सत्यमेव जयते

Monthly Monitoring Report
of
Glacial Lakes & Water Bodies in the Himalayan Region of Indian River Basins
(September, 2022)

Morphology & Climate Change Directorate

Central Water Commission

Department of Water Resources, River Development & Ganga Rejuvenation

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10.	Abstract (with Keywords): This document presents the details on monitoring of Glacial Lakes and water bodies in the Himalayan region and Tibetan region, draining to India. The work has been carried out using remote sensing technique. The adopted methodology is indicated in the report. The change in water spread area for 902 GL&WBs has been worked out. The Glacial Lakes requiring vigorous monitoring have been identified for the month of September, 2022. Keywords: Glacial Lake, Water Bodies, Himalayas, Satellite Images, Remote Sensing				

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ABBREVIATIONS	
AR	Arunachal Pradesh
GEE	Google Earth Engine
GL	Glacial Lake
GLOF	Glacial Lake Outburst Flood
FCC	False Colour Composite
ha	Hectare
HP	Himachal Pradesh
J&K	Jammu & Kashmir
LAT	Latitude
LONG	Longitude
LU/LC	Land Use /Land Cover
NDWI	Normalised Difference Water Index
NDMA	National Disaster Management Authority
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	Water Body

Executive Summary

The Himalayan Region (HR) is facing important challenges in view of coping with the 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.

Remote sensing technique being the most cost effective and reliable approach especially for remote and difficult to access terrain, has been applied for detecting water spread area of such lakes. For analysing and processing large number of remote sensed satellite imageries. Google Earth Engine (GEE), which is an open-source cloud computing platform, has been used. High resolution multi-spectral and microwave (SAR) images at 10m resolution from Sentinel satellite have been analysed. This facilitated in detecting lakes even in cloudy conditions.

The water spread areas for Glacial Lakes and Water Bodies has been calculated in an automatic manner. Manual digitisation, of the lakes was carried out wherever required. The algorithm for automation has been developed in-house in GEE. The detailed methodology is included in this report.

For the month of September, 2022, a total of 902 Glacial Lakes and Water Bodies have been monitored. It includes 477 Glacial Lakes & Water Bodies, having water spread area greater than 50 ha, which are being monitored since 2011. All Glacial Lakes having size up to 10 ha as per NRSC inventory, 2009 have been monitored. Further, the critical Glacial Lakes as identified by Swiss agency for Development and Cooperation (SDC) for NDMA in their report titled "*Synthesis report on GLOF hazard and risk across the Indian Himalayan Region*" has also been included in monitoring.

The monitoring was based on analysis of 15159 Satellite images in the month of September, 2022. From disaster point of view, the base year, average area for last 5 and 10 years for 477 Glacial Lakes &Water Bodies having water spread area greater than 50 ha, has been considered to determine the change. However, for 425 Glacial Lakes having size upto 10 ha or even smaller the change in water spread area has been calculated with respect to month of September, 2022. 23 Glacial Lakes have shown an increase in water spread area greater than 40% requiring vigorous monitoring. 11 are in TAR, 8 are in India, 3 are in Bhutan and 1 is in Nepal.

1. Introduction

1.1 Background

Glacial retreat due to climate change occurring in most parts of the Hindu Kush Himalaya has given rise to the formation of numerous new Glacial Lakes. The water in these Glacial Lakes accumulates behind loose naturally formed 'glacial/moraine dams' made of ice, sand, pebbles and ice residue as the glaciers melt. Different types of lakes may have different levels of hazard potential depending upon many factors like the nature of the damming materials, the position of the lake, the 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 above-mentioned risk factors and triggering processes like ice avalanches, debris flows, rockfall, earthquake or landslides reaching a lake strongly affect the risk of a lake outburst. For instance, moraine-dammed lakes located at the snout of a glacier have a high probability of breaching with high hazard potential whereas there is a reduced risk of breaching in case of erosion lakes.

Glacial Lake Outburst Flood (GLOF) is created when water dammed by a glacier or a moraine is released suddenly. Some of the Glacial Lakes are unstable and particularly moraine dammed lakes are potentially susceptible to sudden discharge of large volumes of water and debris which causes floods downstream. Climate change is expected to alter and potentially increase the probability of lake outbursts in the future.

1.2 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 (SRS) technology has contributed significantly to the acquisition of Earth’s resources, thus helping in their better management. SRS plays a complementary role to other means of spatial data acquisitions i.e., through conventional procedures. Satellite remote sensing offers several unique advantages quick data collection, reliability, more accurate, repetitive collection, geometric integrity and digital storage, which makes it an ideal tool for mapping, inventorying and monitoring the natural resources.

Due to the remote location of Glaciers and Glacial Lakes their access is difficult, owing to tough and difficult terrain. Thus, preparation of inventory of Glacial Lakes using conventional methods requires extensive time and resources together with undergoing hardships in the field. Creating inventories and monitoring of the Glacial Lakes can be done quickly and correctly using satellite images and aerial photographs. Use of these

images and photographs for the evaluation of physical conditions of the area provides greater accuracy. The multi-stage approach using remotely sensed data and field investigation increases the ability and accuracy of the work. Visual and digital image analysis techniques integrated with techniques of geographic information systems (GIS) are very useful for the study of Glacier and Glacial Lakes.

1.3 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 on monthly basis during June to October.
- To detect changes in water spread area of GL&WBs with respect to historical information & base year.
- To detect any sharp change in area of GL&WBs for disaster purpose
- To share the monitoring reports with concerned stakeholders including National Disaster Management Authority / State Disaster Management Authority.

2. Study Area &Satellite Data Used

2.1 Study Area

The present study area covers the GL& WBs lying in the region of Himalaya and Tibet that drains to India as shown in

Figure 2. The study area extends across different countries, namely, India, Nepal, Bhutan and China.

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

- Monitoring of 477 Glacial Lakes and Water Bodies, having water spread area greater than 50 ha which have been included from the inventory of Glacial Lakes & Water Bodies in the Indian Himalayan region using satellite data of the year 2009 prepared by NRSC (Ref: NRSC Report No. NRSC-RS&GISAA-WRG-CWC-Lakes-May2011-TR255).
- Monitoring of 385 Glacial Lakes, having spatial extent greater than 10 ha, which have been taken from the inventory of Glacial Lakes & Water Bodies in the Indian Himalayan region using satellite data of the year 2009 prepared by NRSC (Ref: NRSC Report No. NRSC-RS&GISAA-WRG-CWC-Lakes-May2011-TR255).
- Monitoring of 57 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.

A total of 902 Glacial Lakes and Water Bodies have been monitored. Of these, 544 are Glacial Lakes and 358 are Water Bodies. All Glacial Lakes upto size of 10 ha as per NRSC 2009 inventory and few more Glacial Lakes of size even smaller than 10 ha as identified by SDC have also been included for monitoring. The break-up of Glacial Lakes and Water Bodies is shown in Figure 1.

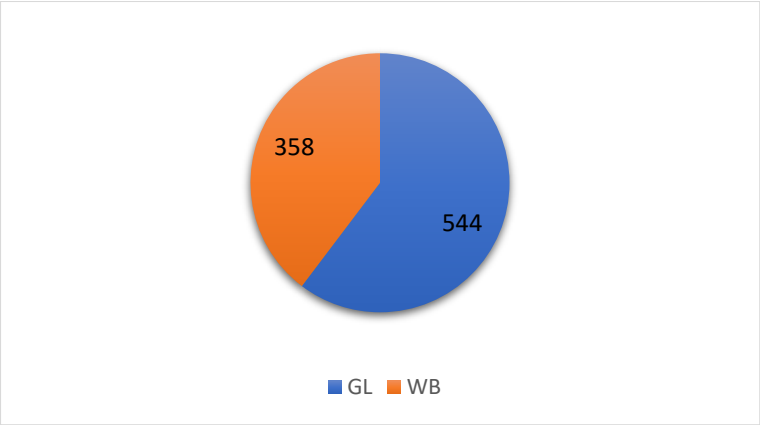

FIGURE 1: LAKE TYPE DISTRIBUTION

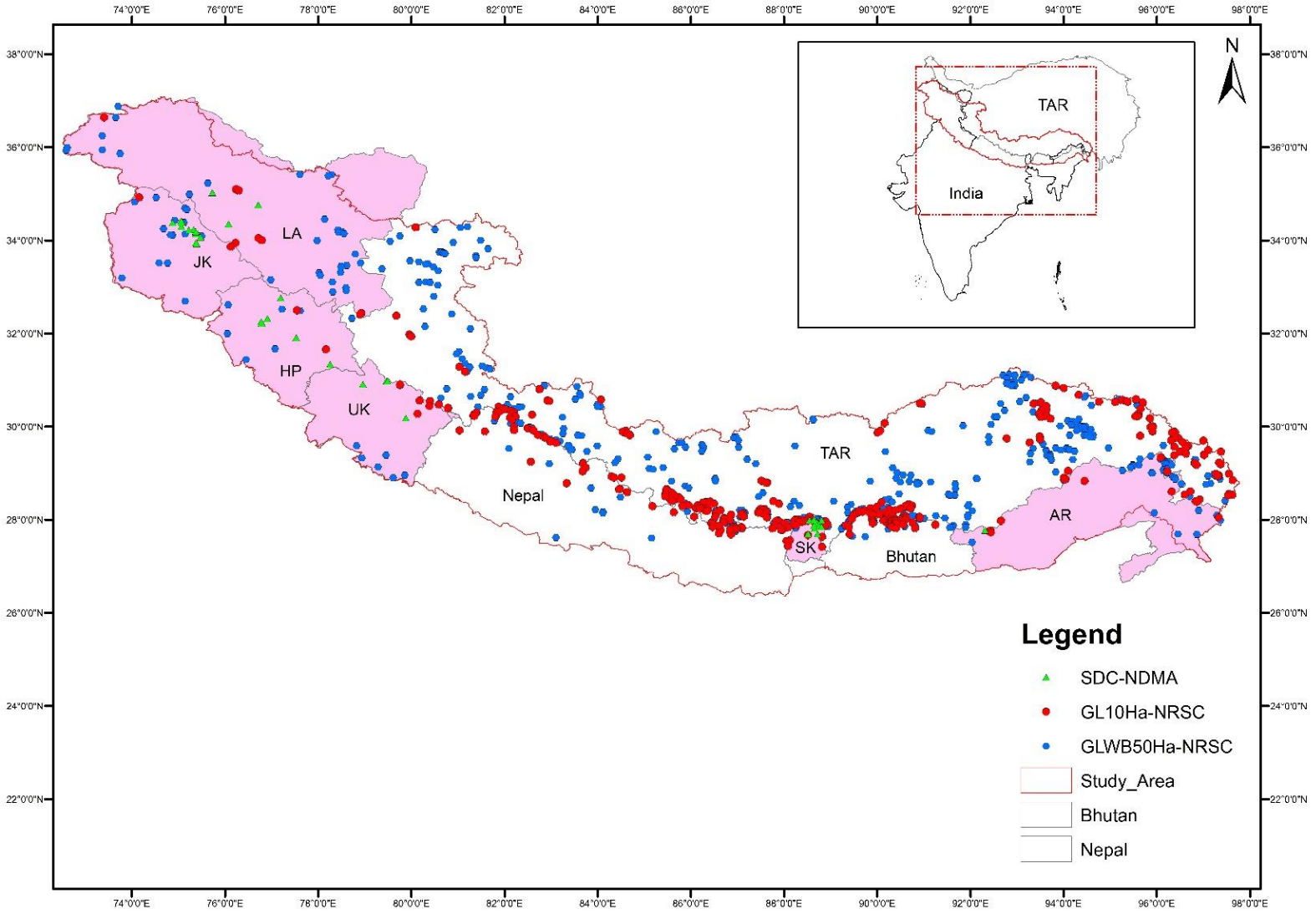

FIGURE 2: LOCATIONS OF GLACIAL LAKES &WATER BODIES IN THE STUDY AREA

2.2 Satellite Data Used

2.2.1 Sentinel-2 MSI

It is a wide-swath, high-resolution, multi-spectral imaging mission, supporting Copernicus Land Monitoring studies, including the monitoring of vegetation, soil and water cover, as well as observation of inland waterways and coastal areas. The SENTINEL-2 Multispectral Instrument (MSI) samples 13 spectral bands: four bands at 10 metres, six bands at 20 metres and three bands at 60 metres spatial resolution. The revisit frequency of each single SENTINEL-2 satellite is 10 day and the combined constellation revisit is 5 day.

2.2.2 Sentinel-1SAR (Micro)

It has C-band synthetic aperture radar (SAR) active sensor which can observe the Earth's surface at any time of the day or night, regardless of weather and environmental conditions. SAR has the advantage of operating at wavelengths not impeded by cloud cover or lack of illumination. 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 repeat orbit cycle of each Sentinel-1 satellite is 12-day.

The numbers of satellite images processed for the month of September-2022 were 15159. Of these, 9205 were Multispectral images and 5954 were Microwave images as shown in Figure 3.

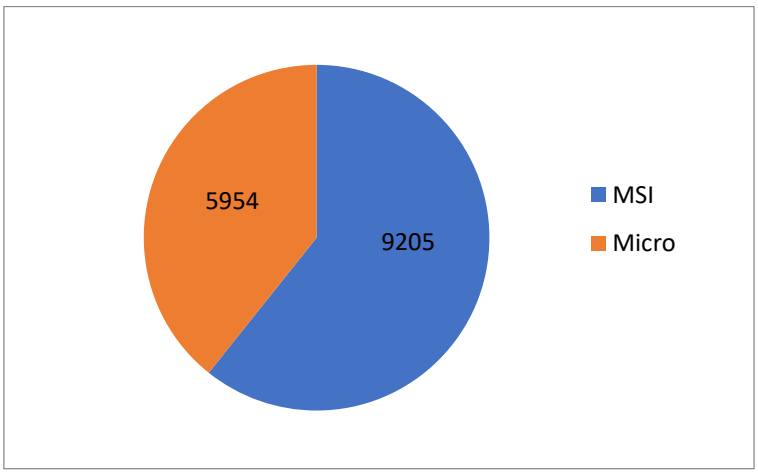

FIGURE 3: ANALYSED SATELLITE IMAGES DISTRIBUTION

3. Methodology

Google Earth Engine (GEE) being a planetary-scale platform for Earth science data & analysis has been used to process the Multispectral and Microwave Sentinel image data for the monitoring of Glacial Lakes & water bodies. The Microwave and Multispectral Satellite works on different principle, hence separate methodology has been applied 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. It can transmit a signal in either horizontal (H) or vertical (V) polarisation, and then receive in both H and V polarisations. The backscatter intensity of vertical transmit vertical receive (VV) 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.

It has also been observed that some GL&WBs are required to the delineated manually based on the visual interpretation of satellite images. This is due to the fact that region being monitored has rugged terrain with steep mountains and valleys, which may lead to effects like foreshortening, layover, mountain shadows etc in the microwave/SAR data. Also, the cloud cover on many occasions hinders the performance of Multispectral Satellite data. Thus, creating difficulty in interpreting the signal through automatic means.

The change detection in water spread area of Lake has been calculated for following three cases.

- Difference between the current area of lake and base year
- Difference between the current area of lake and Last five years average area
- Difference between the current area of lake and Last ten years average area

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

The detailed flow-chart of methodology for automatic monitoring of Glacial Lakes and Water Bodies using satellite images is given below in Figure 4.

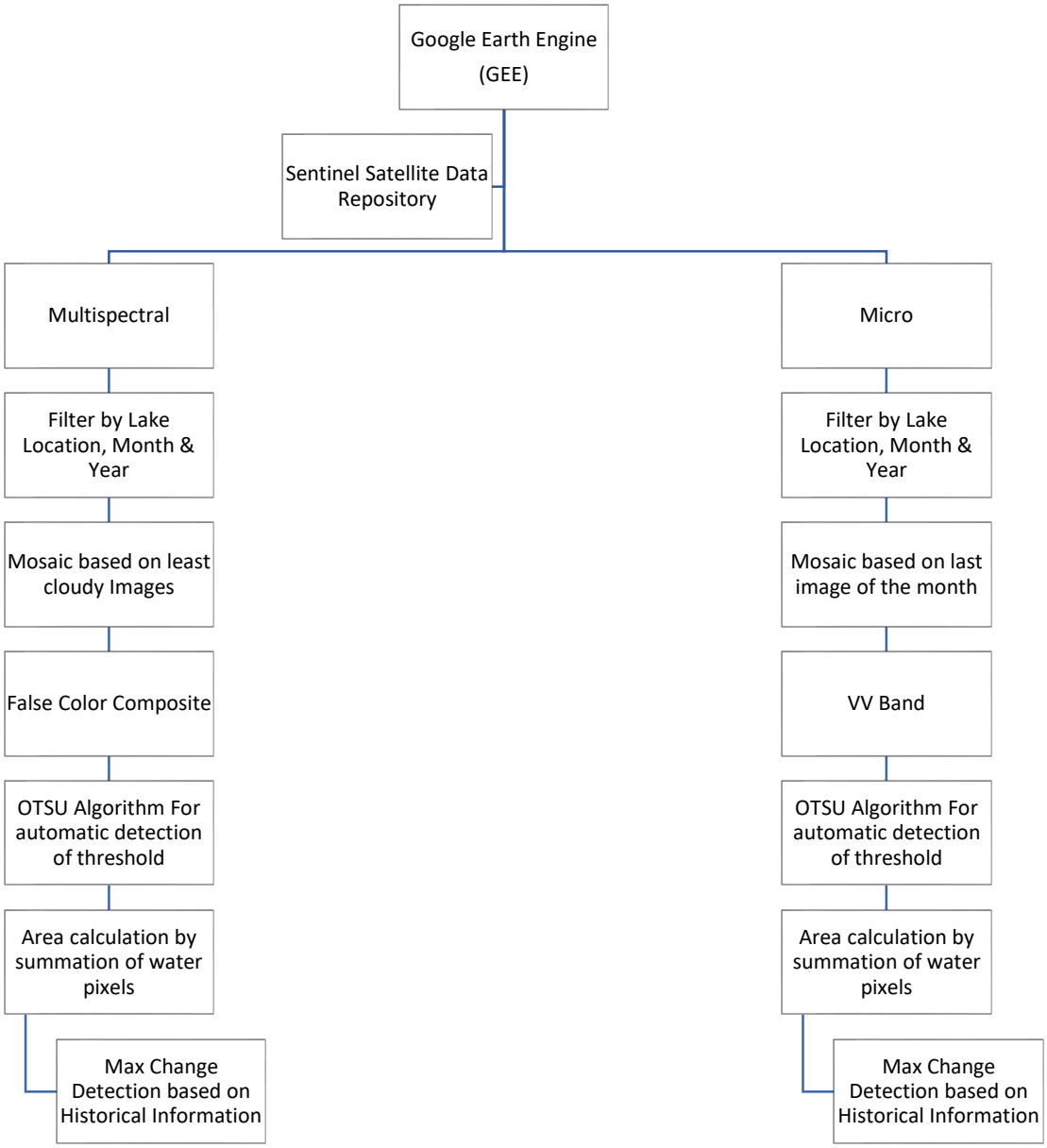

FIGURE 4: METHODOLOGY OF AUTOMATIC MONITORING OF GLACIAL LAKES & WATER BODIES USING SATELLITE IMAGES

4. Results

The water spread area of 902 Glacial Lakes & Water Bodies was calculated for the month of September, 2022 in automatic manner and manually digitised, wherever required using the methodology described above. It includes 477 GL&WBs having size greater than 50 ha which are being monitored since 2011.

For 477 GL&WBs, the water spread area of September, 2022 and maximum detected change in water spread area with respect to base year, last 5 years average area & last 10 years average area is shown in Table 1 to G stands for Ganga, I for Indus and B for Brahmaputra under the rank of vulnerability

- Unobservable (as per NRSC) , Ø indicates small rivulet/first order stream

Table 4.

The remaining 425 Glacial Lakes having size up to 10 ha or smaller were monitored from this year and their change detection with respect to average area of previous monitoring months, i.e., June, 2022, July-2022 and August-2022 was calculated. The water spread area for such lakes in the month of September, 2022 is shown in Table 7 to Table 7.

It was observed that 363 GL&WBs have shown increase in water spread area, 458 have shown decrease in water spread area, 61 have shown no change in water spread area and change detection for remaining Glacial Lakes could not be performed. The same is shown in Figure 5.

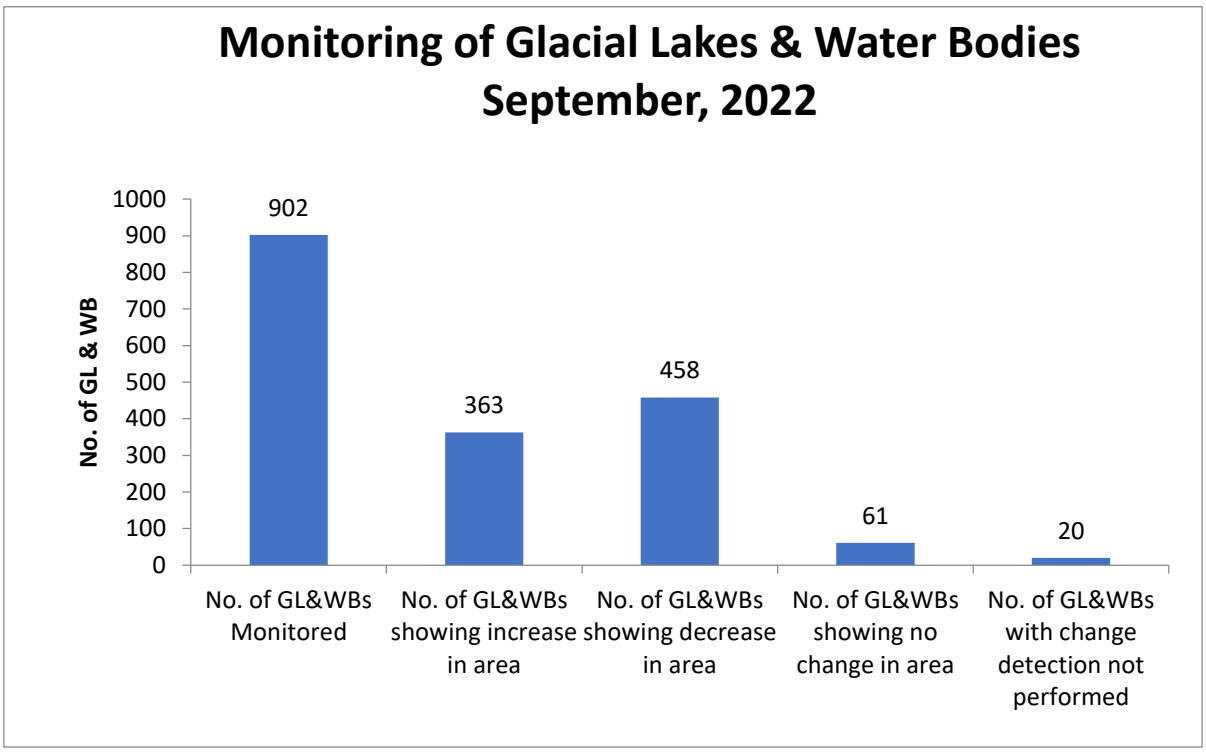

FIGURE 5: OVERALL CHANGES IN WATER SPREAD AREA OF GL&WBS FOR SEPTEMBER, 2022

5. Conclusions

- 3 Glacial Lakes of size greater than 50 ha are requiring **vigorous monitoring** for disaster purpose. These lakes have shown increase in water spread area greater than 40%. 2 are in TAR and 1 in India. The GL lying in India is in Sikkim. The details of these lakes have been highlighted in yellow colour in Table 1.
- Out of the lakes which are identified as critical by SDC**,** 5 are requiring **vigorous monitoring** for disaster purpose. These lakes have shown increase in water spread area greater than 40% w.r.t average area of previous monitoring months, i.e., June-2022, July-2022 and August-2022. Of these 2 are in Sikkim, 2 are in Himachal Pradesh and 1 is in Jammu & Kashmir. The details of these lakes have been highlighted in yellow colour in
-
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- Table 6.
- 15 Glacial Lakes of size greater than 10 ha but less than 50 ha are requiring **vigorous monitoring** for disaster purpose. These lakes have shown increase in water spread area greater than 40%. 9 are in TAR, 3 are in Bhutan, 2 are in India and 1 is in Nepal. Of these 2 GL lying in India, 1 is in Indus Basin and 1 in Brahmaputra Basin. The details of these lakes have been highlighted in yellow color in Table 7.
- Out of 12 Glacial Lakes identified in June, 2022 for vigorously monitoring, 11 GL are found to be stable as per current analysis and only 1 requires vigorously monitoring. Out of 8 Glacial Lakes identified in July, 2022 for vigorously monitoring, 5 GL are found to be stable as per current analysis and 3 requires vigorously monitoring. Out of 19 Glacial Lakes identified in August, 2022 for vigorously monitoring, 12 GL are found to be stable as per current analysis and 7 requires vigorously monitoring. The stable lakes have been highlighted in orange colour in Table 2 to Table 7.

- Google Earth Engine (GEE) has proved to be a very useful and efficient tool in processing large information of 12853, 14859, 15499 and 15159 Satellite images in month of June, July, August, 2022 and September, 2022 respectively.
- Automatic algorithm developed in GEE has expedited the process of calculation of water spread area, which has resulted in increase of monitoring of number of lakes from 477 to 902 this year without any increase in manpower resource and financial implications.
- Use of Microwave satellite image in conjunction with multispectral satellite image (MSI) has overcome the short-coming of cloud cover leading to monitoring of all 902 GL&WBs in all types of weather conditions. This has further increased availability of satellite images at shorter frequency interval, which will facilitate in reducing the monitoring interval in near future.
- The use of Sentinel Satellite image has increased the spatial resolution from 56m to 10m leading to enhancement of monitoring accuracy. Sentinel images have also aided in improving the temporal resolution.

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*TABLE 1: LIST OF GL&WBS HAVING WATER SPREAD GREATER THAN 50 HA SHOWING MORE THAN 40% INCREASE IN AREA (**REQUIRING VIGOROUS MONITORING**)*

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
1	03_82O_047	NRSC		CH_1039	3574	WB	Brahmaputra	Dihang	China	51	-	8	16	218.75
2	03_91C_074	NRSC		CH_1102	4258	GL	Brahmaputra	Dibang	China	56	-	17	21	166.67
3	03_82O_044	NRSC		CH_1037	3552	WB	Brahmaputra	Dihang	China	91	-	-	35	160.00
4	03_78I_085	NRSC		BH_166	4764	WB	Brahmaputra	Puna Tsang Chhu	Bhutan	74	-	12	31	138.71
5	03_82K_042	NRSC		CH_898	4364	WB	Brahmaputra	Ø	China	182	-	35	85	114.12
6	03_82K_040	NRSC		CH_896	4329	WB	Brahmaputra	Ø	China	56	-	23	27	107.41
7	03_91C_049	NRSC		AP_95	4261	WB	Brahmaputra	Dibang	India	65	-	15	32	103.13
8	03_92A_005	NRSC		AP_203	3391	WB	Brahmaputra	Lohit	India	53	-	17	27	96.30
9	03_82K_049	NRSC		CH_905	4180	WB	Brahmaputra	Ø	China	41	-	18	21	95.24
10	03_91C_005	NRSC		CH_1056	4926	GL	Brahmaputra	Ø	China	97	-	16	50	94.00
11	03_91C_070	NRSC		CH_1098	4252	WB	Brahmaputra	Dibang	China	55	-	21	29	89.66

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
12	03_82J_024	NRSC		CH_854	4362	WB	Brahmaputra	Ø	China	69	-	25	38	81.58
13	03_82K_103	NRSC		CH_959	3964	WB	Brahmaputra	Ø	China	41	-	15	23	78.26
14	03_91H_017	NRSC		CH_1182	4590	WB	Brahmaputra	Lohit	China	32	-	14	18	77.78
15	03_91C_078	NRSC		CH_1106	3694	WB	Brahmaputra	Dibang	China	45	-	26	26	73.08
16	03_82K_045	NRSC		CH_901	4572	WB	Brahmaputra	Ø	China	47	-	28	25	67.86
17	03_82K_007	NRSC		CH_863	4294	WB	Brahmaputra	Ø	China	129	-	49	79	63.29
18	03_91H_011	NRSC		CH_1176	4494	WB	Brahmaputra	Lohit	China	58	-	37	32	56.76
19	03_91C_042	NRSC		AP_89	4531	WB	Brahmaputra	Dibang	India	50	-	19	32	56.25
20	03_77P_023	NRSC		CH_593	4235	WB	Brahmaputra	Kuri Chhu	China	76	-	50	43	52.00
21	03_78A_021	NRSC		SK_26	5431	GL	Brahmaputra	Teesta	India	84	56	53	50	50.00
22	03_82F_016	NRSC		CH_741	4632	WB	Brahmaputra	Ø	China	46	-	28	31	48.39
23	02_62J_003	NRSC	254G	NP_19	4854	WB	Ganga	Karnal	Nepal	66	-	45	42	46.67
24	03_91C_059	NRSC		CH_1089	4303	WB	Brahmaputra	Dibang	China	108	-	76	72	42.11
25	03_82G_065	NRSC		CH_826	4148	WB	Brahmaputra	Ø	China	83	-	55	59	40.68

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

- Unobservable (as per NRSC) , Ø indicates small rivulet/first order stream

TABLE 2: GL&WBS HAVING WATER SPREAD GREATER THAN 50 HA THAT HAVE SHOWN INCREASE IN WATER SPREAD AREA

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
26	03_91D_080	NRSC		CH_1135	4295	WB	Brahmaputra	Lohit	China	35	-	25	20	40.00
27	03_82O_062	NRSC		AP_55	3612	WB	Brahmaputra	Dibang	India	58	42	9	24	38.10
28	03_82J_019	NRSC		CH_849	3944	GL	Brahmaputra	Ø	China	88	-	64	52	37.50
29	02_71P_025	NRSC		CH_213	4807	WB	Ganga	Arun Kosi	China	172	110	127	107	35.43
30	03_91H_010	NRSC		CH_1175	4433	WB	Brahmaputra	Lohit	China	98	-	73	66	34.25
31	02_71P_054	NRSC		CH_242	4859	0	Ganga	Arun Kosi	China	102	-	76	75	34.21
32	01_61C_010	NRSC		CH_38	4495	WB	Indus	Indus	China	162	94	118	121	33.88
33	03_78E_026	NRSC		CH_613	5161	GL	Brahmaputra	Amo Chhu	China	57	-	43	43	32.56
34	03_77H_023	NRSC		CH_492	5313	WB	Brahmaputra	Ø	China	54	-	41	33	31.71
35	03_78E_029	NRSC		BH_73	4250	WB	Brahmaputra	Puna Tsang Chhu	Bhutan	43	-	33	28	30.30
36	03_77L_043	NRSC		CH_552	5200	GL	Brahmaputra	Kuri Chhu	China	242	178	188	189	28.04
37	03_77L_010	NRSC		CH_526	4457	WB	Brahmaputra	Ø	China	51	-	40	37	27.50

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
38	03_82N_004	NRSC		CH_975	4290	GL	Brahmaputra	Ø	China	135	106	71	75	27.36
39	03_78M_020	NRSC		BH_195	4157	WB	Brahmaputra	Dangme Chhu	Bhutan	75	59	54	56	27.12
40	03_82J_008	NRSC		CH_838	4036	GL	Brahmaputra	Ø	China	212	166	167	165	26.95
41	03_77L_066	NRSC		BH_34	4896	GL	Brahmaputra	Manas Chhu &Mangde Chhu	Bhutan	170	134	132	133	26.87
42	03_82O_061	NRSC		AP_54	3811	WB	Brahmaputra	Dibang	India	59	47	41	44	25.53
43	03_82N_030	NRSC		CH_1001	4462	GL	Brahmaputra	Ø	China	133	-	106	100	25.47
44	03_78I_048	NRSC		BH_129	4169	WB	Brahmaputra	Manas Chhu &Mangde Chhu	Bhutan	65	52	32	38	25.00
45	03_78M_022	NRSC		BH_197	4549	WB	Brahmaputra	Dangme Chhu	Bhutan	70	-	54	56	25.00
46	03_91C_038	NRSC		AP_85	4002	WB	Brahmaputra	Dibang	India	105	-	73	85	23.53

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
47	03_78M_010	NRSC		BH_188	4496	WB	Brahmaputra	Dangme Chhu	Bhutan	43	-	35	33	22.86
48	03_91D_107	NRSC		AP_163	3769	WB	Brahmaputra	Lohit	India	66	-	49	54	22.22
49	01_61C_011	NRSC		CH_39	4494	WB	Indus	Indus	China	656	434	539	472	21.71
50	03_71C_011	NRSC		CH_404	4684	WB	Brahmaputra	Ø	China	186	127	153	138	21.57
51	03_91H_067	NRSC		AP_185	3791	WB	Brahmaputra	Lohit	India	57	-	44	47	21.28
52	03_91C_052	NRSC		CH_1085	4591	WB	Brahmaputra	Lohit	China	46	-	34	38	21.05
53	01_52H_005	NRSC		HP_6	4286	WB	Indus	Chenab	India	52	-	43	38	20.93
54	03_78A_014	NRSC/SDC	Very High Risk	SK_20	5234	GL	Brahmaputra	Teesta	India	169	132	140	125	20.71
55	03_77H_018	NRSC		CH_488	4699	WB	Brahmaputra	Ø	China	100	75	83	77	20.48
56	03_91H_005	NRSC		CH_1170	4123	WB	Brahmaputra	Lohit	China	72	56	60	46	20.00
57	01_52H_004	NRSC		HP_5	4155	GL	Indus	Chenab	India	170	-	142	114	19.72
58	03_71G_013	NRSC		CH_422	4543	WB	Brahmaputra	Ø	China	331	228	277	250	19.49
59	03_77L_014	NRSC		CH_530	5289	WB	Brahmaputra	Ø	China	44	-	37	36	18.92

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
60	03_91C_064	NRSC		AP_100	3972	WB	Brahmaputra	Dibang	India	85	-	72	65	18.06
61	03_82N_019	NRSC		CH_990	4877	WB	Brahmaputra	Ø	China	46	-	39	39	17.95
62	03_91D_010	NRSC		AP_109	3323	WB	Brahmaputra	Dibang	India	47	-	40	34	17.50
63	03_78I_023	NRSC		BH_104	5055	GL	Brahmaputra	Manas Chhu &Mangde Chhu	Bhutan	61	52	48	44	17.31
64	03_82K_074	NRSC		CH_930	4553	WB	Brahmaputra	Ø	China	79	-	68	64	16.18
65	03_82O_016	NRSC		CH_1023	4374	WB	Brahmaputra	Dihang	China	109	94	21	41	15.96
66	03_91C_014	NRSC		CH_1065	4033	GL	Brahmaputra	Ø	China	52	-	45	42	15.56
67	02_71L_010	NRSC	185G	CH_165	5387	GL	Ganga	Sun Kosi	China	61	-	53	46	15.09
68	03_77L_042	NRSC		CH_551	5057	GL	Brahmaputra	Kuri Chhu	China	71	62	61	60	14.52
69	03_82F_022	NRSC		CH_747	4200	GL	Brahmaputra	Ø	China	112	98	89	93	14.29
70	02_77D_008	NRSC	266G	CH_263	5285	GL	Ganga	Arun Kosi	China	49	-	43	34	13.95
71	03_91D_009	NRSC		AP_108	4037	WB	Brahmaputra	Dibang	India	42	-	37	30	13.51

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
72	01_52H_002	NRSC/SDC	4I/Very High Risk	HP_3	4101	GL	Indus	Chenab	India	110	61	97	83	13.40
73	03_78I_051	NRSC		BH_132	5074	GL	Brahmaputra	Manas Chhu &Mangde Chhu	Bhutan	127	112	88	95	13.39
74	03_78M_019	NRSC		BH_194	4697	WB	Brahmaputra	Dangme Chhu	Bhutan	51	-	45	45	13.33
75	03_82J_004	NRSC		CH_834	3957	GL	Brahmaputra	Ø	China	596	378	526	474	13.31
76	03_82B_007	NRSC		CH_633	4964	WB	Brahmaputra	Ø	China	234	206	207	196	13.04
77	02_71P_040	NRSC	126G	CH_228	4962	WB	Ganga	Arun Kosi	China	148	131	129	115	12.98
78	02_72I_027	NRSC	41G	NP_80	4977	GL	Ganga	Sun Kosi	Nepal	88	78	73	73	12.82
79	02_78A_004	NRSC	194G	CH_270	5603	GL	Ganga	Arun Kosi	China	115	85	102	95	12.75
80	03_62O_032	NRSC		CH_377	5012	WB	Brahmaputra	Ø	China	62	-	55	45	12.73
81	03_91C_040	NRSC		AP_87	4450	WB	Brahmaputra	Lohit	India	80	-	71	60	12.68
82	02_77D_009	NRSC	71G	CH_264	5296	GL	Ganga	Arun Kosi	China	63	56	46	44	12.50

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
83	02_78A_003	NRSC	24G	CH_269	5522	GL	Ganga	Arun Kosi	China	171	131	152	137	12.50
84	02_72M_007	NRSC	33G	CH_253	4950	GL	Ganga	Arun Kosi	China	109	88	97	89	12.37
85	03_82P_010	NRSC		AP_67	1676	WB	Brahmaputra	Dibang	India	91	-	81	68	12.35
86	03_77P_009	NRSC		CH_580	5086	WB	Brahmaputra	Ø	China	119	104	106	100	12.26
87	03_77L_033	NRSC		BH_13	5176	GL	Brahmaputra	Ø	Bhutan	221	186	197	185	12.18
88	03_77K_015	NRSC		CH_517	4455	WB	Brahmaputra	Ø	China	121	106	108	106	12.04
89	03_82B_010	NRSC		CH_636	4990	WB	Brahmaputra	Ø	China	56	50	47	41	12.00
90	02_71H_029	NRSC	1G	CH_149	5098	GL	Ganga	Sun Kosi	China	542	484	411	452	11.98
91	02_71L_001	NRSC		CH_156	5106	WB	Ganga	Arun Kosi	China	95	81	85	82	11.76
92	02_71L_032	NRSC	122G	CH_187	5250	GL	Ganga	Sun Kosi	China	57	51	51	51	11.76
93	03_82L_009	NRSC		CH_971	3893	GL	Brahmaputra	Ø	China	67	55	60	54	11.67
94	03_82K_017	NRSC		CH_873	4397	WB	Brahmaputra	Ø	China	173	-	146	155	11.61
95	02_72M_016	NRSC	7G	NP_92	4572	GL	Ganga	Arun Kosi	Nepal	222	139	199	163	11.56
96	03_71K_003	NRSC		CH_426	4982	WB	Brahmaputra	Ø	China	97	73	87	76	11.49
97	03_82G_060	NRSC		CH_821	4577	WB	Brahmaputra	Ø	China	49	-	34	44	11.36

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
98	03_78A_018	NRSC		CH_598	4880	WB	Brahmaputra	Amo Chhu	China	59	53	17	30	11.32
99	02_71H_008	NRSC		CH_128	5152	GL	Ganga	Arun Kosi	China	121	99	109	101	11.01
100	03_62J_031	NRSC		CH_303	4897	GL	Brahmaputra	Ø	China	242	174	218	192	11.01
101	02_71P_029	NRSC	43G	CH_217	5045	GL	Ganga	Arun Kosi	China	113	76	102	82	10.78
102	03_62J_026	NRSC		CH_298	5078	GL	Brahmaputra	Ø	China	136	115	123	116	10.57
103	02_71P_047	NRSC	81G	CH_235	5614	GL	Ganga	Arun Kosi	China	95	82	86	72	10.47
104	03_78E_007	NRSC		BH_60	5008	GL	Brahmaputra	Puna Tsang Chhu	Bhutan	74	67	47	52	10.45
105	03_62O_042	NRSC		CH_387	4964	WB	Brahmaputra	Ø	China	64	58	56	55	10.34
106	03_77L_044	NRSC		BH_19	4385	GL	Brahmaputra	Puna Tsang Chhu	Bhutan	133	121	103	110	9.92
107	03_82G_055	NRSC		CH_816	4619	WB	Brahmaputra	Ø	China	47	-	31	43	9.30
108	03_91D_041	NRSC		AP_135	3526	WB	Brahmaputra	Dibang	India	120	110	103	85	9.09
109	02_72I_011	NRSC	10G	NP_64	5034	GL	Ganga	Sun Kosi	Nepal	174	103	160	130	8.75
110	03_82A_007	NRSC		CH_626	4911	WB	Brahmaputra	Ø	China	101	87	93	88	8.60

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
111	02_72I_023	NRSC	227G	NP_76	5232	GL	Ganga	Sun Kosi	Nepal	89	82	70	72	8.54
112	03_82B_008	NRSC		CH_634	4928	WB	Brahmaputra	Ø	China	283	262	262	254	8.02
113	02_71L_004	NRSC	50G	CH_159	5518	GL	Ganga	Arun Kosi	China	123	78	114	92	7.89
114	02_71P_043	NRSC	108G	CH_231	5206	GL	Ganga	Arun Kosi	China	83	66	77	64	7.79
115	01_62E_005	NRSC		CH_80	5174	WB	Indus	Indus	China	213	193	198	187	7.58
116	01_52L_002	NRSC		JK_226	4986	WB	Indus	Indus	India	455	406	423	408	7.57
117	03_62N_017	NRSC		CH_334	5454	WB	Brahmaputra	Ø	China	86	79	80	77	7.50
118	01_52K_014	NRSC		JK_222	4535	WB	Indus	Indus	India	479	446	413	410	7.40
119	03_62O_038	NRSC		CH_383	4893	WB	Brahmaputra	Ø	China	146	128	136	130	7.35
120	03_82G_051	NRSC		CH_812	4735	WB	Brahmaputra	Ø	China	45	-	42	35	7.14
121	01_52G_001	NRSC		JK_189	5008	WB	Indus	Shyok	India	47	-	44	38	6.82
122	03_78E_002	NRSC		BH_57	5110	GL	Brahmaputra	Puna Tsang Chhu	Bhutan	63	59	35	40	6.78
123	01_62J_001	NRSC		CH_102	4784	WB	Indus	Sutlej	China	6163	5525	5774	5583	6.74

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
124	01_61C_002	NRSC		CH_30	4494	WB	Indus	Indus	China	877	717	822	779	6.69
125	03_62N_021	NRSC		CH_338	5432	WB	Brahmaputra	Ø	China	213	200	185	183	6.50
126	03_82B_020	NRSC		CH_646	4986	WB	Brahmaputra	Ø	China	50	-	47	41	6.38
127	01_61C_022	NRSC		CH_50	4339	WB	Indus	Indus	China	1655	1494	1560	1459	6.09
128	02_71P_019	NRSC		CH_207	4199	GL	Ganga	Arun Kosi	China	58	-	55	46	5.45
129	03_71G_014	NRSC		CH_423	4606	WB	Brahmaputra	Ø	China	234	139	222	181	5.41
130	01_52K_010	NRSC		JK_218	5313	WB	Indus	Shyok	India	156	148	140	136	5.41
131	03_77H_008	NRSC		CH_482	4570	WB	Brahmaputra	Ø	China	1317	1250	1134	1147	5.36
132	03_77L_027	NRSC		CH_543	4531	WB	Brahmaputra	Kuri Chhu	China	198	188	173	168	5.32
133	02_71L_006	NRSC	3G	CH_161	5365	GL	Ganga	Arun Kosi	China	400	372	380	341	5.26
134	03_77L_017	NRSC		CH_533	5340	WB	Brahmaputra	Ø	China	80	76	75	71	5.26
135	03_71O_006	NRSC		CH_442	4738	WB	Brahmaputra	Ø	China	121	104	115	109	5.22
136	02_71H_028	NRSC	15G	CH_148	5174	WB	Ganga	Sun Kosi	China	205	194	194	195	5.13
137	01_61G_002	NRSC		CH_63	4663	WB	Indus	Indus	China	1374	1218	1308	1264	5.05
138	03_78A_009	NRSC		SK_16	5044	GL	Brahmaputra	Teesta	India	64	61	55	52	4.92

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
139	01_62E_004	NRSC		CH_79	5161	WB	Indus	Indus	China	260	227	248	238	4.84
140	03_71G_007	NRSC		CH_416	5153	WB	Brahmaputra	Ø	China	198	188	189	187	4.76
141	03_62J_011	NRSC		CH_283	5181	WB	Brahmaputra	Ø	China	398	355	380	365	4.74
142	03_62K_012	NRSC		CH_316	5368	GL	Brahmaputra	Ø	China	89	78	85	75	4.71
143	03_62O_041	NRSC		CH_386	4963	WB	Brahmaputra	Ø	China	224	208	214	205	4.67
144	03_92E_001	NRSC		AP_206	4206	WB	Brahmaputra	Lohit	India	45	-	43	30	4.65
145	03_78E_009	NRSC		CH_605	4580	WB	Brahmaputra	Ø	China	184	176	168	164	4.55
146	03_91H_025	NRSC		CH_1190	3741	WB	Brahmaputra	Lohit	China	95	85	91	61	4.40
147	01_43J_004	NRSC	5I	JK_82	4078	WB	Indus	Jhelum	India	73	70	68	63	4.29
148	03_77D_003	NRSC		SK_3	5098	WB	Brahmaputra	Teesta	India	101	97	93	91	4.12
149	01_62E_015	NRSC		CH_90	5415	WB	Indus	Sutlej	China	52	50	49	46	4.00
150	02_71H_002	NRSC		CH_122	4650	WB	Ganga	Arun Kosi	China	2562	2353	2466	2390	3.89
151	03_82B_002	NRSC		CH_628	4906	WB	Brahmaputra	Ø	China	466	449	436	422	3.79
152	01_52K_012	NRSC		JK_220	4695	WB	Indus	Indus	India	166	160	159	156	3.75
153	03_71G_006	NRSC		CH_415	5065	WB	Brahmaputra	Ø	China	1006	970	955	933	3.71

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
154	02_71L_002	NRSC		CH_157	5261	WB	Ganga	Arun Kosi	China	84	71	81	79	3.70
155	01_43N_030	NRSC		JK_157	3799	WB	Indus	Jhelum	India	90	87	76	77	3.45
156	03_77L_072	NRSC		BH_40	5201	GL	Brahmaputra	Manas Chhu &Mangde Chhu	Bhutan	91	88	79	82	3.41
157	03_82C_010	NRSC		CH_665	4921	WB	Brahmaputra	Ø	China	154	149	120	128	3.36
158	02_71P_016	NRSC		CH_204	4182	WB	Ganga	Arun Kosi	China	156	151	139	124	3.31
159	03_82B_005	NRSC		CH_631	4888	WB	Brahmaputra	Ø	China	222	215	211	203	3.26
160	01_62E_003	NRSC		CH_78	5104	WB	Indus	Indus	China	162	148	157	148	3.18
161	01_43J_017	NRSC	3I	JK_95	3580	WB	Indus	Jhelum	India	165	160	159	153	3.13
162	01_62E_006	NRSC		CH_81	5055	WB	Indus	Indus	China	538	516	522	506	3.07
163	01_52J_002	NRSC		JK_198	5359	WB	Indus	Shyok	India	69	67	61	59	2.99
164	03_82J_023	NRSC		CH_853	4315	WB	Brahmaputra	Ø	China	106	101	103	99	2.91
165	03_82B_009	NRSC		CH_635	4963	WB	Brahmaputra	Ø	China	181	176	174	166	2.84

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
166	03_91C_069	NRSC		AP_101	3245	WB	Brahmaputra	Dibang	India	74	72	46	45	2.78
167	03_77L_012	NRSC		CH_528	5014	WB	Brahmaputra	Ø	China	29850	28995	29060	28965	2.72
168	03_77L_013	NRSC		CH_529	5191	WB	Brahmaputra	Ø	China	351	342	327	315	2.63
169	02_72M_005	NRSC	139G	CH_251	5141	GL	Ganga	Arun Kosi	China	81	79	78	69	2.53
170	03_62O_040	NRSC		CH_385	4896	WB	Brahmaputra	Ø	China	122	112	119	113	2.52
171	02_62P_003	NRSC	4G	NP_36	4937	GL	Ganga	Trisuli	Nepal	338	330	320	298	2.42
172	03_82B_006	NRSC		CH_632	4837	WB	Brahmaputra	Ø	China	128	121	125	120	2.40
173	03_62N_009	NRSC		CH_326	5241	WB	Brahmaputra	Ø	China	299	289	292	280	2.40
174	02_72I_003	NRSC	319G	NP_59	4762	GL	Ganga	Sun Kosi	Nepal	43	-	42	36	2.38
175	03_78E_028	NRSC		BH_72	2161	WB	Brahmaputra	Puna Tsang Chhu	Bhutan	45	-	44	35	2.27
176	01_52J_005	NRSC		JK_201	5430	WB	Indus	Shyok	India	45	-	44	37	2.27
177	01_52K_004	NRSC		JK_212	4293	WB	Indus	Shyok	India	5947	5797	5817	5737	2.23
178	02_71L_028	NRSC	38G	CH_183	5027	GL	Ganga	Sun Kosi	China	100	82	98	91	2.04
179	03_77D_005	NRSC/SDC	Very High	SK_5	5249	GL	Brahmaputra	Teesta	India	100	98	94	84	2.04

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
			Risk											
180	03_82B_004	NRSC		CH_630	4893	WB	Brahmaputra	Ø	China	105	98	103	98	1.94
181	03_78M_003	NRSC		CH_614	4459	WB	Brahmaputra	Dangme Chhu	China	219	215	168	186	1.86
182	02_71H_015	NRSC		CH_135	5367	GL	Ganga	Arun Kosi	China	550	540	537	524	1.85
183	02_72I_014	NRSC	6G	NP_67	4574	GL	Ganga	Sun Kosi	Nepal	167	149	164	163	1.83
184	02_71H_003	NRSC		CH_123	4649	WB	Ganga	Arun Kosi	China	224	193	220	211	1.82
185	02_71L_003	NRSC		CH_158	5324	WB	Ganga	Arun Kosi	China	281	276	273	267	1.81
186	03_78E_023	NRSC		CH_612	5291	GL	Brahmaputra	Ø	China	57	-	48	56	1.79
187	03_82K_002	NRSC		CH_858	3998	WB	Brahmaputra	Ø	China	58	57	50	44	1.75
188	01_52O_001	NRSC		CH_4	4242	WB	Indus	Shyok	China	69124	66075	67960	66500	1.71
189	02_53K_001	NRSC		UK_1	355	WB	Ganga	Ramganga	India	5652	5557	5371	5332	1.71
190	01_62F_003	NRSC		CH_94	4586	WB	Indus	Sutlej	China	41879	40806	41185	41037	1.69
191	03_77L_041	NRSC		CH_550	5214	GL	Brahmaputra	Kuri Chhu	China	62	-	61	57	1.64
192	02_62F_019	NRSC	144G	NP_12	5039	WB	Ganga	Karnal	Nepal	65	56	64	59	1.56

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
193	03_82O_029	NRSC		CH_1032	3345	WB	Brahmaputra	Dihang	China	69	68	44	45	1.47
194	01_62A_003	NRSC		CH_69	5142	WB	Indus	Indus	China	1405	1385	1343	1304	1.44
195	02_62K_010	NRSC		NP_28	2975	WB	Ganga	Karnal	Nepal	1068	1054	1048	1026	1.33
196	03_82G_023	NRSC		CH_784	4377	WB	Brahmaputra	Ø	China	77	76	70	65	1.32
197	01_61H_001	NRSC		CH_66	4619	WB	Indus	Indus	China	321	317	315	287	1.26
198	03_62N_022	NRSC		CH_339	4599	WB	Brahmaputra	Ø	China	196	193	194	187	1.03
199	03_82K_039	NRSC		CH_895	4128	WB	Brahmaputra	Ø	China	213	211	131	167	0.95
200	03_77D_004	NRSC/SDC	Very High Risk	SK_4	5287	GL	Brahmaputra	Teesta	India	123	113	122	112	0.82
201	01_52O_005	NRSC		CH_8	4358	WB	Indus	Indus	China	835	829	792	757	0.72
202	03_78E_012	NRSC		CH_607	4576	WB	Brahmaputra	Ø	China	282	274	280	267	0.71
203	01_61F_003	NRSC		CH_60	5256	WB	Indus	Indus	China	569	565	536	512	0.71
204	03_71G_001	NRSC		CH_410	5163	WB	Brahmaputra	Ø	China	756	741	753	732	0.40
205	03_62K_009	NRSC		CH_313	5079	GL	Brahmaputra	Ø	China	313	265	312	291	0.32
206	03_71B_002	NRSC		CH_392	5388	WB	Brahmaputra	Ø	China	8276	8251	8211	8132	0.30

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
207	02_71P_015	NRSC		CH_203	4153	WB	Ganga	Arun Kosi	China	1062	1031	1059	950	0.28
208	01_61C_001	NRSC		CH_29	4526	WB	Indus	Indus	China	11582	11304	11562	11424	0.17

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

- Unobservable (as per NRSC) , Ø indicates small rivulet/first order stream

TABLE 3: GL&WBS HAVING WATER SPREAD GREATER THAN 50 HA THAT HAVE SHOWN NO CHANGE IN WATER SPREAD AREA

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
209	03_77L_030	NRSC		BH_12	5305	GL	Brahmaputra	Ø	Bhutan	89	89	73	76	0.00
210	01_62F_010	NRSC	9I	CH_101	5250	GL	Indus	Sutlej	China	67	-	67	53	0.00
211	02_71H_007	NRSC		CH_127	5149	GL	Ganga	Arun Kosi	China	122	122	120	117	0.00
212	02_71P_022	NRSC	34G	CH_210	5439	GL	Ganga	Arun Kosi	China	82	82	82	70	0.00

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
213	02_71P_028	NRSC		CH_216	4997	GL	Ganga	Arun Kosi	China	61	44	58	61	0.00
214	03_62J_015	NRSC		CH_287	5207	WB	Brahmaputra	Ø	China	85	80	85	82	0.00
215	03_82B_028	NRSC		CH_654	4998	WB	Brahmaputra	Ø	China	45	-	45	40	0.00
216	03_82F_014	NRSC		CH_739	4691	GL	Brahmaputra	Ø	China	45	-	45	35	0.00
217	03_82G_048	NRSC		CH_809	4663	WB	Brahmaputra	Ø	China	46	38	46	43	0.00
218	01_62E_010	NRSC		CH_85	5233	WB	Indus	Indus	China	164	164	155	146	0.00
219	01_43N_027	NRSC		JK_154	3683	WB	Indus	Jhelum	India	44	-	44	38	0.00
220	02_71D_004	NRSC	16G	NP_45	4064	GL	Ganga	Trisuli	Nepal	98	75	98	90	0.00

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

- Unobservable (as per NRSC) , Ø indicates small rivulet/first order stream

TABLE 4: GL&WBS HAVING WATER SPREAD GREATER THAN 50 HA THAT HAVE SHOWN DECREASE IN WATER SPREAD AREA

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
221	01_52N_001	NRSC		CH_3	4964	WB	Indus	Indus	China	12281	11883	12283	12099	-0.02
222	01_61F_004	NRSC		CH_61	4814	WB	Indus	Indus	China	39064	37181	39073	38352	-0.02
223	01_61C_024	NRSC		CH_52	4323	WB	Indus	Indus	China	5105	4733	5107	4842	-0.04
224	03_62K_001	NRSC		CH_305	4834	WB	Brahmaputra	Ø	China	395	396	395	376	-0.25
225	02_71H_001	NRSC		CH_121	4580	WB	Ganga	Arun Kosi	China	26892	26974	26951	26898	-0.30
226	01_53A_001	NRSC		HP_9	409	WB	Indus	Beas	India	21975	22072	18290	17771	-0.44
227	01_61B_003	NRSC		CH_28	5074	WB	Indus	Indus	China	217	218	193	196	-0.46
228	01_61C_005	NRSC		CH_33	4495	WB	Indus	Indus	China	382	153	384	279	-0.52
229	01_62E_013	NRSC		CH_88	5345	WB	Indus	Indus	China	168	169	167	159	-0.59
230	01_61C_015	NRSC		CH_43	4280	WB	Indus	Indus	China	827	777	832	770	-0.60
231	03_71O_009	NRSC		CH_445	4302	WB	Brahmaputra	Ø	China	2196	2111	2210	2129	-0.63
232	03_62O_030	NRSC		CH_375	5013	WB	Brahmaputra	Ø	China	110	99	111	101	-0.90
233	03_82K_077	NRSC		CH_933	4590	WB	Brahmaputra	Ø	China	98	-	99	94	-1.01
234	03_82E_003	NRSC		CH_721	5027	WB	Brahmaputra	Ø	China	97	98	95	94	-1.02
235	01_61D_002	NRSC		CH_54	4313	WB	Indus	Indus	China	1637	1654	1562	1461	-1.03

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
236	01_61D_004	NRSC		CH_56	4991	WB	Indus	Indus	China	540	501	546	511	-1.10
237	03_82N_033	NRSC		CH_1004	4357	GL	Brahmaputra	Ø	China	85	86	69	67	-1.16
238	03_77L_001	NRSC		CH_520	4443	WB	Brahmaputra	Ø	China	55734	56442	54547	54439	-1.25
239	01_61C_023	NRSC		CH_51	4350	WB	Indus	Indus	China	663	672	622	599	-1.34
240	03_77P_012	NRSC		CH_583	4975	WB	Brahmaputra	Ø	China	72	73	61	56	-1.37
241	03_71K_002	NRSC		CH_425	4974	WB	Brahmaputra	Ø	China	2336	2369	2288	2280	-1.39
242	03_82F_004	NRSC		CH_729	4508	WB	Brahmaputra	Ø	China	703	713	701	690	-1.40
243	03_82E_007	NRSC		CH_725	5043	WB	Brahmaputra	Ø	China	67	68	68	65	-1.47
244	02_72M_006	NRSC	349G	CH_252	5188	GL	Ganga	Arun Kosi	China	65	64	66	61	-1.52
245	01_43N_001	NRSC		JK_128	4142	WB	Indus	Shingo (Indus)	India	129	131	124	122	-1.53
246	03_71P_001	NRSC		CH_448	5302	WB	Brahmaputra	Ø	China	128	130	130	127	-1.54
247	01_52J_009	NRSC		JK_205	5576	WB	Indus	Shyok	India	60	61	56	51	-1.64
248	02_71L_013	NRSC	58G	CH_168	5324	GL	Ganga	Sun Kosi	China	58	57	59	56	-1.69
249	02_71L_011	NRSC	61G	CH_166	5439	GL	Ganga	Sun Kosi	China	54	55	54	53	-1.82

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
250	03_82J_020	NRSC		CH_850	3852	WB	Brahmaputra	Ø	China	431	439	348	383	-1.82
251	03_82F_030	NRSC		CH_755	3485	WB	Brahmaputra	Ø	China	2685	2735	2694	2665	-1.83
252	03_82D_004	NRSC		CH_710	4481	WB	Brahmaputra	Ø	China	375	375	382	372	-1.83
253	03_82B_021	NRSC		CH_647	5041	WB	Brahmaputra	Ø	China	51	52	44	39	-1.92
254	01_52J_001	NRSC	8I	JK_197	5311	GL	Indus	Shyok	India	102	104	96	92	-1.92
255	03_62J_001	NRSC		CH_273	5449	WB	Brahmaputra	Ø	China	148	151	143	140	-1.99
256	03_71K_006	NRSC		CH_429	4847	WB	Brahmaputra	Ø	China	2129	2173	2088	2036	-2.02
257	03_77K_017	NRSC		CH_519	4448	WB	Brahmaputra	Ø	China	3727	3807	3760	3734	-2.10
258	02_71L_023	NRSC	39G	CH_178	5106	GL	Ganga	Arun Kosi	China	125	124	128	121	-2.34
259	01_52L_001	NRSC		JK_225	4523	WB	Indus	Sutlej	India	14010	14351	14180	14105	-2.38
260	02_71D_007	NRSC		NP_48	700	WB	Ganga	Trisuli	Nepal	287	294	281	280	-2.38
261	01_43A_001	NRSC		JK_22	3641	WB	Indus	Gilgit	India	203	196	208	194	-2.40
262	03_78A_013	NRSC		SK_19	5470	GL	Brahmaputra	Teesta	India	79	74	81	77	-2.47
263	03_77L_037	NRSC		BH_15	5139	GL	Brahmaputra	Ø	Bhutan	584	599	599	578	-2.50
264	03_77L_009	NRSC		CH_525	4515	WB	Brahmaputra	Ø	China	569	569	584	542	-2.57

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
265	01_42H_001	NRSC		JK_1	4292	WB	Indus	Gilgit	India	261	264	268	254	-2.61
266	03_82O_064	NRSC		AP_57	3689	WB	Brahmaputra	Dihang	India	36	-	37	31	-2.70
267	03_82K_009	NRSC		CH_865	4168	WB	Brahmaputra	Ø	China	106	109	60	82	-2.75
268	01_52J_006	NRSC		JK_202	5401	WB	Indus	Shyok	India	104	107	104	100	-2.80
269	03_78I_018	NRSC		BH_99	5083	GL	Brahmaputra	Puna Tsang Chhu	Bhutan	67	69	68	65	-2.90
270	02_71L_026	NRSC	73G	CH_181	5057	GL	Ganga	Sun Kosi	China	65	56	67	62	-2.99
271	01_43K_010	NRSC		JK_111	3946	WB	Indus	Jhelum	India	63	65	60	60	-3.08
272	03_82J_018	NRSC		CH_848	3913	GL	Brahmaputra	Ø	China	94	94	97	92	-3.09
273	03_82F_007	NRSC		CH_732	4801	GL	Brahmaputra	Ø	China	116	120	119	113	-3.33
274	01_61C_021	NRSC		CH_49	4349	WB	Indus	Indus	China	1155	1147	1195	1071	-3.35
275	03_62J_032	NRSC		CH_304	4857	GL	Brahmaputra	Ø	China	86	89	89	82	-3.37
276	03_82J_025	NRSC		CH_855	4038	WB	Brahmaputra	Ø	China	57	59	45	41	-3.39
277	02_78A_005	NRSC		CH_271	5376	GL	Ganga	Arun Kosi	China	112	91	110	116	-3.45
278	03_82J_017	NRSC		CH_847	3829	WB	Brahmaputra	Ø	China	277	287	284	279	-3.48

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
279	03_77D_002	NRSC		SK_2	5156	GL	Brahmaputra	Teesta	India	108	112	101	96	-3.57
280	03_91C_029	NRSC		CH_1078	4229	WB	Brahmaputra	Ø	China	213	221	218	211	-3.62
281	01_43K_014	NRSC		JK_115	3521	WB	Indus	Jhelum	India	133	134	138	126	-3.62
282	03_77L_077	NRSC		BH_45	5136	WB	Brahmaputra	Puna Tsang Chhu	Bhutan	53	55	10	29	-3.64
283	03_82K_037	NRSC		CH_893	4147	WB	Brahmaputra	Ø	China	53	55	21	30	-3.64
284	03_77H_020	NRSC		CH_490	4473	WB	Brahmaputra	Ø	China	4794	4976	4525	4594	-3.66
285	03_91C_024	NRSC		CH_1075	3977	GL	Brahmaputra	Ø	China	287	287	298	280	-3.69
286	03_82E_002	NRSC		CH_720	5008	WB	Brahmaputra	Ø	China	675	675	701	613	-3.71
287	02_71H_017	NRSC		CH_137	5314	GL	Ganga	Arun Kosi	China	493	512	485	475	-3.71
288	03_71C_003	NRSC		CH_396	5412	GL	Brahmaputra	Ø	China	50	-	52	45	-3.85
289	02_62K_012	NRSC		NP_30	3653	WB	Ganga	Bheri	Nepal	475	481	494	471	-3.85
290	03_62J_013	NRSC		CH_285	4934	WB	Brahmaputra	Ø	China	899	935	933	911	-3.85
291	03_82K_006	NRSC		CH_862	4523	WB	Brahmaputra	Ø	China	46	48	40	44	-4.17
292	03_77D_008	NRSC		SK_8	5039	GL	Brahmaputra	Teesta	India	44	-	46	35	-4.35

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
293	03_82A_002	NRSC		CH_621	4905	WB	Brahmaputra	Ø	China	365	351	382	355	-4.45
294	03_82F_008	NRSC		CH_733	4828	WB	Brahmaputra	Ø	China	84	84	88	83	-4.55
295	03_82G_035	NRSC		CH_796	4386	WB	Brahmaputra	Ø	China	84	80	88	74	-4.55
296	02_71H_027	NRSC	2G	CH_147	5242	GL	Ganga	Sun Kosi	China	458	480	441	437	-4.58
297	03_77L_067	NRSC		BH_35	5231	GL	Brahmaputra	Manas Chhu &Mangde Chhu	Bhutan	83	87	68	71	-4.60
298	03_78E_006	NRSC		CH_604	4572	WB	Brahmaputra	Ø	China	62	65	59	56	-4.62
299	01_43J_022	NRSC		JK_100	1583	WB	Indus	Jhelum	India	61	62	64	59	-4.69
300	03_82B_015	NRSC		CH_641	5124	WB	Brahmaputra	Ø	China	80	84	78	76	-4.76
301	03_77H_011	NRSC		BH_4	4963	GL	Brahmaputra	Ø	Bhutan	153	161	158	142	-4.97
302	02_53O_001	NRSC		UK_4	1968	WB	Ganga	Ramganga	India	38	-	40	33	-5.00
303	01_62F_001	NRSC		CH_92	4571	WB	Indus	Sutlej	China	24395	25680	25164	25241	-5.00
304	03_62N_001	NRSC		CH_318	5102	WB	Brahmaputra	Ø	China	14111	14352	14856	14616	-5.01

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
305	02_77D_007	NRSC	244G	CH_262	5215	GL	Ganga	Arun Kosi	China	56	58	59	56	-5.08
306	01_61C_014	NRSC		CH_42	4279	WB	Indus	Indus	China	295	305	311	298	-5.14
307	03_82G_019	NRSC		CH_780	4460	WB	Brahmaputra	Ø	China	55	58	40	47	-5.17
308	01_61C_018	NRSC		CH_46	4291	WB	Indus	Indus	China	1928	1958	2037	1901	-5.35
309	03_77L_003	NRSC		CH_521	4434	WB	Brahmaputra	Ø	China	3892	4113	4016	4022	-5.37
310	03_82F_020	NRSC		CH_745	4110	GL	Brahmaputra	Ø	China	70	71	74	68	-5.41
311	03_82G_045	NRSC		CH_806	4523	WB	Brahmaputra	Ø	China	70	73	74	69	-5.41
312	02_71P_027	NRSC	82G	CH_215	5389	GL	Ganga	Arun Kosi	China	52	-	55	40	-5.45
313	03_77P_019	NRSC		CH_590	4637	WB	Brahmaputra	Dangme Chhu	China	248	237	263	240	-5.70
314	03_77L_007	NRSC		CH_523	4510	WB	Brahmaputra	Ø	China	1491	1582	1380	1402	-5.75
315	01_52K_016	NRSC		JK_224	4675	WB	Indus	Sutlej	India	523	555	523	514	-5.77
316	03_62O_024	NRSC		CH_369	4637	WB	Brahmaputra	Ø	China	842	740	894	814	-5.82
317	01_61C_016	NRSC		CH_44	4289	WB	Indus	Indus	China	355	377	364	360	-5.84
318	03_62K_002	NRSC		CH_306	4858	WB	Brahmaputra	Ø	China	48	-	51	44	-5.88

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
319	03_77N_004	NRSC		CH_563	3890	WB	Brahmaputra	Ø	China	1183	1257	1238	1231	-5.89
320	01_52O_002	NRSC		CH_5	5262	WB	Indus	Indus	China	108	115	112	102	-6.09
321	03_82A_004	NRSC		CH_623	5008	WB	Brahmaputra	Ø	China	46	-	49	42	-6.12
322	01_43N_020	NRSC		JK_147	4112	WB	Indus	Jhelum	India	61	65	61	58	-6.15
323	03_91C_025	NRSC		CH_1076	4022	GL	Brahmaputra	Ø	China	106	107	113	107	-6.19
324	03_91C_044	NRSC		AP_90	4230	WB	Brahmaputra	Lohit	India	60	64	52	52	-6.25
325	03_82K_036	NRSC		CH_892	4251	WB	Brahmaputra	Ø	China	60	64	38	36	-6.25
326	02_72M_009	NRSC	51G	NP_86	4932	GL	Ganga	TamurKosi	Nepal	60	-	64	56	-6.25
327	01_52K_009	NRSC		JK_217	4921	WB	Indus	Shyok	India	192	205	196	191	-6.34
328	01_61F_002	NRSC		CH_59	5279	WB	Indus	Indus	China	59	63	54	50	-6.35
329	03_62J_012	NRSC		CH_284	4883	WB	Brahmaputra	Ø	China	157	164	168	159	-6.55
330	03_91H_040	NRSC		CH_1205	4324	WB	Brahmaputra	Lohit	China	42	-	45	41	-6.67
331	01_43N_022	NRSC		JK_149	4243	WB	Indus	Jhelum	India	69	74	72	68	-6.76
332	02_53O_005	NRSC		UK_8	239	WB	Ganga	Ramganga	India	1197	1284	1263	1160	-6.78
333	03_77P_017	NRSC		CH_588	4751	WB	Brahmaputra	Dangme	China	2196	2357	2097	2184	-6.83

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
								Chhu						
334	03_78E_010	NRSC		CH_606	4582	WB	Brahmaputra	Ø	China	40	-	43	37	-6.98
335	03_82B_014	NRSC		CH_640	4825	WB	Brahmaputra	Ø	China	144	155	152	127	-7.10
336	02_53P_001	NRSC		UK_9	210	WB	Ganga	Ganga	India	1720	1855	1621	1567	-7.28
337	03_77L_068	NRSC		BH_36	4764	WB	Brahmaputra	Kuri Chhu	Bhutan	76	82	69	73	-7.32
338	03_77J_003	NRSC		CH_499	5039	WB	Brahmaputra	Ø	China	84	91	85	84	-7.69
339	01_43A_002	NRSC		JK_23	3790	WB	Indus	Gilgit	India	96	96	104	95	-7.69
340	02_71H_012	NRSC		CH_132	5379	GL	Ganga	Arun Kosi	China	119	-	129	120	-7.75
341	03_71G_011	NRSC		CH_420	4619	WB	Brahmaputra	Ø	China	1343	1236	1461	1318	-8.08
342	03_82J_005	NRSC		CH_835	4134	GL	Brahmaputra	Ø	China	68	74	58	60	-8.11
343	03_82K_080	NRSC		CH_936	4530	WB	Brahmaputra	Ø	China	45	-	49	37	-8.16
344	03_77P_005	NRSC		CH_576	4619	WB	Brahmaputra	Ø	China	101	110	95	97	-8.18
345	02_71H_021	NRSC	76G	CH_141	4463	GL	Ganga	Trisuli	China	44	-	48	40	-8.33
346	03_82E_004	NRSC		CH_722	5049	WB	Brahmaputra	Ø	China	44	48	48	46	-8.33
347	01_52C_003	NRSC	7I	JK_187	4512	GL	Indus	Indus	India	55	-	60	49	-8.33

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
348	02_72I_004	NRSC	9G	CH_244	5074	GL	Ganga	Sun Kosi	China	184	125	201	174	-8.46
349	03_82G_017	NRSC		CH_778	4437	WB	Brahmaputra	0	China	54	59	51	50	-8.47
350	01_43P_002	NRSC		JK_167	669	WB	Indus	Ravi	India	54	58	59	55	-8.47
351	02_71H_035	NRSC		CH_155	4366	WB	Ganga	Sun Kosi	China	43	-	47	41	-8.51
352	03_92A_006	NRSC		AP_204	1178	WB	Brahmaputra	Lohit	India	75	82	80	78	-8.54
353	03_77P_020	NRSC		CH_591	4649	WB	Brahmaputra	Kuri Chhu	China	53	58	45	50	-8.62
354	03_82G_062	NRSC		CH_823	4925	WB	Brahmaputra	Ø	China	53	-	58	54	-8.62
355	02_62P_004	NRSC		NP_37	807	WB	Ganga	Trisuli	Nepal	360	385	394	389	-8.63
356	02_71L_034	NRSC	89G	CH_188	5095	GL	Ganga	Sun Kosi	China	63	-	69	55	-8.70
357	03_82G_009	NRSC		CH_770	4580	WB	Brahmaputra	Ø	China	42	-	46	46	-8.70
358	01_52K_011	NRSC		JK_219	5291	WB	Indus	Shyok	India	167	183	175	170	-8.74
359	03_62N_004	NRSC		CH_321	5168	WB	Brahmaputra	Ø	China	841	899	925	900	-9.08
360	02_77D_006	NRSC		CH_261	4894	GL	Ganga	Arun Kosi	China	88	89	92	97	-9.28
361	01_43E_006	NRSC		JK_30	4186	WB	Indus	Gilgit	India	68	75	66	66	-9.33
362	03_82K_020	NRSC		CH_876	4364	WB	Brahmaputra	Ø	China	77	85	48	54	-9.41

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
363	02_72I_025	NRSC	66G	NP_78	4884	GL	Ganga	Sun Kosi	Nepal	114	102	126	111	-9.52
364	01_61C_012	NRSC		CH_40	4282	WB	Indus	Indus	China	298	317	330	308	-9.70
365	03_82O_054	NRSC		CH_1046	3311	WB	Brahmaputra	Dibang	China	46	51	19	33	-9.80
366	01_43N_032	NRSC		JK_159	3595	WB	Indus	Jhelum	India	55	-	61	50	-9.84
367	03_77H_012	NRSC		CH_483	4723	GL	Brahmaputra	Ø	China	73	81	80	76	-9.88
368	03_82G_050	NRSC		CH_811	4734	WB	Brahmaputra	Ø	China	36	-	40	34	-10.00
369	03_77B_001	NRSC		CH_452	5039	WB	Brahmaputra	Ø	China	51	57	43	44	-10.53
370	03_82K_075	NRSC		CH_931	4511	WB	Brahmaputra	Ø	China	107	-	120	102	-10.83
371	03_78E_017	NRSC		CH_609	5253	GL	Brahmaputra	Ø	China	41	-	38	46	-10.87
372	03_77L_051	NRSC		BH_22	4548	GL	Brahmaputra	Puna Tsang Chhu	Bhutan	144	142	162	150	-11.11
373	03_62J_016	NRSC		CH_288	5303	GL	Brahmaputra	Ø	China	48	-	54	44	-11.11
374	03_77P_006	NRSC		CH_577	4616	WB	Brahmaputra	Ø	China	5143	5796	5293	4301	-11.27
375	03_91C_034	NRSC		AP_84	4288	WB	Brahmaputra	Dibang	India	139	157	59	80	-11.46
376	02_71D_008	NRSC		NP_49	639	WB	Ganga	Trisuli	Nepal	92	104	102	98	-11.54

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
377	03_83A_012	NRSC		AP_77	4287	WB	Brahmaputra	Dangme Chhu	India	53	60	39	46	-11.67
378	01_42H_003	NRSC		JK_3	3854	WB	Indus	Gilgit	India	105	119	109	101	-11.76
379	03_62O_002	NRSC		CH_347	4587	WB	Brahmaputra	Ø	China	43	47	49	42	-12.24
380	02_72I_002	NRSC	645G	NP_58	4854	GL	Ganga	Sun Kosi	Nepal	57	65	60	59	-12.31
381	01_61D_003	NRSC		CH_55	4453	WB	Indus	Indus	China	56	64	62	50	-12.50
382	03_82K_018	NRSC		CH_874	4168	WB	Brahmaputra	Ø	China	153	175	65	92	-12.57
383	03_82K_068	NRSC		CH_924	4320	WB	Brahmaputra	Ø	China	48	55	54	50	-12.73
384	03_82D_003	NRSC		CH_709	4408	WB	Brahmaputra	Ø	China	40	46	44	43	-13.04
385	03_78M_016	NRSC		CH_617	4647	WB	Brahmaputra	Dangme Chhu	China	131	151	117	128	-13.25
386	03_77H_013	NRSC		CH_484	4950	GL	Brahmaputra	Ø	China	45	-	52	43	-13.46
387	01_43J_020	NRSC		JK_98	1584	WB	Indus	Jhelum	India	160	185	168	164	-13.51
388	01_43J_007	NRSC	6I	JK_85	3708	WB	Indus	Jhelum	India	88	92	102	92	-13.73
389	03_71G_010	NRSC		CH_419	4491	WB	Brahmaputra	Ø	China	266	310	262	259	-14.19

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
390	03_77L_011	NRSC		CH_527	4533	WB	Brahmaputra	Ø	China	1100	1282	1200	1150	-14.20
391	03_78I_056	NRSC		BH_137	4794	WB	Brahmaputra	Manas Chhu &Mangde Chhu	Bhutan	72	84	46	57	-14.29
392	03_77K_009	NRSC		CH_511	3937	WB	Brahmaputra	Ø	China	59	67	69	67	-14.49
393	03_71O_010	NRSC		CH_446	4296	WB	Brahmaputra	Ø	China	867	850	1017	920	-14.75
394	01_52O_003	NRSC		CH_6	4252	WB	Indus	Indus	China	187	220	196	181	-15.00
395	03_62O_039	NRSC		CH_384	4555	WB	Brahmaputra	Ø	China	260	306	294	286	-15.03
396	03_91C_045	NRSC		AP_91	3493	WB	Brahmaputra	Dibang	India	94	111	86	96	-15.32
397	03_77L_035	NRSC		BH_14	5486	GL	Brahmaputra	Ø	Bhutan	60	71	49	52	-15.49
398	01_62F_004	NRSC		CH_95	5493	WB	Indus	Sutlej	China	161	186	191	181	-15.71
399	03_77H_030	NRSC		CH_495	4802	WB	Brahmaputra	Ø	China	52	62	58	56	-16.13
400	03_78E_019	NRSC		CH_611	5022	GL	Brahmaputra	Ø	China	52	60	62	58	-16.13
401	03_78A_001	NRSC/SDC	High Risk	SK_9	5371	GL	Brahmaputra	Teesta	India	186	162	149	222	-16.22

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
402	03_77H_001	NRSC		CH_476	4275	WB	Brahmaputra	Ø	China	435	521	353	361	-16.51
403	03_82C_016	NRSC		CH_671	4679	WB	Brahmaputra	Ø	China	45	54	50	52	-16.67
404	03_82G_024	NRSC		CH_785	4647	WB	Brahmaputra	Ø	China	90	108	78	76	-16.67
405	01_43E_023	NRSC		JK_47	4155	WB	Indus	Gilgit	India	80	96	83	80	-16.67
406	03_77L_032	NRSC		CH_547	4669	GL	Brahmaputra	Kuri Chhu	China	92	111	80	82	-17.12
407	01_43G_001	NRSC		JK_67	346	WB	Indus	Jhelum	India	19002	22572	22977	22344	-17.30
408	03_77B_002	NRSC		CH_453	5019	WB	Brahmaputra	Ø	China	205	248	210	206	-17.34
409	03_71K_009	NRSC		CH_432	4750	WB	Brahmaputra	Ø	China	211	258	218	193	-18.22
410	01_52G_003	NRSC		JK_191	4533	WB	Indus	Indus	India	1313	1609	1315	1335	-18.40
411	03_82A_003	NRSC		CH_622	4896	WB	Brahmaputra	Ø	China	81	100	92	91	-19.00
412	03_71G_008	NRSC		CH_417	5187	WB	Brahmaputra	Ø	China	50	62	60	59	-19.35
413	03_77P_004	NRSC		CH_575	4452	WB	Brahmaputra	Ø	China	174	205	216	205	-19.44
414	01_43M_003	NRSC		JK_120	2663	WB	Indus	Shigar (Indus)	India	178	198	224	220	-20.54
415	01_62F_002	NRSC		CH_93	4592	WB	Indus	Sutlej	China	263	334	320	316	-21.26

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
416	03_78A_003	NRSC/SDC	Very High Risk	SK_11	4977	GL	Brahmaputra	Teesta	India	58	-	74	57	-21.62
417	03_77P_021	NRSC		CH_592	4749	GL	Brahmaputra	Dangme Chhu	China	50	64	45	47	-21.88
418	03_77P_016	NRSC		CH_587	4749	WB	Brahmaputra	Dangme Chhu	China	204	262	224	227	-22.14
419	02_72E_001	NRSC		NP_57	1554	WB	Ganga	Baghmati	Nepal	130	165	168	153	-22.62
420	03_91C_033	NRSC		CH_1079	4278	GL	Brahmaputra	Ø	China	146	190	177	161	-23.16
421	03_91C_046	NRSC		AP_92	3353	WB	Brahmaputra	Dibang	India	46	60	43	46	-23.33
422	03_77L_006	NRSC		CH_522	4533	WB	Brahmaputra	Ø	China	23	-	30	30	-23.33
423	03_77P_018	NRSC		CH_589	4707	WB	Brahmaputra	Dangme Chhu	China	117	153	129	131	-23.53
424	01_62E_002	NRSC		CH_77	5139	WB	Indus	Indus	China	132	173	157	149	-23.70
425	03_71C_005	NRSC		CH_398	5551	GL	Brahmaputra	Ø	China	44	58	56	54	-24.14
426	03_77O_001	NRSC		CH_564	3879	WB	Brahmaputra	Ø	China	121	153	160	159	-24.38
427	02_62B_001	NRSC		CH_106	5216	WB	Ganga	Karnal	China	34	42	45	40	-24.44

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
428	01_52L_003	NRSC		JK_227	4985	WB	Indus	Indus	India	512	680	573	594	-24.71
429	01_52I_003	NRSC		JK_195	5159	WB	Indus	Shyok	India	158	186	211	169	-25.12
430	03_82O_042	NRSC		AP_49	3093	WB	Brahmaputra	Dibang	India	32	-	43	36	-25.58
431	03_71K_011	NRSC		CH_434	4761	WB	Brahmaputra	Ø	China	303	409	399	371	-25.92
432	02_53P_003	NRSC		UK_11	207	WB	Ganga	Ramganga	India	842	1138	842	844	-26.01
433	03_91D_081	NRSC		CH_1136	3356	WB	Brahmaputra	Lohit	China	322	436	312	247	-26.15
434	03_91H_029	NRSC		CH_1194	3325	WB	Brahmaputra	Lohit	China	36	-	49	37	-26.53
435	02_71P_035	NRSC		CH_223	5146	WB	Ganga	Arun Kosi	China	79	108	98	98	-26.85
436	03_77L_008	NRSC		CH_524	4448	WB	Brahmaputra	Ø	China	58	76	80	79	-27.50
437	01_52D_001	NRSC		HP_1	780	WB	Indus	Ravi	India	606	819	838	768	-27.68
438	03_77C_006	NRSC		CH_460	4514	WB	Brahmaputra	Ø	China	73	101	93	91	-27.72
439	03_62O_043	NRSC		CH_388	5285	WB	Brahmaputra	Ø	China	59	83	80	73	-28.92
440	01_43J_021	NRSC		JK_99	1582	WB	Indus	Jhelum	India	914	1305	992	1028	-29.96
441	03_82J_014	NRSC		CH_844	3703	WB	Brahmaputra	Ø	China	128	183	158	147	-30.05

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
442	02_71P_018	NRSC		CH_206	4199	WB	Ganga	Arun Kosi	China	57	54	82	64	-30.49
443	03_91D_022	NRSC		AP_118	3143	WB	Brahmaputra	Dibang	India	25	-	36	30	-30.56
444	03_71O_002	NRSC		CH_438	4909	WB	Brahmaputra	Ø	China	34	-	49	44	-30.61
445	03_77H_004	NRSC		CH_479	4428	WB	Brahmaputra	Ø	China	141	205	149	150	-31.22
446	03_71G_009	NRSC		CH_418	5032	WB	Brahmaputra	Ø	China	107	155	156	148	-31.41
447	02_72I_007	NRSC	785G	NP_62	4540	GL	Ganga	Sun Kosi	Nepal	47	-	70	67	-32.86
448	02_53K_002	NRSC		UK_2	260	WB	Ganga	Ramganga	India	993	1481	1000	918	-32.95
449	01_42H_005	NRSC		JK_5	2237	WB	Indus	Gilgit	India	48	72	60	54	-33.33
450	03_77H_003	NRSC		CH_478	4714	WB	Brahmaputra	Ø	China	151	231	148	145	-34.63
451	03_77P_013	NRSC		CH_584	5155	WB	Brahmaputra	Ø	China	41	64	52	48	-35.94
452	02_77D_001	NRSC		CH_256	4423	WB	Ganga	Arun Kosi	China	3091	4849	3677	3583	-36.25
453	03_77O_002	NRSC		CH_565	3806	WB	Brahmaputra	Ø	China	52	82	80	79	-36.59
454	03_77L_029	NRSC		CH_545	5451	GL	Brahmaputra	Kuri Chhu	China	34	-	54	43	-37.04
455	03_82K_060	NRSC		CH_916	4316	WB	Brahmaputra	Ø	China	60	99	71	68	-39.39
456	01_53E_001	NRSC		HP_12	921	WB	Indus	Beas	India	66	70	109	95	-39.45

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
457	01_62B_001	NRSC		CH_73	4526	WB	Indus	Sutlej	China	273	472	301	316	-42.16
458	03_77H_007	NRSC		CH_481	4424	WB	Brahmaputra	Ø	China	390	823	737	670	-52.61
459	02_77D_004	NRSC		CH_259	4378	WB	Ganga	Arun Kosi	China	410	1013	802	740	-59.53
460	03_82D_010	NRSC		CH_716	5043	WB	Brahmaputra	Dangme Chhu	China	19	70	49	57	-72.86
461	03_62N_003	NRSC		CH_320	5208	WB	Brahmaputra	Ø	China	5	-	46	44	-89.13
462	01_61D_001	NRSC		CH_53	5593	WB	Indus	Indus	China	5	81	76	66	-93.83
463	01_52L_008	NRSC		CH_1	3873	WB	Indus	Sutlej	China	5	32	101	78	-95.05
464	01_52E_001	NRSC		JK_188	5116	GL	Indus	Shyok	India	0	48	4	19	-100.00

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

- Unobservable (as per NRSC) , Ø indicates small rivulet/first order stream

TABLE 5: GL&WBS HAVING WATER SPREAD GREATER THAN 50 HA WITH NO ANALYSIS OF CHANGE IN WATER SPREAD AREA

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Area of September-2022 (ha)	Area of Base Year of 2011 (ha)	Area of Last 5 Years (ha)	Area of Last 10 years (ha)	Max Change in Area of September (%)
465	02_77D_003	NRSC		CH_258	4364	WB	Ganga	Arun Kosi	China	#	102	82	133	#
466	03_62O_027	NRSC		CH_372	4575	WB	Brahmaputra	Ø	China	#	-	39	35	#
467	03_62O_028	NRSC		CH_373	4577	WB	Brahmaputra	Ø	China	#	902	644	635	#
468	03_71C_010	NRSC		CH_403	4561	WB	Brahmaputra	Ø	China	#	-	54	42	#
469	03_71K_007	NRSC		CH_430	4752	WB	Brahmaputra	Ø	China	#	96	82	80	#
470	01_61G_001	NRSC		CH_62	4973	WB	Indus	Indus	China	#	81	71	71	#
471	01_61G_003	NRSC		CH_64	4864	WB	Indus	Indus	China	#	80	58	64	#
472	03_82F_010	NRSC		CH_735	5030	GL	Brahmaputra	Ø	China	18	-	-	-	#
473	01_53A_002	NRSC		HP_10	495	WB	Indus	Sutlej	India	#	12198	11339	11603	#
474	01_52I_004	NRSC		JK_196	5141	WB	Indus	Shyok	India	#	-	63	62	#
475	02_63M_002	NRSC		NP_41	112	WB	Ganga	Rapti	Nepal	#	148	107	119	#

476	01_61C_004	NRSC			4495	WB	Indus	Ø		#	-	-	-	#
477	01_61C_008	NRSC			4494	WB	Indus	Ø		233	-	-	-	#

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

-Unobservable (as per NRSC) , Ø indicates small rivulet/first order stream

#indicates frozen/ dried lakes

TABLE 6: WATER SPREAD AREA OF CRITICAL GLS IDENTIFIED BY NDMA THROUGH SWISS DEVELOPMENT AGENCY (SDC) FOR INDIAN HIMALAYAN REGION

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Latitude	Longitude	Lake Type	Elevation (m)	State/UT	Country	**Base Area (Avg of pervious 3 months) (ha)**	**Area of September-2022 (ha)**	**Change in Area of September wrt Base month (%)**
478	1805	SDC	81I/Very High Risk	32.762	77.195	GL	4775	HP	India	1.67	3	80.00
479	98	SDC	High Risk	34.392	75.085	GL	4103	JK	India	2.00	3	50.00
480	293	SDC	Very High Risk	27.951	88.705	GL	5048	SK	India	2.00	3	50.00
481	237	SDC	Very Low Risk	27.993	88.801	GL	5322	SK	India	7.00	10	42.86
482	1847	SDC	Very High Risk	31.915	77.527	GL	4570	HP	India	12.00	17	41.67
483	298	SDC	Very High Risk	27.873	88.638	GL	4508	SK	India	4.67	6	28.57
484	295	SDC	Very High Risk	27.92	88.672	GL	4850	SK	India	6.00	7	16.67
485	2207	SDC	Very High Risk	30.912	78.958	GL	4707	UK	India	10.33	12	16.13
486	173	SDC	Medium	34.765	76.71	GL	5150	JK	India	7.00	8	14.29

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Latitude	Longitude	Lake Type	Elevation (m)	State/UT	Country	**Base Area (Avg of pervious 3 months) (ha)**	**Area of September-2022 (ha)**	**Change in Area of September wrt Base month (%)**
			Risk									
487	963	SDC	Medium Risk	34.139	75.376	GL	3725	JK	India	26.67	30	12.50
488	227	SDC	Very High Risk	27.993	88.547	GL	5176	SK	India	53.00	58	9.43
489	292	SDC	Medium Risk	28.006	88.655	GL	5577	SK	India	3.67	4	9.09
490	2108	SDC	347G/Very High Risk	30.976	79.459	GL	5587	UK	India	18.00	19	5.56
491	260	SDC	Medium Risk	27.894	88.761	GL	5253	SK	India	39.67	40	0.84
492	515	SDC	Medium Risk	27.854	88.806	GL	5063	SK	India	8.00	8	0.00
493	1032	SDC	Very High Risk	34.386	75.064	GL	4007	JK	India	1.00	1	0.00
494	1360	SDC	Very High Risk	35.027	75.725	GL	4667	JK	India	9.00	9	0.00
495	1774	SDC	Very High	32.221	76.788	GL	4593	HP	India	7.00	7	0.00

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Latitude	Longitude	Lake Type	Elevation (m)	State/UT	Country	**Base Area (Avg of pervious 3 months) (ha)**	**Area of September-2022 (ha)**	**Change in Area of September wrt Base month (%)**
			Risk									
496	1936	SDC	321I/Very High Risk	32.256	76.777	GL	4606	HP	India	3.00	3	0.00
497	129	SDC	Very High Risk	27.775	92.314	GL	4895	AP	India	9.00	9	0.00
498	951	SDC	Very High Risk	34.067	75.475	GL	3762	JK	India	18.33	18	-1.82
499	569	SDC	Medium Risk	28.002	88.64	GL	5450	SK	India	32.00	31	-3.13
500	345	SDC	Medium Risk	27.864	88.747	GL	5108	SK	India	18.67	18	-3.57
501	1037	SDC	27I/Medium Risk	34.422	75.058	GL	3603	JK	India	39.00	37	-5.13
502	182	SDC	Very High Risk	34.234	75.325	GL	4304	JK	India	8.50	8	-5.88
503	1014	SDC	Very High Risk	34.299	75.06	GL	3989	JK	India	4.33	4	-7.69
504	931	SDC	Very High	33.929	75.389	GL	4082	JK	India	18.67	17	-8.93

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Latitude	Longitude	Lake Type	Elevation (m)	State/UT	Country	**Base Area (Avg of pervious 3 months) (ha)**	**Area of September-2022 (ha)**	**Change in Area of September wrt Base month (%)**
			Risk									
505	976	SDC	15I/High Risk	34.185	75.372	GL	4314	JK	India	16.50	15	-9.09
506	938	SDC	Very High Risk	33.953	75.378	GL	3683	JK	India	21.00	19	-9.52
507	256	SDC	High Risk	27.816	88.657	GL	4615	SK	India	16.33	14	-14.29
508	27	SDC	Very High Risk	34.381	74.876	GL	3775	JK	India	13.00	11	-15.38
509	180	SDC	Very High Risk	34.353	76.077	GL	4442	JK	India	8.33	7	-16.00
510	2031	SDC	Very High Risk	31.339	78.253	GL	4702	HP	India	12.00	8	-33.33
511	312	SDC	Medium Risk	27.701	88.514	GL	5137	SK	India	8.33	5	-40.00
512	993	SDC	Very High Risk	34.227	75.222	GL	4148	JK	India	9.00	5	-44.44
513	958	SDC	Very High Risk	34.138	75.416	GL	4103	JK	India	3.33	0	-100.00

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Latitude	Longitude	Lake Type	Elevation (m)	State/UT	Country	**Base Area (Avg of pervious 3 months) (ha)**	**Area of September-2022 (ha)**	**Change in Area of September wrt Base month (%)**
514	2147	SDC	Medium Risk	30.98	79.487	GL	5688	UK	India	0.50	0	-100.00
515	1998	SDC	Very High Risk	32.32	76.908	GL	3857	HP	India	1.00	0	-100.00
516	599	SDC	Very High Risk	27.695	88.716	GL	4251	SK	India	8.00	0	-100.00
517	2299	SDC	Very High Risk	30.184	79.88	GL	4490	UK	India	#	#	#

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

- Unobservable (as per NRSC) , #indicates frozen/ dried lakes

TABLE 7: WATER SPREAD AREA OF GLS UPTO 10 HA BUT SMALLER THAN 50 HA PREPARED BY NRSC IN 2009

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
518	03_82F_011	NRSC		GL	4720	Ø	Brahmaputra	China	4.33	12	176.92
519	01_53M_003	NRSC	110I	GL	5511	Indus	Indus	China	6.00	13	116.67
520	03_91H_073	NRSC		GL	4481	Lohit	Brahmaputra	India	17.50	36	105.71
521	03_82O_004	NRSC		GL	4148	Ø	Brahmaputra	China	12.67	24	89.47
522	02_71P_017	NRSC		GL	4194	Arun Kosi	Ganga	China	60.00	109	81.67
523	03_77L_063	NRSC		GL	5183	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	18.00	30	66.67
524	03_82F_021	NRSC		GL	4487	Ø	Brahmaputra	China	7.67	12	56.52
525	03_77L_048	NRSC		GL	4792	Kuri Chhu	Brahmaputra	China	25.67	39	51.95
526	03_82F_013	NRSC		GL	4761	Ø	Brahmaputra	China	8.67	13	50.00
527	03_77L_056	NRSC		GL	4963	Kuri Chhu	Brahmaputra	China	14.00	21	50.00
528	03_77L_054	NRSC		GL	4717	Puna Tsang	Brahmaputra	Bhutan	2.00	3	50.00

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
						Chhu					
529	03_78I_028	NRSC		GL	4792	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	20.00	30	50.00
530	01_43J_003	NRSC		GL	3954	Jhelum	Indus	India	13.67	20	46.34
531	03_77H_022	NRSC		GL	4936	Ø	Brahmaputra	China	19.33	28	44.83
532	02_72I_030	NRSC	480G	GL	4624	Sun Kosi	Ganga	Nepal	7.67	11	43.48
533	03_77K_003	NRSC		GL	5303	Ø	Brahmaputra	China	10.00	14	40.00
534	03_78A_035	NRSC		GL	4998	Teesta	Brahmaputra	India	8.67	12	38.46
535	03_82F_023	NRSC		GL	4354	Ø	Brahmaputra	China	8.00	11	37.50
536	03_71D_003	NRSC		GL	5362	Ø	Brahmaputra	China	8.00	11	37.50
537	02_62J_002	NRSC		GL	5021	Karnal	Ganga	Nepal	11.67	16	37.14
538	03_82L_004	NRSC		GL	4441	Ø	Brahmaputra	China	11.67	16	37.14
539	02_71L_016	NRSC	570G	GL	5345	Sun Kosi	Ganga	China	9.50	13	36.84

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
540	03_78A_025	NRSC		GL	4888	Amo Chhu	Brahmaputra		9.50	13	36.84
541	01_53M_002	NRSC	142I	GL	5468	Indus	Indus	China	7.33	10	36.36
542	03_82G_007	NRSC		GL	4994	Ø	Brahmaputra	China	11.00	15	36.36
543	03_78I_001	NRSC		GL	5129	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	7.33	10	36.36
544	02_62F_008	NRSC		GL	5620	Karnal	Ganga	Nepal	8.33	11	32.00
545	02_72I_017	NRSC	49G	GL	5018	Sun Kosi	Ganga	Nepal	8.33	11	32.00
546	02_71D_002	NRSC		GL	4063	Trisuli	Ganga	Nepal	5.33	7	31.25
547	03_78I_004	NRSC		GL	5194	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	26.67	35	31.25
548	02_71L_035	NRSC	657G	GL	5091	Sun Kosi	Ganga	Nepal	13.00	17	30.77
549	03_91D_098	NRSC		GL	4197	Lohit	Brahmaputra	China	11.50	15	30.43
550	03_77J_002	NRSC		GL	5254	Ø	Brahmaputra	China	10.00	13	30.00

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
551	01_62F_009	NRSC	387I	GL	5712	Sutlej	Indus	China	20.33	25	22.95
552	03_82C_011	NRSC		GL	5242	Ø	Brahmaputra	China	14.67	18	22.73
553	03_78E_001	NRSC		GL	5157	Puna Tsang Chhu	Brahmaputra	Bhutan	29.00	35	20.69
554	03_78A_027	NRSC/SDC	Very High Risk	GL	4888	Teesta	Brahmaputra	India	30.67	37	20.65
555	03_91C_071	NRSC		GL	4339	Dibang	Brahmaputra	China	34.00	41	20.59
556	03_82J_003	NRSC		GL	4161	Ø	Brahmaputra	China	23.33	28	20.00
557	03_82N_015	NRSC		GL	5090	Ø	Brahmaputra	China	5.00	6	20.00
558	03_82L_008	NRSC		GL	4342	Ø	Brahmaputra	China	10.00	12	20.00
559	02_72M_011	NRSC	86G	GL	4865	Arun Kosi	Ganga	Nepal	42.50	51	20.00
560	02_62F_014	NRSC	236G	GL	5481	Karnal	Ganga	China	6.67	8	20.00
561	02_71L_017	NRSC	179G	GL	5211	Sun Kosi	Ganga	China	13.33	16	20.00
562	03_82F_025	NRSC		GL	4253	Ø	Brahmaputra	China	8.33	10	20.00

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
563	02_71H_014	NRSC		GL	4458	Trisuli	Ganga	China	8.33	10	20.00
564	02_72I_031	NRSC	14G	GL	4777	Sun Kosi	Ganga	Nepal	27.67	33	19.28
565	01_62B_002	NRSC	381I	GL	4998	Sutlej	Indus	China	19.33	23	18.97
566	03_71P_002	NRSC		GL	5537	Ø	Brahmaputra	China	14.33	17	18.60
567	02_62F_009	NRSC	536G	GL	5586	Karnal	Ganga	China	9.33	11	17.86
568	03_71D_001	NRSC		GL	5454	Ø	Brahmaputra	China	17.00	20	17.65
569	02_71L_029	NRSC	747G	GL	5237	Arun Kosi	Ganga	China	45.33	53	16.91
570	02_71P_001	NRSC		GL	5498	Arun Kosi	Ganga	China	18.00	21	16.67
571	01_62J_004	NRSC	446I	GL	5504	Sutlej	Indus	China	10.33	12	16.13
572	03_62O_031	NRSC		GL	5381	Ø	Brahmaputra	China	31.33	36	14.89
573	02_53N_001	NRSC	250G	GL	4688	Ganga	Ganga	India	22.67	26	14.71
574	03_77H_005	NRSC		GL	5113	Ø	Brahmaputra	China	21.00	24	14.29
575	02_62K_003	NRSC	546G	GL	4571	Karnal	Ganga	Nepal	38.67	44	13.79
576	03_78I_020	NRSC		GL	5331	Manas Chhu	Brahmaputra	Bhutan	19.33	22	13.79

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
						&MangdeChhu					
577	03_77L_065	NRSC		GL	5025	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	15.00	17	13.33
578	03_78I_054	NRSC		GL	5138	Manas Chhu &MangdeChhu	Brahmaputra	Bhutan	15.00	17	13.33
579	03_82O_001	NRSC		GL	4348	Ø	Brahmaputra	China	41.67	47	12.80
580	02_62F_007	NRSC		GL	5179	Karnal	Ganga	Nepal	10.67	12	12.50
581	03_78E_008	NRSC		GL	5045	Puna Tsang Chhu	Brahmaputra	Bhutan	10.67	12	12.50
582	02_62B_005	NRSC	580G	GL	4314	Sarda	Ganga	India	8.00	9	12.50
583	01_62B_003	NRSC	86I	GL	5288	Sutlej	Indus	India	12.50	14	12.00
584	02_72I_024	NRSC	358G	GL	5165	Sun Kosi	Ganga	Nepal	28.67	32	11.63
585	03_77L_020	NRSC		GL	4682	Kuri Chhu	Brahmaputra	China	9.00	10	11.11
586	02_71P_038	NRSC	586G	GL	5483	Arun Kosi	Ganga	China	27.00	30	11.11

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
587	03_77J_001	NRSC		GL	5354	Ø	Brahmaputra	China	24.33	27	10.96
588	02_71H_016	NRSC		GL	5305	Arun Kosi	Ganga	China	25.33	28	10.53
589	02_71P_023	NRSC	124G	GL	5235	Arun Kosi	Ganga	China	19.00	21	10.53
590	02_71H_009	NRSC		GL	5448	Arun Kosi	Ganga	China	22.67	25	10.29
591	01_52L_006	NRSC	306I	GL	5727	Indus	Indus	India	10.00	11	10.00
592	03_91H_015	NRSC		GL	4553	Lohit	Brahmaputra	China	10.00	11	10.00
593	02_71H_005	NRSC		GL	5010	Arun Kosi	Ganga	China	75.00	82	9.33
594	03_91C_004	NRSC		GL	4137	Ø	Brahmaputra	China	18.33	20	9.09
595	02_62F_016	NRSC	591G	GL	5359	Karnal	Ganga	Nepal	14.67	16	9.09
596	02_71D_001	NRSC		GL	4111	Trisuli	Ganga	Nepal	22.00	24	9.09
597	03_78M_013	NRSC		GL	4232	Kuri Chhu	Brahmaputra	Bhutan	5.50	6	9.09
598	02_71P_034	NRSC	726G	GL	5259	Arun Kosi	Ganga	China	23.00	25	8.70
599	02_71L_030	NRSC	242G	GL	5242	Sun Kosi	Ganga	China	21.33	23	7.81
600	03_82L_006	NRSC		GL	4147	Ø	Brahmaputra	China	13.00	14	7.69

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
601	02_71L_015	NRSC	284G	GL	5261	Sun Kosi	Ganga	China	22.33	24	7.46
602	02_71P_046	NRSC	317G	GL	4898	Arun Kosi	Ganga	China	28.00	30	7.14
603	02_71L_025	NRSC	154G	GL	5357	Sun Kosi	Ganga	China	18.67	20	7.14
604	03_91C_021	NRSC		GL	4093	Ø	Brahmaputra	China	30.00	32	6.67
605	02_71L_033	NRSC	408G	GL	5369	Sun Kosi	Ganga	Nepal	15.00	16	6.67
606	02_72M_004	NRSC	336G	GL	5293	Arun Kosi	Ganga	China	51.67	55	6.45
607	01_52A_002	NRSC		GL	4537	Shyok	Indus	India	20.67	22	6.45
608	03_62J_027	NRSC		GL	4781	Ø	Brahmaputra	China	22.67	24	5.88
609	01_52H_003	NRSC		GL	4165	Chenab	Indus	India	160.67	170	5.81
610	03_77H_025	NRSC		GL	4312	Puna Tsang Chhu	Brahmaputra	Bhutan	23.67	25	5.63
611	03_71C_004	NRSC		GL	5575	Ø	Brahmaputra	China	12.33	13	5.41
612	03_62O_035	NRSC		GL	5256	Ø	Brahmaputra	China	31.33	33	5.32
613	02_71L_009	NRSC	520G	GL	5546	Arun Kosi	Ganga	China	31.33	33	5.32

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
614	03_62O_045	NRSC		GL	5566	Ø	Brahmaputra	China	9.50	10	5.26
615	02_77D_011	NRSC	393G	GL	5305	Arun Kosi	Ganga	China	45.67	48	5.11
616	03_78I_040	NRSC		GL	5167	Puna Tsang Chhu	Brahmaputra	Bhutan	20.00	21	5.00
617	03_77H_021	NRSC		GL	5135	Puna Tsang Chhu	Brahmaputra	Bhutan	13.33	14	5.00
618	03_77L_038	NRSC		GL	5521	Ø	Brahmaputra	China	13.33	14	5.00
619	03_78I_025	NRSC		GL	5194	Puna Tsang Chhu	Brahmaputra	Bhutan	13.33	14	5.00
620	03_77L_071	NRSC		GL	5228	Puna Tsang Chhu	Brahmaputra	Bhutan	21.00	22	4.76
621	02_71L_008	NRSC	457G	GL	5577	Sun Kosi	Ganga	China	35.33	37	4.72
622	03_78E_003	NRSC		GL	5152	Puna Tsang Chhu	Brahmaputra	Bhutan	22.00	23	4.55
623	02_72I_022	NRSC	287G	GL	5344	Sun Kosi	Ganga	Nepal	30.67	32	4.35

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
624	03_83A_004	NRSC		GL	5109	Dangme Chhu	Brahmaputra	India	16.33	17	4.08
625	01_62E_007	NRSC	437I	GL	5641	Sutlej	Indus	China	13.50	14	3.70
626	03_82F_024	NRSC		GL	4197	Ø	Brahmaputra	China	19.33	20	3.45
627	03_82N_034	NRSC		GL	4181	Ø	Brahmaputra	China	14.50	15	3.45
628	02_71L_031	NRSC	52G	GL	4682	Sun Kosi	Ganga	China	30.00	31	3.33
629	02_71P_042	NRSC	654G	GL	5524	Arun Kosi	Ganga	China	20.33	21	3.28
630	02_72I_012	NRSC	113G	GL	4409	Sun Kosi	Ganga	Nepal	40.67	42	3.28
631	02_72I_015	NRSC	814G	GL	5416	Sun Kosi	Ganga	Nepal	42.67	44	3.13
632	02_71H_013	NRSC	172G	GL	4446	Trisuli	Ganga	China	16.50	17	3.03
633	02_78A_001	NRSC	498G	GL	5201	Arun Kosi	Ganga	China	22.33	23	2.99
634	03_82J_006	NRSC		GL	3657	Ø	Brahmaputra	China	56.33	58	2.96
635	03_77L_036	NRSC		GL	5810	Kuri Chhu	Brahmaputra	China	23.33	24	2.86
636	03_78A_031	NRSC		GL	4305	Teesta	Brahmaputra	India	11.67	12	2.86
637	02_71L_007	NRSC	572G	GL	5576	Arun Kosi	Ganga	China	12.67	13	2.63

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
638	03_78I_008	NRSC		GL	5252	Manas Chhu &MangdeChhu	Brahmaputra	Bhutan	12.67	13	2.63
639	02_71H_024	NRSC	155G	GL	4890	Trisuli	Ganga	China	26.33	27	2.53
640	03_62J_020	NRSC		GL	5603	Ø	Brahmaputra	China	14.67	15	2.27
641	02_71L_018	NRSC	651G	GL	5377	Sun Kosi	Ganga	China	14.67	15	2.27
642	03_78I_026	NRSC		GL	5233	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	14.67	15	2.27
643	02_71H_018	NRSC	123G	GL	4787	Trisuli	Ganga	China	31.33	32	2.13
644	02_72I_006	NRSC		GL	4741	Sun Kosi	Ganga	Nepal	17.67	18	1.89
645	03_78A_008	NRSC		GL	4998	Teesta	Brahmaputra	India	18.67	19	1.79
646	03_77K_002	NRSC		GL	5154	Ø	Brahmaputra	China	37.33	38	1.79
647	02_71P_039	NRSC	396G	GL	5489	Arun Kosi	Ganga	China	18.67	19	1.79
648	02_77D_010	NRSC	590G	GL	5127	Arun Kosi	Ganga	China	37.33	38	1.79

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
649	03_62J_028	NRSC		GL	5603	Ø	Brahmaputra	China	42.33	43	1.57
650	03_77L_057	NRSC		GL	4897	Kuri Chhu	Brahmaputra		44.33	45	1.50
651	03_62J_009	NRSC		GL	5624	Ø	Brahmaputra	China	23.67	24	1.41
652	03_82F_009	NRSC		GL	4712	Ø	Brahmaputra	China	23.67	24	1.41
653	03_77D_007	NRSC/SDC	Very High Risk	GL	5015	Teesta	Brahmaputra	India	24.67	25	1.35
654	03_82J_001	NRSC		GL	4775	Ø	Brahmaputra	China	27.67	28	1.20
655	02_72I_016	NRSC	739G	GL	5231	Sun Kosi	Ganga	Nepal	28.67	29	1.16
656	03_77L_058	NRSC		GL	5016	Kuri Chhu	Brahmaputra		32.67	33	1.02
657	02_72M_008	NRSC	376G	GL	4722	TamurKosi	Ganga	Nepal	37.67	38	0.88
658	03_78I_057	NRSC		GL	5060	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	44.67	45	0.75
659	02_62F_006	NRSC		GL	5444	Karnal	Ganga	Nepal	15.00	15	0.00

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
660	02_62F_011	NRSC	362G	GL	5524	Karnal	Ganga	China	26.00	26	0.00
661	02_62F_013	NRSC	256G	GL	5252	Karnal	Ganga	China	45.00	45	0.00
662	01_42H_002	NRSC	162I	GL	2763	Gilgit	Indus	India	16.00	16	0.00
663	01_52L_007	NRSC	184I	GL	5498	Indus	Indus	India	33.00	33	0.00
664	01_61B_002	NRSC	345I	GL	5722	Indus	Indus	China	26.00	26	0.00
665	03_62J_024	NRSC		GL	5548	Ø	Brahmaputra	China	20.00	20	0.00
666	03_77J_005	NRSC		GL	5766	Ø	Brahmaputra	China	13.00	13	0.00
667	03_82F_018	NRSC		GL	4554	Ø	Brahmaputra	China	17.00	17	0.00
668	03_82F_026	NRSC		GL	4607	Ø	Brahmaputra	China	10.00	10	0.00
669	03_82N_018	NRSC		GL	4333	Ø	Brahmaputra	China	10.00	10	0.00
670	03_82N_025	NRSC		GL	4764	Ø	Brahmaputra	China	24.00	24	0.00
671	03_82N_031	NRSC		GL	4409	Ø	Brahmaputra	China	16.00	16	0.00
672	03_91C_010	NRSC		GL	4712	Ø	Brahmaputra	China	21.00	21	0.00
673	01_52A_004	NRSC/SDC	Very High	GL	4619	Shyok	Indus	India	10.00	10	0.00

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability Risk	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
674	02_62G_002	NRSC	599G	GL	4822	Karnal	Ganga	Nepal	19.00	19	0.00
675	02_71H_010	NRSC		GL	5481	Arun Kosi	Ganga	China	25.00	25	0.00
676	03_62K_007	NRSC		GL	4911	Ø	Brahmaputra	China	29.00	29	0.00
677	03_91C_035	NRSC		GL	4283	Ø	Brahmaputra	China	55.00	55	0.00
678	02_71H_025	NRSC	464G	GL	5303	Trisuli	Ganga	China	19.00	19	0.00
679	02_71L_012	NRSC	96G	GL	5570	Sun Kosi	Ganga	China	21.00	21	0.00
680	02_71L_014	NRSC	240G	GL	5364	Sun Kosi	Ganga	China	16.00	16	0.00
681	02_71L_019	NRSC	323G	GL	5378	Sun Kosi	Ganga	China	12.00	12	0.00
682	02_71L_021	NRSC	438G	GL	5373	Sun Kosi	Ganga	China	17.00	17	0.00
683	02_71L_027	NRSC	433G	GL	5234	Sun Kosi	Ganga	China	18.00	18	0.00
684	02_71L_022	NRSC	715G	GL	5554	Arun Kosi	Ganga	China	27.00	27	0.00
685	02_71P_024	NRSC	576G	GL	5273	Arun Kosi	Ganga	China	22.00	22	0.00
686	02_77D_005	NRSC	499G	GL	5738	Arun Kosi	Ganga	China	7.00	7	0.00

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
687	03_77H_009	NRSC		GL	5150	Ø	Brahmaputra	China	15.00	15	0.00
688	03_77H_010	NRSC		GL	5518	Ø	Brahmaputra	China	14.00	14	0.00
689	03_77H_027	NRSC		GL	4927	Ø	Brahmaputra	China	22.00	22	0.00
690	03_77L_073	NRSC		GL	5166	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	12.00	12	0.00
691	03_78I_009	NRSC		GL	5108	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	26.00	26	0.00
692	02_72I_010	NRSC	263G	GL	5125	Sun Kosi	Ganga	Nepal	14.00	14	0.00
693	02_72I_019	NRSC	757G	GL	5510	Sun Kosi	Ganga	Nepal	17.00	17	0.00
694	02_78A_007	NRSC	429G	GL	5618	TamurKosi	Ganga	Nepal	15.00	15	0.00
695	03_83A_005	NRSC		GL	4994	Dangme Chhu	Brahmaputra	India	12.00	12	0.00
696	03_78I_015	NRSC		GL	5116	Puna Tsang Chhu	Brahmaputra	Bhutan	15.00	15	0.00

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
697	03_78I_036	NRSC		GL	5028	Puna Tsang Chhu	Brahmaputra	Bhutan	12.00	12	0.00
698	03_78I_037	NRSC		GL	5159	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	15.00	15	0.00
699	03_78I_046	NRSC		GL	5168	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	22.00	22	0.00
700	03_78I_058	NRSC		GL	5041	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	26.00	26	0.00
701	03_78I_064	NRSC		GL	4976	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	20.00	20	0.00
702	03_77L_062	NRSC		GL	5295	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	47.33	47	-0.70

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
703	03_83A_001	NRSC		GL	5018	Ø	Brahmaputra	China	47.33	47	-0.70
704	03_77H_024	NRSC		GL	4369	Puna Tsang Chhu	Brahmaputra	Bhutan	46.33	46	-0.72
705	03_62K_011	NRSC		GL	5136	Ø	Brahmaputra	China	45.33	45	-0.74
706	01_52C_002	NRSC	46I	GL	4092	Chenab	Indus	India	43.33	43	-0.77
707	03_82N_001	NRSC		GL	5055	Ø	Brahmaputra	China	34.33	34	-0.97
708	02_72I_026	NRSC	112G	GL	5188	Sun Kosi	Ganga	Nepal	29.33	29	-1.14
709	02_62K_001	NRSC	329G	GL	4404	Karnal	Ganga	Nepal	28.33	28	-1.18
710	03_83A_003	NRSC		GL	5188	Dangme Chhu	Brahmaputra	India	82.00	81	-1.22
711	03_71B_001	NRSC		GL	5692	Ø	Brahmaputra	China	25.33	25	-1.32
712	03_77H_017	NRSC		GL	4537	Puna Tsang Chhu	Brahmaputra	Bhutan	25.33	25	-1.32
713	03_78I_005	NRSC		GL	5338	Puna Tsang Chhu	Brahmaputra	Bhutan	44.67	44	-1.49

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
714	02_62B_004	NRSC	232G	GL	4918	Sarda	Ganga	India	21.33	21	-1.56
715	03_78I_067	NRSC		GL	4918	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	21.33	21	-1.56
716	03_82F_012	NRSC		GL	4454	Ø	Brahmaputra	China	19.33	19	-1.72
717	03_78E_011	NRSC		GL	4952	Puna Tsang Chhu	Brahmaputra	Bhutan	19.33	19	-1.72
718	02_71L_005	NRSC	282G	GL	5524	Arun Kosi	Ganga	China	18.33	18	-1.82
719	02_71P_048	NRSC	283G	GL	5094	Arun Kosi	Ganga	China	18.33	18	-1.82
720	03_71D_002	NRSC		GL	5574	Ø	Brahmaputra	China	35.67	35	-1.87
721	03_77L_074	NRSC		GL	5324	Manas Chhu &MangdeChhu	Brahmaputra	Bhutan	17.33	17	-1.92
722	02_72I_018	NRSC	776G	GL	5370	Sun Kosi	Ganga	Nepal	33.67	33	-1.98
723	03_78A_030	NRSC		GL	4447	Amo Chhu	Brahmaputra		15.33	15	-2.17
724	02_62P_001	NRSC	258G	GL	4472	Bheri	Ganga	Nepal	45.00	44	-2.22

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
725	02_71H_020	NRSC		GL	5354	Arun Kosi	Ganga	China	72.67	71	-2.29
726	02_62F_015	NRSC	59G	GL	5359	Karnal	Ganga	China	28.67	28	-2.33
727	03_82F_001	NRSC		GL	4822	Ø	Brahmaputra	China	14.33	14	-2.33
728	03_78A_006	NRSC		GL	5004	Teesta	Brahmaputra	India	14.33	14	-2.33
729	02_71L_020	NRSC	156G	GL	5348	Sun Kosi	Ganga	China	27.67	27	-2.41
730	02_71H_036	NRSC	195G	GL	5024	Trisuli	Ganga	Nepal	13.33	13	-2.50
731	02_71H_030	NRSC	598G	GL	5411	Sun Kosi	Ganga	China	13.33	13	-2.50
732	02_72M_015	NRSC	115G	GL	4969	TamurKosi	Ganga	Nepal	13.33	13	-2.50
733	03_77L_079	NRSC		GL	5386	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	35.00	34	-2.86
734	01_52B_010	NRSC/SDC	75I/Medium Risk	GL	5122	Indus	Indus	India	16.50	16	-3.03
735	01_62F_007	NRSC		GL	5344	Sutlej	Indus	China	21.67	21	-3.08

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
736	03_77H_029	NRSC		GL	5049	Puna Tsang Chhu	Brahmaputra	Bhutan	21.67	21	-3.08
737	02_72M_014	NRSC	47G	GL	5217	TamurKosi	Ganga	Nepal	21.67	21	-3.08
738	03_77L_039	NRSC		GL	5457	Kuri Chhu	Brahmaputra	China	42.33	41	-3.15
739	03_82K_109	NRSC		GL	4356	Ø	Brahmaputra	China	20.67	20	-3.23
740	02_72I_020	NRSC	763G	GL	5436	Sun Kosi	Ganga	Nepal	20.67	20	-3.23
741	03_78I_043	NRSC		GL	5000	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	20.67	20	-3.23
742	01_52B_012	NRSC	129I	GL	5137	Indus	Indus	India	14.50	14	-3.45
743	03_78I_038	NRSC		GL	5143	Puna Tsang Chhu	Brahmaputra	Bhutan	9.33	9	-3.57
744	03_78E_027	NRSC		GL	4808	Puna Tsang Chhu	Brahmaputra	Bhutan	18.67	18	-3.57
745	03_77L_053	NRSC		GL	4793	Kuri Chhu	Brahmaputra	China	27.00	26	-3.70

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
746	02_71P_044	NRSC	557G	GL	5555	Arun Kosi	Ganga	China	8.33	8	-4.00
747	02_78A_006	NRSC	676G	GL	5743	Arun Kosi	Ganga	China	16.67	16	-4.00
748	03_78A_010	NRSC		GL	5078	Teesta	Brahmaputra	India	33.33	32	-4.00
749	03_78A_007	NRSC/SDC	Very High Risk	GL	4977	Teesta	Brahmaputra	India	16.67	16	-4.00
750	03_78I_019	NRSC		GL	5224	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	24.00	23	-4.17
751	03_91C_002	NRSC		GL	4691	Ø	Brahmaputra	China	33.50	32	-4.48
752	03_77L_078	NRSC		GL	5296	Puna Tsang Chhu	Brahmaputra	Bhutan	14.67	14	-4.55
753	03_78A_012	NRSC		GL	5130	Teesta	Brahmaputra	India	29.33	28	-4.55
754	03_82F_005	NRSC		GL	4762	Ø	Brahmaputra	China	44.00	42	-4.55
755	02_62B_006	NRSC	495G	GL	5106	Karnal	Ganga	China	42.00	40	-4.76
756	03_62J_025	NRSC		GL	5362	Ø	Brahmaputra	China	21.00	20	-4.76

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
757	02_71H_006	NRSC		GL	5167	Arun Kosi	Ganga	China	34.67	33	-4.81
758	02_71H_031	NRSC	78G	GL	5268	Sun Kosi	Ganga	China	27.33	26	-4.88
759	01_62E_016	NRSC	270I	GL	5528	Sutlej	Indus	China	20.00	19	-5.00
760	02_72I_001	NRSC	198G	GL	5333	Sun Kosi	Ganga	Nepal	12.67	12	-5.26
761	03_78A_005	NRSC		GL	5201	Teesta	Brahmaputra	India	12.67	12	-5.26
762	03_82O_002	NRSC		GL	4198	Ø	Brahmaputra	China	19.00	18	-5.26
763	03_82G_004	NRSC		GL	4498	Ø	Brahmaputra	China	30.67	29	-5.43
764	03_78A_017	NRSC		GL	5545	Teesta	Brahmaputra	India	27.50	26	-5.45
765	02_72I_008	NRSC	99G	GL	5040	Sun Kosi	Ganga		36.00	34	-5.56
766	03_71P_004	NRSC		GL	5637	Ø	Brahmaputra	China	10.67	10	-6.25
767	03_77L_047	NRSC		GL	4364	Puna Tsang Chhu	Brahmaputra	Bhutan	42.67	40	-6.25
768	03_62K_013	NRSC		GL	5101	Ø	Brahmaputra	China	47.00	44	-6.38
769	02_72I_021	NRSC	764G	GL	5276	Sun Kosi	Ganga	Nepal	20.33	19	-6.56

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
770	03_82O_003	NRSC		GL	4180	Ø	Brahmaputra	China	15.00	14	-6.67
771	03_78A_020	NRSC		GL	5219	Teesta	Brahmaputra	India	15.00	14	-6.67
772	02_78A_008	NRSC	199G	GL	5032	TamurKosi	Ganga	Nepal	24.67	23	-6.76
773	02_71H_022	NRSC		GL	5735	Arun Kosi	Ganga	China	19.33	18	-6.90
774	02_62K_011	NRSC	612G	GL	4673	Bheri	Ganga	Nepal	29.00	27	-6.90
775	03_77H_015	NRSC		GL	4801	Ø	Brahmaputra	China	14.00	13	-7.14
776	02_71H_023	NRSC		GL	5595	Arun Kosi	Ganga	China	59.33	55	-7.30
777	03_78A_002	NRSC/SDC	Very High Risk	GL	4952	Teesta	Brahmaputra	India	40.00	37	-7.50
778	03_62K_008	NRSC		GL	4968	Ø	Brahmaputra	China	44.33	41	-7.52
779	03_77L_061	NRSC		GL	5038	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	17.33	16	-7.69
780	02_62O_005	NRSC	609G	GL	5450	Kali Gandak	Ganga	Nepal	13.00	12	-7.69

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
781	01_52C_001	NRSC	11I	GL	4394	Shingo (Indus)	Indus	India	55.33	51	-7.83
782	02_71P_020	NRSC		GL	4200	Arun Kosi	Ganga	China	118.50	109	-8.02
783	01_53M_001	NRSC	33I	GL	5576	Indus	Indus	China	18.50	17	-8.11
784	03_71P_003	NRSC		GL	5360	Ø	Brahmaputra	China	28.33	26	-8.24
785	03_77H_019	NRSC		GL	4804	Puna Tsang Chhu	Brahmaputra	Bhutan	7.67	7	-8.70
786	03_82N_037	NRSC		GL	4691	Ø	Brahmaputra	China	11.00	10	-9.09
787	02_62G_003	NRSC	589G	GL	3603	Karnal	Ganga	Nepal	33.00	30	-9.09
788	03_91H_033	NRSC		GL	4389	Lohit	Brahmaputra	China	11.00	10	-9.09
789	03_77L_019	NRSC		GL	5681	Ø	Brahmaputra	China	14.33	13	-9.30
790	03_91D_099	NRSC		GL	4406	Lohit	Brahmaputra	China	26.50	24	-9.43
791	02_71P_031	NRSC	141G	GL	5395	Arun Kosi	Ganga	China	17.67	16	-9.43
792	03_62J_010	NRSC		GL	5571	Ø	Brahmaputra	China	24.33	22	-9.59
793	03_82N_008	NRSC		GL	4546	Ø	Brahmaputra	China	34.33	31	-9.71

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
794	03_77L_022	NRSC		GL	4810	Kuri Chhu	Brahmaputra	China	10.00	9	-10.00
795	03_77H_026	NRSC		GL	5233	Ø	Brahmaputra	China	10.00	9	-10.00
796	03_77L_082	NRSC		GL	5019	Puna Tsang Chhu	Brahmaputra	Bhutan	13.33	12	-10.00
797	02_72M_001	NRSC	737G	GL	5675	Arun Kosi	Ganga	China	6.67	6	-10.00
798	03_91H_006	NRSC		GL	4620	Lohit	Brahmaputra	China	16.67	15	-10.00
799	03_78I_011	NRSC		GL	5239	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	22.33	20	-10.45
800	03_77D_006	NRSC/SDC	Very High Risk	GL	5084	Teesta	Brahmaputra	India	22.33	20	-10.45
801	03_82L_007	NRSC		GL	4163	Ding	Brahmaputra	India	15.67	14	-10.64
802	03_62K_010	NRSC		GL	5181	Ø	Brahmaputra	China	68.33	61	-10.73
803	03_91H_008	NRSC		GL	4755	Lohit	Brahmaputra	China	46.00	41	-10.87
804	02_62O_002	NRSC	410G	GL	5495	Kali Gandak	Ganga	Nepal	21.33	19	-10.94

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
805	03_91H_036	NRSC		GL	4457	Lohit	Brahmaputra	China	21.33	19	-10.94
806	03_91H_007	NRSC		GL	4635	Lohit	Brahmaputra	China	31.50	28	-11.11
807	03_78E_025	NRSC		GL	4341	Puna Tsang Chhu	Brahmaputra	Bhutan	14.67	13	-11.36
808	03_91C_019	NRSC		GL	3858	Ø	Brahmaputra	China	49.67	44	-11.41
809	03_91H_001	NRSC		GL	4429	Lohit	Brahmaputra	China	17.00	15	-11.76
810	03_91H_034	NRSC		GL	4629	Lohit	Brahmaputra	China	13.67	12	-12.20
811	02_71P_026	NRSC	322G	GL	5340	Arun Kosi	Ganga	China	13.67	12	-12.20
812	03_91C_008	NRSC		GL	4899	Ø	Brahmaputra	China	20.50	18	-12.20
813	03_78A_011	NRSC		GL	5168	Amo Chhu	Brahmaputra	China	16.00	14	-12.50
814	02_62F_010	NRSC		GL	5502	Karnal	Ganga	Nepal	10.33	9	-12.90
815	02_71H_032	NRSC		GL	5116	Sun Kosi	Ganga	China	25.33	22	-13.16
816	03_77L_028	NRSC		GL	4632	Kuri Chhu	Brahmaputra	China	12.67	11	-13.16
817	03_78I_065	NRSC		GL	4668	Manas Chhu	Brahmaputra	Bhutan	12.67	11	-13.16

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
						&Mangde Chhu					
818	03_77L_023	NRSC		GL	5489	Kuri Chhu	Brahmaputra	China	30.00	26	-13.33
819	03_91G_007	NRSC		GL	4785	Lohit	Brahmaputra	China	11.67	10	-14.29
820	03_91D_075	NRSC		GL	4274	Dibang	Brahmaputra	India	21.00	18	-14.29
821	02_72I_013	NRSC	694G	GL	5497	Sun Kosi	Ganga	Nepal	17.67	15	-15.09
822	03_82N_029	NRSC		GL	4492	Ø	Brahmaputra	China	42.50	36	-15.29
823	02_71L_024	NRSC	245G	GL	5263	Sun Kosi	Ganga	China	26.00	22	-15.38
824	01_52A_003	NRSC		GL	4586	Shyok	Indus	India	21.33	18	-15.63
825	02_71P_030	NRSC	166G	GL	5329	Arun Kosi	Ganga	China	21.33	18	-15.63
826	03_71C_006	NRSC		GL	5482	Ø	Brahmaputra	China	19.00	16	-15.79
827	03_91C_023	NRSC		GL	4811	Lohit	Brahmaputra	China	16.67	14	-16.00
828	03_78E_016	NRSC		GL	5004	Ø	Brahmaputra	China	16.67	14	-16.00
829	03_91C_003	NRSC		GL	4703	Ø	Brahmaputra	China	31.00	26	-16.13

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
830	03_77H_016	NRSC		GL	4929	Ø	Brahmaputra	China	40.67	34	-16.39
831	01_53I_002	NRSC/SDC	26I/Very High Risk	GL	4273	Sutlej	Indus	India	30.00	25	-16.67
832	02_62J_001	NRSC		GL	5182	Karnal	Ganga	Nepal	6.00	5	-16.67
833	03_77L_075	NRSC		GL	4718	Manas Chhu &MangdeChhu	Brahmaputra	Bhutan	18.00	15	-16.67
834	03_83A_007	NRSC		GL	5028	Jia Brali	Brahmaputra	India	15.67	13	-17.02
835	03_78A_015	NRSC/SDC	Medium Risk	GL	4970	Teesta	Brahmaputra	India	9.67	8	-17.24
836	03_77L_045	NRSC		GL	5224	Kuri Chhu	Brahmaputra	China	32.67	27	-17.35
837	03_91H_003	NRSC		GL	4439	Lohit	Brahmaputra	China	13.33	11	-17.50
838	03_77L_049	NRSC		GL	4716	Puna Tsang Chhu	Brahmaputra	Bhutan	34.00	28	-17.65
839	02_71H_004	NRSC		GL	5239	Arun Kosi	Ganga	China	24.67	20	-18.92
840	03_78I_072	NRSC		GL	4788	Manas Chhu	Brahmaputra	Bhutan	12.33	10	-18.92

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
						&Mangde Chhu					
841	03_91D_082	NRSC		GL	4550	Lohit	Brahmaputra	China	34.67	28	-19.23
842	03_91G_009	NRSC		GL	4637	Lohit	Brahmaputra	China	17.33	14	-19.23
843	02_71H_011	NRSC	775G	GL	4509	Trisuli	Ganga	China	28.50	23	-19.30
844	03_78I_006	NRSC		GL	5158	Puna Tsang Chhu	Brahmaputra	Bhutan	21.33	17	-20.31
845	02_71P_036	NRSC	54G	GL	5121	Arun Kosi	Ganga	China	37.67	30	-20.35
846	02_62O_004	NRSC	299G	GL	5529	Kali Gandak	Ganga	Nepal	20.33	16	-21.31
847	03_77L_034	NRSC		GL	5500	Kuri Chhu	Brahmaputra	China	21.67	17	-21.54
848	03_71C_001	NRSC		GL	5543	Ø	Brahmaputra	China	7.67	6	-21.74
849	02_72M_012	NRSC	69G	GL	4932	TamurKosi	Ganga	Nepal	16.67	13	-22.00
850	02_71D_003	NRSC	67G	GL	3668	Trisuli	Ganga	Nepal	25.67	20	-22.08
851	03_71C_002	NRSC		GL	5663	Ø	Brahmaputra	China	9.00	7	-22.22

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
852	02_72M_003	NRSC	823G	GL	5608	Arun Kosi	Ganga	China	18.00	14	-22.22
853	03_91G_004	NRSC		GL	5262	Lohit	Brahmaputra	China	30.33	23	-24.18
854	03_82G_003	NRSC		GL	4936	Ø	Brahmaputra	China	17.33	13	-25.00
855	03_91C_006	NRSC		GL	5057	Ø	Brahmaputra	China	4.00	3	-25.00
856	02_72M_013	NRSC	518G	GL	5233	Arun Kosi	Ganga	Nepal	12.00	9	-25.00
857	02_78A_002	NRSC	668G	GL	5397	Arun Kosi	Ganga	China	13.33	10	-25.00
858	03_78A_023	NRSC		GL	4547	Teesta	Brahmaputra	India	28.67	21	-26.74
859	03_82N_032	NRSC		GL	4384	Ø	Brahmaputra	China	41.00	30	-26.83
860	03_82N_035	NRSC		GL	4479	Ø	Brahmaputra	China	20.50	15	-26.83
861	03_78I_014	NRSC		GL	5087	Puna Tsang Chhu	Brahmaputra	Bhutan	19.33	14	-27.59
862	03_62K_005	NRSC		GL	4999	Ø	Brahmaputra	China	22.33	16	-28.36
863	03_91C_015	NRSC		GL	4421	Ø	Brahmaputra	China	21.00	15	-28.57
864	02_72I_028	NRSC	146G	GL	4408	Sun Kosi	Ganga	Nepal	25.33	18	-28.95

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
865	03_77L_031	NRSC		GL	4698	Kuri Chhu	Brahmaputra	China	18.33	13	-29.09
866	03_91C_012	NRSC		GL	4663	Ø	Brahmaputra	China	17.00	12	-29.41
867	03_78A_016	NRSC		GL	5451	Teesta	Brahmaputra	India	11.33	8	-29.41
868	03_78E_018	NRSC		GL	5164	Ø	Brahmaputra	China	18.50	13	-29.73
869	03_78A_004	NRSC		GL	5456	Ø	Brahmaputra	China	23.33	16	-31.43
870	03_62J_004	NRSC		GL	5556	Ø	Brahmaputra	China	15.00	10	-33.33
871	03_82N_011	NRSC		GL	4997	Ø	Brahmaputra	China	21.00	14	-33.33
872	02_62K_006	NRSC	70G	GL	5053	Karnal	Ganga	Nepal	30.00	20	-33.33
873	02_71H_019	NRSC	92G	GL	4674	Trisuli	Ganga	China	15.00	10	-33.33
874	03_91G_005	NRSC		GL	5170	Lohit	Brahmaputra	China	10.50	7	-33.33
875	02_71P_041	NRSC	768G	GL	5064	Arun Kosi	Ganga	China	18.00	12	-33.33
876	03_77H_032	NRSC		GL	5056	Ø	Brahmaputra	China	9.00	6	-33.33
877	02_72I_005	NRSC	483G	GL	4715	Sun Kosi	Ganga	Nepal	24.50	16	-34.69
878	03_62K_006	NRSC		GL	5101	Ø	Brahmaputra	China	25.50	16	-37.25

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
879	03_77L_025	NRSC		GL	5370	Kuri Chhu	Brahmaputra	China	16.00	10	-37.50
880	03_78A_026	NRSC		GL	4736	Teesta	Brahmaputra	India	11.33	7	-38.24
881	03_78A_019	NRSC/SDC	Very High Risk	GL	4809	Teesta	Brahmaputra	India	11.33	7	-38.24
882	03_91C_026	NRSC		GL	4305	Dibang	Brahmaputra	India	24.50	15	-38.78
883	03_91G_003	NRSC		GL	5018	Lohit	Brahmaputra	China	20.00	12	-40.00
884	02_71H_034	NRSC	320G	GL	4745	Trisuli	Ganga	Nepal	16.67	10	-40.00
885	02_71P_032	NRSC	564G	GL	5190	Arun Kosi	Ganga	China	18.67	11	-41.07
886	03_91G_006	NRSC		GL	5028	Lohit	Brahmaputra	China	22.33	13	-41.79
887	03_62J_003	NRSC		GL	5553	Ø	Brahmaputra	China	10.67	6	-43.75
888	03_78I_022	NRSC		GL	5048	Manas Chhu &Mangde Chhu	Brahmaputra	Bhutan	14.33	8	-44.19
889	03_91G_001	NRSC		GL	5147	Ø	Brahmaputra	China	9.00	5	-44.44

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Base Area (Avg of pervious 3 months) (ha)	Area of September -2022 (ha)	Change in Area of September wrt Base month (%)
890	03_82N_016	NRSC		GL	5017	Ø	Brahmaputra	China	3.67	2	-45.45
891	02_72I_009	NRSC		GL	5292	Sun Kosi	Ganga	Nepal	17.33	9	-48.08
892	03_91C_043	NRSC		GL	4429	Ø	Brahmaputra	China	10.33	5	-51.61
893	02_71P_033	NRSC		GL	4888	Arun Kosi	Ganga	China	19.67	8	-59.32
894	03_91C_016	NRSC		GL	4813	Ø	Brahmaputra	China	13.00	4	-69.23
895	03_91C_007	NRSC		GL	4817	Ø	Brahmaputra	China	10.00	2	-80.00
896	03_91D_070	NRSC		GL	4126	Lohit	Brahmaputra	China	16.00	3	-81.25
897	02_62B_007	NRSC		GL	4839	Sarda	Ganga	India	0.00	#	#
898	01_52P_004	NRSC		GL	5470	Indus	Indus	China	0.00	0	#
899	03_91C_013	NRSC		GL	4925	Ø	Brahmaputra	China	0.00	#	#
900	03_91C_036	NRSC		GL	4298	Ø	Brahmaputra	China	0.00	#	#
901	03_91D_096	NRSC		GL	3794	Lohit	Brahmaputra	China	0.00	#	#
902	03_77L_040	NRSC		GL	4515	Puna Tsang Chhu	Brahmaputra	Bhutan	0.00	#	#

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

- Unobservable (as per NRSC) , Ø indicates small rivulet/first order stream, #indicates frozen/ dried lakes