सत्यमेव जयते

Monthly Monitoring Report

of

Glacial Lakes & Water Bodies in the Himalayan Region of Indian River Basins

(July, 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 regionand 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 July, 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 floods (GLOFs) 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 crucialin this region.

Remote sensing technique being the most cost effective and reliable approach especially for remote and difficult to access terrain, has been appliedfor detecting water spread area of such lakes. For analysing and processing large number ofremote sensed satellite imageries,Google Earth Engine (GEE), which is anopen-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-housein GEE. The detailed methodology is included in this report.

For the month of July, 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 14859 satellite images in the month of July, 2022. From disaster point of view, the base year, average area for last 5 and 10 years, has been considered to determine the change. However, for 424 Glacial Lakes having size upto 10 ha or even smallerthe change in water spread area has been calculated with respect to June, 2022. 8 Glacial Lakes have shown an increase in water spread area greater than 40% requiring vigorous monitoring. 5 are in TAR, 1 is in Nepal and 2 are in India. The 2 GLs in India are in Sikkim and Ladakh.

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 potentialdependingupon many factors like the nature of the damming materials, the position of the lake, the volume of the water, the nature and position ofthe 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 hascontributed significantly to the acquisition of Earth’s resources, thus helping in their better management. SRSplays 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 andGlacial Lakes.

1.3 Objectives

The broadobjectives of the study are

- To monitor the spatial extent in terms of water spread area of the Glacial Lakess& water bodies on monthly basis during June to October.
- To detect changes in water spread area of GL&WBswith 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 theGL&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 477Glacial 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 inventoryandfew more Glacial Lakes of sizeeven smaller than 10 ha as identified by SDC have also been includedfor monitoring. The breakup of Glacial Lakes and Water Bodies is shown in Figure 1.

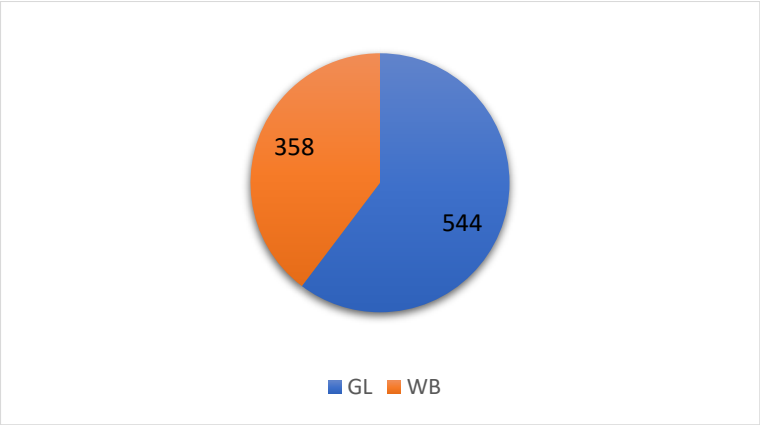

FIGURE 1: LAKE TYPE DISTRIBUTION

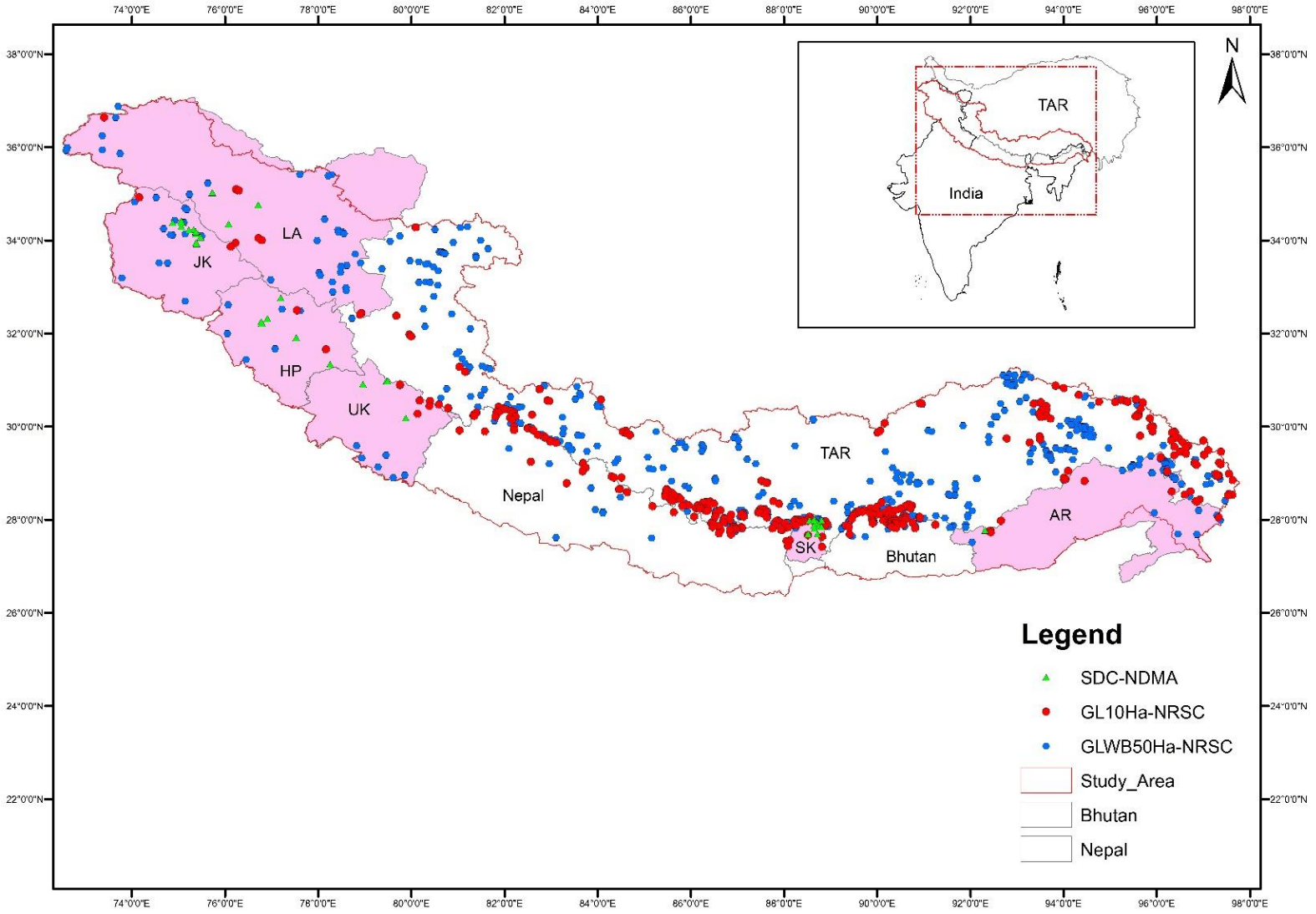

FIGURE 2: LOCATIONS OF GLACIAL LAKES & WATER BODIES IN THE STUDY AREA

2.2 Satellite Data Used

2.2.1 Sentinel-2 MSI

Itis 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 July-2022 were 14859. Out of which,9005 are Multispectral images and 5854 were Microwave images as shown inFigure 3.

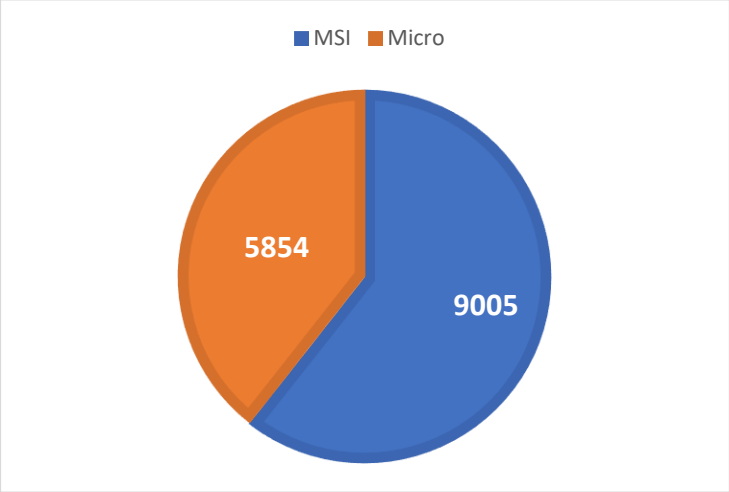

FIGURE 3: ANALYSED SATELLITE IMAGES DISTRIBUTION

3. Methodology

Google Earth Engine (GEE) being a planetary-scale platform for Earth science data &analysishas 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 pixelsin the region of interest.

It has also been observed that some lakes 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 mayl ead 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.

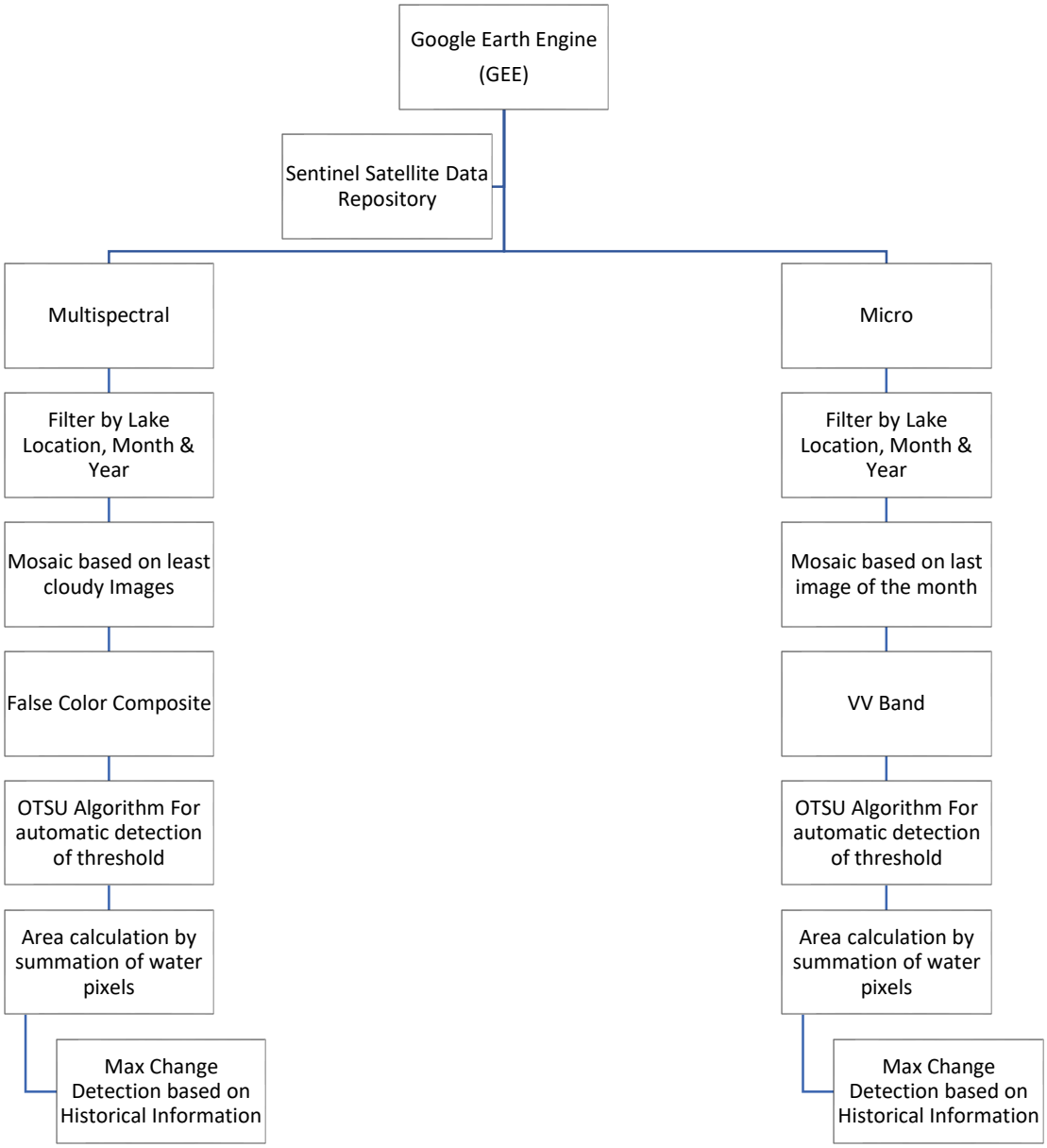

FIGURE 4: METHODOLOGY OF AUTOMATIC MONITORING OF GLACIAL LAKES & WATER BODIES USING SATELLITE IMAGES

4. Results

The water spread area of 902Glacial Lakes& water bodies was calculated for the month of July 2022 in an 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 July,2022 andmaximumdetectedchange in water spread area with respect to base year, last 5 years average area& last 10 years average area is shown inTable 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.

Theremaining424Glacial Lakeshaving size up to 10 ha or smallerwere monitored from this yearand their change detection with respect to June,2022 was calculated. The water spread area for such lakes in the month of July,2022 is shown in

TABLE 7 TO

Table 7.

It was observed that 231 GL&WBs have shown increase in water spread area,312 have shown decrease in water spread area, 275 have shown no changein water spread area and change detection for remainingGlacial Lakescould not beperformed.The same is shown in Figure 5.

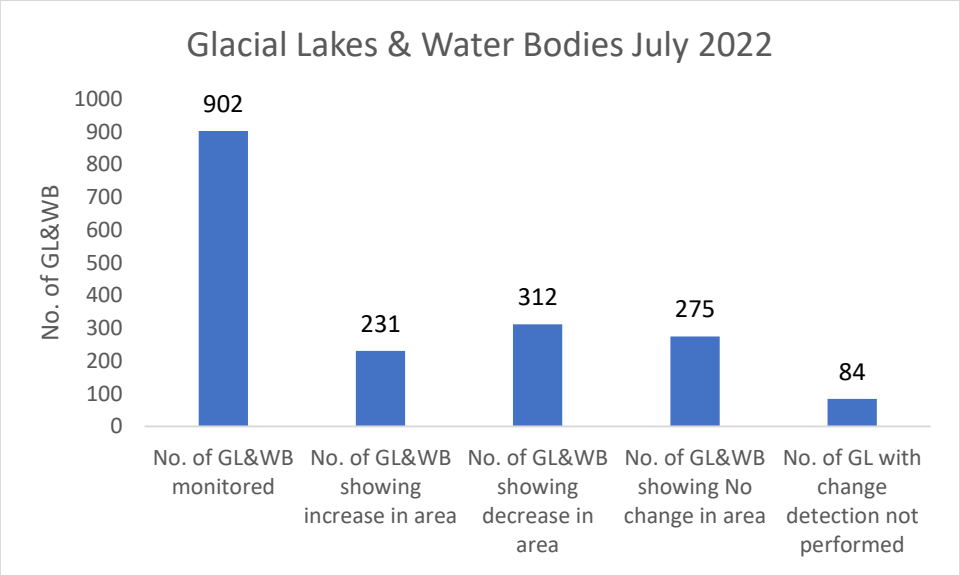

FIGURE 5: OVERALL CHANGES IN WATER SPREAD AREA OF GL&WBS FOR JULY, 2022

5. Conclusions

- 4Glacial Lakes of size greater than 50 ha are requiredto be **vigorously monitored** for disaster purpose. These lakeshaveshownincrease in water spread area greater than 40%. 3 are in TARand 1 in India. The GL lying in Indiais inSikkim. The details of these lakes have been highlighted in yellow colorinTable 1.

4GLACIAL LAKES OF SIZE GREATER THAN 10 HABUT SMALLER THAN 50 HA ARE REQUIREDTO BE VIGOROUSLY MONITORED FOR DISASTER PURPOSE. THESE LAKES HAVE SHOWN INCREASE IN WATER SPREAD AREA GREATER THAN 40%. 2 ARE IN TAR, 1 IN NEPAL AND 1 IN INDIA. THE GL LYING IN INDIA IS IN INDUS BASIN. THE DETAILS OF THESE LAKES HAVE BEEN HIGHLIGHTED IN YELLOW COLORIN

- Table 7.
- Out of 12 Glacial Lakes identified in June,2022for vigorously monitoring, 11 GLs are found to be stable as per current anlaysis and only 1 requires vigorously monitoring.The stable lakes have been highlighted in orangecolor inTable 2 toTable 5.
- Google Earth Engine (GEE) has been proved to be a very useful and efficient tool in processing large information of 12853 and14859satellite images in month of June and July,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 Lakes in all types of weather conditions. This has further increased availability of satellite images atshorter frequency interval, which willfacilitate in reducing the monitoring interval in near future.
- The use of Sentinel satellite image has increased the spatial resolution from 56mto 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	Updated Area of June-2022 (ha)	Area of July-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 July (%)
1	01_61C_010	NRSC	-	CH_38	4495	WB	Indus	Indus	China	395	395	94	118	121	226
2	03_82O_047	NRSC	-	CH_1039	3574	WB	Brahmaputra	Dihang	China	37	44	-	8	16	175
3	03_82O_044	NRSC	-	CH_1037	3552	WB	Brahmaputra	Dihang	China	93	93	-	-	35	166
4	03_91C_074	NRSC	-	CH_1102	4258	GL	Brahmaputra	Dibang	China	#	52	-	17	21	148
5	03_91H_017	NRSC	-	CH_1182	4590	WB	Brahmaputra	Lohit	China	43	43	-	14	18	139
6	03_78I_085	NRSC	-	BH_166	4764	WB	Brahmaputra	Puna Tsang Chhu	Bhutan	72	72	-	12	31	132
7	03_91C_049	NRSC	-	AP_95	4261	WB	Brahmaputra	Dibang	India	74	74	-	15	32	131

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
8	03_82K_042	NRSC	-	CH_898	4364	WB	Brahmaputra	Ø	China	192	192	-	35	85	126
9	03_82K_049	NRSC	-	CH_905	4180	WB	Brahmaputra	Ø	China	45	45	-	18	21	114
10	03_82K_040	NRSC	-	CH_896	4329	WB	Brahmaputra	Ø	China	56	56	-	23	27	107
11	03_92A_005	NRSC	-	AP_203	3391	WB	Brahmaputra	Lohit	India	52	52	-	17	27	93
12	03_91C_070	NRSC	-	CH_1098	4252	WB	Brahmaputra	Dibang	China	59	55	-	21	29	90
13	03_91C_005	NRSC	-	CH_1056	4926	GL	Brahmaputra	Ø	China	#	94	-	16	50	88
14	03_91C_078	NRSC	-	CH_1106	3694	WB	Brahmaputra	Dibang	China	48	48	-	26	26	85
15	03_82K_103	NRSC	-	CH_959	3964	WB	Brahmaputra	Ø	China	41	41	-	15	23	78

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
16	03_82K_045	NRSC	-	CH_901	4572	WB	Brahmaputra	Ø	China	49	49	-	28	25	75
17	03_82J_024	NRSC	-	CH_854	4362	WB	Brahmaputra	Ø	China	65	65	-	25	38	71
18	03_91D_080	NRSC	-	CH_1135	4295	WB	Brahmaputra	Lohit	China	49	42	-	25	20	68
19	03_82K_007	NRSC	-	CH_863	4294	WB	Brahmaputra	Ø	China	130	130	-	49	79	65
20	03_82F_016	NRSC	-	CH_741	4632	WB	Brahmaputra	Ø	China	49	49	-	28	31	58
21	03_91H_011	NRSC	-	CH_1176	4494	WB	Brahmaputra	Lohit	China	57	57	-	37	32	54
22	03_78A_021	NRSC	-	SK_26	5431	GL	Brahmaputra	Teesta	India	86	86	56	53	50	54
23	03_91C_042	NRSC	-	AP_89	4531	WB	Brahmaputra	Dibang	India	54	49	-	19	32	53

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
24	03_82N_019	NRSC	-	CH_990	4877	WB	Brahmaputra	Ø	China	59	59	-	39	39	51
25	03_91D_009	NRSC	-	AP_108	4037	WB	Brahmaputra	Dibang	India	53	53	-	37	30	43
26	03_77P_023	NRSC	-	CH_593	4235	WB	Brahmaputra	KuriChhu	China	71	71	-	50	43	42
27	03_82J_019	NRSC	-	CH_849	3944	GL	Brahmaputra	Ø	China	#	90	-	64	52	41

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	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
28	03_82G_065	NRSC	-	CH_826	4148	WB	Brahmaputra	Ø	China	42	82	-	55	59	39
29	02_71P_054	NRSC	-	CH_242	4859	-	Ganga	Arun Kosi	China	102	101	-	76	75	33
30	03_91C_059	NRSC	-	CH_1089	4303	WB	Brahmaputra	Dibang	China	#	100	-	76	72	32
31	03_82O_062	NRSC	-	AP_55	3612	WB	Brahmaputra	Dibang	India	55	55	42	9	24	31
32	02_62J_003	NRSC	254G	NP_19	4854	WB	Ganga	Karnal	Nepal	57	59	-	45	42	31
33	03_82O_064	NRSC	-	AP_57	3689	WB	Brahmaputra	Dihang	India	47	48	-	37	31	30
34	03_77L_010	NRSC	-	CH_526	4457	WB	Brahmaputra	Ø	China	52	52	-	40	37	30
35	03_62J	NRSC	-	CH_298	5078	GL	Brahma	Ø	China	136	160	115	123	116	30

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
	_026						putra								
36	03_91H_010	NRSC	-	CH_1175	4433	WB	Brahmaputra	Lohit	China	94	94	-	73	66	29
37	03_78M_010	NRSC	-	BH_188	4496	WB	Brahmaputra	Dangme Chhu	Bhutan	35	45	-	35	33	29
38	03_82N_030	NRSC	-	CH_1001	4462	GL	Brahmaputra	Ø	China	136	136	-	106	100	28
39	03_77L_033	NRSC	-	BH_13	5176	GL	Brahmaputra	Ø	Bhutan	232	252	186	197	185	28
40	03_82G_060	NRSC	-	CH_821	4577	WB	Brahmaputra	Ø	China	56	56	-	34	44	27
41	03_82J_008	NRSC	-	CH_838	4036	GL	Brahmaputra	Ø	China	208	211	166	167	165	26
42	03_91D_010	NRSC	-	AP_109	3323	WB	Brahmaputra	Dibang	India	52	50	-	40	34	25
43	02_71P_029	NRSC	43G	CH_217	5045	GL	Ganga	Arun Kosi	China	105	126	76	102	82	24

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
44	03_91C_069	NRSC	-	AP_101	3245	WB	Brahmaputra	Dibang	India	48	89	72	46	45	24
45	03_77L_066	NRSC	-	BH_34	4896	GL	Brahmaputra	Manas Chhu& MangdeChhu	Bhutan	162	165	134	132	133	23
46	01_52H_004	NRSC	-	HP_5	4155	GL	Indus	Chenab	India	157	173	-	142	114	22
47	03_91H_040	NRSC	-	CH_1205	4324	WB	Brahmaputra	Lohit	China	55	55	-	45	41	22
48	02_71H_012	NRSC	-	CH_132	5379	GL	Ganga	Arun Kosi	China	#	158	-	129	120	22
49	03_78M_022	NRSC	-	BH_197	4549	WB	Brahmaputra	Dangme Chhu	Bhutan	68	68	-	54	56	21
50	03_71G_013	NRSC	-	CH_422	4543	WB	Brahmaputra	Ø	China	250	334	228	277	250	21
51	03_82P	NRSC	-	AP_67	1676	WB	Brahma	Dibang	India	57	98	-	81	68	21

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
	_010						putra								
52	03_71C_011	NRSC	-	CH_404	4684	WB	Brahmaputra	Ø	China	183	183	127	153	138	20
53	03_91C_038	NRSC	-	AP_85	4002	WB	Brahmaputra	Dibang	India	102	102	-	73	85	20
54	03_77L_043	NRSC	-	CH_552	5200	GL	Brahmaputra	KuriChhu	China	227	227	178	188	189	20
55	03_82K_017	NRSC	-	CH_873	4397	WB	Brahmaputra	Ø	China	172	185	-	146	155	19
56	03_62O_042	NRSC	-	CH_387	4964	WB	Brahmaputra	Ø	China	62	69	58	56	55	19
57	02_71P_040	NRSC	126G	CH_228	4962	WB	Ganga	Arun Kosi	China	150	155	131	129	115	18
58	01_61C_011	NRSC	-	CH_39	4494	WB	Indus	Indus	China	500	634	434	539	472	18
59	03_82O_061	NRSC	-	AP_54	3811	WB	Brahmaputra	Dibang	India	73	55	47	41	44	17

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
60	03_77H_023	NRSC	-	CH_492	5313	WB	Brahmaputra	Ø	China	48	48	-	41	33	17
61	02_78A_004	NRSC	194G	CH_270	5603	GL	Ganga	Arun Kosi	China	123	119	85	102	95	17
62	03_78M_020	NRSC	-	BH_195	4157	WB	Brahmaputra	Dangme Chhu	Bhutan	67	69	59	54	56	17
63	03_82K_002	NRSC	-	CH_858	3998	WB	Brahmaputra	Ø	China	74	66	57	50	44	16
64	03_82B_028	NRSC	-	CH_654	4998	WB	Brahmaputra	Ø	China	55	52	-	45	40	16
65	03_78E_026	NRSC	-	CH_613	5161	GL	Brahmaputra	Amo Chhu	China	59	50	-	43	43	16
66	02_62F_019	NRSC	144G	NP_12	5039	WB	Ganga	Karnal	Nepal	74	74	56	64	59	16
67	03_77L_014	NRSC	-	CH_530	5289	WB	Brahmaputra	Ø	China	43	43	-	37	36	16

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
68	03_91D_107	NRSC	-	AP_163	3769	WB	Brahmaputra	Lohit	India	107	62	-	49	54	15
69	03_77H_003	NRSC	-	CH_478	4714	WB	Brahmaputra	Ø	China	210	265	231	148	145	15
70	02_71L_010	NRSC	185G	CH_165	5387	GL	Ganga	Sun Kosi	China	62	61	-	53	46	15
71	02_72I_025	NRSC	66G	NP_78	4884	GL	Ganga	Sun Kosi	Nepal	132	145	102	126	111	15
72	03_77L_042	NRSC	-	CH_551	5057	GL	Brahmaputra	KuriChhu	China	71	71	62	61	60	15
73	03_92E_001	NRSC	-	AP_206	4206	WB	Brahmaputra	Lohit	India	49	49	-	43	30	14
74	03_82G_055	NRSC	-	CH_816	4619	WB	Brahmaputra	Ø	China	49	49	-	31	43	14
75	03_91D_022	NRSC	-	AP_118	3143	WB	Brahmaputra	Dibang	India	#	41	-	36	30	14

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
76	03_78I_051	NRSC	-	BH_132	5074	GL	Brahmaputra	ManasChhu&MangdeChhu	Bhutan	127	127	112	88	95	13
77	03_78I_023	NRSC	-	BH_104	5055	GL	Brahmaputra	ManasChhu&MangdeChhu	Bhutan	59	59	52	48	44	13
78	03_91C_014	NRSC	-	CH_1065	4033	GL	Brahmaputra	Ø	China	53	51	-	45	42	13
79	03_82F_022	NRSC	-	CH_747	4200	GL	Brahmaputra	Ø	China	110	111	98	89	93	13
80	03_62O_040	NRSC	-	CH_385	4896	WB	Brahmaputra	Ø	China	135	135	112	119	113	13
81	03_62J_032	NRSC	-	CH_304	4857	GL	Brahmaputra	Ø	China	91	101	89	89	82	13
82	03_82N	NRSC	-	CH_975	4290	GL	Brahma	Ø	China	124	118	106	71	75	11

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
	_004						putra								
83	02_77D_009	NRSC	71G	CH_264	5296	GL	Ganga	Arun Kosi	China	62	62	56	46	44	11
84	03_78A_014	NRSC/SDC	/Very High Risk	SK_20	5234	GL	Brahmaputra	Teesta	India	154	156	132	140	125	11
85	01_43K_010	NRSC	-	JK_111	3946	WB	Indus	Jhelum	India	72	72	65	60	60	11
86	03_91C_052	NRSC	-	CH_1085	4591	WB	Brahmaputra	Lohit	China	#	42	-	34	38	11
87	03_82B_021	NRSC	-	CH_647	5041	WB	Brahmaputra	Ø	China	57	57	52	44	39	10
88	02_71P_043	NRSC	18G	CH_231	5206	GL	Ganga	Arun Kosi	China	86	85	66	77	64	10
89	03_82G_051	NRSC	-	CH_812	4735	WB	Brahmaputra	Ø	China	46	46	-	42	35	10
90	03_62J	NRSC	-	CH_303	4897	GL	Brahma	Ø	China	224	240	174	218	192	10

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
	_031						putra								
91	02_72I_011	NRSC	1G	NP_64	5034	GL	Ganga	Sun Kosi	Nepal	169	174	103	160	130	9
92	02_77D_008	NRSC	266G	CH_263	5285	GL	Ganga	Arun Kosi	China	49	47	-	43	34	9
93	02_71P_047	NRSC	81G	CH_235	5614	GL	Ganga	Arun Kosi	China	95	94	82	86	72	9
94	03_71K_003	NRSC	-	CH_426	4982	WB	Brahmaputra	Ø	China	95	95	73	87	76	9
95	03_77L_044	NRSC	-	BH_19	4385	GL	Brahmaputra	Puna Tsang Chhu	Bhutan	133	132	121	103	110	9
96	03_78M_019	NRSC	-	BH_194	4697	WB	Brahmaputra	Dangme Chhu	Bhutan	56	49	-	45	45	9
97	03_77P_009	NRSC	-	CH_580	5086	WB	Brahmaputra	Ø	China	118	116	104	106	100	9
98	03_77L	NRSC	-	BH_40	5201	GL	Brahma	Manas	Bhutan	77	96	88	79	82	9

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
	_072						putra	Chhu& MangdeChhu							
99	02_71H_029	NRSC	1G	CH_149	5098	GL	Ganga	Sun Kosi	China	524	524	484	411	452	8
100	02_72I_027	NRSC	41G	NP_80	4977	GL	Ganga	Sun Kosi	Nepal	88	84	78	73	73	8
101	03_71G_011	NRSC	-	CH_420	4619	WB	Brahma putra	Ø	China	1339	1581	1236	1461	1318	8
102	03_91C_064	NRSC	-	AP_100	3972	WB	Brahma putra	Dibang	India	64	78	-	72	65	8
103	02_71P_016	NRSC	-	CH_204	4182	WB	Ganga	Arun Kosi	China	163	162	151	139	124	7
104	01_43N_027	NRSC	-	JK_154	3683	WB	Indus	Jhelum	India	47	47	-	44	38	7
105	02_72M_007	NRSC	33G	CH_253	4950	GL	Ganga	Arun Kosi	China	105	104	88	97	89	7

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
106	03_82G_035	NRSC	-	CH_796	4386	WB	Brahmaputra	Ø	China	86	94	80	88	74	7
107	03_82K_074	NRSC	-	CH_930	4553	WB	Brahmaputra	Ø	China	73	73	-	68	64	7
108	03_77L_017	NRSC	-	CH_533	5340	WB	Brahmaputra	Ø	China	81	81	76	75	71	7
109	03_78E_009	NRSC	-	CH_605	4580	WB	Brahmaputra	Ø	China	168	188	176	168	164	7
110	03_82O_016	NRSC	-	CH_1023	4374	WB	Brahmaputra	Dihang	China	99	100	94	21	41	6
111	03_82O_029	NRSC	-	CH_1032	3345	WB	Brahmaputra	Dihang	China	72	72	68	44	45	6
112	03_82K_020	NRSC	-	CH_876	4364	WB	Brahmaputra	Ø	China	76	90	85	48	54	6
113	02_72I_023	NRSC	227G	NP_76	5232	GL	Ganga	Sun Kosi	Nepal	88	87	82	70	72	6

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
114	01_61C_002	NRSC	-	CH_30	4494	WB	Indus	Indus	China	865	875	717	822	779	6
115	02_72M_005	NRSC	139G	CH_251	5141	GL	Ganga	Arun Kosi	China	81	84	79	78	69	6
116	01_62E_005	NRSC	-	CH_80	5174	WB	Indus	Indus	China	207	210	193	198	187	6
117	03_82K_080	NRSC	-	CH_936	4530	WB	Brahmaputra	Ø	China	40	52	-	49	37	6
118	03_71G_014	NRSC	-	CH_423	4606	WB	Brahmaputra	Ø	China	148	235	139	222	181	6
119	03_77L_001	NRSC	-	CH_520	4443	WB	Brahmaputra	Ø	China	56718	60023	56442	54547	54439	6
120	02_71L_001	NRSC	-	CH_156	5106	WB	Ganga	Arun Kosi	China	80	90	81	85	82	6
121	02_71L_004	NRSC	5G	CH_159	5518	GL	Ganga	Arun Kosi	China	120	120	78	114	92	5

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
122	03_91C_044	NRSC	-	AP_90	4230	WB	Brahmaputra	Lohit	India	67	67	64	52	52	5
123	02_71P_028	NRSC	-	CH_216	4997	GL	Ganga	Arun Kosi	China	56	64	44	58	61	5
124	02_71H_003	NRSC	-	CH_123	4649	WB	Ganga	Arun Kosi	China	230	230	193	220	211	5
125	02_72M_009	NRSC	51G	NP_86	4932	GL	Ganga	TamurKosi	Nepal	65	67	-	64	56	5
126	01_61G_002	NRSC	-	CH_63	4663	WB	Indus	Indus	China	1378	1379	1218	1308	1264	5
127	03_82A_007	NRSC	-	CH_626	4911	WB	Brahmaputra	Ø	China	98	98	87	93	88	5
128	03_78E_010	NRSC	-	CH_606	4582	WB	Brahmaputra	Ø	China	41	45	-	43	37	5
129	01_61C_014	NRSC	-	CH_42	4279	WB	Indus	Indus	China	326	326	305	311	298	5

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
130	02_71L_023	NRSC	39G	CH_178	5106	GL	Ganga	Arun Kosi	China	132	134	124	128	121	5
131	03_77D_003	NRSC	-	SK_3	5098	WB	Brahmaputra	Teesta	India	99	102	97	93	91	5
132	02_71H_028	NRSC	15G	CH_148	5174	WB	Ganga	Sun Kosi	China	205	205	194	194	195	5
133	01_62E_006	NRSC	-	CH_81	5055	WB	Indus	Indus	China	537	546	516	522	506	5
134	03_78A_018	NRSC	-	CH_598	4880	WB	Brahmaputra	Amo Chhu	China	56	55	53	17	30	4
135	03_82K_037	NRSC	-	CH_893	4147	WB	Brahmaputra	Ø	China	57	57	55	21	30	4
136	03_78E_007	NRSC	-	BH_60	5008	GL	Brahmaputra	Puna Tsang Chhu	Bhutan	70	70	67	47	52	4
137	01_62F_010	NRSC	9I	CH_101	5250	GL	Indus	Sutlej	China	71	70	-	67	53	4

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
138	03_91D_041	NRSC	-	AP_135	3526	WB	Brahmaputra	Dibang	India	114	114	110	103	85	4
139	02_71L_028	NRSC	38G	CH_183	5027	GL	Ganga	Sun Kosi	China	104	102	82	98	91	4
140	03_82K_075	NRSC	-	CH_931	4511	WB	Brahmaputra	Ø	China	121	125	-	120	102	4
141	01_43N_022	NRSC	-	JK_149	4243	WB	Indus	Jhelum	India	77	77	74	72	68	4
142	03_77L_013	NRSC	-	CH_529	5191	WB	Brahmaputra	Ø	China	355	355	342	327	315	4
143	03_82B_002	NRSC	-	CH_628	4906	WB	Brahmaputra	Ø	China	455	465	449	436	422	4
144	01_61C_015	NRSC	-	CH_43	4280	WB	Indus	Indus	China	816	866	777	832	770	4
145	01_62E_003	NRSC	-	CH_78	5104	WB	Indus	Indus	China	155	163	148	157	148	4

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
146	03_77P_005	NRSC	-	CH_576	4619	WB	Brahmaputra	Ø	China	#	114	110	95	97	4
147	03_91H_005	NRSC	-	CH_1170	4123	WB	Brahmaputra	Lohit	China	62	62	56	60	46	3
148	01_62E_004	NRSC	-	CH_79	5161	WB	Indus	Indus	China	260	256	227	248	238	3
149	02_72I_014	NRSC	6G	NP_67	4574	GL	Ganga	Sun Kosi	Nepal	167	169	149	164	163	3
150	03_62O_041	NRSC	-	CH_386	4963	WB	Brahmaputra	Ø	China	219	220	208	214	205	3
151	01_52K_004	NRSC	-	JK_212	4293	WB	Indus	Shyok	India	5842	5978	5797	5817	5737	3
152	03_71G_007	NRSC	-	CH_416	5153	WB	Brahmaputra	Ø	China	187	194	188	189	187	3
153	03_91C_040	NRSC	-	AP_87	4450	WB	Brahmaputra	Lohit	India	#	73	-	71	60	3

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
154	03_78E_017	NRSC	-	CH_609	5253	GL	Brahmaputra	Ø	China	47	47	-	38	46	2
155	02_72I_003	NRSC	319G	NP_59	4762	GL	Ganga	Sun Kosi	Nepal	42	43	-	42	36	2
156	03_82E_002	NRSC	-	CH_720	5008	WB	Brahmaputra	Ø	China	720	718	675	701	613	2
157	02_71L_006	NRSC	3G	CH_161	5365	GL	Ganga	Arun Kosi	China	387	387	372	380	341	2
158	03_82B_015	NRSC	-	CH_641	5124	WB	Brahmaputra	Ø	China	86	86	84	78	76	2
159	01_61C_022	NRSC	-	CH_50	4339	WB	Indus	Indus	China	1610	1584	1494	1560	1459	2
160	02_71L_013	NRSC	58G	CH_168	5324	GL	Ganga	Sun Kosi	China	60	60	57	59	56	2
161	03_62N_009	NRSC	-	CH_326	5241	WB	Brahmaputra	Ø	China	298	298	289	292	280	2

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
162	03_77L_012	NRSC	-	CH_528	5014	WB	Brahmaputra	Ø	China	29417	29756	28995	29060	28965	2
163	03_62J_012	NRSC	-	CH_284	4883	WB	Brahmaputra	Ø	China	154	171	164	168	159	2
164	02_72M_016	NRSC	7G	NP_92	4572	GL	Ganga	Arun Kosi	Nepal	231	201	139	199	163	1
165	03_82C_010	NRSC	-	CH_665	4921	WB	Brahmaputra	Ø	China	150	150	149	120	128	1
166	03_82G_023	NRSC	-	CH_784	4377	WB	Brahmaputra	Ø	China	77	77	76	70	65	1
167	03_62J_011	NRSC	-	CH_283	5181	WB	Brahmaputra	Ø	China	398	382	355	380	365	1
168	01_43N_001	NRSC	-	JK_128	4142	WB	Indus	Shingo (Indus)	India	132	132	131	124	122	1
169	01_42H_001	NRSC	-	JK_1	4292	WB	Indus	Gilgit	India	270	270	264	268	254	1

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
170	03_82J_023	NRSC	-	CH_853	4315	WB	Brahmaputra	Ø	China	104	104	101	103	99	1
171	01_52O_001	NRSC	-	CH_4	4242	WB	Indus	Shyok	China	68957	68755	66075	67960	66500	1
172	01_61C_001	NRSC	-	CH_29	4526	WB	Indus	Indus	China	11732	11712	11304	11562	11424	1
173	02_71H_002	NRSC	-	CH_122	4650	WB	Ganga	Arun Kosi	China	2448	2497	2353	2466	2390	1
174	02_71H_008	NRSC	-	CH_128	5152	GL	Ganga	Arun Kosi	China	103	110	99	109	101	1
175	02_71H_015	NRSC	-	CH_135	5367	GL	Ganga	Arun Kosi	China	545	545	540	537	524	1
176	01_52J_006	NRSC	-	JK_202	5401	WB	Indus	Shyok	India	104	108	107	104	100	1
177	03_77K_015	NRSC	-	CH_517	4455	WB	Brahmaputra	Ø	China	109	109	106	108	106	1

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
178	01_62F_003	NRSC	-	CH_94	4586	WB	Indus	Sutlej	China	41749	41492	40806	41185	41037	1
179	03_82F_004	NRSC	-	CH_729	4508	WB	Brahmaputra	Ø	China	700	718	713	701	690	1
180	01_52L_002	NRSC	-	JK_226	4986	WB	Indus	Indus	India	400	428	406	423	408	1

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	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
181	01_52H_005	NRSC	-	HP_6	4286	WB	Indus	Chenab	India	60	43	-	43	38	0
182	03_82G_019	NRSC	-	CH_780	4460	WB	Brahmaputra	Ø	China	58	58	58	40	47	0
183	02_71D_004	NRSC	16G	NP_45	4064	GL	Ganga	Trisuli	Nepal	100	98	75	98	90	0
184	03_82J_005	NRSC	-	CH_835	4134	GL	Brahmaputra	Ø	China	74	74	74	58	60	0
185	03_82G_024	NRSC	-	CH_785	4647	WB	Brahmaputra	Ø	China	97	108	108	78	76	0
186	02_71P_015	NRSC	-	CH_203	4153	WB	Ganga	Arun Kosi	China	1211	1059	1031	1059	950	0
187	03_82F_014	NRSC	-	CH_739	4691	GL	Brahmaputra	Ø	China	44	45	-	45	35	0
188	03_78	NRSC	-	CH_614	4459	WB	Brahma	Dangm	China	209	215	215	168	186	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
	M_003						putra	e Chhu							
189	02_53O_001	NRSC	-	UK_4	1968	WB	Ganga	Ramganga	India	40	40	-	40	33	0
190	02_71L_026	NRSC	73G	CH_181	5057	GL	Ganga	Sun Kosi	China	68	67	56	67	62	0
191	01_61B_003	NRSC	-	CH_28	5074	WB	Indus	Indus	China	232	217	218	193	196	0
192	02_71P_022	NRSC	34G	CH_210	5439	GL	Ganga	Arun Kosi	China	84	82	82	82	70	0
193	03_78E_029	NRSC	-	BH_73	4250	WB	Brahmaputra	Puna Tsang Chhu	Bhutan	33	33	-	33	28	0
194	03_82G_050	NRSC	-	CH_811	4734	WB	Brahmaputra	Ø	China	40	40	-	40	34	0
195	03_78E_023	NRSC	-	CH_612	5291	GL	Brahmaputra	Ø	China	56	56	-	48	56	0
196	03_62O	NRSC	-	CH_383	4893	WB	Brahma	Ø	China	143	136	128	136	130	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
	_038						putra								
197	01_43N_020	NRSC	-	JK_147	4112	WB	Indus	Jhelum	India	65	65	65	61	58	0
198	03_71O_006	NRSC	-	CH_442	4738	WB	Brahmaputra	Ø	China	115	115	104	115	109	0
199	03_82L_009	NRSC	-	CH_971	3893	GL	Brahmaputra	Ø	China	60	60	55	60	54	0
200	01_52K_010	NRSC	-	JK_218	5313	WB	Indus	Shyok	India	150	148	148	140	136	0
201	01_61C_024	NRSC	-	CH_52	4323	WB	Indus	Indus	China	5153	5121	4733	5107	4842	0
202	02_72M_006	NRSC	349G	CH_252	5188	GL	Ganga	Arun Kosi	China	65	66	64	66	61	0
203	01_52N_001	NRSC	-	CH_3	4964	WB	Indus	Indus	China	12246	12256	11883	12283	12099	0
204	03_62J_013	NRSC	-	CH_285	4934	WB	Brahmaputra	Ø	China	910	932	935	933	911	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
205	01_61F_004	NRSC	-	CH_61	4814	WB	Indus	Indus	China	35372	39077	37181	39073	38352	0

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 HATHAT 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	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
206	01_61C_005	NRSC	-	CH_33	4495	WB	Indus	Indus	China	288	380	153	384	279	-1
207	03_77D_002	NRSC	-	SK_2	5156	GL	Brahmaputra	Teesta	India	116	111	112	101	96	-1
208	02_78A_003	NRSC	24G	CH_269	5522	GL	Ganga	Arun Kosi	China	150	150	131	152	137	-1
209	01_43N_030	NRSC	-	JK_157	3799	WB	Indus	Jhelum	India	86	86	87	76	77	-1
210	03_82A_002	NRSC	-	CH_621	4905	WB	Brahmaputra	Ø	China	394	380	351	382	355	-1
211	01_52K_014	NRSC	-	JK_222	4535	WB	Indus	Indus	India	442	442	446	413	410	-1
212	01_52J_001	NRSC	8I	JK_197	5311	GL	Indus	Shyok	India	98	103	104	96	92	-1
213	03_71O	NRSC	-	CH_445	4302	WB	Brahma	Ø	China	2209	2198	2111	2210	2129	-1

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
	_009						putra								
214	03_82K_077	NRSC	-	CH_933	4590	WB	Brahmaputra	Ø	China	98	98	-	99	94	-1
215	03_82E_007	NRSC	-	CH_725	5043	WB	Brahmaputra	Ø	China	67	67	68	68	65	-1
216	01_61F_003	NRSC	-	CH_60	5256	WB	Indus	Indus	China	524	562	565	536	512	-1
217	03_62N_001	NRSC	-	CH_318	5102	WB	Brahmaputra	Ø	China	14434	14739	14352	14856	14616	-1
218	03_82D_004	NRSC	-	CH_710	4481	WB	Brahmaputra	Ø	China	372	380	375	382	372	-1
219	03_62J_001	NRSC	-	CH_273	5449	WB	Brahmaputra	Ø	China	136	149	151	143	140	-1
220	03_71B_002	NRSC	-	CH_392	5388	WB	Brahmaputra	Ø	China	7764	8202	8251	8211	8132	-1
221	03_77L_030	NRSC	-	BH_12	5305	GL	Brahmaputra	Ø	Bhutan	#	88	89	73	76	-1

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
222	03_78I_048	NRSC	-	BH_129	4169	WB	Brahmaputra	Manas Chhu& MangdeChhu	Bhutan	51	51	52	32	38	-2
223	01_52J_009	NRSC	-	JK_205	5576	WB	Indus	Shyok	India	62	60	61	56	51	-2
224	03_82A_004	NRSC	-	CH_623	5008	WB	Brahmaputra	Ø	China	48	48	-	49	42	-2
225	03_82O_042	NRSC	-	AP_49	3093	WB	Brahmaputra	Dibang	India	41	42	-	43	36	-2
226	03_82B_020	NRSC	-	CH_646	4986	WB	Brahmaputra	Ø	China	46	46	-	47	41	-2
227	03_77D_004	NRSC/SDC	/Very High Risk	SK_4	5287	GL	Brahmaputra	Teesta	India	120	120	113	122	112	-2
228	01_61C_016	NRSC	-	CH_44	4289	WB	Indus	Indus	China	382	368	377	364	360	-2

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
229	03_82D_003	NRSC	-	CH_709	4408	WB	Brahmaputra	Ø	China	45	45	46	44	43	-2
230	01_62J_001	NRSC	-	CH_102	4784	WB	Indus	Sutlej	China	5750	5675	5525	5774	5583	-2
231	01_61D_004	NRSC	-	CH_56	4991	WB	Indus	Indus	China	515	536	501	546	511	-2
232	03_91C_024	NRSC	-	CH_1075	3977	GL	Brahmaputra	Ø	China	287	291	287	298	280	-2
233	02_71D_007	NRSC	-	NP_48	700	WB	Ganga	Trisuli	Nepal	288	288	294	281	280	-2
234	03_82E_004	NRSC	-	CH_722	5049	WB	Brahmaputra	Ø	China	47	47	48	48	46	-2
235	03_77P_017	NRSC	-	CH_588	4751	WB	Brahmaputra	Dangme Chhu	China	2100	2302	2357	2097	2184	-2
236	02_71L_032	NRSC	122G	CH_187	5250	GL	Ganga	Sun Kosi	China	50	50	51	51	51	-2

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
237	02_71L_011	NRSC	61G	CH_166	5439	GL	Ganga	Sun Kosi	China	52	54	55	54	53	-2
238	03_62O_002	NRSC	-	CH_347	4587	WB	Brahmaputra	Ø	China	38	48	47	49	42	-2
239	03_82J_020	NRSC	-	CH_850	3852	WB	Brahmaputra	Ø	China	300	432	439	348	383	-2
240	03_82J_004	NRSC	-	CH_834	3957	GL	Brahmaputra	Ø	China	495	509	378	526	474	-3
241	03_82N_033	NRSC	-	CH_1004	4357	GL	Brahmaputra	Ø	China	83	83	86	69	67	-3
242	03_82B_005	NRSC	-	CH_631	4888	WB	Brahmaputra	Ø	China	232	208	215	211	203	-3
243	03_77D_005	NRSC/SDC	/Very High Risk	SK_5	5249	GL	Brahmaputra	Teesta	India	95	95	98	94	84	-3
244	01_43N_032	NRSC	-	JK_159	3595	WB	Indus	Jhelum	India	55	59	-	61	50	-3

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
245	03_77H_011	NRSC	-	BH_4	4963	GL	Brahmaputra	Ø	Bhutan	155	156	161	158	142	-3
246	03_77P_019	NRSC	-	CH_590	4637	WB	Brahmaputra	Dangme Chhu	China	255	255	237	263	240	-3
247	03_77H_030	NRSC	-	CH_495	4802	WB	Brahmaputra	Ø	China	60	60	62	58	56	-3
248	03_62N_022	NRSC	-	CH_339	4599	WB	Brahmaputra	Ø	China	198	188	193	194	187	-3
249	01_43A_001	NRSC	-	JK_22	3641	WB	Indus	Gilgit	India	203	202	196	208	194	-3
250	01_61D_002	NRSC	-	CH_54	4313	WB	Indus	Indus	China	1535	1603	1654	1562	1461	-3
251	02_62K_012	NRSC	-	NP_30	3653	WB	Ganga	Bheri	Nepal	492	481	481	494	471	-3
252	03_71K_002	NRSC	-	CH_425	4974	WB	Brahmaputra	Ø	China	2342	2304	2369	2288	2280	-3

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
253	01_62A_003	NRSC	-	CH_69	5142	WB	Indus	Indus	China	1348	1342	1385	1343	1304	-3
254	03_62N_004	NRSC	-	CH_321	5168	WB	Brahmaputra	Ø	China	913	898	899	925	900	-3
255	01_43J_017	NRSC	3I	JK_95	3580	WB	Indus	Jhelum	India	155	155	160	159	153	-3
256	02_71H_007	NRSC	-	CH_127	5149	GL	Ganga	Arun Kosi	China	118	118	122	120	117	-3
257	03_82E_003	NRSC	-	CH_721	5027	WB	Brahmaputra	Ø	China	95	95	98	95	94	-3
258	01_52K_009	NRSC	-	JK_217	4921	WB	Indus	Shyok	India	193	198	205	196	191	-3
259	03_78E_012	NRSC	-	CH_607	4576	WB	Brahmaputra	Ø	China	268	272	274	280	267	-3
260	02_71L_003	NRSC	-	CH_158	5324	WB	Ganga	Arun Kosi	China	268	268	276	273	267	-3

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
261	03_71P_001	NRSC	-	CH_448	5302	WB	Brahmaputra	Ø	China	126	126	130	130	127	-3
262	01_52L_001	NRSC	-	JK_225	4523	WB	Indus	Sutlej	India	13824	13908	14351	14180	14105	-3
263	03_77K_017	NRSC	-	CH_519	4448	WB	Brahmaputra	Ø	China	3652	3682	3807	3760	3734	-3
264	03_77N_004	NRSC	-	CH_563	3890	WB	Brahmaputra	Ø	China	1201	1219	1257	1238	1231	-3
265	03_82O_054	NRSC	-	CH_1046	3311	WB	Brahmaputra	Dibang	China	49	49	51	19	33	-4
266	03_78M_016	NRSC	-	CH_617	4647	WB	Brahmaputra	Dangme Chhu	China	142	145	151	117	128	-4
267	03_77B_001	NRSC	-	CH_452	5039	WB	Brahmaputra	Ø	China	55	55	57	43	44	-4
268	03_91C_045	NRSC	-	AP_91	3493	WB	Brahmaputra	Dibang	India	109	107	111	86	96	-4

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
269	03_62K_009	NRSC	-	CH_313	5079	GL	Brahmaputra	Ø	China	314	299	265	312	291	-4
270	03_82G_048	NRSC	-	CH_809	4663	WB	Brahmaputra	Ø	China	43	44	38	46	43	-4
271	02_71L_002	NRSC	-	CH_157	5261	WB	Ganga	Arun Kosi	China	78	78	71	81	79	-4
272	01_61C_023	NRSC	-	CH_51	4350	WB	Indus	Indus	China	648	648	672	622	599	-4
273	03_77H_008	NRSC	-	CH_482	4570	WB	Brahmaputra	Ø	China	1205	1204	1250	1134	1147	-4
274	03_91C_025	NRSC	-	CH_1076	4022	GL	Brahmaputra	Ø	China	110	109	107	113	107	-4
275	01_43A_002	NRSC	-	JK_23	3790	WB	Indus	Gilgit	India	98	100	96	104	95	-4
276	03_77L_037	NRSC	-	BH_15	5139	GL	Brahmaputra	Ø	Bhutan	597	577	599	599	578	-4

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
277	03_62K_001	NRSC	-	CH_305	4834	WB	Brahmaputra	Ø	China	386	379	396	395	376	-4
278	02_71H_017	NRSC	-	CH_137	5314	GL	Ganga	Arun Kosi	China	490	490	512	485	475	-4
279	02_71H_001	NRSC	-	CH_121	4580	WB	Ganga	Arun Kosi	China	27331	25876	26974	26951	26898	-4
280	03_78I_018	NRSC	-	BH_99	5083	GL	Brahmaputra	Puna Tsang Chhu	Bhutan	66	66	69	68	65	-4
281	03_91C_029	NRSC	-	CH_1078	4229	WB	Brahmaputra	Ø	China	213	213	221	218	211	-4
282	03_77L_027	NRSC	-	CH_543	4531	WB	Brahmaputra	KuriChhu	China	170	180	188	173	168	-4
283	03_82F_030	NRSC	-	CH_755	3485	WB	Brahmaputra	Ø	China	2662	2634	2735	2694	2665	-4
284	03_82J_017	NRSC	-	CH_847	3829	WB	Brahmaputra	Ø	China	272	276	287	284	279	-4

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
285	03_82J_025	NRSC	-	CH_855	4038	WB	Brahmaputra	Ø	China	56	56	59	45	41	-5
286	02_78A_005	NRSC	-	CH_271	5376	GL	Ganga	Arun Kosi	China	111	110	91	110	116	-5
287	01_52C_003	NRSC	7I	JK_187	4512	GL	Indus	Indus	India	57	57	-	60	49	-5
288	01_61C_021	NRSC	-	CH_49	4349	WB	Indus	Indus	China	1216	1138	1147	1195	1071	-5
289	03_78A_009	NRSC	-	SK_16	5044	GL	Brahmaputra	Teesta	India	58	58	61	55	52	-5
290	01_52G_001	NRSC	-	JK_189	5008	WB	Indus	Shyok	India	42	42	-	44	38	-5
291	03_82B_008	NRSC	-	CH_634	4928	WB	Brahmaputra	Ø	China	272	250	262	262	254	-5
292	02_71H_027	NRSC	2G	CH_147	5242	GL	Ganga	Sun Kosi	China	454	455	480	441	437	-5

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
293	03_82A_003	NRSC	-	CH_622	4896	WB	Brahmaputra	Ø	China	95	95	100	92	91	-5
294	03_77J_003	NRSC	-	CH_499	5039	WB	Brahmaputra	Ø	China	86	86	91	85	84	-5
295	03_82G_045	NRSC	-	CH_806	4523	WB	Brahmaputra	Ø	China	70	70	73	74	69	-5
296	02_62P_004	NRSC	-	NP_37	807	WB	Ganga	Trisuli	Nepal	375	375	385	394	389	-5
297	03_82F_020	NRSC	-	CH_745	4110	GL	Brahmaputra	Ø	China	49	70	71	74	68	-5
298	03_62K_012	NRSC	-	CH_316	5368	GL	Brahmaputra	Ø	China	91	80	78	85	75	-6
299	03_62O_024	NRSC	-	CH_369	4637	WB	Brahmaputra	Ø	China	856	839	740	894	814	-6
300	03_77L_068	NRSC	-	BH_36	4764	WB	Brahmaputra	KuriChhu	Bhutan	77	77	82	69	73	-6

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
301	03_62K_002	NRSC	-	CH_306	4858	WB	Brahmaputra	Ø	China	49	48	-	51	44	-6
302	03_71C_003	NRSC	-	CH_396	5412	GL	Brahmaputra	Ø	China	49	49	-	52	45	-6
303	03_82B_009	NRSC	-	CH_635	4963	WB	Brahmaputra	Ø	China	180	165	176	174	166	-6
304	02_71H_035	NRSC	-	CH_155	4366	WB	Ganga	Sun Kosi	China	44	44	-	47	41	-6
305	03_78E_019	NRSC	-	CH_611	5022	GL	Brahmaputra	Ø	China	61	58	60	62	58	-6
306	01_43J_007	NRSC	6I	JK_85	3708	WB	Indus	Jhelum	India	96	96	92	102	92	-6
307	01_52K_016	NRSC	-	JK_224	4675	WB	Indus	Sutlej	India	524	523	555	523	514	-6
308	01_62E_015	NRSC	-	CH_90	5415	WB	Indus	Sutlej	China	47	47	50	49	46	-6

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
309	03_62J_015	NRSC	-	CH_287	5207	WB	Brahmaputra	Ø	China	80	80	80	85	82	-6
310	03_77H_012	NRSC	-	CH_483	4723	GL	Brahmaputra	Ø	China	76	76	81	80	76	-6
311	03_82B_004	NRSC	-	CH_630	4893	WB	Brahmaputra	Ø	China	97	97	98	103	98	-6
312	01_62F_001	NRSC	-	CH_92	4571	WB	Indus	Sutlej	China	24655	24135	25680	25164	25241	-6
313	03_77L_003	NRSC	-	CH_521	4434	WB	Brahmaputra	Ø	China	3947	3877	4113	4016	4022	-6
314	01_52H_002	NRSC/SDC	4I/Very High Risk	HP_3	4101	GL	Indus	Chenab	India	99	90	61	97	83	-7
315	03_91C_046	NRSC	-	AP_92	3353	WB	Brahmaputra	Dibang	India	59	56	60	43	46	-7
316	03_77D_008	NRSC	-	SK_8	5039	GL	Brahmaputra	Teesta	India	43	43	-	46	35	-7

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
317	03_78E_028	NRSC	-	BH_72	2161	WB	Brahmaputra	Puna Tsang Chhu	Bhutan	41	41	-	44	35	-7
318	01_52J_005	NRSC	-	JK_201	5430	WB	Indus	Shyok	India	41	41	-	44	37	-7
319	02_71P_019	NRSC	-	CH_207	4199	GL	Ganga	Arun Kosi	China	51	51	-	55	46	-7
320	03_71G_006	NRSC	-	CH_415	5065	WB	Brahmaputra	Ø	China	998	899	970	955	933	-7
321	01_43E_006	NRSC	-	JK_30	4186	WB	Indus	Gilgit	India	70	70	75	66	66	-7
322	03_62N_021	NRSC	-	CH_338	5432	WB	Brahmaputra	Ø	China	192	187	200	185	183	-7
323	01_52J_002	NRSC	-	JK_198	5359	WB	Indus	Shyok	India	62	62	67	61	59	-7
324	01_43K_014	NRSC	-	JK_115	3521	WB	Indus	Jhelum	India	128	128	134	138	126	-7

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
325	03_78A_013	NRSC	-	SK_19	5470	GL	Brahmaputra	Teesta	India	75	75	74	81	77	-7
326	03_82F_008	NRSC	-	CH_733	4828	WB	Brahmaputra	Ø	China	84	82	84	88	83	-7
327	01_61C_018	NRSC	-	CH_46	4291	WB	Indus	Indus	China	1916	1896	1958	2037	1901	-7
328	01_62F_002	NRSC	-	CH_93	4592	WB	Indus	Sutlej	China	320	310	334	320	316	-7
329	01_52O_005	NRSC	-	CH_8	4358	WB	Indus	Indus	China	760	768	829	792	757	-7
330	03_92A_006	NRSC	-	AP_204	1178	WB	Brahmaputra	Lohit	India	76	76	82	80	78	-7
331	01_62E_013	NRSC	-	CH_88	5345	WB	Indus	Indus	China	142	157	169	167	159	-7
332	03_78I_056	NRSC	-	BH_137	4794	WB	Brahmaputra	Manas Chhu& Mangd	Bhutan	77	77	84	46	57	-8

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
								eChhu							
333	03_82K_009	NRSC	-	CH_865	4168	WB	Brahmaputra	Ø	China	96	100	109	60	82	-8
334	02_72I_004	NRSC	9G	CH_244	5074	GL	Ganga	Sun Kosi	China	190	185	125	201	174	-8
335	03_83A_012	NRSC	-	AP_77	4287	WB	Brahmaputra	Dangme Chhu	India	55	55	60	39	46	-8
336	03_91H_029	NRSC	-	CH_1194	3325	WB	Brahmaputra	Lohit	China	45	45	-	49	37	-8
337	03_77P_012	NRSC	-	CH_583	4975	WB	Brahmaputra	Ø	China	67	67	73	61	56	-8
338	03_82G_017	NRSC	-	CH_778	4437	WB	Brahmaputra	Ø	China	54	54	59	51	50	-8
339	01_43P_002	NRSC	-	JK_167	669	WB	Indus	Ravi	India	54	54	58	59	55	-8
340	03_82F_007	NRSC	-	CH_732	4801	GL	Brahmaputra	Ø	China	110	110	120	119	113	-8

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
341	02_62K_010	NRSC	-	NP_28	2975	WB	Ganga	Karnal	Nepal	843	970	1054	1048	1026	-8
342	03_62O_032	NRSC	-	CH_377	5012	WB	Brahmaputra	Ø	China	50	50	-	55	45	-9
343	02_62P_003	NRSC	4G	NP_36	4937	GL	Ganga	Trisuli	Nepal	328	299	330	320	298	-9
344	01_52K_012	NRSC	-	JK_220	4695	WB	Indus	Indus	India	165	146	160	159	156	-9
345	03_82B_006	NRSC	-	CH_632	4837	WB	Brahmaputra	Ø	China	125	114	121	125	120	-9
346	01_52O_003	NRSC	-	CH_6	4252	WB	Indus	Indus	China	183	200	220	196	181	-9
347	03_82K_068	NRSC	-	CH_924	4320	WB	Brahmaputra	Ø	China	50	50	55	54	50	-9
348	03_82G_009	NRSC	-	CH_770	4580	WB	Brahmaputra	Ø	China	42	42	-	46	46	-9

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
349	03_82J_014	NRSC	-	CH_844	3703	WB	Brahmaputra	Ø	China	117	167	183	158	147	-9
350	03_77P_020	NRSC	-	CH_591	4649	WB	Brahmaputra	KuriChhu	China	#	53	58	45	50	-9
351	03_91C_034	NRSC	-	AP_84	4288	WB	Brahmaputra	Dibang	India	141	141	157	59	80	-10
352	03_77P_006	NRSC	-	CH_577	4616	WB	Brahmaputra	Ø	China	5172	5196	5796	5293	4301	-10
353	02_71H_021	NRSC	76G	CH_141	4463	GL	Ganga	Trisuli	China	44	43	-	48	40	-10
354	01_52K_011	NRSC	-	JK_219	5291	WB	Indus	Shyok	India	180	165	183	175	170	-10
355	01_42H_003	NRSC	-	JK_3	3854	WB	Indus	Gilgit	India	106	107	119	109	101	-10
356	03_62O_039	NRSC	-	CH_384	4555	WB	Brahmaputra	Ø	China	298	275	306	294	286	-10

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
357	02_77D_007	NRSC	244G	CH_262	5215	GL	Ganga	Arun Kosi	China	57	53	58	59	56	-10
358	01_43J_020	NRSC	-	JK_98	1584	WB	Indus	Jhelum	India	166	166	185	168	164	-10
359	03_77H_020	NRSC	-	CH_490	4473	WB	Brahmaputra	Ø	China	4499	4475	4976	4525	4594	-10
360	03_71K_006	NRSC	-	CH_429	4847	WB	Brahmaputra	Ø	China	1991	1966	2173	2088	2036	-10
361	03_77L_067	NRSC	-	BH_35	5231	GL	Brahmaputra	Manas Chhu& MangdeChhu	Bhutan	70	77	87	68	71	-11
362	03_77L_051	NRSC	-	BH_22	4548	GL	Brahmaputra	Puna Tsang Chhu	Bhutan	145	144	142	162	150	-11
363	03_82K_039	NRSC	-	CH_895	4128	WB	Brahmaputra	Ø	China	176	186	211	131	167	-12

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
364	03_82B_007	NRSC	-	CH_633	4964	WB	Brahmaputra	Ø	China	203	183	206	207	196	-12
365	03_82B_014	NRSC	-	CH_640	4825	WB	Brahmaputra	Ø	China	127	137	155	152	127	-12
366	02_77D_006	NRSC	-	CH_261	4894	GL	Ganga	Arun Kosi	China	88	85	89	92	97	-12
367	01_61C_012	NRSC	-	CH_40	4282	WB	Indus	Indus	China	304	290	317	330	308	-12
368	03_77L_011	NRSC	-	CH_527	4533	WB	Brahmaputra	Ø	China	1105	1134	1282	1200	1150	-12
369	03_82G_062	NRSC	-	CH_823	4925	WB	Brahmaputra	Ø	China	51	51	-	58	54	-12
370	03_71G_001	NRSC	-	CH_410	5163	WB	Brahmaputra	Ø	China	684	666	741	753	732	-12
371	03_77K_009	NRSC	-	CH_511	3937	WB	Brahmaputra	Ø	China	61	61	67	69	67	-12

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
372	03_82K_018	NRSC	-	CH_874	4168	WB	Brahmaputra	Ø	China	175	153	175	65	92	-13
373	02_71P_027	NRSC	82G	CH_215	5389	GL	Ganga	Arun Kosi	China	54	48	-	55	40	-13
374	03_77H_013	NRSC	-	CH_484	4950	GL	Brahmaputra	Ø	China	45	45	-	52	43	-13
375	02_71D_008	NRSC	-	NP_49	639	WB	Ganga	Trisuli	Nepal	101	91	104	102	98	-13
376	03_62N_017	NRSC	-	CH_334	5454	WB	Brahmaputra	Ø	China	78	70	79	80	77	-13
377	03_77H_018	NRSC	-	CH_488	4699	WB	Brahmaputra	Ø	China	72	72	75	83	77	-13
378	03_77L_041	NRSC	-	CH_550	5214	GL	Brahmaputra	KuriChhu	China	53	53	-	61	57	-13
379	03_62O_030	NRSC	-	CH_375	5013	WB	Brahmaputra	Ø	China	96	96	99	111	101	-14

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
380	03_82J_018	NRSC	-	CH_848	3913	GL	Brahmaputra	Ø	China	83	83	94	97	92	-14
381	03_71O_010	NRSC	-	CH_446	4296	WB	Brahmaputra	Ø	China	890	868	850	1017	920	-15
382	03_71G_008	NRSC	-	CH_417	5187	WB	Brahmaputra	Ø	China	53	53	62	60	59	-15
383	03_77B_002	NRSC	-	CH_453	5019	WB	Brahmaputra	Ø	China	172	210	248	210	206	-15
384	03_77L_077	NRSC	-	BH_45	5136	WB	Brahmaputra	Puna Tsang Chhu	Bhutan	46	46	55	10	29	-16
385	03_77P_021	NRSC	-	CH_592	4749	GL	Brahmaputra	Dangme Chhu	China	55	54	64	45	47	-16
386	03_77H_004	NRSC	-	CH_479	4428	WB	Brahmaputra	Ø	China	139	173	205	149	150	-16
387	01_43J_022	NRSC	-	JK_100	1583	WB	Indus	Jhelum	India	54	54	62	64	59	-16

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
388	03_71C_005	NRSC	-	CH_398	5551	GL	Brahmaputra	Ø	China	49	49	58	56	54	-16
389	03_62J_016	NRSC	-	CH_288	5303	GL	Brahmaputra	Ø	China	55	45	-	54	44	-17
390	03_77L_035	NRSC	-	BH_14	5486	GL	Brahmaputra	Ø	Bhutan	59	59	71	49	52	-17
391	03_77L_032	NRSC	-	CH_547	4669	GL	Brahmaputra	KuriChhu	China	90	92	111	80	82	-17
392	03_91H_067	NRSC	-	AP_185	3791	WB	Brahmaputra	Lohit	India	44	39	-	44	47	-17
393	02_71P_035	NRSC	-	CH_223	5146	WB	Ganga	Arun Kosi	China	90	90	108	98	98	-17
394	01_43E_023	NRSC	-	JK_47	4155	WB	Indus	Gilgit	India	87	79	96	83	80	-18
395	03_77L_007	NRSC	-	CH_523	4510	WB	Brahmaputra	Ø	China	1316	1297	1582	1380	1402	-18

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
396	01_52L_003	NRSC	-	JK_227	4985	WB	Indus	Indus	India	536	556	680	573	594	-18
397	02_62B_001	NRSC	-	CH_106	5216	WB	Ganga	Karnal	China	37	37	42	45	40	-18
398	01_62F_004	NRSC	-	CH_95	5493	WB	Indus	Sutlej	China	157	157	186	191	181	-18
399	02_71L_034	NRSC	89G	CH_188	5095	GL	Ganga	Sun Kosi	China	40	56	-	69	55	-19
400	02_71P_025	NRSC	-	CH_213	4807	WB	Ganga	Arun Kosi	China	114	102	110	127	107	-20
401	03_78A_001	NRSC/SDC	/High Risk	SK_9	5371	GL	Brahmaputra	Teesta	India	185	175	162	149	222	-21
402	01_52I_003	NRSC	-	JK_195	5159	WB	Indus	Shyok	India	167	167	186	211	169	-21
403	01_43M_003	NRSC	-	JK_120	2663	WB	Indus	Shigar (Indus)	India	166	177	198	224	220	-21

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
404	02_72E_001	NRSC	-	NP_57	1554	WB	Ganga	Baghmati	Nepal	89	132	165	168	153	-21
405	03_82B_010	NRSC	-	CH_636	4990	WB	Brahmaputra	Ø	China	54	39	50	47	41	-22
406	03_82C_016	NRSC	-	CH_671	4679	WB	Brahmaputra	Ø	China	42	42	54	50	52	-22
407	01_52D_001	NRSC	-	HP_1	780	WB	Indus	Ravi	India	626	656	819	838	768	-22
408	03_82K_036	NRSC	-	CH_892	4251	WB	Brahmaputra	Ø	China	63	49	64	38	36	-23
409	01_62E_010	NRSC	-	CH_85	5233	WB	Indus	Indus	China	148	127	164	155	146	-23
410	02_53K_001	NRSC	-	UK_1	355	WB	Ganga	Ramganga	India	4145	4285	5557	5371	5332	-23
411	02_71P_018	NRSC	-	CH_206	4199	WB	Ganga	Arun Kosi	China	#	63	54	82	64	-23

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
412	03_77P_013	NRSC	-	CH_584	5155	WB	Brahmaputra	Ø	China	48	48	64	52	48	-25
413	03_91C_033	NRSC	-	CH_1079	4278	GL	Brahmaputra	Ø	China	138	143	190	177	161	-25
414	03_77C_006	NRSC	-	CH_460	4514	WB	Brahmaputra	Ø	China	76	76	101	93	91	-25
415	03_78E_006	NRSC	-	CH_604	4572	WB	Brahmaputra	Ø	China	48	48	65	59	56	-26
416	03_91D_081	NRSC	-	CH_1136	3356	WB	Brahmaputra	Lohit	China	324	320	436	312	247	-27
417	03_77P_018	NRSC	-	CH_589	4707	WB	Brahmaputra	Dangme Chhu	China	112	112	153	129	131	-27
418	01_42H_005	NRSC	-	JK_5	2237	WB	Indus	Gilgit	India	66	52	72	60	54	-28
419	01_43J_021	NRSC	-	JK_99	1582	WB	Indus	Jhelum	India	999	936	1305	992	1028	-28

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
420	01_52O_002	NRSC	-	CH_5	5262	WB	Indus	Indus	China	82	83	115	112	102	-28
421	03_71O_002	NRSC	-	CH_438	4909	WB	Brahmaputra	Ø	China	42	35	-	49	44	-29
422	03_77P_004	NRSC	-	CH_575	4452	WB	Brahmaputra	Ø	China	188	153	205	216	205	-29
423	01_43J_004	NRSC	5I	JK_82	4078	WB	Indus	Jhelum	India	50	50	70	68	63	-29
424	02_72I_002	NRSC	645G	NP_58	4854	GL	Ganga	Sun Kosi	Nepal	45	46	65	60	59	-29
425	01_53E_001	NRSC	-	HP_12	921	WB	Indus	Beas	India	80	76	70	109	95	-30
426	03_77P_016	NRSC	-	CH_587	4749	WB	Brahmaputra	Dangme Chhu	China	168	184	262	224	227	-30
427	03_77L_006	NRSC	-	CH_522	4533	WB	Brahmaputra	Ø	China	21	21	-	30	30	-30

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
428	03_82K_006	NRSC	-	CH_862	4523	WB	Brahmaputra	Ø	China	48	33	48	40	44	-31
429	03_78E_002	NRSC	-	BH_57	5110	GL	Brahmaputra	Puna Tsang Chhu	Bhutan	40	40	59	35	40	-32
430	01_62E_002	NRSC	-	CH_77	5139	WB	Indus	Indus	China	132	117	173	157	149	-32
431	02_72I_007	NRSC	785G	NP_62	4540	GL	Ganga	Sun Kosi	Nepal	18	47	-	70	67	-33
432	02_77D_001	NRSC	-	CH_256	4423	WB	Ganga	Arun Kosi	China	3118	3195	4849	3677	3583	-34
433	03_82K_060	NRSC	-	CH_916	4316	WB	Brahmaputra	Ø	China	85	64	99	71	68	-35
434	03_71G_009	NRSC	-	CH_418	5032	WB	Brahmaputra	Ø	China	100	100	155	156	148	-36
435	03_77O_001	NRSC	-	CH_564	3879	WB	Brahmaputra	Ø	China	106	101	153	160	159	-37

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
436	03_71K_009	NRSC	-	CH_432	4750	WB	Brahmaputra	Ø	China	160	160	258	218	193	-38
437	01_61D_003	NRSC	-	CH_55	4453	WB	Indus	Indus	China	53	39	64	62	50	-39
438	03_62O_043	NRSC	-	CH_388	5285	WB	Brahmaputra	Ø	China	60	51	83	80	73	-39
439	03_77L_029	NRSC	-	CH_545	5451	GL	Brahmaputra	KuriChhu	China	33	33	-	54	43	-39
440	03_91H_025	NRSC	-	CH_1190	3741	WB	Brahmaputra	Lohit	China	55	55	85	91	61	-40
441	01_53A_001	NRSC	-	HP_9	409	WB	Indus	Beas	India	11901	13246	22072	18290	17771	-40
442	03_71G_010	NRSC	-	CH_419	4491	WB	Brahmaputra	Ø	China	136	176	310	262	259	-43
443	01_43G_001	NRSC	-	JK_67	346	WB	Indus	Jhelum	India	3887	13094	22572	22977	22344	-43

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
444	01_61H_001	NRSC	-	CH_66	4619	WB	Indus	Indus	China	219	175	317	315	287	-45
445	01_61F_002	NRSC	-	CH_59	5279	WB	Indus	Indus	China	32	34	63	54	50	-46
446	01_62B_001	NRSC	-	CH_73	4526	WB	Indus	Sutlej	China	242	242	472	301	316	-49
447	03_77L_008	NRSC	-	CH_524	4448	WB	Brahmaputra	Ø	China	26	41	76	80	79	-49
448	01_52G_003	NRSC	-	JK_191	4533	WB	Indus	Indus	India	570	808	1609	1315	1335	-50
449	02_53P_003	NRSC	-	UK_11	207	WB	Ganga	Ramganga	India	778	569	1138	842	844	-50
450	01_61D_001	NRSC	-	CH_53	5593	WB	Indus	Indus	China	42	39	81	76	66	-52
451	03_78A_003	NRSC/SDC	/Very High Risk	SK_11	4977	GL	Brahmaputra	Teesta	India	57	33	-	74	57	-55

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	UpdatedArea of June-2022 (ha)	Area of July-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 July (%)
452	03_77H_001	NRSC	-	CH_476	4275	WB	Brahmaputra	Ø	China	222	232	521	353	361	-55
453	03_77L_009	NRSC	-	CH_525	4515	WB	Brahmaputra	Ø	China	123	253	569	584	542	-57
454	02_53P_001	NRSC	-	UK_9	210	WB	Ganga	Ganga	India	558	721	1855	1621	1567	-61
455	03_82D_010	NRSC	-	CH_716	5043	WB	Brahmaputra	Dangme Chhu	China	40	25	70	49	57	-64
456	01_52L_008	NRSC	-	CH_1	3873	WB	Indus	Sutlej	China	30	30	32	101	78	-70
457	02_53O_005	NRSC	-	UK_8	239	WB	Ganga	Ramganga	India	730	382	1284	1263	1160	-70
458	03_62N_003	NRSC	-	CH_320	5208	WB	Brahmaputra	Ø	China	14	14	-	46	44	-70
459	03_71K_011	NRSC	-	CH_434	4761	WB	Brahmaputra	Ø	China	111	111	409	399	371	-73

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
460	02_53K_002	NRSC	-	UK_2	260	WB	Ganga	Ramganga	India	315	346	1481	1000	918	-77
461	03_77O_002	NRSC	-	CH_565	3806	WB	Brahmaputra	Ø	China	46	18	82	80	79	-78
462	03_77H_007	NRSC	-	CH_481	4424	WB	Brahmaputra	Ø	China	71	70	823	737	670	-91
463	01_52E_001	NRSC	-	JK_188	5116	GL	Indus	Shyok	India	#	4	48	4	19	-92
464	02_77D_004	NRSC	-	CH_259	4378	WB	Ganga	Arun Kosi	China	215	74	1013	802	740	-93

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 roder 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	Updated Area of June-2022 (ha)	Area of July-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 July (%)
465	01_61C_008	NRSC			4494	WB	Indus	Ø		-	395	-	-	-	-
466	01_61G_003	NRSC	-	CH_64	4864	WB	Indus	Indus	China	82	#	80	58	64	-
467	03_62O_027	NRSC	-	CH_372	4575	WB	Brahmaputra	Ø	China	46	#	-	39	35	-
468	03_71C_010	NRSC	-	CH_403	4561	WB	Brahmaputra	Ø	China	33	#	-	54	42	-
469	03_71K_007	NRSC	-	CH_430	4752	WB	Brahmaputra	Ø	China	54	#	96	82	80	-
470	03_82F_010	NRSC	-	CH_735	5030	GL	Brahmaputra	Ø	China	17	18	-	-	-	-
471	02_77D_003	NRSC	-	CH_258	4364	WB	Ganga	Arun Kosi	China	#	#	102	82	133	-
472	03_62O	NRSC	-	CH_373	4577	WB	Brahma	Ø	China	#	#	902	644	635	-

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	UID	Elevation (m)	Lake Type	Basin	River	Country	Updated Area of June-2022 (ha)	Area of July-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 July (%)
	_028						putra								
473	01_52I_004	NRSC	-	JK_196	5141	WB	Indus	Shyok	India	#	#	-	63	62	-
474	01_53A_002	NRSC	-	HP_10	495	WB	Indus	Sutlej	India	#	#	12198	11339	11603	-
475	01_61C_004	NRSC	-	-	4495	WB	-	Ø	-	#	#	-	-	-	-
476	01_61G_001	NRSC	-	CH_62	4973	WB	Indus	Indus	China	#	#	81	71	71	-
477	02_63M_002	NRSC	-	NP_41	112	WB	Ganga	Rapti	Nepal	#	#	148	107	119	-

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 GLS PREPARED 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/UTs	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
478	569	SDC	Medium Risk	28.002	88.64	GL	5450	SK	India	30	36	20
479	1847	SDC	Very High Risk	31.915	77.527	GL	4570	HP	India	11	12	9
480	951	SDC	Very High Risk	34.067	75.475	GL	3762	JK	India	17	18	6
481	345	SDC	Medium Risk	27.864	88.747	GL	5108	SK	India	18	19	6
482	237	SDC	Very Low Risk	27.993	88.801	GL	5322	SK	India	7	7	0
483	129	SDC	Very High Risk	27.775	92.314	GL	4895	AP	India	9	9	0
484	298	SDC	Very High Risk	27.873	88.638	GL	4508	SK	India	4	4	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Latitude	Longitude	Lake Type	Elevation (m)	State/UTs	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
485	295	SDC	Very High Risk	27.92	88.672	GL	4850	SK	India	6	6	0
486	293	SDC	Very High Risk	27.951	88.705	GL	5048	SK	India	2	2	0
487	2207	SDC	Very High Risk	30.912	78.958	GL	4707	UK	India	10	10	0
488	2108	SDC	Very High Risk/347G	30.976	79.459	GL	5587	UK	India	17	17	0
489	1805	SDC	Very High Risk/81I	32.762	77.195	GL	4775	HP	India	1	1	0
490	1774	SDC	Very High Risk	32.221	76.788	GL	4593	HP	India	7	7	0
491	1360	SDC	Very High Risk	35.027	75.725	GL	4667	JK	India	9	9	0
492	1032	SDC	Very High Risk	34.386	75.064	GL	4007	JK	India	1	1	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Latitude	Longitude	Lake Type	Elevation (m)	State/UTs	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
493	1014	SDC	Very High Risk	34.299	75.06	GL	3989	JK	India	5	5	0
494	993	SDC	Very High Risk	34.227	75.222	GL	4148	JK	India	11	11	0
495	938	SDC	Very High Risk	33.953	75.378	GL	3683	JK	India	23	23	0
496	931	SDC	Very High Risk	33.929	75.389	GL	4082	JK	India	20	20	0
497	27	SDC	Very High Risk	34.381	74.876	GL	3775	JK	India	14	14	0
498	256	SDC	High risk	27.816	88.657	GL	4615	SK	India	17	17	0
499	515	SDC	Medium Risk	27.854	88.806	GL	5063	SK	India	8	8	0
500	312	SDC	Medium Risk	27.701	88.514	GL	5137	SK	India	8	8	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Latitude	Longitude	Lake Type	Elevation (m)	State/UTs	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
501	292	SDC	Medium Risk	28.006	88.655	GL	5577	SK	India	4	4	0
502	260	SDC	Medium Risk	27.894	88.761	GL	5253	SK	India	39	39	0
503	1037	SDC	Medium Risk/27I	34.422	75.058	GL	3603	JK	India	40	40	0
504	963	SDC	Medium Risk	34.139	75.376	GL	3725	JK	India	26	26	0
505	227	SDC	Very High Risk	27.993	88.547	GL	5176	SK	India	56	47	-16
506	180	SDC	Very High Risk	34.353	76.077	GL	4442	JK	India	11	7	-36
507	958	SDC	Very High Risk	34.138	75.416	GL	4103	JK	India	7	3	-57
508	2031	SDC	Very High Risk	31.339	78.253	GL	4702	HP	India	19	8	-58

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Latitude	Longitude	Lake Type	Elevation (m)	State/UTs	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
509	599	SDC	Very High Risk	27.695	88.716	GL	4251	SK	India	-	8	-
510	2299	SDC	Very High Risk	30.184	79.88	GL	4490	UK	India	-	#	-
511	1998	SDC	Very High Risk	32.32	76.908	GL	3857	HP	India	-	1	-
512	1936	SDC	Very High Risk/321I	32.256	76.777	GL	4606	HP	India	-	3	-
513	182	SDC	Very High Risk	34.234	75.325	GL	4304	JK	India	-	9	-
514	2147	SDC	Medium Risk	30.98	79.487	GL	5688	UK	India	-	1	-
515	173	SDC	Medium Risk	34.765	76.71	GL	5150	JK	India	-	10	-
516	976	SDC	High Risk/15I	34.185	75.372	GL	4314	JK	India	-	17	-

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Latitude	Longitude	Lake Type	Elevation (m)	State/UTs	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
517	98	SDC	High Risk	34.392	75.085	GL	4103	JK	India	-	2	-

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	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
518	03_82J_003	NRSC	-	GL	4161	Ø	Brahmaputra	China	9	30	233
519	01_62F_009	NRSC	387I	GL	5712	Sutlej	Indus	China	10	26	160
520	02_72I_026	NRSC	112G	GL	5188	Sun Kosi	Ganga	Nepal	18	40	122
521	01_52A_003	NRSC	-	GL	4586	Shyok	Indus	India	16	28	75
522	02_71P_017	NRSC	-	GL	4194	Arun Kosi	Ganga	China	78	102	31
523	02_62K_001	NRSC	329G	GL	4404	Karnal	Ganga	Nepal	24	31	29
524	02_62F_014	NRSC	236G	GL	5481	Karnal	Ganga	China	5	6	20

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
525	02_71P_034	NRSC	726G	GL	5259	Arun Kosi	Ganga	China	20	24	20
526	03_82G_003	NRSC	-	GL	4936	Ø	Brahmaputra	China	15	18	20
527	01_52H_003	NRSC	-	GL	4165	Chenab	Indus	India	147	173	18
528	03_62K_008	NRSC	-	GL	4968	Ø	Brahmaputra	China	42	49	17
529	03_82J_006	NRSC	-	GL	3657	Ø	Brahmaputra	China	51	59	16
530	02_78A_001	NRSC	498G	GL	5201	Arun Kosi	Ganga	China	20	23	15
531	02_78A_006	NRSC	676G	GL	5743	Arun Kosi	Ganga	China	16	18	13
532	03_82N_008	NRSC	-	GL	4546	Ø	Brahmaputra	China	32	36	13

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
533	03_77L_025	NRSC	-	GL	5370	KuriChhu	Brahmaputra	China	17	19	12
534	01_52A_002	NRSC	-	GL	4537	Shyok	Indus	India	19	21	11
535	03_62J_028	NRSC	-	GL	5603	Ø	Brahmaputra	China	40	44	10
536	03_71P_004	NRSC	-	GL	5637	Ø	Brahmaputra	China	10	11	10
537	03_62K_005	NRSC	-	GL	4999	Ø	Brahmaputra	China	22	24	9
538	02_71H_032	NRSC	-	GL	5116	Sun Kosi	Ganga	China	25	27	8
539	02_72M_015	NRSC	115G	GL	4969	TamurKosi	Ganga	Nepal	13	14	8
540	02_71L_033	NRSC	408G	GL	5369	Sun Kosi	Ganga	Nepal	14	15	7

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
541	03_62K_011	NRSC	-	GL	5136	Ø	Brahmaputra	China	45	48	7
542	03_78A_006	NRSC	-	GL	5004	Teesta	Brahmaputra	India	14	15	7
543	03_82C_011	NRSC	-	GL	5242	Ø	Brahmaputra	China	14	15	7
544	02_71P_032	NRSC	564G	GL	5190	Arun Kosi	Ganga	China	18	19	6
545	02_71P_048	NRSC	283G	GL	5094	Arun Kosi	Ganga	China	18	19	6
546	02_72I_006	NRSC	-	GL	4741	Sun Kosi	Ganga	Nepal	17	18	6
547	02_72M_012	NRSC	69G	GL	4932	TamurKosi	Ganga	Nepal	16	17	6
548	01_62F_007	NRSC	-	GL	5344	Sutlej	Indus	China	21	22	5

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
549	02_71L_030	NRSC	242G	GL	5242	Sun Kosi	Ganga	China	21	22	5
550	02_72I_021	NRSC	764G	GL	5276	Sun Kosi	Ganga	Nepal	20	21	5
551	03_62J_027	NRSC	-	GL	4781	Ø	Brahmaputra	China	22	23	5
552	02_71H_009	NRSC	-	GL	5448	Arun Kosi	Ganga	China	23	24	4
553	03_78A_004	NRSC	-	GL	5456	Ø	Brahmaputra	China	23	24	4
554	03_82F_009	NRSC	-	GL	4712	Ø	Brahmaputra	China	23	24	4
555	03_82N_025	NRSC	-	GL	4764	Ø	Brahmaputra	China	24	25	4
556	03_91C_019	NRSC	-	GL	3858	Ø	Brahmaputra	China	49	51	4

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
557	03_91C_035	NRSC	-	GL	4283	Ø	Brahmaputra	China	54	56	4
558	02_71H_006	NRSC	-	GL	5167	Arun Kosi	Ganga	China	34	35	3
559	02_72I_012	NRSC	113G	GL	4409	Sun Kosi	Ganga	Nepal	40	41	3
560	02_72I_022	NRSC	287G	GL	5344	Sun Kosi	Ganga	Nepal	30	31	3
561	02_77D_010	NRSC	590G	GL	5127	Arun Kosi	Ganga	China	37	38	3
562	02_77D_011	NRSC	393G	GL	5305	Arun Kosi	Ganga	China	45	46	2
563	03_62K_013	NRSC	-	GL	5101	Ø	Brahmaputra	China	46	47	2
564	03_78A_002	NRSC/SDC	/Very High Risk	GL	4952	Teesta	Brahmaputra	India	41	42	2

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
565	02_71H_020	NRSC	-	GL	5354	Arun Kosi	Ganga	China	69	70	1
566	01_43J_003	NRSC	-	GL	3954	Jhelum	Indus	India	12	12	0
567	01_52C_002	NRSC	46I	GL	4092	Chenab	Indus	India	43	43	0
568	01_52L_006	NRSC	306I	GL	5727	Indus	Indus	India	10	10	0
569	01_53M_002	NRSC	142I	GL	5468	Indus	Indus	China	10	10	0
570	01_53M_003	NRSC	110I	GL	5511	Indus	Indus	China	9	9	0
571	01_62B_002	NRSC	381I	GL	4998	Sutlej	Indus	China	20	20	0
572	01_62J_004	NRSC	446I	GL	5504	Sutlej	Indus	China	10	10	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
573	02_53N_001	NRSC	250G	GL	4688	Ganga	Ganga	India	21	21	0
574	02_62B_004	NRSC	232G	GL	4918	Sarda	Ganga	India	21	21	0
575	02_62B_005	NRSC	580G	GL	4314	Sarda	Ganga	India	8	8	0
576	02_62F_006	NRSC	-	GL	5444	Karnal	Ganga	Nepal	15	15	0
577	02_62F_008	NRSC	-	GL	5620	Karnal	Ganga	Nepal	7	7	0
578	02_62F_009	NRSC	536G	GL	5586	Karnal	Ganga	China	10	10	0
579	02_62F_011	NRSC	362G	GL	5524	Karnal	Ganga	China	26	26	0
580	02_62F_013	NRSC	256G	GL	5252	Karnal	Ganga	China	45	45	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
581	02_62F_015	NRSC	59G	GL	5359	Karnal	Ganga	China	27	27	0
582	02_62F_016	NRSC	591G	GL	5359	Karnal	Ganga	Nepal	14	14	0
583	02_62G_002	NRSC	599G	GL	4822	Karnal	Ganga	Nepal	19	19	0
584	02_62G_003	NRSC	589G	GL	3603	Karnal	Ganga	Nepal	33	33	0
585	02_62J_001	NRSC	-	GL	5182	Karnal	Ganga	Nepal	5	5	0
586	02_62J_002	NRSC	-	GL	5021	Karnal	Ganga	Nepal	9	9	0
587	02_62K_011	NRSC	612G	GL	4673	Bheri	Ganga	Nepal	28	28	0
588	02_62O_002	NRSC	410G	GL	5495	Kali Gandak	Ganga	Nepal	23	23	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
589	02_62O_004	NRSC	299G	GL	5529	Kali Gandak	Ganga	Nepal	19	19	0
590	02_62O_005	NRSC	609G	GL	5450	Kali Gandak	Ganga	Nepal	14	14	0
591	02_62P_001	NRSC	258G	GL	4472	Bheri	Ganga	Nepal	45	45	0
592	02_71H_004	NRSC	-	GL	5239	Arun Kosi	Ganga	China	26	26	0
593	02_71H_005	NRSC	-	GL	5010	Arun Kosi	Ganga	China	69	69	0
594	02_71H_010	NRSC	-	GL	5481	Arun Kosi	Ganga	China	25	25	0
595	02_71H_014	NRSC	-	GL	4458	Trisuli	Ganga	China	9	9	0
596	02_71H_016	NRSC	-	GL	5305	Arun Kosi	Ganga	China	26	26	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
597	02_71H_018	NRSC	123G	GL	4787	Trisuli	Ganga	China	31	31	0
598	02_71H_022	NRSC	-	GL	5735	Arun Kosi	Ganga	China	20	20	0
599	02_71H_023	NRSC	-	GL	5595	Arun Kosi	Ganga	China	61	61	0
600	02_71H_025	NRSC	464G	GL	5303	Trisuli	Ganga	China	19	19	0
601	02_71H_030	NRSC	598G	GL	5411	Sun Kosi	Ganga	China	14	14	0
602	02_71L_005	NRSC	282G	GL	5524	Arun Kosi	Ganga	China	19	19	0
603	02_71L_007	NRSC	572G	GL	5576	Arun Kosi	Ganga	China	13	13	0
604	02_71L_008	NRSC	457G	GL	5577	Sun Kosi	Ganga	China	36	36	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
605	02_71L_009	NRSC	520G	GL	5546	Arun Kosi	Ganga	China	33	33	0
606	02_71L_012	NRSC	96G	GL	5570	Sun Kosi	Ganga	China	21	21	0
607	02_71L_014	NRSC	240G	GL	5364	Sun Kosi	Ganga	China	16	16	0
608	02_71L_015	NRSC	284G	GL	5261	Sun Kosi	Ganga	China	22	22	0
609	02_71L_017	NRSC	179G	GL	5211	Sun Kosi	Ganga	China	13	13	0
610	02_71L_018	NRSC	651G	GL	5377	Sun Kosi	Ganga	China	15	15	0
611	02_71L_019	NRSC	323G	GL	5378	Sun Kosi	Ganga	China	12	12	0
612	02_71L_021	NRSC	438G	GL	5373	Sun Kosi	Ganga	China	17	17	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
613	02_71L_022	NRSC	715G	GL	5554	Arun Kosi	Ganga	China	27	27	0
614	02_71L_024	NRSC	245G	GL	5263	Sun Kosi	Ganga	China	27	27	0
615	02_71L_025	NRSC	154G	GL	5357	Sun Kosi	Ganga	China	19	19	0
616	02_71L_027	NRSC	433G	GL	5234	Sun Kosi	Ganga	China	18	18	0
617	02_71L_031	NRSC	52G	GL	4682	Sun Kosi	Ganga	China	29	29	0
618	02_71L_035	NRSC	657G	GL	5091	Sun Kosi	Ganga	Nepal	11	11	0
619	02_71P_001	NRSC	-	GL	5498	Arun Kosi	Ganga	China	15	15	0
620	02_71P_023	NRSC	124G	GL	5235	Arun Kosi	Ganga	China	17	17	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
621	02_71P_024	NRSC	576G	GL	5273	Arun Kosi	Ganga	China	22	22	0
622	02_71P_026	NRSC	322G	GL	5340	Arun Kosi	Ganga	China	13	13	0
623	02_71P_030	NRSC	166G	GL	5329	Arun Kosi	Ganga	China	20	20	0
624	02_71P_033	NRSC	0	GL	4888	Arun Kosi	Ganga	China	21	21	0
625	02_71P_038	NRSC	586G	GL	5483	Arun Kosi	Ganga	China	27	27	0
626	02_71P_039	NRSC	396G	GL	5489	Arun Kosi	Ganga	China	19	19	0
627	02_71P_041	NRSC	768G	GL	5064	Arun Kosi	Ganga	China	18	18	0
628	02_71P_042	NRSC	654G	GL	5524	Arun Kosi	Ganga	China	20	20	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
629	02_71P_044	NRSC	557G	GL	5555	Arun Kosi	Ganga	China	9	9	0
630	02_71P_046	NRSC	317G	GL	4898	Arun Kosi	Ganga	China	28	28	0
631	02_72I_001	NRSC	198G	GL	5333	Sun Kosi	Ganga	Nepal	13	13	0
632	02_72I_008	NRSC	99G	GL	5040	Sun Kosi	Ganga	0	36	36	0
633	02_72I_010	NRSC	263G	GL	5125	Sun Kosi	Ganga	Nepal	14	14	0
634	02_72I_013	NRSC	694G	GL	5497	Sun Kosi	Ganga	Nepal	18	18	0
635	02_72I_015	NRSC	814G	GL	5416	Sun Kosi	Ganga	Nepal	44	44	0
636	02_72I_016	NRSC	739G	GL	5231	Sun Kosi	Ganga	Nepal	28	28	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
637	02_72I_017	NRSC	49G	GL	5018	Sun Kosi	Ganga	Nepal	7	7	0
638	02_72I_019	NRSC	757G	GL	5510	Sun Kosi	Ganga	Nepal	17	17	0
639	02_72I_020	NRSC	763G	GL	5436	Sun Kosi	Ganga	Nepal	21	21	0
640	02_72I_030	NRSC	480G	GL	4624	Sun Kosi	Ganga	Nepal	7	7	0
641	02_72I_031	NRSC	14G	GL	4777	Sun Kosi	Ganga	Nepal	26	26	0
642	02_72M_001	NRSC	737G	GL	5675	Arun Kosi	Ganga	China	7	7	0
643	02_72M_003	NRSC	823G	GL	5608	Arun Kosi	Ganga	China	18	18	0
644	02_72M_013	NRSC	518G	GL	5233	Arun Kosi	Ganga	Nepal	12	12	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
645	02_72M_014	NRSC	47G	GL	5217	TamurKosi	Ganga	Nepal	22	22	0
646	02_77D_005	NRSC	499G	GL	5738	Arun Kosi	Ganga	China	7	7	0
647	02_78A_002	NRSC	668G	GL	5397	Arun Kosi	Ganga	China	14	14	0
648	02_78A_007	NRSC	429G	GL	5618	TamurKosi	Ganga	Nepal	15	15	0
649	03_62J_003	NRSC	-	GL	5553	Ø	Brahmaputra	China	11	11	0
650	03_62J_004	NRSC	-	GL	5556	Ø	Brahmaputra	China	15	15	0
651	03_62J_010	NRSC	-	GL	5571	Ø	Brahmaputra	China	25	25	0
652	03_62J_024	NRSC	-	GL	5548	Ø	Brahmaputra	China	20	20	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
653	03_62J_025	NRSC	-	GL	5362	Ø	Brahmaputra	China	20	20	0
654	03_62K_007	NRSC	-	GL	4911	Ø	Brahmaputra	China	29	29	0
655	03_71C_001	NRSC	-	GL	5543	Ø	Brahmaputra	China	9	9	0
656	03_71C_002	NRSC	-	GL	5663	Ø	Brahmaputra	China	10	10	0
657	03_71C_004	NRSC	-	GL	5575	Ø	Brahmaputra	China	14	14	0
658	03_71D_001	NRSC	-	GL	5454	Ø	Brahmaputra	China	20	20	0
659	03_71D_002	NRSC	-	GL	5574	Ø	Brahmaputra	China	35	35	0
660	03_71P_002	NRSC	-	GL	5537	Ø	Brahmaputra	China	13	13	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
661	03_77H_005	NRSC	-	GL	5113	Ø	Brahmaputra	China	20	20	0
662	03_77H_009	NRSC	-	GL	5150	Ø	Brahmaputra	China	15	15	0
663	03_77H_015	NRSC	-	GL	4801	Ø	Brahmaputra	China	14	14	0
664	03_77H_016	NRSC	-	GL	4929	Ø	Brahmaputra	China	44	44	0
665	03_77H_019	NRSC	-	GL	4804	Puna Tsang Chhu	Brahmaputra	Bhutan	10	10	0
666	03_77H_021	NRSC	-	GL	5135	Puna Tsang Chhu	Brahmaputra	Bhutan	13	13	0
667	03_77H_024	NRSC	-	GL	4369	Puna Tsang Chhu	Brahmaputra	Bhutan	46	46	0
668	03_77H_026	NRSC	-	GL	5233	Ø	Brahmaputra	China	10	10	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
669	03_77H_027	NRSC	-	GL	4927	Ø	Brahmaputra	China	22	22	0
670	03_77H_029	NRSC	-	GL	5049	Puna Tsang Chhu	Brahmaputra	Bhutan	23	23	0
671	03_77H_032	NRSC	-	GL	5056	Ø	Brahmaputra	China	12	12	0
672	03_77J_001	NRSC	-	GL	5354	Ø	Brahmaputra	China	27	27	0
673	03_77J_002	NRSC	-	GL	5254	Ø	Brahmaputra	China	13	13	0
674	03_77K_002	NRSC	-	GL	5154	Ø	Brahmaputra	China	37	37	0
675	03_77K_003	NRSC	-	GL	5303	Ø	Brahmaputra	China	10	10	0
676	03_77L_019	NRSC	-	GL	5681	Ø	Brahmaputra	China	15	15	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
677	03_77L_020	NRSC	-	GL	4682	KuriChhu	Brahmaputra	China	9	9	0
678	03_77L_022	NRSC	-	GL	4810	KuriChhu	Brahmaputra	China	10	10	0
679	03_77L_023	NRSC	-	GL	5489	KuriChhu	Brahmaputra	China	29	29	0
680	03_77L_028	NRSC	-	GL	4632	KuriChhu	Brahmaputra	China	12	12	0
681	03_77L_031	NRSC	-	GL	4698	KuriChhu	Brahmaputra	China	18	18	0
682	03_77L_036	NRSC	-	GL	5810	KuriChhu	Brahmaputra	China	23	23	0
683	03_77L_038	NRSC	-	GL	5521	Ø	Brahmaputra	China	13	13	0
684	03_77L_039	NRSC	-	GL	5457	KuriChhu	Brahmaputra	China	42	42	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
685	03_77L_045	NRSC	-	GL	5224	KuriChhu	Brahmaputra	China	33	33	0
686	03_77L_056	NRSC	-	GL	4963	KuriChhu	Brahmaputra	China	14	14	0
687	03_77L_057	NRSC	-	GL	4897	KuriChhu	Brahmaputra	-	44	44	0
688	03_77L_058	NRSC	-	GL	5016	KuriChhu	Brahmaputra	-	32	32	0
689	03_77L_061	NRSC	-	GL	5038	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	17	17	0
690	03_77L_062	NRSC	-	GL	5295	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	47	47	0
691	03_77L_065	NRSC	-	GL	5025	Manas Chhu&Ma	Brahmaputra	Bhutan	14	14	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
						ngdeChhu					
692	03_77L_071	NRSC	-	GL	5228	Puna Tsang Chhu	Brahmaputra	Bhutan	20	20	0
693	03_77L_073	NRSC	-	GL	5166	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	13	13	0
694	03_77L_074	NRSC	-	GL	5324	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	17	17	0
695	03_77L_075	NRSC	-	GL	4718	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	19	19	0
696	03_77L_078	NRSC	-	GL	5296	Puna Tsang Chhu	Brahmaputra	Bhutan	15	15	0
697	03_77L_079	NRSC	-	GL	5386	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	35	35	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
698	03_77L_082	NRSC	-	GL	5019	Puna Tsang Chhu	Brahmaputra	Bhutan	14	14	0
699	03_78A_005	NRSC	-	GL	5201	Teesta	Brahmaputra	India	12	12	0
700	03_78A_007	NRSC/SDC	/Very High Risk	GL	4977	Teesta	Brahmaputra	India	17	17	0
701	03_78A_008	NRSC	-	GL	4998	Teesta	Brahmaputra	India	19	19	0
702	03_78A_010	NRSC	-	GL	5078	Teesta	Brahmaputra	India	33	33	0
703	03_78A_011	NRSC	-	GL	5168	Amo Chhu	Brahmaputra	China	16	16	0
704	03_78A_012	NRSC	-	GL	5130	Teesta	Brahmaputra	India	29	29	0
705	03_78A_015	NRSC/SDC	/Medium Risk	GL	4970	Teesta	Brahmaputra	India	10	10	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
706	03_78A_016	NRSC	-	GL	5451	Teesta	Brahmaputra	India	11	11	0
707	03_78A_019	NRSC/SDC	/Very High Risk	GL	4809	Teesta	Brahmaputra	India	11	11	0
708	03_78A_020	NRSC	-	GL	5219	Teesta	Brahmaputra	India	16	16	0
709	03_78A_026	NRSC	-	GL	4736	Teesta	Brahmaputra	India	12	12	0
710	03_78A_027	NRSC/SDC	/Very High Risk	GL	4888	Teesta	Brahmaputra	India	30	30	0
711	03_78A_030	NRSC	-	GL	4447	Amo Chhu	Brahmaputra	0	16	16	0
712	03_78A_031	NRSC	-	GL	4305	Teesta	Brahmaputra	India	13	13	0
713	03_78A_035	NRSC	-	GL	4998	Teesta	Brahmaputra	India	7	7	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
714	03_78E_001	NRSC	-	GL	5157	Puna Tsang Chhu	Brahmaputra	Bhutan	28	28	0
715	03_78E_003	NRSC	-	GL	5152	Puna Tsang Chhu	Brahmaputra	Bhutan	22	22	0
716	03_78E_008	NRSC	-	GL	5045	Puna Tsang Chhu	Brahmaputra	Bhutan	12	12	0
717	03_78E_011	NRSC	-	GL	4952	Puna Tsang Chhu	Brahmaputra	Bhutan	18	18	0
718	03_78E_016	NRSC	-	GL	5004	Ø	Brahmaputra	China	17	17	0
719	03_78E_025	NRSC	-	GL	4341	Puna Tsang Chhu	Brahmaputra	Bhutan	14	14	0
720	03_78E_027	NRSC	-	GL	4808	Puna Tsang Chhu	Brahmaputra	Bhutan	19	19	0
721	03_78I_001	NRSC	-	GL	5129	Manas Chhu&Ma	Brahmaputra	Bhutan	6	6	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
						ngdeChhu					
722	03_78I_004	NRSC	-	GL	5194	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	23	23	0
723	03_78I_005	NRSC	-	GL	5338	Puna Tsang Chhu	Brahmaputra	Bhutan	45	45	0
724	03_78I_006	NRSC	-	GL	5158	Puna Tsang Chhu	Brahmaputra	Bhutan	21	21	0
725	03_78I_008	NRSC	-	GL	5252	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	13	13	0
726	03_78I_009	NRSC	-	GL	5108	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	26	26	0
727	03_78I_011	NRSC	-	GL	5239	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	23	23	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
728	03_78I_014	NRSC	-	GL	5087	Puna Tsang Chhu	Brahmaputra	Bhutan	19	19	0
729	03_78I_015	NRSC	-	GL	5116	Puna Tsang Chhu	Brahmaputra	Bhutan	15	15	0
730	03_78I_019	NRSC	-	GL	5224	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	24	24	0
731	03_78I_020	NRSC	-	GL	5331	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	18	18	0
732	03_78I_022	NRSC	-	GL	5048	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	17	17	0
733	03_78I_025	NRSC	-	GL	5194	Puna Tsang Chhu	Brahmaputra	Bhutan	13	13	0
734	03_78I_02	NRSC	-	GL	5233	Manas	Brahmaput	Bhutan	13	13	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	6					Chhu&MangdeChhu	ra				
735	03_78I_028	NRSC	-	GL	4792	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	23	23	0
736	03_78I_036	NRSC	-	GL	5028	Puna Tsang Chhu	Brahmaputra	Bhutan	12	12	0
737	03_78I_037	NRSC	-	GL	5159	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	15	15	0
738	03_78I_038	NRSC	-	GL	5143	Puna Tsang Chhu	Brahmaputra	Bhutan	10	10	0
739	03_78I_040	NRSC	-	GL	5167	Puna Tsang Chhu	Brahmaputra	Bhutan	21	21	0
740	03_78I_043	NRSC	-	GL	5000	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	21	21	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
741	03_78I_046	NRSC	-	GL	5168	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	22	22	0
742	03_78I_054	NRSC	-	GL	5138	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	15	15	0
743	03_78I_057	NRSC	-	GL	5060	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	45	45	0
744	03_78I_058	NRSC	-	GL	5041	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	26	26	0
745	03_78I_064	NRSC	-	GL	4976	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	20	20	0
746	03_78I_065	NRSC	-	GL	4668	Manas Chhu&Ma	Brahmaputra	Bhutan	14	14	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
						ngdeChhu					
747	03_78I_067	NRSC	-	GL	4918	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	21	21	0
748	03_78I_072	NRSC	-	GL	4788	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	13	13	0
749	03_82F_001	NRSC	-	GL	4822	Ø	Brahmaputra	China	14	14	0
750	03_82F_011	NRSC	-	GL	4720	Ø	Brahmaputra	China	3	3	0
751	03_82F_023	NRSC	-	GL	4354	Ø	Brahmaputra	China	8	8	0
752	03_82F_024	NRSC	-	GL	4197	Ø	Brahmaputra	China	19	19	0
753	03_82F_02	NRSC	-	GL	4607	Ø	Brahmaput	China	10	10	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	6						ra				
754	03_82G_004	NRSC	-	GL	4498	Ø	Brahmaputra	China	31	31	0
755	03_82J_001	NRSC	-	GL	4775	Ø	Brahmaputra	China	27	27	0
756	03_82K_109	NRSC	-	GL	4356	Ø	Brahmaputra	China	22	22	0
757	03_82L_004	NRSC	-	GL	4441	Ø	Brahmaputra	China	12	12	0
758	03_82L_006	NRSC	-	GL	4147	Ø	Brahmaputra	China	13	13	0
759	03_82L_007	NRSC	-	GL	4163	Ding	Brahmaputra	India	16	16	0
760	03_82L_008	NRSC	-	GL	4342	Ø	Brahmaputra	China	11	11	0
761	03_82N_0	NRSC	-	GL	5055	Ø	Brahmaput	China	36	36	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	01						ra				
762	03_82N_015	NRSC	-	GL	5090	Ø	Brahmaputra	China	5	5	0
763	03_82N_016	NRSC	-	GL	5017	Ø	Brahmaputra	China	4	4	0
764	03_82O_001	NRSC	-	GL	4348	Ø	Brahmaputra	China	42	42	0
765	03_82O_002	NRSC	-	GL	4198	Ø	Brahmaputra	China	19	19	0
766	03_82O_004	NRSC	-	GL	4148	Ø	Brahmaputra	China	10	10	0
767	03_83A_001	NRSC	-	GL	5018	Ø	Brahmaputra	China	48	48	0
768	03_83A_003	NRSC	-	GL	5188	Dangme Chhu	Brahmaputra	India	82	82	0
769	03_83A_0	NRSC	-	GL	5109	Dangme	Brahmaput	India	16	16	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	04					Chhu	ra				
770	03_83A_005	NRSC	-	GL	4994	Dangme Chhu	Brahmaputra	India	12	12	0
771	03_83A_007	NRSC	-	GL	5028	Jia Brali	Brahmaputra	India	17	17	0
772	03_91C_004	NRSC	-	GL	4137	Ø	Brahmaputra	China	18	18	0
773	03_91C_006	NRSC	-	GL	5057	Ø	Brahmaputra	China	4	4	0
774	03_91C_012	NRSC	-	GL	4663	Ø	Brahmaputra	China	17	17	0
775	03_91C_015	NRSC	-	GL	4421	Ø	Brahmaputra	China	21	21	0
776	03_91C_016	NRSC	-	GL	4813	Ø	Brahmaputra	China	13	13	0
777	03_91C_02	NRSC	-	GL	4093	Ø	Brahmaput	China	31	31	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	1						ra				
778	03_91C_023	NRSC	-	GL	4811	Lohit	Brahmaputra	China	19	19	0
779	03_91C_043	NRSC	-	GL	4429	Ø	Brahmaputra	China	11	11	0
780	03_91C_071	NRSC	-	GL	4339	Dibang	Brahmaputra	China	35	35	0
781	03_91D_070	NRSC	-	GL	4126	Lohit	Brahmaputra	China	18	18	0
782	03_91G_001	NRSC	-	GL	5147	Ø	Brahmaputra	China	9	9	0
783	03_91G_003	NRSC	-	GL	5018	Lohit	Brahmaputra	China	21	21	0
784	03_91G_004	NRSC	-	GL	5262	Lohit	Brahmaputra	China	32	32	0
785	03_91G_0	NRSC	-	GL	5028	Lohit	Brahmaput	China	24	24	0

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	06						ra				
786	03_91G_007	NRSC	-	GL	4785	Lohit	Brahmaputra	China	12	12	0
787	03_91H_001	NRSC	-	GL	4429	Lohit	Brahmaputra	China	19	19	0
788	03_91H_003	NRSC	-	GL	4439	Lohit	Brahmaputra	China	15	15	0
789	03_91H_006	NRSC	-	GL	4620	Lohit	Brahmaputra	China	17	17	0
790	03_91H_033	NRSC	-	GL	4389	Lohit	Brahmaputra	China	12	12	0
791	03_91H_034	NRSC	-	GL	4629	Lohit	Brahmaputra	China	14	14	0
792	03_91H_036	NRSC	-	GL	4457	Lohit	Brahmaputra	China	23	23	0
793	03_62K_01	NRSC	-	GL	5181	Ø	Brahmaput	China	70	69	-1

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	0						ra				
794	02_71P_036	NRSC	54G	GL	5121	Arun Kosi	Ganga	China	38	37	-3
795	02_72M_008	NRSC	376G	GL	4722	TamurKosi	Ganga	Nepal	38	37	-3
796	03_71B_001	NRSC	-	GL	5692	Ø	Brahmaputra	China	29	28	-3
797	02_71D_001	NRSC	-	GL	4111	Trisuli	Ganga	Nepal	25	24	-4
798	02_71H_024	NRSC	155G	GL	4890	Trisuli	Ganga	China	27	26	-4
799	02_72I_028	NRSC	146G	GL	4408	Sun Kosi	Ganga	Nepal	26	25	-4
800	03_62J_009	NRSC	-	GL	5624	Ø	Brahmaputra	China	24	23	-4
801	03_77H_0	NRSC	-	GL	4537	Puna Tsang	Brahmaput	Bhutan	26	25	-4

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	17					Chhu	ra				
802	03_77L_048	NRSC	-	GL	4792	KuriChhu	Brahmaputra	China	27	26	-4
803	01_52C_001	NRSC	11I	GL	4394	Shingo (Indus)	Indus	India	55	52	-5
804	03_77H_022	NRSC	-	GL	4936	Ø	Brahmaputra	China	20	19	-5
805	03_77L_034	NRSC	-	GL	5500	KuriChhu	Brahmaputra	China	22	21	-5
806	03_77L_049	NRSC	-	GL	4716	Puna Tsang Chhu	Brahmaputra	Bhutan	38	36	-5
807	03_82F_012	NRSC	-	GL	4454	Ø	Brahmaputra	China	20	19	-5
808	02_72I_009	NRSC	-	GL	5292	Sun Kosi	Ganga	Nepal	18	17	-6
809	02_72I_01	NRSC	776G	GL	5370	Sun Kosi	Ganga	Nepal	35	33	-6

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	8										
810	03_62O_035	NRSC	-	GL	5256	Ø	Brahmaputra	China	33	31	-6
811	02_71H_036	NRSC	195G	GL	5024	Trisuli	Ganga	Nepal	14	13	-7
812	03_62J_020	NRSC	-	GL	5603	Ø	Brahmaputra	China	15	14	-7
813	02_71D_003	NRSC	67G	GL	3668	Trisuli	Ganga	Nepal	26	24	-8
814	02_78A_008	NRSC	199G	GL	5032	TamurKosi	Ganga	Nepal	26	24	-8
815	03_77D_007	NRSC/SDC	/Very High Risk	GL	5015	Teesta	Brahmaputra	India	26	24	-8
816	02_62F_010	NRSC	-	GL	5502	Karnal	Ganga	Nepal	11	10	-9
817	03_71D_0	NRSC	-	GL	5362	Ø	Brahmaput	China	11	10	-9

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	03						ra				
818	02_71L_020	NRSC	156G	GL	5348	Sun Kosi	Ganga	China	30	27	-10
819	03_71C_006	NRSC	-	GL	5482	Ø	Brahmaputra	China	21	19	-10
820	02_72M_004	NRSC	336G	GL	5293	Arun Kosi	Ganga	China	56	50	-11
821	03_82F_005	NRSC	-	GL	4762	Ø	Brahmaputra	China	47	42	-11
822	03_62O_031	NRSC	-	GL	5381	Ø	Brahmaputra	China	34	30	-12
823	02_71H_031	NRSC	78G	GL	5268	Sun Kosi	Ganga	China	30	26	-13
824	03_77H_010	NRSC	-	GL	5518	Ø	Brahmaputra	China	15	13	-13
825	03_77J_00	NRSC	-	GL	5766	Ø	Brahmaput	China	14	12	-14

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	5						ra				
826	03_77L_047	NRSC	-	GL	4364	Puna Tsang Chhu	Brahmaputra	Bhutan	48	41	-15
827	03_77D_006	NRSC/SDC	/Very High Risk	GL	5084	Teesta	Brahmaputra	India	25	21	-16
828	03_77H_025	NRSC	-	GL	4312	Puna Tsang Chhu	Brahmaputra	Bhutan	25	21	-16
829	03_91G_009	NRSC	-	GL	4637	Lohit	Brahmaputra	China	19	16	-16
830	02_71D_002	NRSC	-	GL	4063	Trisuli	Ganga	Nepal	6	5	-17
831	02_71H_034	NRSC	320G	GL	4745	Trisuli	Ganga	Nepal	22	18	-18
832	02_71L_029	NRSC	747G	GL	5237	Arun Kosi	Ganga	China	52	42	-19
833	03_82N_0	NRSC	-	GL	4997	Ø	Brahmaput	China	27	22	-19

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	11						ra				
834	02_62K_003	NRSC	546G	GL	4571	Karnal	Ganga	Nepal	43	34	-21
835	03_78A_023	NRSC	-	GL	4547	Teesta	Brahmaputra	India	33	25	-24
836	03_71P_003	NRSC	-	GL	5360	Ø	Brahmaputra	China	34	25	-26
837	02_71P_031	NRSC	141G	GL	5395	Arun Kosi	Ganga	China	21	15	-29
838	02_72I_024	NRSC	358G	GL	5165	Sun Kosi	Ganga	Nepal	28	19	-32
839	02_62F_007	NRSC	-	GL	5179	Karnal	Ganga	Nepal	12	8	-33
840	03_91D_082	NRSC	-	GL	4550	Lohit	Brahmaputra	China	55	26	-53
841	02_62K_00	NRSC	70G	GL	5053	Karnal	Ganga	Nepal	50	20	-60

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	6										
842	01_42H_002	NRSC	162I	GL	2763	Gilgit	Indus	India	-	17	-
843	01_52A_004	NRSC/SDC	/Very High Risk	GL	4619	Shyok	Indus	India	-	10	-
844	01_52B_010	NRSC/SDC	75I/Medium Risk	GL	5122	Indus	Indus	India	-	17	-
845	01_52B_012	NRSC	129I	GL	5137	Indus	Indus	India	-	15	-
846	01_52L_007	NRSC	184I	GL	5498	Indus	Indus	India	-	33	-
847	01_52P_004	NRSC	-	GL	5470	Indus	Indus	China	-	0	-
848	01_53I_002	NRSC/SDC	26I/Very High Risk	GL	4273	Sutlej	Indus	India	-	30	-
849	01_53M_0	NRSC	33I	GL	5576	Indus	Indus	China	-	18	-

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	01										
850	01_61B_002	NRSC	345I	GL	5722	Indus	Indus	China	-	26	-
851	01_62B_003	NRSC	86I	GL	5288	Sutlej	Indus	India	-	14	-
852	01_62E_007	NRSC	437I	GL	5641	Sutlej	Indus	China	-	13	-
853	01_62E_016	NRSC	270I	GL	5528	Sutlej	Indus	China	-	20	-
854	02_62B_006	NRSC	495G	GL	5106	Karnal	Ganga	China	-	41	-
855	02_62B_007	NRSC	-	GL	4839	Sarda	Ganga	India	-	#	-
856	02_71H_011	NRSC	775G	GL	4509	Trisuli	Ganga	China	-	29	-
857	02_71H_0	NRSC	172G	GL	4446	Trisuli	Ganga	China	-	16	-

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	13										
858	02_71H_019	NRSC	92G	GL	4674	Trisuli	Ganga	China	-	13	-
859	02_71L_016	NRSC	570G	GL	5345	Sun Kosi	Ganga	China	-	9	-
860	02_71P_020	NRSC	-	GL	4200	Arun Kosi	Ganga	China	-	122	-
861	02_72I_005	NRSC	483G	GL	4715	Sun Kosi	Ganga	Nepal	-	22	-
862	02_72M_011	NRSC	86G	GL	4865	Arun Kosi	Ganga	Nepal	-	43	-
863	03_62K_006	NRSC	-	GL	5101	Ø	Brahmaputra	China	-	26	-
864	03_62O_045	NRSC	-	GL	5566	Ø	Brahmaputra	China	-	9	-
865	03_77L_04	NRSC	-	GL	4515	Puna Tsang	Brahmaput	Bhutan	-	#	-

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
	0					Chhu	ra				
866	03_77L_053	NRSC	-	GL	4793	KuriChhu	Brahmaputra	China	-	31	-
867	03_77L_054	NRSC	-	GL	4717	Puna Tsang Chhu	Brahmaputra	Bhutan	-	3	-
868	03_77L_063	NRSC	-	GL	5183	Manas Chhu&MangdeChhu	Brahmaputra	Bhutan	-	23	-
869	03_78A_017	NRSC	-	GL	5545	Teesta	Brahmaputra	India	-	27	-
870	03_78A_025	NRSC	-	GL	4888	Amo Chhu	Brahmaputra	-	-	12	-
871	03_78E_018	NRSC	-	GL	5164	Ø	Brahmaputra	China	-	18	-
872	03_78M_013	NRSC	-	GL	4232	KuriChhu	Brahmaputra	Bhutan	-	6	-

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
873	03_82F_013	NRSC	-	GL	4761	Ø	Brahmaputra	China	-	13	-
874	03_82F_018	NRSC	-	GL	4554	Ø	Brahmaputra	China	-	17	-
875	03_82F_021	NRSC	-	GL	4487	Ø	Brahmaputra	China	-	11	-
876	03_82F_025	NRSC	-	GL	4253	Ø	Brahmaputra	China	-	14	-
877	03_82G_007	NRSC	-	GL	4994	Ø	Brahmaputra	China	-	12	-
878	03_82N_018	NRSC	-	GL	4333	Ø	Brahmaputra	China	-	10	-
879	03_82N_029	NRSC	-	GL	4492	Ø	Brahmaputra	China	-	43	-
880	03_82N_031	NRSC	-	GL	4409	Ø	Brahmaputra	China	-	16	-

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
881	03_82N_032	NRSC	-	GL	4384	Ø	Brahmaputra	China	-	39	-
882	03_82N_034	NRSC	-	GL	4181	Ø	Brahmaputra	China	-	14	-
883	03_82N_035	NRSC	-	GL	4479	Ø	Brahmaputra	China	-	22	-
884	03_82N_037	NRSC	-	GL	4691	Ø	Brahmaputra	China	-	12	-
885	03_82O_003	NRSC	-	GL	4180	Ø	Brahmaputra	China	-	13	-
886	03_91C_002	NRSC	-	GL	4691	Ø	Brahmaputra	China	-	33	-
887	03_91C_003	NRSC	-	GL	4703	Ø	Brahmaputra	China	-	31	-
888	03_91C_007	NRSC	-	GL	4817	Ø	Brahmaputra	China	-	11	-

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
889	03_91C_008	NRSC	-	GL	4899	Ø	Brahmaputra	China	-	21	-
890	03_91C_010	NRSC	-	GL	4712	Ø	Brahmaputra	China	-	21	-
891	03_91C_013	NRSC	-	GL	4925	Ø	Brahmaputra	China	-	#	-
892	03_91C_026	NRSC	-	GL	4305	Dibang	Brahmaputra	India	-	29	-
893	03_91C_036	NRSC	-	GL	4298	Ø	Brahmaputra	China	-	#	-
894	03_91D_075	NRSC	-	GL	4274	Dibang	Brahmaputra	India	-	24	-
895	03_91D_096	NRSC	-	GL	3794	Lohit	Brahmaputra	China	-	#	-
896	03_91D_098	NRSC	-	GL	4197	Lohit	Brahmaputra	China	-	15	-

S.No	Lake_ID	Inventory Developed by	Rank of Vulnerability	Lake Type	Elevation (m)	River	Basin	Country	Area of June-2022 (Base Month) (ha)	Area of July-2022 (ha)	Change in Area of Julywrt Base month (%)
897	03_91D_099	NRSC	-	GL	4406	Lohit	Brahmaputra	China	-	27	-
898	03_91G_005	NRSC	-	GL	5170	Lohit	Brahmaputra	China	-	10	-
899	03_91H_007	NRSC	-	GL	4635	Lohit	Brahmaputra	China	-	28	-
900	03_91H_008	NRSC	-	GL	4755	Lohit	Brahmaputra	China	-	50	-
901	03_91H_015	NRSC	-	GL	4553	Lohit	Brahmaputra	China	-	12	-
902	03_91H_073	NRSC	-	GL	4481	Lohit	Brahmaputra	India	-	20	-

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