL	5004	27°53'2.04"	89°21'2.52"		Brahmaputra	China	17	16	14.8	6
93	03_77J_005	NRSC		GL	5766	30°4'29.64"	90°9'24.48"		Brahmaputra	China	13	12	12.3	6
94	03_82N_001	NRSC		GL	5055	30°35'27.96"	95°33'3.24"		Brahmaputra	China	40	38	33.4	6
95	02_71H_032	NRSC		GL	5116	28°17'55.32"	85°49'8.4"	Sun Kosi	Ganga	China	27	22	25.5	6
96	01_42H_002	NRSC	162I	GL	2763	36°38'34.8"	73°24'26.64"	Gilgit	Indus	India	17	13	16.0	6
97	02_71H_025	NRSC	464G	GL	5303	28°24'23.4"	85°35'16.08"	Trishuli	Ganga	China	18	12	17.0	6
98	02_71P_033	NRSC		GL	4888	28°9'36.72"	87°26'36.6"	Arun Kosi	Ganga	China	33	31	19.5	6

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
99	03_71C_006	NRSC		GL	5482	29°49'4.8"	84°41'27.96"		Brahmaputra	China	23	22	17.7	5
100	03_77D_007	NRSC/ SDC	/Very High Risk	GL	5015	28°0'26.28"	88°34'18.48"	Teesta	Brahmaputra	India	25	24	23.2	5
101	02_71P_039	NRSC	396G	GL	5489	28°8'32.64"	87°6'19.08"	Arun Kosi	Ganga	China	19	15	18.1	5
102	02_71P_038	NRSC	586G	GL	5483	28°8'33.36"	87°6'42.12"	Arun Kosi	Ganga	China	28	23	26.7	5
103	02_71P_046	NRSC	317G	GL	4898	28°4'9.84"	87°8'1.32"	Arun Kosi	Ganga	China	27	25	25.8	5
104	03_91H_008	NRSC		GL	4755	28°56'41.28"	97°18'12.6"	Lohit	Brahmaputra	China	48	40	45.8	5
105	02_71P_036	NRSC	54G	GL	5121	28°8'51.36"	87°28'6.96"	Arun Kosi	Ganga	China	40	32	38.1	5
106	02_71P_030	NRSC	166G	GL	5329	28°10'21.36"	87°28'44.76"	Arun Kosi	Ganga	China	23	18	22.1	4
107	03_83A_003	NRSC		GL	5188	27°46'12.72"	92°25'56.64"	Dangme Chhu	Brahmaputra	India	86	24	82.4	4
108	03_77L_075	NRSC		GL	4718	28°0'11.16"	90°32'25.8"	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	24	23	20.2	4
109	03_77H_032	NRSC		GL	5056	28°1'3.36"	89°26'59.64"		Brahmaputra	China	11	11	6.7	4

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
110	02_71L_008	NRSC	457G	GL	5577	28°22'31.08"	86°15'27"	Sun Kosi	Ganga	China	39	24	37.5	4
111	03_77H_027	NRSC		GL	4927	28°5'14.28"	89°28'50.16"		Brahmaputra	China	22	21	20.7	4
112	01_52A_004	NRSC/ SDC	/Very High Risk	GL	4619	35°4'28.2"	76°17'33.72"	Shyok	Indus	India	11	11	9.9	4
113	02_71H_018	NRSC	123G	GL	4787	28°30'31.68"	85°29'36.6"	Trishuli	Ganga	China	32	20	31.0	3
114	03_91C_016	NRSC		GL	4813	29°32'36.6"	96°36'57.96"		Brahmaputra	China	13	13	11.7	3
115	03_82F_005	NRSC		GL	4762	30°32'6.36"	93°31'2.28"		Brahmaputra	China	42	17	40.7	3
116	03_62K_006	NRSC		GL	5101	29°57'47.52"	82°30'27"		Brahmaputra	China	25	21	24.4	3
117	02_71D_001	NRSC		GL	4111	28°39'46.44"	84°28'17.76"	Trishuli	Ganga	Nepal	24	20	23.2	3
118	03_83A_005	NRSC		GL	4994	27°45'20.52"	92°24'2.52"	Dangme Chhu	Brahmaputra	India	13	13	11.9	3
119	02_71L_017	NRSC	179G	GL	5211	28°15'11.16"	86°6'10.44"	Sun Kosi	Ganga	China	15	15	13.4	3
120	03_78I_054	NRSC		GL	5138	27°52'59.88"	90°17'53.16"	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	16	14	15.5	3

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
121	03_78I_046	NRSC		GL	5168	27°54'21.96"	90°16'32.16"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	22	20	21.3	3
122	03_77L_063	NRSC		GL	5183	28°2'6.36"	90°37'29.28"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	31	30	24.1	3
123	03_78A_023	NRSC		GL	4547	27°40'17.04"	88°30'46.44"	Teesta	Brahmaputra	India	34	33	26.7	3
124	03_78A_002	NRSC/ SDC	/Very High Risk	GL	4952	27°58'56.28"	88°30'28.08"	Teesta	Brahmaputra	India	37	22	36.5	2
125	02_72I_030	NRSC	480G	GL	4624	27°42'41.04"	86°35'56.76"	Sun Kosi	Ganga	Nepal	11	11	6.5	2
126	03_91H_007	NRSC		GL	4635	28°56'52.08"	97°19'11.64"	Lohit	Brahmaputra	China	28	27	27.5	2
127	03_62O_035	NRSC		GL	5256	29°39'19.44"	83°6'21.24"		Brahmaputra	China	33	29	32.3	2
128	03_77L_062	NRSC		GL	5295	28°2'50.64"	90°21'16.92"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	47	42	46.2	2
129	02_72I_028	NRSC	146G	GL	4408	27°44'33.36"	86°50'39.48"	Sun Kosi	Ganga	Nepal	25	21	24.4	2

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
130	03_77L_034	NRSC		GL	5500	28°14'31.2"	90°30'23.76"	Kuri Chhu	Brahmaputra	China	21	21	20.0	2
131	02_78A_007	NRSC	429G	GL	5618	27°50'11.4"	88°4'39.36"	Tamor Kosi	Ganga	Nepal	16	16	15.1	2
132	03_78A_019	NRSC/ SDC	/Very High Risk	GL	4809	27°51'52.2"	88°51'46.44"	Teesta	Brahmaputra	India	15	15	11.5	2
133	03_62K_007	NRSC		GL	4911	29°56'22.56"	82°36'7.56"		Brahmaputra	China	29	25	28.5	2
134	03_71P_002	NRSC		GL	5537	28°48'13.32"	87°37'28.2"		Brahmaputra	China	16	13	15.8	1
135	03_77L_082	NRSC		GL	5019	28°0'11.52"	90°8'59.64"	Puna Tsang Chhu	Brahmaputra	Bhutan	14	14	12.9	1
136	03_62J_004	NRSC		GL	5556	30°48'25.56"	82°44'58.92"		Brahmaputra	China	14	14	13.4	1
137	01_62F_007	NRSC		GL	5344	30°25'36.48"	81°52'13.44"	Sutlej	Indus	China	21	16	20.7	1
138	03_78A_010	NRSC		GL	5078	27°57'0.72"	88°18'16.92"	Teesta	Brahmaputra	India	36	36	32.7	1
139	03_78E_027	NRSC		GL	4808	27°41'13.92"	89°24'29.88"	Puna Tsang Chhu	Brahmaputra	Bhutan	18	13	17.8	1
140	03_77H_024	NRSC		GL	4369	28°6'47.52"	89°54'33.12"	Puna Tsang Chhu	Brahmaputra	Bhutan	45	42	44.6	1

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
141	03_78I_022	NRSC		GL	5048	27°56'32.64"	90°45'22.32"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	16	16	14.2	1
142	03_82N_029	NRSC		GL	4492	30°16'4.8"	95°36'21.6"		Brahmaputra	China	40	35	39.6	1
143	02_71L_022	NRSC	715G	GL	5554	28°12'26.28"	86°37'45.84"	Arun Kosi	Ganga	China	26	24	25.7	1
144	03_62K_010	NRSC		GL	5181	29°47'45.96"	82°51'10.08"		Brahmaputra	China	65	41	64.4	1
145	02_71P_042	NRSC	654G	GL	5524	28°7'46.56"	87°4'55.56"	Arun Kosi	Ganga	China	20	20	19.7	1
146	02_72M_015	NRSC	115G	GL	4969	27°47'34.08"	87°56'1.32"	Tamor Kosi	Ganga	Nepal	13	13	12.2	1
147	02_72I_019	NRSC	757G	GL	5510	27°48'20.16"	86°58'24.96"	Sun Kosi	Ganga	Nepal	17	17	16.0	1
148	03_62K_011	NRSC		GL	5136	29°45'46.44"	82°53'6.36"		Brahmaputra	China	45	33	44.5	1
149	03_62J_010	NRSC		GL	5571	30°33'3.96"	82°57'27"		Brahmaputra	China	27	27	22.7	1
150	02_62F_010	NRSC		GL	5502	30°18'25.56"	81°51'55.44"	Karnali	Ganga	Nepal	11	11	9.4	1
151	03_77L_079	NRSC		GL	5386	28°0'21.24"	90°19'40.08"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	34	30	33.7	1

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
152	03_77L_058	NRSC		GL	5016	28°2'53.88"	90°35'49.2"	Kuri Chhu	Brahmaputra		33	28	32.8	1
153	03_82N_034	NRSC		GL	4181	30°13'23.52"	95°32'32.64"		Brahmaputra	China	14	13	13.9	1
154	03_91D_075	NRSC		GL	4274	28°36'28.8"	96°19'14.16"	Dibang	Brahmaputra	India	25	23	25.1	0
155	03_71D_002	NRSC		GL	5574	28°54'30.6"	84°30'25.56"		Brahmaputra	China	34	30	34.1	0
156	03_91G_009	NRSC		GL	4637	29°12'2.88"	97°22'8.4"	Lohit	Brahmaputra	China	16	16	15.1	0
157	02_71L_030	NRSC	242G	GL	5242	28°4'22.8"	86°31'12.72"	Sun Kosi	Ganga	China	22	19	21.9	0
158	03_78I_038	NRSC		GL	5143	27°55'28.56"	90°15'30.6"	Puna Tsang Chhu	Brahmaputra	Bhutan	11	11	9.7	0
159	01_53I_002	NRSC/ SDC	26I/Very High Risk	GL	4273	31°39'38.52"	78°10'1.92"	Sutlej	Indus	India	29	23	29.1	0
160	02_71L_027	NRSC	433G	GL	5234	28°9'2.88"	86°32'7.08"	Sun Kosi	Ganga	China	18	18	18.0	0
161	03_91C_007	NRSC		GL	4817	29°45'42.48"	96°22'26.76"		Brahmaputra	China	11	11	8.5	0
162	03_62K_008	NRSC		GL	4968	29°55'26.76"	82°37'4.44"		Brahmaputra	China	41	36	41.2	0

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
163	03_78I_009	NRSC		GL	5108	27°59'6.36"	90°26'13.56"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	25	20	24.9	0
164	01_61B_002	NRSC	345I	GL	5722	34°16'54.48"	80°5'21.84"	Indus	Indus	China	26	26	23.8	0
165	01_53M_001	NRSC	33I	GL	5576	31°59'0.96"	79°57'30.96"	Indus	Indus	China	16	11	16.0	0
166	03_78I_019	NRSC		GL	5224	27°58'7.68"	90°24'42.48"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	23	18	22.9	0
167	02_71L_035	NRSC	657G	GL	5091	28°1'2.28"	86°43'14.16"	Sun Kosi	Ganga	Nepal	19	19	15.4	0
168	02_62G_003	NRSC	589G	GL	3603	29°53'50.64"	81°34'43.68"	Karnali	Ganga	Nepal	33	17	33.1	0
169	03_82O_003	NRSC		GL	4180	29°54'16.92"	95°54'31.32"		Brahmaputra	China	15	15	13.8	0
170	03_91G_003	NRSC		GL	5018	29°28'1.2"	97°22'29.28"	Lohit	Brahmaputra	China	18	15	18.0	0
171	02_62K_003	NRSC	546G	GL	4571	29°55'50.16"	82°12'22.68"	Karnali	Ganga	Nepal	43	43	41.8	0
172	02_72I_016	NRSC	739G	GL	5231	27°50'18.6"	86°56'7.8"	Sun Kosi	Ganga	Nepal	30	30	27.1	0
173	03_82L_004	NRSC		GL	4441	28°54'20.16"	94°0'14.04"		Brahmaputra	China	13	13	13.0	0

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
174	03_91C_035	NRSC		GL	4283	29°13'20.64"	96°48'34.2"		Brahmaputra	China	53	24	53.2	0
175	03_77H_017	NRSC		GL	4537	28°10'19.2"	89°50'54.24"	Puna Tsang Chhu	Brahmaputra	Bhutan	25	25	23.9	0
176	02_71L_005	NRSC	282G	GL	5524	28°23'33.72"	86°24'52.56"	Arun Kosi	Ganga	China	18	18	18.0	0
177	03_78I_001	NRSC		GL	5129	27°59'52.44"	90°35'33"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	15	15	9.8	0
178	03_78A_020	NRSC		GL	5219	27°52'49.44"	88°15'4.68"	Teesta	Brahmaputra	India	14	14	13.8	0
179	03_91H_073	NRSC		GL	4481	28°3'15.48"	97°19'47.64"	Lohit	Brahmaputra	India	25	25	25.0	0
180	01_43J_003	NRSC		GL	3954	34°55'36.12"	74°9'19.44"	Jhelum	Indus	India	20	20	14.9	-1
181	02_72I_015	NRSC	814G	GL	5416	27°51'0"	86°55'42.96"	Sun Kosi	Ganga	Nepal	44	36	44.5	-1
182	02_72M_014	NRSC	47G	GL	5217	27°47'44.16"	87°58'27.48"	Tamor Kosi	Ganga	Nepal	22	21	22.3	-1
183	02_77D_011	NRSC	393G	GL	5305	28°0'19.08"	88°14'26.88"	Arun Kosi	Ganga	China	45	39	45.4	-1
184	01_62E_007	NRSC	437I	GL	5641	31°17'6.36"	81°1'53.04"	Sutlej	Indus	China	14	11	14.1	-1

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
185	03_78A_026	NRSC		GL	4736	27°33'44.28"	88°7'24.96"	Teesta	Brahmaputra	India	11	11	11.1	-1
186	02_77D_010	NRSC	590G	GL	5127	28°0'23.76"	88°19'10.92"	Arun Kosi	Ganga	China	37	34	37.3	-1
187	02_72I_018	NRSC	776G	GL	5370	27°49'57.72"	86°55'1.92"	Sun Kosi	Ganga	Nepal	31	31	30.7	-1
188	01_52C_002	NRSC	46I	GL	4092	33°52'10.2"	76°7'9.48"	Chenab	Indus	India	42	26	42.3	-1
189	02_72I_026	NRSC	112G	GL	5188	27°46'39.72"	86°38'31.92"	Sun Kosi	Ganga	Nepal	30	30	26.9	-1
190	02_72M_011	NRSC	86G	GL	4865	27°50'39.48"	87°4'50.88"	Arun Kosi	Ganga	Nepal	42	38	42.6	-1
191	03_82F_018	NRSC		GL	4554	30°17'15.72"	93°28'45.12"		Brahmaputra	China	17	17	15.5	-1
192	02_72I_010	NRSC	263G	GL	5125	27°54'57.96"	86°28'39"	Sun Kosi	Ganga	Nepal	14	14	14.2	-1
193	03_77H_010	NRSC		GL	5518	28°14'22.92"	89°57'46.08"		Brahmaputra	China	13	13	13.3	-2
194	03_77H_009	NRSC		GL	5150	28°14'54.24"	89°51'5.76"		Brahmaputra	China	15	15	15.0	-2
195	03_82F_021	NRSC		GL	4487	30°14'58.56"	93°36'49.32"		Brahmaputra	China	11	11	10.3	-2
196	03_71B_001	NRSC		GL	5692	30°34'48"	84°4'3.72"		Brahmaputra	China	26	27	26.0	-2
197	03_91D_099	NRSC		GL	4406	28°23'31.2"	96°51'28.44"	Lohit	Brahmaputra	China	30	30	27.8	-2

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
198	02_71P_048	NRSC	283G	GL	5094	28°3'6.84"	87°37'36.48"	Arun Kosi	Ganga	China	18	17	18.3	-2
199	02_72I_031	NRSC	14G	GL	4777	27°41'15"	86°51'29.52"	Sun Kosi	Ganga	Nepal	31	32	29.7	-2
200	03_91C_036	NRSC		GL	4298	29°13'6.96"	96°48'52.2"		Brahmaputra	China	53	16	54.3	-2
201	01_52C_001	NRSC	11I	GL	4394	33°56'44.52"	76°13'53.76"	Shingo (Indus)	Indus	India	51	36	52.1	-2
202	02_71H_010	NRSC		GL	5481	28°34'32.16"	85°34'59.52"	Arun Kosi	Ganga	China	27	27	23.8	-2
203	03_77L_065	NRSC		GL	5025	28°2'18.24"	90°32'47.76"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	17	17	16.3	-2
204	03_77L_049	NRSC		GL	4716	28°6'44.28"	90°1'35.04"	Puna Tsang Chhu	Brahmaputra	Bhutan	38	39	31.4	-2
205	02_53N_001	NRSC	250G	GL	4688	30°54'7.92"	79°45'12.6"	Ganga	Ganga	India	22	21	22.4	-2
206	03_91H_006	NRSC		GL	4620	28°57'28.8"	97°20'3.84"	Lohit	Brahmaputra	China	17	17	16.3	-2
207	02_72M_013	NRSC	518G	GL	5233	27°49'44.76"	87°5'41.64"	Arun Kosi	Ganga	Nepal	12	12	10.6	-2

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
208	03_78I_011	NRSC		GL	5239	27°58'54.48"	90°22'52.32"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	20	19	20.4	-2
209	02_71H_034	NRSC	320G	GL	4745	28°17'32.28"	85°10'12.72"	Trishuli	Ganga	Nepal	21	21	16.6	-2
210	03_71P_003	NRSC		GL	5360	28°47'47.76"	87°38'26.52"		Brahmaputra	China	26	23	26.6	-2
211	02_71D_002	NRSC		GL	4063	28°39'24.48"	84°27'28.8"	Trishuli	Ganga	Nepal	10	10	5.8	-2
212	02_71L_025	NRSC	154G	GL	5357	28°11'33.72"	86°21'1.8"	Sun Kosi	Ganga	China	18	16	18.6	-3
213	02_71P_034	NRSC	726G	GL	5259	28°9'18"	87°36'46.44"	Arun Kosi	Ganga	China	22	23	21.4	-3
214	03_77K_003	NRSC		GL	5303	29°52'22.08"	90°0'28.08"		Brahmaputra	China	14	14	12.5	-3
215	02_62K_001	NRSC	329G	GL	4404	29°59'35.88"	82°11'49.2"	Karnali	Ganga	Nepal	25	26	24.2	-3
216	03_78I_006	NRSC		GL	5158	27°59'43.08"	90°15'38.16"	Puna Tsang Chhu	Brahmaputra	Bhutan	18	16	18.6	-3
217	01_52L_007	NRSC	184I	GL	5498	32°24'36.36"	78°53'56.4"	Indus	Indus	India	31	32	31.4	-3
218	03_77H_019	NRSC		GL	4804	28°10'21.36"	89°41'3.48"	Puna Tsang Chhu	Brahmaputra	Bhutan	10	10	8.0	-3
219	02_62B_005	NRSC	580G	GL	4314	30°26'44.52"	80°23'16.08"	Sarda	Ganga	India	12	12	9.0	-3

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
220	02_72I_012	NRSC	113G	GL	4409	27°52'27.84"	86°35'10.68"	Sun Kosi	Ganga	Nepal	39	40	40.1	-3
221	03_78I_005	NRSC		GL	5338	27°59'47.04"	90°17'17.16"	Puna Tsang Chhu	Brahmaputra	Bhutan	42	40	43.5	-3
222	02_71L_014	NRSC	240G	GL	5364	28°17'43.08"	86°9'2.88"	Sun Kosi	Ganga	China	17	18	15.6	-3
223	03_82N_031	NRSC		GL	4409	30°14'17.88"	95°36'8.28"		Brahmaputra	China	17	17	15.0	-3
224	03_62J_009	NRSC		GL	5624	30°33'45.72"	82°55'14.16"		Brahmaputra	China	27	28	22.3	-3
225	03_82F_026	NRSC		GL	4607	30°10'21"	93°43'5.52"		Brahmaputra	China	13	13	10.8	-3
226	02_71H_022	NRSC		GL	5735	28°27'41.76"	85°40'55.92"	Arun Kosi	Ganga	China	18	17	18.8	-4
227	03_77L_025	NRSC		GL	5370	28°18'0.72"	90°36'29.52"	Kuri Chhu	Brahmaputra	China	14	15	14.3	-4
228	03_77H_015	NRSC		GL	4801	28°12'10.44"	89°42'46.8"		Brahmaputra	China	13	12	13.6	-4
229	03_78I_064	NRSC		GL	4976	27°51'41.04"	90°17'42.36"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	19	19	19.7	-4
230	02_72M_004	NRSC	336G	GL	5293	27°57'46.44"	87°48'42.12"	Arun Kosi	Ganga	China	48	35	50.2	-4

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
231	02_72I_021	NRSC	764G	GL	5276	27°47'38.04"	86°54'38.52"	Sun Kosi	Ganga	Nepal	18	18	18.7	-4
232	03_82C_011	NRSC		GL	5242	29°45'0.72"	92°46'40.8"		Brahmaputra	China	14	12	14.6	-4
233	03_91C_013	NRSC		GL	4925	29°33'38.16"	96°37'40.44"		Brahmaputra	China	13	12	13.5	-4
234	03_82N_035	NRSC		GL	4479	30°10'50.16"	95°51'20.88"		Brahmaputra	China	22	23	16.5	-4
235	03_77K_002	NRSC		GL	5154	29°54'43.92"	90°3'46.8"		Brahmaputra	China	36	38	37.9	-5
236	02_78A_001	NRSC	498G	GL	5201	27°59'46.68"	88°24'7.2"	Arun Kosi	Ganga	China	19	16	19.9	-5
237	02_71P_041	NRSC	768G	GL	5064	28°6'56.16"	87°35'12.84"	Arun Kosi	Ganga	China	17	17	17.9	-5
238	02_71L_019	NRSC	323G	GL	5378	28°14'56.04"	86°9'2.16"	Sun Kosi	Ganga	China	13	14	12.5	-5
239	02_62J_002	NRSC		GL	5021	30°8'56.04"	82°9'42.12"	Karnali	Ganga	Nepal	15	16	14.2	-5
240	03_78A_030	NRSC		GL	4447	27°25'12.36"	88°48'45"	Amo Chhu	Brahmaputra		16	17	14.2	-5
241	03_78I_008	NRSC		GL	5252	27°59'17.88"	90°22'48.36"	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	13	14	12.1	-5

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
242	03_77L_074	NRSC		GL	5324	28°0'55.44"	90°21'9.36"	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	17	18	16.1	-5
243	01_52A_002	NRSC		GL	4537	35°5'48.12"	76°14'0.6"	Shyok	Indus	India	22	23	19.3	-5
244	03_62J_028	NRSC		GL	5603	30°13'18.48"	82°13'58.44"		Brahmaputra	China	41	37	43.0	-5
245	03_91C_004	NRSC		GL	4137	29°52'26.76"	96°19'29.28"		Brahmaputra	China	20	21	17.7	-5
246	03_91H_033	NRSC		GL	4389	28°33'21.96"	97°32'51.72"	Lohit	Brahmaputra	China	12	13	10.4	-5
247	02_72I_006	NRSC		GL	4741	27°56'32.28"	86°41'55.32"	Sun Kosi	Ganga	Nepal	17	16	18.0	-6
248	03_91C_026	NRSC		GL	4305	29°20'18.24"	96°4'57.72"	Dibang	Brahmaputra	India	26	28	25.3	-6
249	03_91G_001	NRSC		GL	5147	29°42'4.32"	97°0'2.88"		Brahmaputra	China	11	12	8.3	-6
250	03_62J_027	NRSC		GL	4781	30°15'23.76"	82°35'21.12"		Brahmaputra	China	21	19	22.4	-6
251	03_91D_070	NRSC		GL	4126	28°36'36.36"	96°43'19.56"	Lohit	Brahmaputra	China	13	12	13.9	-6
252	03_77L_023	NRSC		GL	5489	28°18'3.6"	90°38'48.84"	Kuri Chhu	Brahmaputra	China	31	33	28.4	-6
253	02_71P_023	NRSC	124G	GL	5235	28°14'8.52"	87°30'1.8"	Arun Kosi	Ganga	China	24	26	20.3	-6

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
254	03_78I_057	NRSC		GL	5060	27°52'24.24"	90°18'11.88"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	42	33	44.9	-6
255	01_62E_016	NRSC	270I	GL	5528	31°10'42.6"	81°9'6.84"	Sutlej	Indus	China	20	21	19.3	-6
256	02_62O_002	NRSC	410G	GL	5495	29°12'3.24"	83°41'2.76"	Kali Gandak	Ganga	Nepal	23	25	21.0	-6
257	03_78A_031	NRSC		GL	4305	27°26'15"	88°5'0.96"	Teesta	Brahmaputra	India	13	14	11.9	-6
258	02_71L_031	NRSC	52G	GL	4682	28°4'4.8"	86°3'56.16"	Sun Kosi	Ganga	China	31	33	30.1	-6
259	02_71L_033	NRSC	408G	GL	5369	28°2'18.96"	86°42'34.56"	Sun Kosi	Ganga	Nepal	16	17	14.6	-6
260	03_77H_022	NRSC		GL	4936	28°8'58.2"	89°33'52.56"		Brahmaputra	China	19	19	20.2	-6
261	02_71P_044	NRSC	557G	GL	5555	28°6'0"	87°4'34.68"	Arun Kosi	Ganga	China	11	12	8.2	-6
262	02_71H_031	NRSC	78G	GL	5268	28°18'54"	85°56'50.28"	Sun Kosi	Ganga	China	25	20	26.8	-7
263	03_71P_004	NRSC		GL	5637	28°47'55.68"	87°36'12.24"		Brahmaputra	China	11	12	9.5	-7
264	02_72I_008	NRSC	99G	GL	5040	27°55'44.4"	86°26'0.6"	Sun Kosi	Ganga		31	32	33.2	-7
265	02_62B_006	NRSC	495G	GL	5106	30°24'8.28"	80°47'4.92"	Karnali	Ganga	China	39	42	40.4	-7

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
266	03_82N_025	NRSC		GL	4764	30°22'51.24"	95°39'12.96"		Brahmaputra	China	25	27	22.9	-7
267	02_71P_031	NRSC	141G	GL	5395	28°10'3.36"	87°37'23.16"	Arun Kosi	Ganga	China	20	22	18.9	-7
268	02_72M_012	NRSC	69G	GL	4932	27°48'57.6"	87°44'56.04"	Tamor Kosi	Ganga	Nepal	17	18	15.3	-7
269	03_78I_072	NRSC		GL	4788	27°49'7.32"	90°23'39.12"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	11	11	11.9	-8
270	03_91C_002	NRSC		GL	4691	29°53'36.96"	96°22'40.44"		Brahmaputra	China	29	23	31.5	-8
271	02_71P_026	NRSC	322G	GL	5340	28°12'23.04"	87°33'37.8"	Arun Kosi	Ganga	China	15	16	14.1	-8
272	03_82L_008	NRSC		GL	4342	28°52'12.36"	94°1'5.88"		Brahmaputra	China	11	12	10.6	-8
273	03_71D_001	NRSC		GL	5454	28°55'44.76"	84°18'2.52"		Brahmaputra	China	19	21	18.0	-8
274	03_78A_015	NRSC/ SDC	/Medium Risk	GL	4970	27°52'23.88"	88°47'22.2"	Teesta	Brahmaputra	India	11	12	8.4	-8
275	01_52B_010	NRSC/ SDC	75I/Medium Risk	GL	5122	34°3'6.48"	76°43'5.16"	Indus	Indus	India	17	18	15.1	-8

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
276	02_78A_008	NRSC	199G	GL	5032	27°32'44.88"	88°2'57.84"	Tamor Kosi	Ganga	Nepal	26	28	24.2	-8
277	03_78A_004	NRSC		GL	5456	27°57'55.44"	88°53'37.68"		Brahmaputra	China	24	26	18.8	-8
278	03_91C_010	NRSC		GL	4712	29°39'49.32"	96°33'8.64"		Brahmaputra	China	21	23	21.3	-8
279	02_71L_015	NRSC	284G	GL	5261	28°17'38.76"	86°7'52.32"	Sun Kosi	Ganga	China	25	27	21.8	-8
280	03_71D_003	NRSC		GL	5362	28°54'33.84"	84°20'51.72"		Brahmaputra	China	10	11	9.6	-9
281	03_91C_021	NRSC		GL	4093	29°25'15.96"	96°37'30.72"		Brahmaputra	China	32	35	29.7	-9
282	03_78I_065	NRSC		GL	4668	27°49'18.84"	90°48'36"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	12	13	12.2	-9
283	02_62F_011	NRSC	362G	GL	5524	30°17'49.2"	81°23'16.8"	Karnali	Ganga	China	25	27	25.5	-9
284	02_71H_030	NRSC	598G	GL	5411	28°19'28.56"	85°54'24.84"	Sun Kosi	Ganga	China	14	15	13.1	-9
285	03_82G_003	NRSC		GL	4936	29°47'24.36"	93°29'17.88"		Brahmaputra	China	16	13	17.5	-9
286	03_71C_004	NRSC		GL	5575	29°51'22.68"	84°37'56.28"		Brahmaputra	China	14	15	13.1	-9
287	03_82N_011	NRSC		GL	4997	30°31'23.52"	95°42'0"		Brahmaputra	China	18	20	17.8	-10

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
288	03_78I_067	NRSC		GL	4918	27°50'44.16"	90°18'9"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	20	20	22.2	-10
289	02_62F_009	NRSC	536G	GL	5586	30°18'7.2"	81°23'57.12"	Karnali	Ganga	China	10	11	9.6	-10
290	03_78A_011	NRSC		GL	5168	27°53'60"	88°55'45.84"	Amo Chhu	Brahmaputra	China	13	14	14.2	-10
291	02_71L_009	NRSC	520G	GL	5546	28°20'53.16"	86°29'35.16"	Arun Kosi	Ganga	China	34	38	32.5	-10
292	02_71P_032	NRSC	564G	GL	5190	28°9'49.32"	87°34'40.8"	Arun Kosi	Ganga	China	20	22	17.7	-10
293	02_71H_009	NRSC		GL	5448	28°34'50.16"	85°35'41.28"	Arun Kosi	Ganga	China	28	31	24.0	-10
294	03_91H_015	NRSC		GL	4553	28°51'10.08"	97°37'50.88"	Lohit	Brahmaputra	China	12	14	10.5	-11
295	02_62F_006	NRSC		GL	5444	30°20'46.68"	81°51'38.88"	Karnali	Ganga	Nepal	15	17	14.6	-11
296	02_71H_006	NRSC		GL	5167	28°38'33.72"	85°28'22.8"	Arun Kosi	Ganga	China	34	38	33.5	-11
297	03_91C_015	NRSC		GL	4421	29°34'14.88"	96°22'26.04"		Brahmaputra	China	23	26	19.0	-11
298	01_52B_012	NRSC	129I	GL	5137	34°0'19.8"	76°47'12.84"	Indus	Indus	India	15	17	13.4	-11
299	02_71H_024	NRSC	155G	GL	4890	28°25'35.76"	85°33'44.28"	Trishuli	Ganga	China	22	22	24.9	-12

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
300	01_53M_002	NRSC	142I	GL	5468	31°56'57.12"	79°59'6.72"	Indus	Indus	China	10	11	8.6	-12
301	03_77L_022	NRSC		GL	4810	28°18'14.76"	90°44'27.6"	Kuri Chhu	Brahmaputra	China	11	12	10.5	-12
302	02_72I_001	NRSC	198G	GL	5333	27°59'55.32"	86°50'8.16"	Sun Kosi	Ganga	Nepal	11	12	12.5	-12
303	03_62J_003	NRSC		GL	5553	30°48'40.32"	82°45'14.04"		Brahmaputra	China	10	11	9.0	-12
304	02_71L_021	NRSC	438G	GL	5373	28°14'33.36"	86°11'45.6"	Sun Kosi	Ganga	China	17	19	15.8	-12
305	03_62O_045	NRSC		GL	5566	29°13'17.4"	83°41'9.6"		Brahmaputra	China	10	11	9.4	-12
306	01_52L_006	NRSC	306I	GL	5727	32°26'27.24"	78°55'29.28"	Indus	Indus	India	11	12	10.2	-12
307	03_91C_012	NRSC		GL	4663	29°35'18.6"	96°40'18.84"		Brahmaputra	China	18	21	17.8	-13
308	03_77H_021	NRSC		GL	5135	28°8'37.68"	89°50'25.8"	Puna Tsang Chhu	Brahmaputra	Bhutan	13	15	13.3	-13
309	02_71L_020	NRSC	156G	GL	5348	28°14'23.28"	86°21'55.44"	Sun Kosi	Ganga	China	26	30	26.9	-13
310	03_77H_016	NRSC		GL	4929	28°11'10.32"	89°35'51"		Brahmaputra	China	33	38	35.3	-13
311	02_71H_016	NRSC		GL	5305	28°31'40.8"	85°38'14.64"	Arun Kosi	Ganga	China	29	33	26.7	-13

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
312	03_82F_001	NRSC		GL	4822	30°52'59.16"	93°49'51.24"		Brahmaputra	China	15	17	14.4	-13
313	03_78I_025	NRSC		GL	5194	27°57'7.92"	90°15'18.72"	Puna Tsang Chhu	Brahmaputra	Bhutan	12	12	13.9	-14
314	03_77L_031	NRSC		GL	4698	28°14'52.08"	90°42'43.2"	Kuri Chhu	Brahmaputra	China	18	21	16.1	-14
315	03_82G_007	NRSC		GL	4994	29°39'28.08"	93°16'30"		Brahmaputra	China	14	16	12.1	-14
316	02_72M_008	NRSC	376G	GL	4722	27°52'48.72"	87°48'17.28"	Tamor Kosi	Ganga	Nepal	37	43	35.2	-14
317	03_83A_001	NRSC		GL	5018	27°58'51.6"	92°39'3.96"		Brahmaputra	China	44	52	46.0	-15
318	02_71L_007	NRSC	572G	GL	5576	28°22'54.84"	86°23'3.84"	Arun Kosi	Ganga	China	13	15	12.6	-15
319	02_71P_024	NRSC	576G	GL	5273	28°13'41.52"	87°34'39.36"	Arun Kosi	Ganga	China	22	26	21.8	-15
320	03_91D_082	NRSC		GL	4550	28°32'28.68"	96°36'5.04"	Lohit	Brahmaputra	China	26	31	29.6	-16
321	03_78I_014	NRSC		GL	5087	27°59'13.2"	90°7'48.72"	Puna Tsang Chhu	Brahmaputra	Bhutan	18	21	17.6	-16
322	03_82N_018	NRSC		GL	4333	30°31'44.4"	95°6'23.4"		Brahmaputra	China	9	11	9.5	-16

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
323	01_62J_004	NRSC	446I	GL	5504	30°22'33.96"	82°1'6.24"	Sutlej	Indus	China	10	12	10.0	-16
324	02_71H_036	NRSC	195G	GL	5024	28°9'50.76"	85°37'49.08"	Trishuli	Ganga	Nepal	13	15	12.5	-16
325	02_71H_014	NRSC		GL	4458	28°33'50.4"	85°28'3.36"	Trishuli	Ganga	China	10	12	9.1	-16
326	02_72M_003	NRSC	823G	GL	5608	27°58'5.88"	87°53'3.84"	Arun Kosi	Ganga	China	17	20	17.6	-17
327	02_62K_006	NRSC	70G	GL	5053	29°49'18.48"	82°42'41.4"	Karnali	Ganga	Nepal	19	18	22.9	-17
328	03_78I_043	NRSC		GL	5000	27°53'44.88"	90°33'7.2"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	23	28	20.9	-18
329	03_71C_002	NRSC		GL	5663	29°53'15"	84°32'13.2"		Brahmaputra	China	10	12	7.7	-18
330	03_62J_020	NRSC		GL	5603	30°20'25.8"	82°8'26.16"		Brahmaputra	China	15	18	12.7	-18
331	03_91C_008	NRSC		GL	4899	29°42'21.6"	96°18'24.84"		Brahmaputra	China	19	23	22.1	-18
332	03_77H_026	NRSC		GL	5233	28°7'24.6"	89°30'47.52"		Brahmaputra	China	10	12	9.7	-18
333	02_62F_008	NRSC		GL	5620	30°19'24.24"	81°49'56.28"	Karnali	Ganga	Nepal	12	15	8.7	-18
334	02_71H_013	NRSC	172G	GL	4446	28°34'0.12"	85°27'50.04"	Trishuli	Ganga	China	17	21	16.4	-19

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
335	02_78A_002	NRSC	668G	GL	5397	27°59'21.48"	88°13'15.96"	Arun Kosi	Ganga	China	14	17	12.4	-19
336	02_62P_001	NRSC	258G	GL	4472	28°47'17.52"	83°19'51.24"	Bheri	Ganga	Nepal	42	52	42.6	-19
337	03_78M_013	NRSC		GL	4232	27°53'43.08"	91°14'54.96"	Kuri Chhu	Brahmaputra	Bhutan	9	11	7.1	-20
338	03_77L_028	NRSC		GL	4632	28°16'15.24"	90°43'19.2"	Kuri Chhu	Brahmaputra	China	10	12	12.5	-20
339	03_91G_005	NRSC		GL	5170	29°24'7.56"	97°0'32.4"	Lohit	Brahmaputra	China	11	14	9.7	-20
340	03_78E_018	NRSC		GL	5164	27°52'45.12"	89°19'28.2"		Brahmaputra	China	19	24	16.1	-22
341	02_71D_003	NRSC	67G	GL	3668	28°35'46.68"	84°37'39.72"	Trishuli	Ganga	Nepal	25	32	24.5	-22
342	03_71C_001	NRSC		GL	5543	29°54'51.84"	84°36'2.88"		Brahmaputra	China	9	11	7.2	-22
343	03_78I_058	NRSC		GL	5041	27°52'34.32"	90°16'50.52"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	20	16	26.1	-23
344	03_82G_004	NRSC		GL	4498	29°43'54.12"	93°29'52.44"		Brahmaputra	China	29	38	30.2	-23
345	03_91G_006	NRSC		GL	5028	29°23'30.48"	97°1'8.76"	Lohit	Brahmaputra	China	21	27	18.4	-23

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
346	02_72I_017	NRSC	49G	GL	5018	27°50'45.96"	86°27'49.32"	Sun Kosi	Ganga	Nepal	11	14	10.5	-23
347	03_77L_020	NRSC		GL	4682	28°20'3.48"	90°40'26.4"	Kuri Chhu	Brahmaputra	China	11	14	9.9	-24
348	03_62J_025	NRSC		GL	5362	30°16'55.92"	82°10'2.64"		Brahmaputra	China	15	19	19.7	-24
349	02_71H_019	NRSC	92G	GL	4674	28°30'36.36"	85°26'44.52"	Trishuli	Ganga	China	12	16	12.6	-25
350	02_62O_004	NRSC	299G	GL	5529	29°7'1.92"	83°44'18.6"	Kali Gandak	Ganga	Nepal	13	11	17.6	-26
351	02_71L_012	NRSC	96G	GL	5570	28°19'15.24"	86°9'30.96"	Sun Kosi	Ganga	China	18	25	19.9	-27
352	03_82N_037	NRSC		GL	4691	30°0'30.96"	95°54'54.36"		Brahmaputra	China	9	13	11.1	-29
353	02_62F_015	NRSC	59G	GL	5359	30°13'58.8"	81°20'57.48"	Karnali	Ganga	China	26	37	28.2	-29
354	03_82N_016	NRSC		GL	5017	30°32'24.36"	95°22'30.36"		Brahmaputra	China	8	11	4.3	-29
355	02_72I_020	NRSC	763G	GL	5436	27°47'56.04"	86°57'56.52"	Sun Kosi	Ganga	Nepal	20	29	19.3	-31
356	02_72M_001	NRSC	737G	GL	5675	27°59'21.48"	87°52'5.16"	Arun Kosi	Ganga	China	7	10	6.3	-32
357	02_71L_016	NRSC	570G	GL	5345	28°16'12.36"	86°11'12.12"	Sun Kosi	Ganga	China	9	13	11.2	-32
358	03_82N_015	NRSC		GL	5090	30°32'44.88"	95°20'35.52"		Brahmaputra	China	7	10	5.4	-33
359	02_71L_018	NRSC	651G	GL	5377	28°14'44.88"	86°19'17.4"	Sun Kosi	Ganga	China	14	21	14.9	-34
360	02_77D_005	NRSC	499G	GL	5738	28°3'52.92"	88°32'38.04"	Arun Kosi	Ganga	China	7	11	6.6	-34

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
361	02_62O_005	NRSC	609G	GL	5450	29°2'46.32"	83°40'27.48"	Kali Gandak	Ganga	Nepal	10	15	12.0	-35
362	03_82F_012	NRSC		GL	4454	30°21'27.36"	93°37'52.68"		Brahmaputra	China	25	39	17.3	-36
363	03_62J_024	NRSC		GL	5548	30°18'35.64"	82°11'58.92"		Brahmaputra	China	19	31	19.2	-39
364	03_82F_024	NRSC		GL	4197	30°13'39.36"	93°38'11.04"		Brahmaputra	China	18	17	29.8	-40
365	01_52A_003	NRSC		GL	4586	35°5'33.36"	76°15'7.2"	Shyok	Indus	India	14	24	16.6	-42
366	02_62F_016	NRSC	591G	GL	5359	30°13'0.48"	81°48'5.04"	Karnali	Ganga	Nepal	16	29	14.4	-45
367	03_62K_013	NRSC		GL	5101	29°41'17.88"	82°59'2.4"		Brahmaputra	China	45	37	86.4	-48
368	02_62F_014	NRSC	236G	GL	5481	30°14'26.88"	81°19'53.4"	Karnali	Ganga	China	6	12	5.5	-51
369	03_91C_043	NRSC		GL	4429	29°10'44.04"	96°51'12.96"		Brahmaputra	China	12	26	10.6	-53
370	02_62J_001	NRSC		GL	5182	30°11'46.68"	82°7'5.52"	Karnali	Ganga	Nepal	5	11	6.2	-54
371	03_77L_038	NRSC		GL	5521	28°13'29.64"	90°15'26.64"		Brahmaputra	China	14	30	13.4	-54
372	03_78A_008	NRSC		GL	4998	27°57'3.24"	88°21'15.48"	Teesta	Brahmaputra	India	18	44	16.2	-59
373	03_77L_054	NRSC		GL	4717	28°5'15"	90°19'33.24"	Puna Tsang Chhu	Brahmaputra	Bhutan	6	17	3.9	-64

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
374	03_91C_006	NRSC		GL	5057	29°45'11.16"	96°27'48.96"		Brahmaputra	China	4	14	3.9	-71
375	03_77L_061	NRSC		GL	5038	28°2'29.4"	90°32'15.72"	Manas Chhu & Mangde Chhu	Brahmaputra	Bhutan	18	15	76.0	-76
376	03_77H_005	NRSC		GL	5113	28°16'48"	89°59'37.68"		Brahmaputra	China	3	37	24.5	-92
377	03_77L_040	NRSC		GL	4515	28°9'14.76"	90°8'54.6"	Puna Tsang Chhu	Brahmaputra	Bhutan	#	12	#	#
378	01_52P_004	NRSC		GL	5470	32°23'7.08"	79°40'43.68"	Indus	Indus	China	#	14	0.1	#
379	03_91C_023	NRSC		GL	4811	29°23'8.88"	96°22'22.08"	Lohit	Brahmaputra	China	#	30	25.0	#
380	02_62B_007	NRSC		GL	4839	30°16'42.96"	80°7'49.8"	Sarda	Ganga	India	#	19	#	#
381	02_72I_005	NRSC	483G	GL	4715	27°56'35.88"	86°42'40.68"	Sun Kosi	Ganga	Nepal	#	19	22.4	#
382	02_72I_009	NRSC		GL	5292	27°55'2.64"	86°27'59.04"	Sun Kosi	Ganga	Nepal	#	11	17.3	#
383	03_77L_036	NRSC		GL	5810	28°14'17.52"	90°29'45.96"	Kuri Chhu	Brahmaputra	China	#	31	25.0	#

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	Latitude (E)	Longitude (N)	River	Basin	Country	Area of Oct 2024 (Ha)	Inventory Area 2011(Ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
384	03_78A_016	NRSC		GL	5451	27°53'33.72"	88°12'47.16"	Teesta	Brahmaputra	India	#	14	10.5	#
385	02_78A_006	NRSC	676G	GL	5743	27°55'39"	88°1'11.64"	Arun Kosi	Ganga	China	#	16	17.0	#

Note: G stands for Ganga, I for Indus and B for Brahmaputra under the rank of vulnerability,
" -" Inventory Data not available , "#" indicates frozen/ dried lakes.

- GLs/WBs with increase in Area > 40%
- GLs/WBs with increase in Area – 0% to 40%
- GLs/WBs with no change in Area
- GLs/WBs with decrease in Area
- GLs/WBs not analysed

A Glacial Lake of China of Lake ID: 03_82N_032 has have merged with a nearby lake. The combined area has been shown against the lake.
The Glacial Lakes of China of Lake ID: 03_91C_035 & Lake ID: 03_91C_036 have with each other and combined area has been shown against each lake.
The Glacial Lakes of China of Lake ID: 03_77L_048 & Lake ID: 03_77L_053 have with each other and combined area has been shown against each lake.
The Waterbodies of China of Lake ID : 02_71P_018 has merged with nearby Glacial lakes of Lake ID: 02_71P_019 & Lake ID: 02_71P_020 and combined area has been shown against each lake.
The Glacial Lakes of India (Himachal Pradesh) of Lake ID: 01_52H_003 & Lake ID: 01_52H_004 have with each other and combined area has been shown against each lake.

Table 4.7: Results of analysis of GLs & WBs identified by SDC with water spread area between 10ha - 50 ha

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	State	Country	Area of October 2024 (ha)	Base Area (Avg area of last 2 years (ha)	Change in Area (%) w.r.t Base Area
1	180	SDC	Very High Risk	GL	4442	JK	India	16	8.2	*95*
2	958	SDC	Very High Risk	GL	4103	JK	India	9	5.8	*55*
3	1360	SDC	Very High Risk	GL	4667	JK	India	14	9.5	*47*
4	312	SDC	Medium Risk	GL	5137	SK	India	10	6.9	*44*
5	129	SDC	Very High Risk	GL	4895	AP	India	13	9.3	*41*
6	295	SDC	Very High Risk	GL	4850	SK	India	9	6.8	*32*
7	515	SDC	Medium Risk	GL	5063	SK	India	10	7.9	*27*
8	237	SDC	Very Low Risk	GL	5322	SK	India	9	7.1	*26*
9	256	SDC	High risk	GL	4615	SK	India	16	13.5	*19*
10	1774	SDC	Very High Risk	GL	4593	HP	India	8	6.8	*17*
11	173	SDC	Medium Risk	GL	5150	JK	India	9	7.7	*17*
12	569	SDC	Medium Risk	GL	5450	SK	India	33	28.5	*16*

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	State	Country	Area of October 2024 (ha)	Base Area (Avg area of last 2 years (ha)	Change in Area (%) w.r.t Base Area
13	931	SDC	Very High Risk	GL	4082	JK	India	21	18.2	*16*
14	227	SDC	Very High Risk	GL	5176	SK	India	68	58.7	*16*
15	1998	SDC	Very High Risk	GL	3857	HP	India	1	0.9	*14*
16	260	SDC	Medium Risk	GL	5253	SK	India	45	39.6	*14*
17	292	SDC	Medium Risk	GL	5577	SK	India	4	3.5	*13*
18	976	SDC	High Risk/15I	GL	4314	JK	India	18	16.2	*11*
19	2031	SDC	Very High Risk	GL	4702	HP	India	12	10.9	*10*
20	345	SDC	Medium Risk	GL	5108	SK	India	19	17.2	*10*
21	1037	SDC	Medium Risk/27I	GL	3603	JK	India	40	38.0	*5*
22	182	SDC	Very High Risk	GL	4304	JK	India	8	7.6	*5*
23	951	SDC	Very High Risk	GL	3762	JK	India	17	16.2	*5*
24	2108	SDC	Very High Risk/347G	GL	5587	UK	India	18	17.2	*5*
25	293	SDC	Very High Risk	GL	5048	SK	India	2	2.0	*1*

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	State	Country	Area of October 2024 (ha)	Base Area (Avg area of last 2 years (ha)	Change in Area (%) w.r.t Base Area
26	1805	SDC	Very High Risk/81I	GL	4775	HP	India	4	4.0	*1*
27	938	SDC	Very High Risk	GL	3683	JK	India	20	19.8	*1*
28	1032	SDC	Very High Risk	GL	4007	JK	India	1	1.0	*0*
29	963	SDC	Medium Risk	GL	3725	JK	India	30	30.0	*0*
30	1847	SDC	Very High Risk	GL	4570	HP	India	12	13.8	*-13*
31	2207	SDC	Very High Risk	GL	4707	UK	India	8	10.1	*-20*
32	27	SDC	Very High Risk	GL	3775	JK	India	11	13.7	*-20*
33	993	SDC	Very High Risk	GL	4148	JK	India	5	6.3	*-21*
34	1936	SDC	Very High Risk/321I	GL	4606	HP	India	2	2.9	*-30*
35	1014	SDC	Very High Risk	GL	3989	JK	India	2	3.6	*-44*
36	98	SDC	High Risk	GL	4103	JK	India	#	4.0	*#*
37	2147	SDC	Medium Risk	GL	5688	UK	India	#	0.3	*#*
38	2299	SDC	Very High Risk	GL	4490	UK	India	#	#	*#*

Sl. No.	Lake ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation	State	Country	Area of October 2024 (ha)	Base Area (Avg area of last 2 years (ha)	Change in Area (%) w.r.t Base Area
39	298	SDC	Very High Risk	GL	4508	SK	India	#	5.9	#
40	599	SDC	Very High Risk	GL	4251	SK	India	#	7.4	#

Note: G stands for Ganga, I for Indus and B for Brahmaputra under the rank of vulnerability,
" -" Inventory Data not available , "#" indicates frozen/ dried lakes.

- GLs/WBs with increase in Area > 40%
- GLs/WBs with increase in Area – 0% to 40%
- GLs/WBs with decrease in Area
- GLs/WBs with no change in Area
- GLs/WBs not analysed

Table 4.8: Results of analysis of 15 GLs of size greater than 50 Ha located in India

Sl. No.	Lake ID	Agency	Rank of Vulnerability	UID	Elevation (m)	Lake type	Latitude (N)	Longitude (E)	Basin	River	Country	State/UT	Lake Area 2009 (Ha)	Lake Area October 2024 (Ha)	Area of Base Year of 2011 (ha) (i)	Average Area of Last 5 Years (ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i),(ii)&(iii)
1	01_52C_003	NRSC	7I	JK_187	4512	GL	33° 9' 26.28"	76° 59' 3.48"	Indus	Indus	India	Ladakh	45	57	45	58	56	-1
2	01_52E_001	NRSC		JK_188	5116	GL	35° 25' 4.8"	77° 36' 16.56"	Indus	Shyok	India	Ladakh	51	#	51	6	24	#
3	01_52J_001	NRSC	8I	JK_197	5311	GL	34° 27' 27.72"	78° 8' 6.36"	Indus	Shyok	India	Ladakh	97	96	65	98	90	-2
4	01_52H_004	NRSC		HP_5	4155	GL	32° 29' 47.04"	77° 33' 5.76"	Indus	Chenab	India	Himachal Pradesh	46	154	46	146	132	5
5	01_52H_002	NRSC /SDC	4I/Very High Risk	HP_3	4101	GL	32° 31' 28.92"	77° 13' 5.88"	Indus	Chenab	India	Himachal Pradesh	62	101	62	99	88	2
6	03_77D_002	NRSC		SK_2	5156	GL	28° 1' 33.96"	88° 42' 36"	Brahma-putra	Teesta	India	Sikkim	105	107	104	107	95	0
7	03_77D_004	NRSC /SDC	/Very High Risk	SK_4	5287	GL	28° 0' 25.56"	88° 42' 46.08"	Brahma-putra	Teesta	India	Sikkim	106	122	106	120	111	1
8	03_77D_005	NRSC /SDC	/Very High Risk	SK_5	5249	GL	28° 0' 32.76"	88° 41' 52.44"	Brahma-putra	Teesta	India	Sikkim	79	104	88	101	86	3
9	03_77D_008	NRSC		SK_8	5039	GL	28° 0' 26.28"	88° 29' 41.64"	Brahma-putra	Teesta	India	Sikkim	46	43	46	41	42	-7
10	03_78A_001	NRSC /SDC	/High Risk	SK_9	5371	GL	27° 59' 30.12"	88° 48' 55.8"	Brahma-putra	Teesta	India	Sikkim	156	186	156	185	254	-27
11	03_78A_003	NRSC /SDC	/Very High Risk	SK_11	4977	GL	27° 58' 31.08"	88° 36' 59.04"	Brahma-putra	Teesta	India	Sikkim	58	58	58	57	68	-15
12	03_78A_009	NRSC		SK_16	5044	GL	27° 56' 51.72"	88° 19' 52.68"	Brahma-putra	Teesta	India	Sikkim	54	63	55	62	58	2

Sl. No.	Lake ID	Agency	Rank of Vulnerability	UID	Elevation (m)	Lake type	Latitude (N)	Longitude (E)	Basin	River	Country	State/UT	Lake Area 2009 (Ha)	Lake Area October 2024 (Ha)	Area of Base Year of 2011 (ha) (i)	Average Area of Last 5 Years (ha) (ii)	Average Area of Last 10 years (ha) (iii)	Change in Area (%) w.r.t maximum of (i),(ii)&(iii)
13	03_78A_013	NRSC		SK_19	5470	GL	27° 55' 7.68"	88° 9' 39.6"	Brahma-putra	Teesta	India	Sikkim	63	86	67	80	79	7
14	03_78A_014	NRSC /SDC	/Very High Risk	SK_20	5234	GL	27° 54' 42.84"	88° 11' 54.96"	Brahma-putra	Teesta	India	Sikkim	94	142	123	152	130	-7
15	03_78A_021	NRSC		SK_26	5431	GL	27° 49' 28.2"	88° 14' 57.12"	Brahma-putra	Teesta	India	Sikkim	56	96	56	78	56	23

Note: " -" Inventory Data not available , "#" indicates frozen/ dried lakes.

- GLs displaying increase in area

Table 4.9: Results of analysis of 85 GLs with size between 10ha to 50ha located in India

Sl. No.	Lake ID	Agency	Rank of Vulnerability	UID	Elevation (m)	Lake type	Latitude (N)	Longitude (E)	Basin	River	Country	State/UT	Lake Area October 2024 (Ha)	Inventory Area 2011 (ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
1	01_42H_002	NRSC	162I		2763	GL	36° 38' 34.8"	73° 24' 26.64"	Indus	Gilgit	India	Ladakh	17	13	16	6
2	01_52A_002	NRSC			4537	GL	35° 5' 48.12"	76° 14' 0.6"	Indus	Shyok	India	Ladakh	22	23	19	-5
3	01_52A_003	NRSC			4586	GL	35° 5' 33.36"	76° 15' 7.2"	Indus	Shyok	India	Ladakh	14	24	17	-42
4	01_52A_004	NRSC/ SDC	/Very High Risk		4619	GL	35° 4' 28.2"	76° 17' 33.72"	Indus	Shyok	India	Ladakh	11	11	10	4
5	01_52B_010	NRSC/ SDC	75I/Mediu m Risk		5122	GL	34° 3' 6.48"	76° 43' 5.16"	Indus	Indus	India	Ladakh	17	18	15	-8
6	01_52B_012	NRSC	129I		5137	GL	34° 0' 19.8"	76° 47' 12.84"	Indus	Indus	India	Ladakh	15	17	13	-11
7	01_52C_001	NRSC	11I		4394	GL	33° 56' 44.52"	76° 13' 53.76"	Indus	Shingo (Indus)	India	Ladakh	51	36	52	-2
8	01_52L_006	NRSC	306I		5727	GL	32° 26' 27.24"	78° 55' 29.28"	Indus	Indus	India	Ladakh	11	12	10	-12
9	01_52L_007	NRSC	184I		5498	GL	32° 24' 36.36"	78° 53' 56.4"	Indus	Indus	India	Ladakh	31	32	31	-3
10	173	SDC	Medium Risk		5150	GL	34° 45' 54"	76° 42' 36"	Indus		India	Ladakh	9		8	17
11	180	SDC	Very High Risk		4442	GL	34° 21' 10.8"	76° 4' 37.2"	Indus		India	Ladakh	16	-	8	95
12	1360	SDC	Very High Risk		4667	GL	35° 1' 37.2"	75° 43' 30"	Indus		India	Ladakh	14		10	47
13	01_43J_003	NRSC			3954	GL	34° 55' 36.12"	74° 9' 19.44"	Indus	Jhelum	India	Jammu & Kashmir	20	20	15	-1
14	01_52C_002	NRSC	46I		4092	GL	33° 52' 10.2"	76° 7' 9.48"	Indus	Chenab	India	Jammu & Kashmir	42	26	42	-1
15	27	SDC	Very High Risk		3775	GL	34° 22' 51.6"	74° 52' 33.6"	Indus		India	Jammu & Kashmir	11	-	14	-20

Sl. No.	Lake ID	Agency	Rank of Vulnerability	UID	Elevation (m)	Lake type	Latitude (N)	Longitude (E)	Basin	River	Country	State/UT	Lake Area October 2024 (Ha)	Inventory Area 2011 (ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
16	98	SDC	High Risk		4103	GL	34° 23' 31.2"	75° 5' 6"	Indus		India	Jammu & Kashmir	#		4	#
17	182	SDC	Very High Risk		4304	GL	34° 14' 2.4"	75° 19' 30"	Indus		India	Jammu & Kashmir	8	-	8	5
18	931	SDC	Very High Risk		4082	GL	33° 55' 44.4"	75° 23' 20.4"	Indus		India	Jammu & Kashmir	21	-	18	16
19	938	SDC	Very High Risk		3683	GL	33° 57' 10.8"	75° 22' 40.8"	Indus		India	Jammu & Kashmir	20	-	20	1
20	951	SDC	Very High Risk		3762	GL	34° 4' 1.2"	75° 28' 30"	Indus		India	Jammu & Kashmir	17	-	16	5
21	958	SDC	Very High Risk		4103	GL	34° 8' 16.8"	75° 24' 57.6"	Indus		India	Jammu & Kashmir	9	-	6	55
22	963	SDC	Medium Risk		3725	GL	34° 8' 20.4"	75° 22' 33.6"	Indus		India	Jammu & Kashmir	30	-	30	0
23	976	SDC	High Risk/15I		4314	GL	34° 11' 6"	75° 22' 19.2"	Indus		India	Jammu & Kashmir	18	-	16	11
24	993	SDC	Very High Risk		4148	GL	34° 13' 37.2"	75° 13' 19.2"	Indus		India	Jammu & Kashmir	5	-	6	-21
25	1014	SDC	Very High Risk		3989	GL	34° 17' 56.4"	75° 3' 36"	Indus		India	Jammu & Kashmir	2	-	4	-44
26	1032	SDC	Very High Risk		4007	GL	34° 23' 9.6"	75° 3' 50.4"	Indus		India	Jammu & Kashmir	1	-	1	0
27	1037	SDC	Medium Risk/27I		3603	GL	34° 25' 19.2"	75° 3' 28.8"	Indus		India	Jammu & Kashmir	40	-	38	5
28	01_52H_003	NRSC			4165	GL	32° 29' 54.6"	77° 32' 37.32"	Indus	Chenab	India	Himachal Pradesh	154	28	141	9
29	01_53I_002	NRSC/ SDC	26I/Very High Risk		4273	GL	31° 39' 38.52"	78° 10' 1.92"	Indus	Sutlej	India	Himachal Pradesh	29	23	29	0

Sl. No.	Lake ID	Agency	Rank of Vulnerability	UID	Elevation (m)	Lake type	Latitude (N)	Longitude (E)	Basin	River	Country	State/UT	Lake Area October 2024 (Ha)	Inventory Area 2011 (ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
30	1774	SDC	Very High Risk		4593	GL	32° 13' 15.6"	76° 47' 16.8"	Indus		India	Himachal Pradesh	8	-	7	17
31	1805	SDC	Very High Risk/81I		4775	GL	32° 45' 43.2"	77° 11' 42"	Indus		India	Himachal Pradesh	4	-	4	1
32	1847	SDC	Very High Risk		4570	GL	31° 54' 54"	77° 31' 37.2"	Indus		India	Himachal Pradesh	12	-	14	-13
33	1936	SDC	Very High Risk/321I		4606	GL	32° 15' 21.6"	76° 46' 37.2"	Indus		India	Himachal Pradesh	2	-	3	-30
34	1998	SDC	Very High Risk		3857	GL	32° 19' 12"	76° 54' 28.8"	Indus		India	Himachal Pradesh	1	-	1	14
35	2031	SDC	Very High Risk		4702	GL	31° 20' 20.4"	78° 15' 10.8"	Indus		India	Himachal Pradesh	12	-	11	10
36	01_62B_003	NRSC	86I		5288	GL	30° 28' 36.48"	80° 35' 35.16"	Indus	Sutlej	India	Uttarakhand	14	12	12	12
37	02_53N_001	NRSC	250G		4688	GL	30° 54' 7.92"	79° 45' 12.6"	Ganga	Ganga	India	Uttarakhand	22	21	22	-2
38	02_62B_004	NRSC	232G		4918	GL	30° 33' 52.2"	80° 10' 41.16"	Ganga	Sarda	India	Uttarakhand	30	19	19	60
39	02_62B_005	NRSC	580G		4314	GL	30° 26' 44.52"	80° 23' 16.08"	Ganga	Sarda	India	Uttarakhand	12	12	9	-3
40	02_62B_007	NRSC			4839	GL	30° 16' 42.96"	80° 7' 49.8"	Ganga	Sarda	India	Uttarakhand	#	19	#	#
41	2108	SDC	Very High Risk/347G		5587	GL	30° 58' 33.6"	79° 27' 32.4"	Ganga		India	Uttarakhand	18	-	17	5
42	2147	SDC	Medium Risk		5688	GL	30° 58' 48"	79° 29' 13.2"	Ganga		India	Uttarakhand	#	-	0	#
43	2207	SDC	Very High Risk		4707	GL	30° 54' 43.2"	78° 57' 28.8"	Ganga		India	Uttarakhand	8	-	10	-20
44	2299	SDC	Very High Risk		4490	GL	30° 11' 2.4"	79° 52' 48"	Ganga		India	Uttarakhand	#	-	#	#

Sl. No.	Lake ID	Agency	Rank of Vulnerability	UID	Elevation (m)	Lake type	Latitude (N)	Longitude (E)	Basin	River	Country	State/UT	Lake Area October 2024 (Ha)	Inventory Area 2011 (ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
45	03_77D_006	NRSC/ SDC	/Very High Risk		5084	GL	28° 0' 51.84"	88° 33' 41.76"	Brahma -putra	Teesta	India	Sikkim	26	22	23	14
46	03_77D_007	NRSC/ SDC	/Very High Risk		5015	GL	28° 0' 26.28"	88° 34' 18.48"	Brahma -putra	Teesta	India	Sikkim	25	24	23	5
47	03_78A_002	NRSC/ SDC	/Very High Risk		4952	GL	27° 58' 56.28"	88° 30' 28.08"	Brahma -putra	Teesta	India	Sikkim	37	22	36	2
48	03_78A_005	NRSC			5201	GL	27° 58' 31.44"	88° 25' 20.64"	Brahma -putra	Teesta	India	Sikkim	14	11	9	23
49	03_78A_006	NRSC			5004	GL	27° 58' 15.6"	88° 25' 45.84"	Brahma -putra	Teesta	India	Sikkim	14	11	12	14
50	03_78A_007	NRSC/ SDC	/Very High Risk		4977	GL	27° 57' 38.88"	88° 38' 57.48"	Brahma -putra	Teesta	India	Sikkim	19	17	17	10
51	03_78A_008	NRSC			4998	GL	27° 57' 3.24"	88° 21' 15.48"	Brahma -putra	Teesta	India	Sikkim	18	44	16	-59
52	03_78A_010	NRSC			5078	GL	27° 57' 0.72"	88° 18' 16.92"	Brahma -putra	Teesta	India	Sikkim	36	36	33	1
53	03_78A_012	NRSC			5130	GL	27° 54' 4.32"	88° 46' 54.84"	Brahma -putra	Teesta	India	Sikkim	29	26	26	11
54	03_78A_015	NRSC/ SDC	/Medium Risk		4970	GL	27° 52' 23.88"	88° 47' 22.2"	Brahma -putra	Teesta	India	Sikkim	11	12	8	-8
55	03_78A_016	NRSC			5451	GL	27° 53' 33.72"	88° 12' 47.16"	Brahma -putra	Teesta	India	Sikkim	#	14	11	#
56	03_78A_017	NRSC			5545	GL	27° 53' 34.8"	88° 11' 31.92"	Brahma -putra	Teesta	India	Sikkim	30	19	26	17
57	03_78A_019	NRSC/ SDC	/Very High Risk		4809	GL	27° 51' 52.2"	88° 51' 46.44"	Brahma -putra	Teesta	India	Sikkim	15	15	12	2
58	03_78A_020	NRSC			5219	GL	27° 52' 49.44"	88° 15' 4.68"	Brahma -putra	Teesta	India	Sikkim	14	14	14	0

Sl. No.	Lake ID	Agency	Rank of Vulnerability	UID	Elevation (m)	Lake type	Latitude (N)	Longitude (E)	Basin	River	Country	State/UT	Lake Area October 2024 (Ha)	Inventory Area 2011 (ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
59	03_78A_023	NRSC			4547	GL	27° 40' 17.04"	88° 30' 46.44"	Brahma -putra	Teesta	India	Sikkim	34	33	27	3
60	03_78A_026	NRSC			4736	GL	27° 33' 44.28"	88° 7' 24.96"	Brahma -putra	Teesta	India	Sikkim	11	11	11	-1
61	03_78A_027	NRSC/ SDC	/Very High Risk		4888	GL	27° 32' 0.6"	88° 5' 8.52"	Brahma -putra	Teesta	India	Sikkim	38	33	34	13
62	03_78A_031	NRSC			4305	GL	27° 26' 15"	88° 5' 9.6"	Brahma -putra	Teesta	India	Sikkim	13	14	12	-6
63	03_78A_035	NRSC			4998	GL	27° 57' 3.24"	88° 21' 15.48"	Brahma -putra	Teesta	India	Sikkim	45	-	9	406
64	227	SDC	Very High Risk		5176	GL	27° 59' 34.8"	88° 32' 49.2"	Brahma -putra		India	Sikkim	68	-	59	16
65	237	SDC	Very Low Risk		5322	GL	27° 59' 34.8"	88° 48' 3.6"	Brahma -putra		India	Sikkim	9	-	7	26
66	256	SDC	High risk		4615	GL	27° 48' 57.6"	88° 39' 25.2"	Brahma -putra		India	Sikkim	16	-	13	19
67	260	SDC	Medium Risk		5253	GL	27° 53' 38.4"	88° 45' 39.6"	Brahma -putra		India	Sikkim	45	-	40	14
68	292	SDC	Medium Risk		5577	GL	28° 0' 21.6"	88° 39' 18"	Brahma -putra		India	Sikkim	4	-	4	13
69	293	SDC	Very High Risk		5048	GL	27° 57' 3.6"	88° 42' 18"	Brahma -putra		India	Sikkim	2	-	2	1
70	295	SDC	Very High Risk		4850	GL	27° 55' 12"	88° 40' 19.2"	Brahma -putra		India	Sikkim	9	-	7	32
71	298	SDC	Very High Risk		4508	GL	27° 52' 22.8"	88° 38' 16.8"	Brahma -putra		India	Sikkim	#	-	6	#
72	312	SDC	Medium Risk		5137	GL	27° 42' 3.6"	88° 30' 50.4"	Brahma -putra		India	Sikkim	10	-	7	44

Sl. No.	Lake ID	Agency	Rank of Vulnerability	UID	Elevation (m)	Lake type	Latitude (N)	Longitude (E)	Basin	River	Country	State/UT	Lake Area October 2024 (Ha)	Inventory Area 2011 (ha) (i)	Base Area Average (area of last 2 years) (ha) (ii)	Change in Area (%) w.r.t maximum of (i)(&(ii)
73	345	SDC	Medium Risk		5108	GL	27° 51' 50.4"	88° 44' 49.2"	Brahma -putra		India	Sikkim	19	-	17	10
74	515	SDC	Medium Risk		5063	GL	27° 51' 14.4"	88° 48' 21.6"	Brahma -putra		India	Sikkim	10	-	8	27
75	569	SDC	Medium Risk		5450	GL	28° 0' 7.2"	88° 38' 24"	Brahma -putra		India	Sikkim	33	-	28	16
76	599	SDC	Very High Risk		4251	GL	27° 41' 42"	88° 42' 57.6"	Brahma -putra		India	Sikkim	#	-	7	#
77	03_82L_007	NRSC			4163	GL	28° 50' 15"	94° 27' 5.04"	Brahma -putra	Ding	India	Arunachal Pradesh	18	16	15	12
78	03_83A_003	NRSC			5188	GL	27° 46' 12.72"	92° 25' 56.64"	Brahma -putra	Dangm e Chhu	India	Arunachal Pradesh	86	24	82	4
79	03_83A_004	NRSC			5109	GL	27° 45' 47.16"	92° 25' 29.64"	Brahma -putra	Dangm e Chhu	India	Arunachal Pradesh	20	17	17	15
80	03_83A_005	NRSC			4994		27° 45' 20.52"	92° 24' 2.52"	Brahma -putra	Dangm e Chhu	India	Arunachal Pradesh	13	13	12	3
81	03_83A_007	NRSC			5028	GL	27° 43' 39.36"	92° 26' 12.48"	Brahma -putra	Jia Brali	India	Arunachal Pradesh	15	14	14	8
82	03_91C_026	NRSC			4305	GL	29° 20' 18.24"	96° 4' 57.72"	Brahma -putra	Dibang	India	Arunachal Pradesh	26	28	25	-6
83	03_91D_075	NRSC			4274	GL	28° 36' 28.8"	96° 19' 14.16"	Brahma -putra	Dibang	India	Arunachal Pradesh	25	23	25	0
84	03_91H_073	NRSC			4481	GL	28° 3' 15.48"	97° 19' 47.64"	Brahma -putra	Lohit	India	Arunachal Pradesh	25	25	25	0
85	129	SDC	Very High Risk		4895	GL	27°46'24.165"	92°19'1.10"	Brahma -putra		India	Arunachal Pradesh	13		9	41

Note: " -" Inventory Data not available , "#" indicates frozen/ dried lakes.

- GLs displaying increase in area

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