Supplement of Earth Syst. Sci. Data, 16, 201–218, 2024
https://doi.org/10.5194/essd-16-201-2024-supplement

Open Access Earth System Science Data

Supplement of

GloLakes: water storage dynamics for 27 000 lakes globally from 1984 to present derived from satellite altimetry and optical imaging

Jiawei Hou et al.

Correspondence to: Jiawei Hou (jiawei.hou@anu.edu.au)

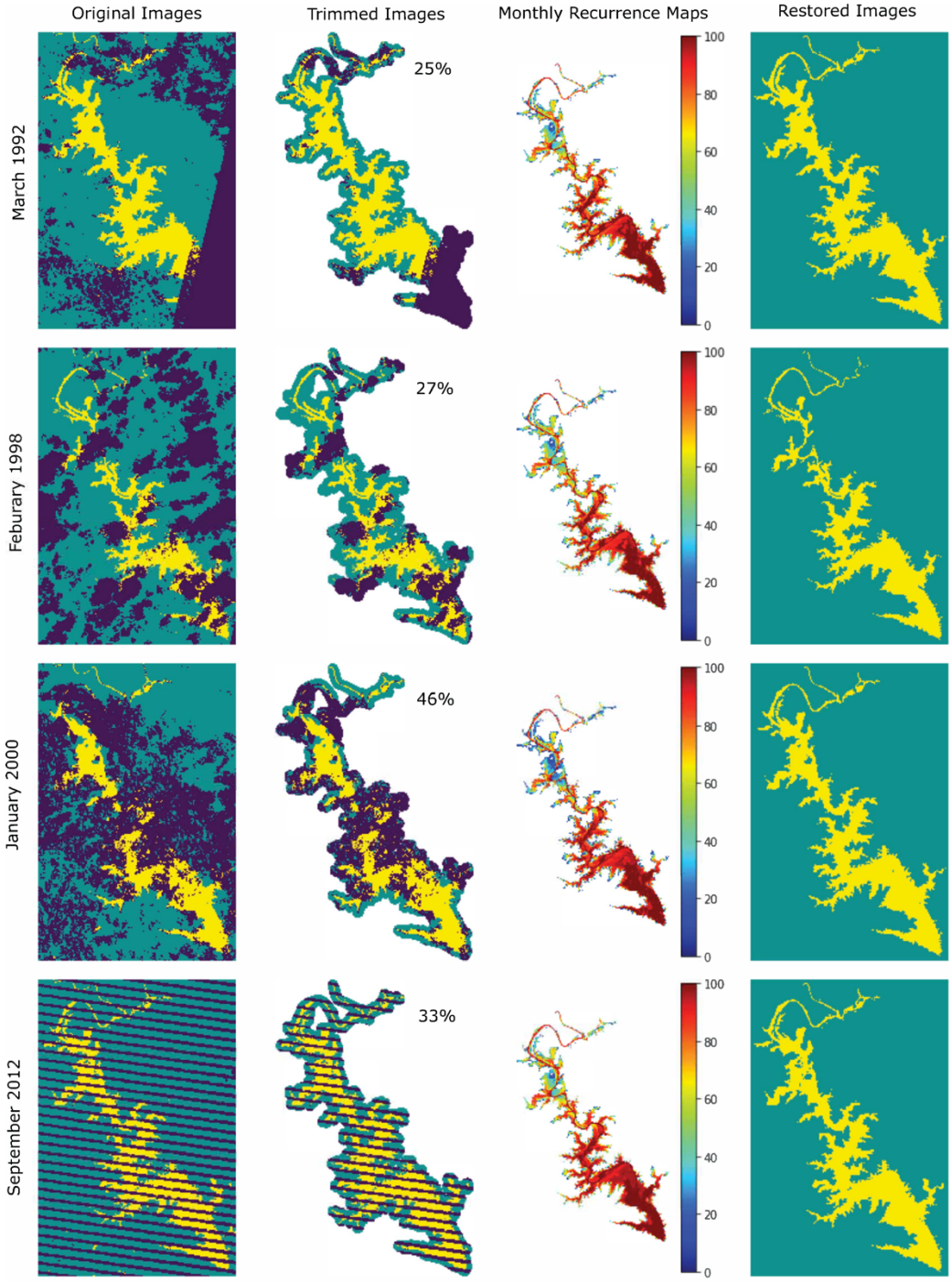

Figure S1 As in Fig. 1 but for Lake Wivenhoe, Australia. (First column: historical water maps from GSWD (yellow: water; green: land; blue: no data image contaminated ratio from top to bottom: 25%, 27%, 46 % and 33%); second column: historical water maps trimmed by the lake boundary from HydroLAKES with a 500 m buffer (number: contamination ratio); third column: water recurrence (0~100%) maps at the specific month; fourth column: restored water maps)

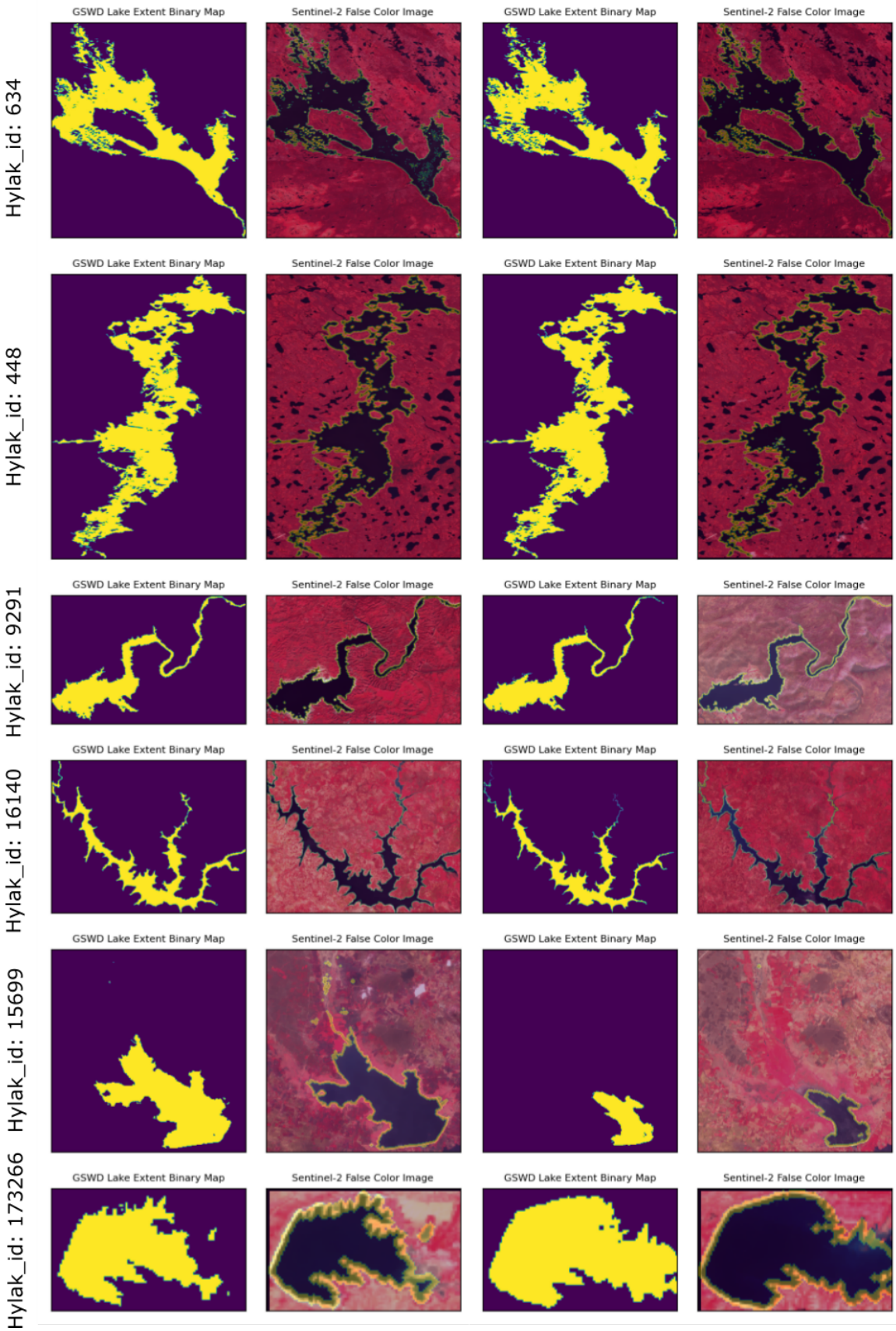

Figure S2. Comparisons between GSWD lake extent binary map (yellow: wet pixels; blue: dry pixels) and Sentinle-2 false color imagery (yellow line: derived lake extent boundaries) at different time for selected 20 lakes around the world.

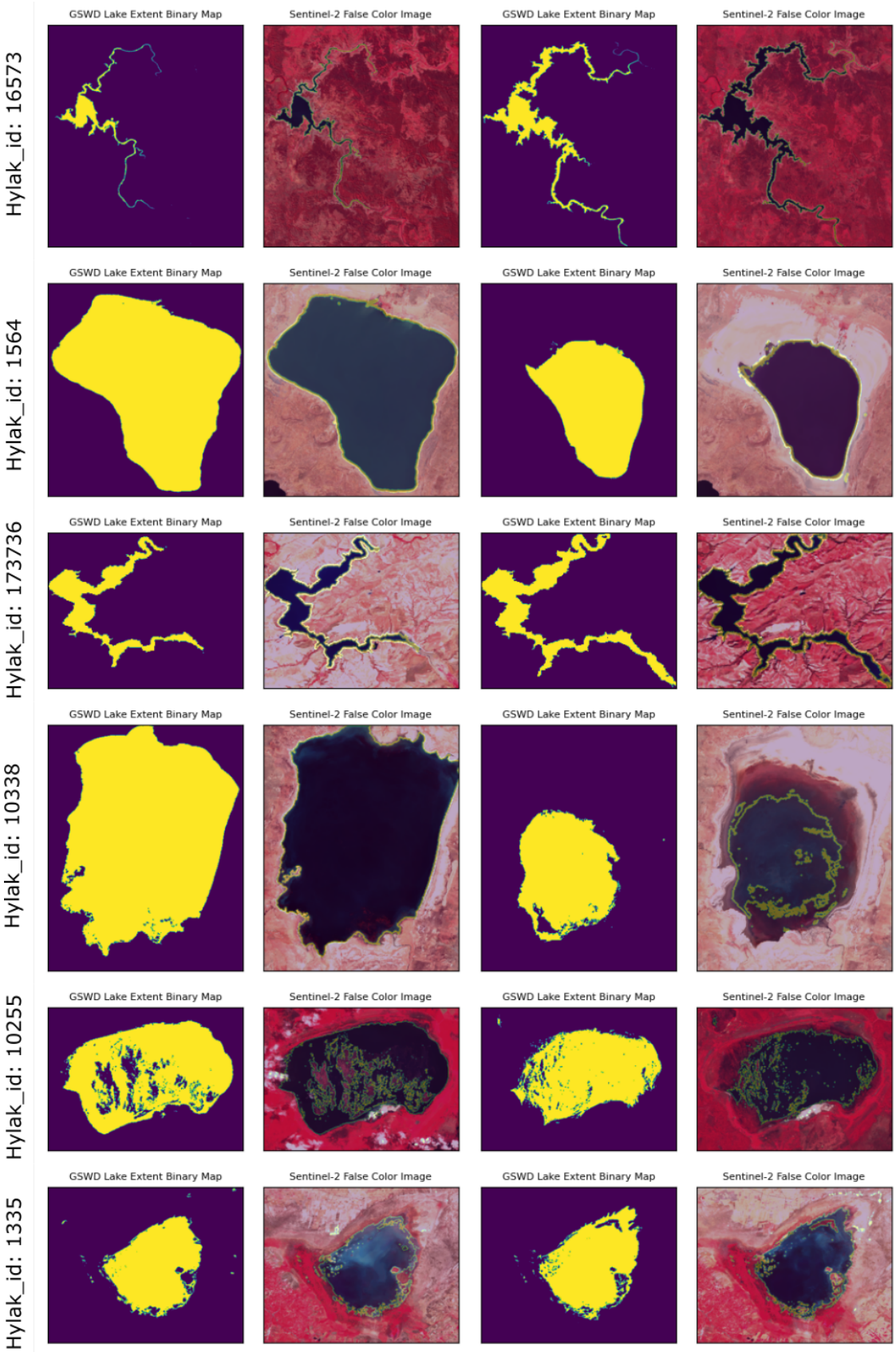

Figure S2 (continued). Comparisons between GSWD lake extent binary map (yellow: wet pixels; blue: dry pixels) and Sentinel-2 false color imagery (yellow line: derived lake extent boundaries) at different time for selected 20 lakes around the world.

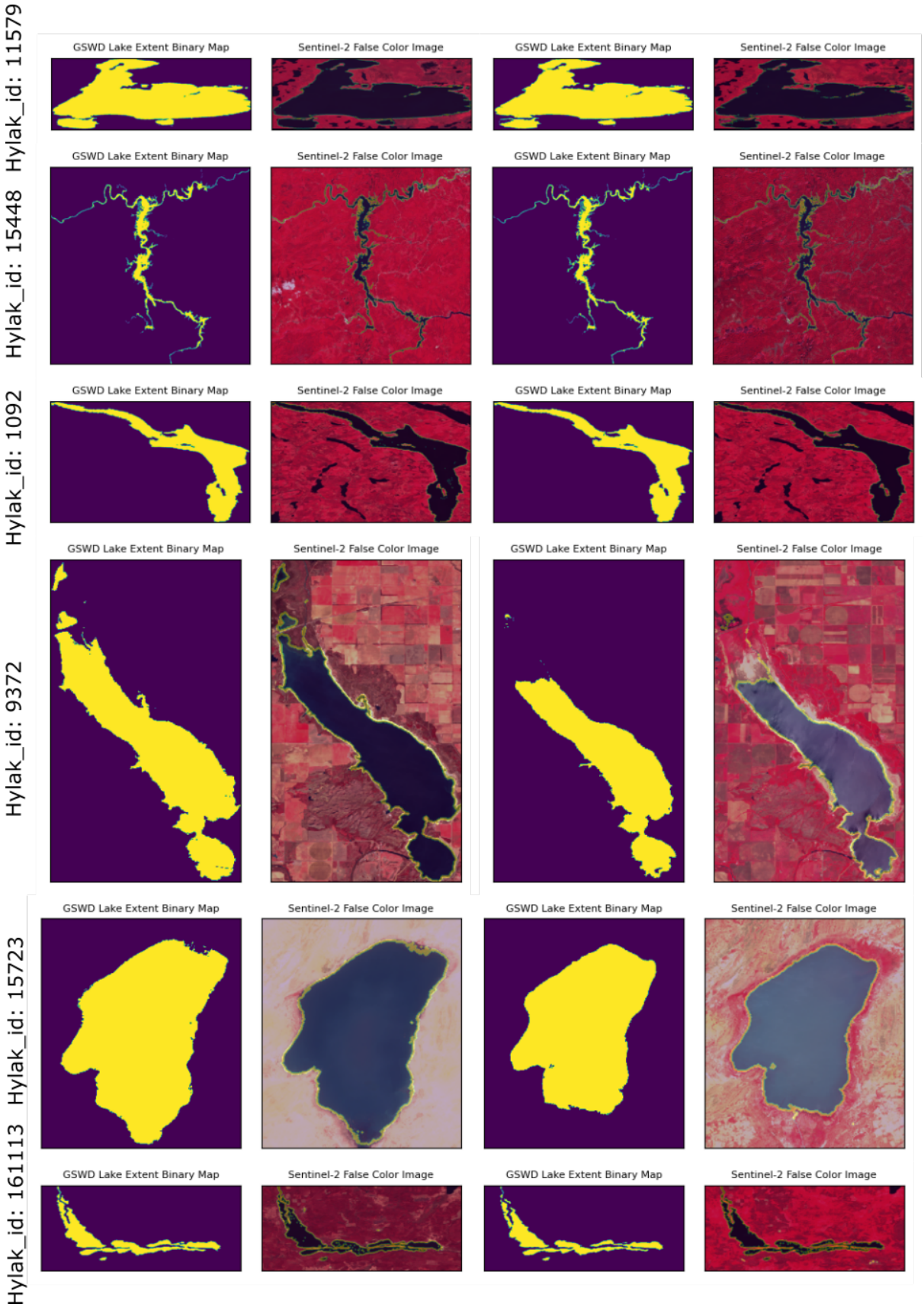

Figure S2 (continued). Comparisons between GSWD lake extent binary map (yellow: wet pixels; blue: dry pixels) and Sentinel-2 false color imagery (yellow line: derived lake extent boundaries) at different time for selected 20 lakes around the world.

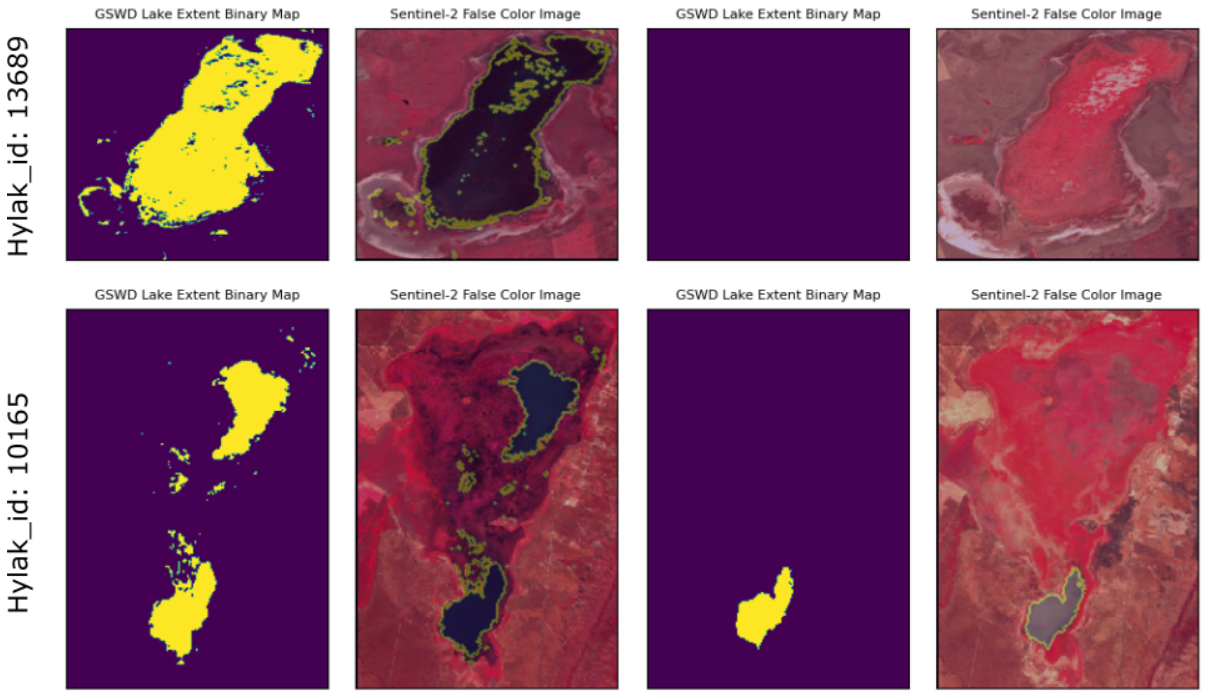

Figure S2 (continued). Comparisons between GSWD lake extent binary map (yellow: wet pixels; blue: dry pixels) and Sentinel-2 false color imagery (yellow line: derived lake extent boundaries) at different time for selected 20 lakes around the world.

Table S1 Comparison results of lake extent estimates derived between GSWD (Landsat) and Sentinel-2 (statistics results from Figure S2)

ID	Lake Name	Country	Latitude	Longitude	Date	GSWD (Landsat) lake extent (km^2)	Sentinel-2 lake extent (km^2)	Difference (%)
634	Petit Manicouagan	Canada	51.82	-67.80	2020-06	312	313	0.32
634	Petit Manicouagan	Canada	51.82	-67.80	2019-07	305	320	4.69
448		Canada	58.28	-96.99	2019-07	226	227	0.44
448		Canada	58.28	-96.99	2021-08	229	224	2.23
9291	Millerton Lake	United States of America	37.00	-119.70	2020-02	17.3	17.5	1.14
9291	Millerton Lake	United States of America	37.00	-119.70	2020-09	15.2	14.9	2.01
16140	Gove	Angola	-13.45	15.87	2021-02	101	102	0.98
16140	Gove	Angola	-13.45	15.87	2019-04	76	78	2.56
15699		India	17.23	79.52	2019-02	10.7	11.3	5.31
15699		India	17.23	79.52	2019-04	2.92	3	2.67
173266		Uzbekistan	38.87	66.42	2019-09	1.84	1.83	0.55
173266		Uzbekistan	38.87	66.42	2019-05	2.7	2.8	3.57
16573	Burrendong	Australia	-32.67	149.11	2019-04	16.8	17	1.18
16573	Burrendong	Australia	-32.67	149.11	2021-02	45.4	45.2	0.44
1564	Abayata	Ethiopia	7.61	38.61	2021-01	150	149	0.67
1564	Abayata	Ethiopia	7.61	38.61	2019-01	71.2	70.5	0.99
173736	Vadomojon	Spain	37.64	-4.23	2019-08	4.97	5.06	1.78
173736	Vadomojon	Spain	37.64	-4.23	2019-02	6.93	7.19	3.62
10338	Pozuelos	Argentina	-22.32	-65.99	2019-05	95	98.6	3.65
10338	Pozuelos	Argentina	-22.32	-65.99	2019-11	31.4	33.3	5.71
10255	Baia Grande	Brazil	-15.53	-60.19	2020-03	56.6	51.7	9.48
10255	Baia Grande	Brazil	-15.53	-60.19	2021-06	43.7	40.3	8.44
1335	Aksehir	Turkey	38.51	31.42	2019-07	91	85.5	6.43
1335	Aksehir	Turkey	38.51	31.42	2020-07	96	92	4.35
11579		Russia	67.76	124.22	2021-06	191.8	189	1.48
11579		Russia	67.76	124.22	2020-08	186	183	1.64
15448		China	26.71	117.12	2019-09	31.8	33.1	3.93
15448		China	26.71	117.12	2021-01	31.6	32	1.25
1092	Flasjon	Sweden	64.14	15.91	2020-05	254	252	0.79
1092	Flasjon	Sweden	64.14	15.91	2021-07	254	253	0.40
9372	Lake Altus	United States of America	34.89	-99.29	2019-03	22.9	22.1	3.62
9372	Lake Altus	United States of America	34.89	-99.29	2021-06	15.9	16	0.62
15723		Mali	15.78	-4.53	2019-03	36.4	36.1	0.83
15723		Mali	15.78	-4.53	2019-09	28.9	29.1	0.69
161113		Russia	56.00	28.71	2019-04	10.5	10.6	0.94
161113		Russia	56.00	28.71	2021-06	9.3	9.5	2.11
13689		Kazakhstan	51.37	61.86	2021-05	30.6	29.2	4.79
13689		Kazakhstan	51.37	61.86	2021-09	0	0	0.00

10165	Brazil	-10.23	-44.68	2021-07	3.4	3.2	6.25
10165	Brazil	-10.23	-44.68	2019-09	0.93	0.91	2.20