

Multi-Source Remote Sensing Analysis of Yilong Lake's Surface Water Dynamics (1965-2022): A Temporal and Spatial Investigation

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Supplementary Materials



Figure S1. Spatial distribution of control points.



Figure S2. The Key-Hole and Landsat8 OLI overlay map after correction.

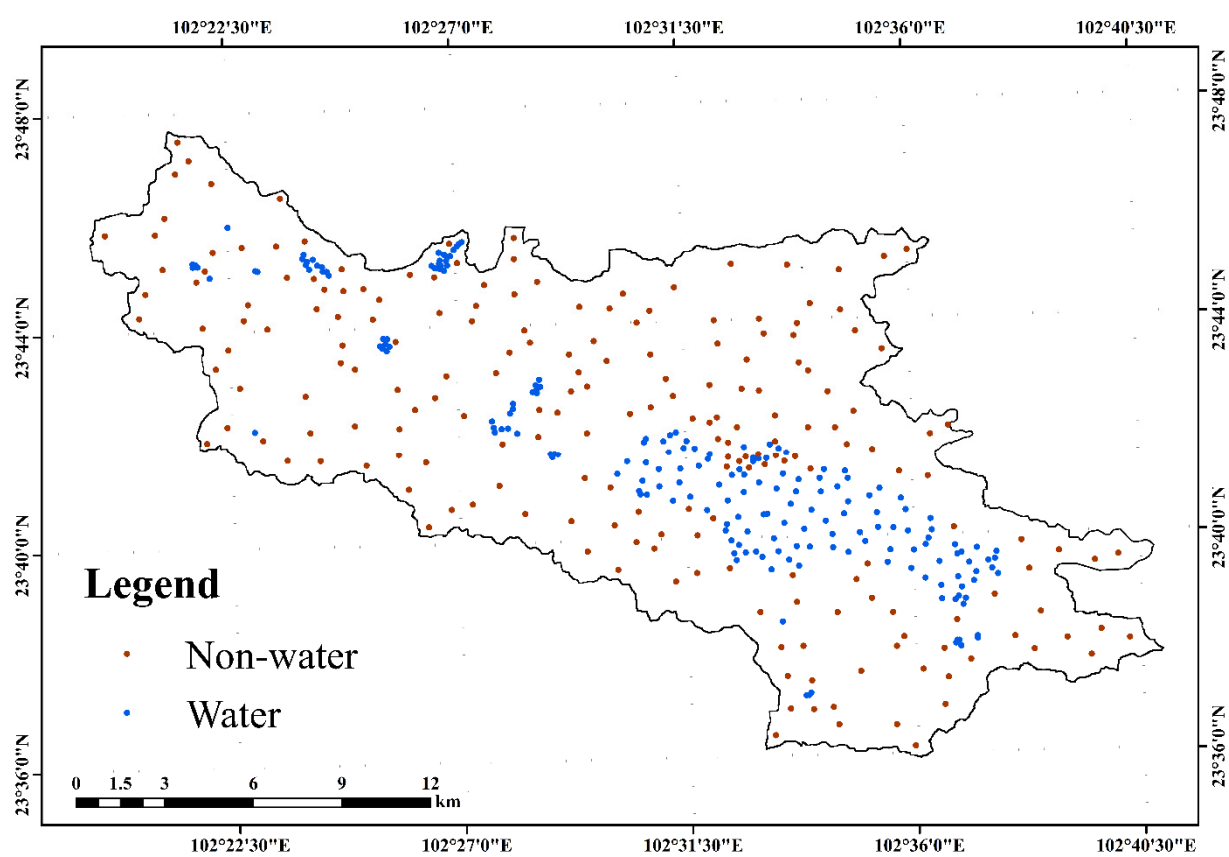


Figure S3. Spatial distribution of sampling points, 200 points for water and 200 points for non-water

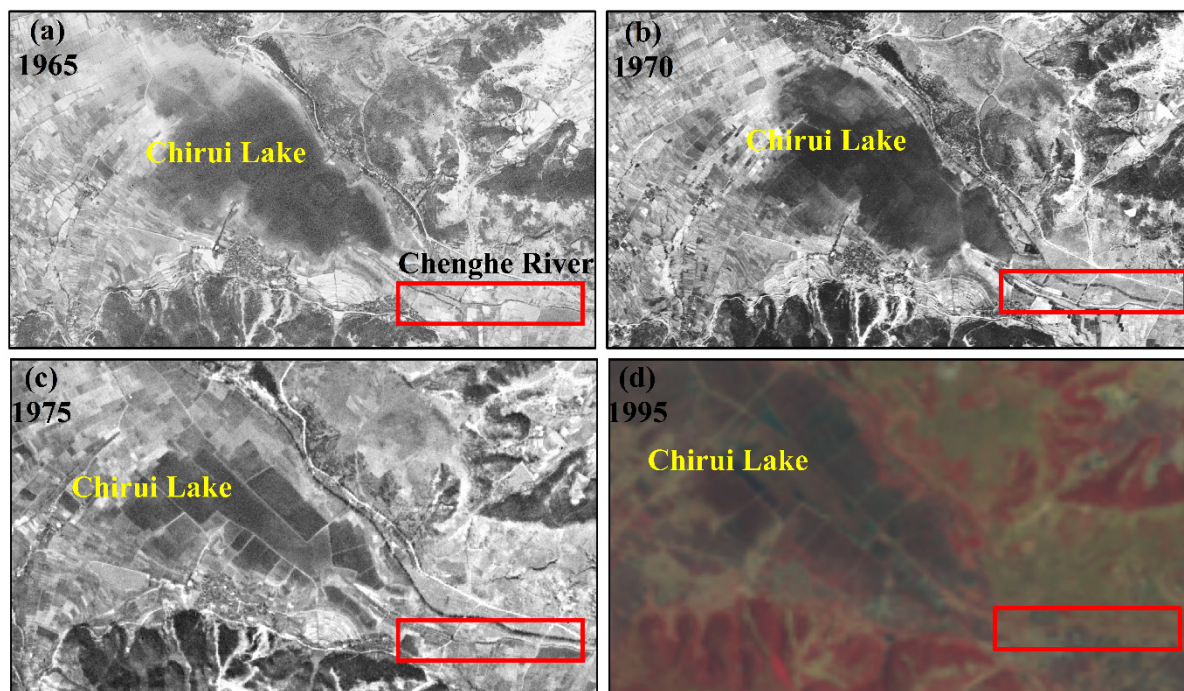


Figure S4. Reclamation situation of Chirui Lake upstream of Yilong Lake.

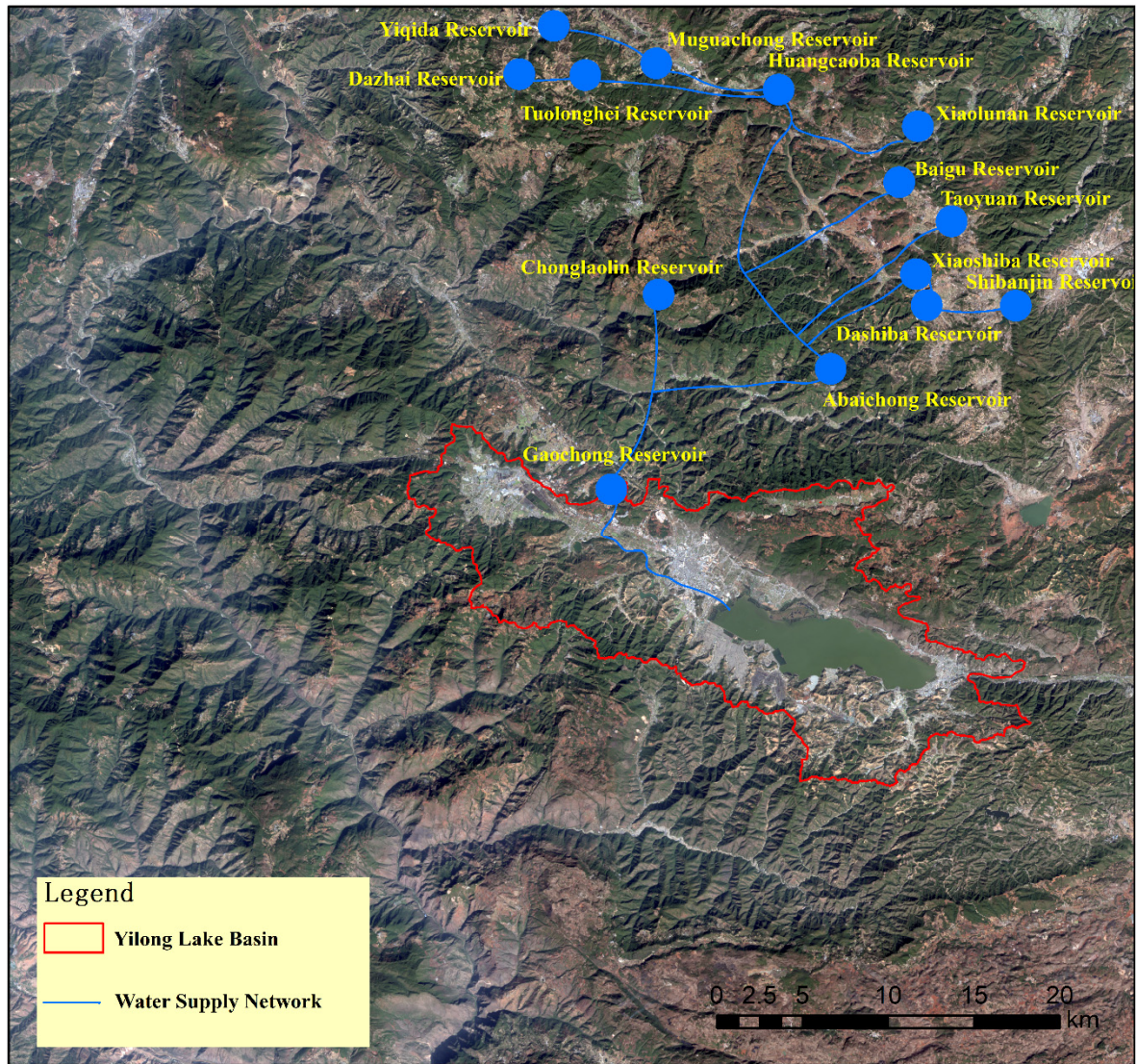


Figure S5. Yilong Lake water replenishment network diagram

Table S1 Thresholds for each sensor

Sensor	MSS	TM	ETM+	OLI	CCD
Threshold	0.1286-0.2301	0.3329-0.4011	0.3068-0.4611	0.3351-0.5101	0.1738-0.2025

Table S2 Confusion matrix for accuracy of water surface

Classification	Ground reference		Total	User accuracy (%)
	Water	Non-water		
Water	36735	855	37590	97.89%
Non-water	1998	39596	41594	95.20%
Total	38733	40451	79184	Overall accuracy=96.45%
Producer accuracy (%)	94.84	97.88		Kappa coefficient= 0.91

Table S3 Water body area of Yilong Lake and corresponding date

Date	Area/km ²	Date	Area/km ²	Date	Area/km ²	Date	Area/km ²	Date	Area/km ²	Date	Area/km ²	Date	Area/km ²	Date	Area/km ²	Date	Area/km ²
1965/11/7	36.26	1988/3/30	31.84	1992/9/1	27.17	1995/12/15	33.76	1999/12/26	28.79	2004/12/23	25.02	2010/5/14	26.32	2014/4/7	12.75	2020/1/18	29.05
1970/3/17	35.70	1988/5/1	32.13	1992/10/19	27.07	1996/1/16	34.60	2000/2/12	30.29	2005/2/25	25.96	2010/9/19	25.09	2015/2/21	13.96	2020/2/19	29.14
1973/4/1	34.96	1988/6/2	31.17	1992/12/22	25.75	1996/3/4	31.46	2000/3/15	25.87	2005/3/29	26.45	2010/10/21	26.46	2015/3/9	13.43	2020/3/22	28.73
1974/1/28	32.20	1988/11/9	30.65	1993/2/8	23.69	1996/9/12	28.01	2000/5/2	24.49	2005/4/30	24.16	2010/11/6	27.11	2016/2/8	13.45	2020/5/9	27.55
1975/12/26	13.50	1988/12/27	31.45	1993/3/28	23.66	1996/10/30	28.62	2000/8/22	25.19	2006/2/12	25.91	2010/11/22	26.45	2016/4/28	11.59	2021/5/12	26.07
1976/2/24	30.64	1989/3/1	30.36	1993/4/29	24.24	1997/1/2	27.40	2000/11/26	24.45	2006/5/19	24.55	2010/12/24	26.62	2016/8/18	11.43	2021/11/20	26.91
1976/3/13	31.81	1989/4/18	28.91	1993/11/7	27.10	1997/2/3	27.20	2001/1/13	25.96	2006/10/26	24.99	2011/1/25	26.45	2016/10/5	11.50	2022/1/23	28.27
1976/4/18	33.10	1989/12/30	28.40	1993/12/9	27.57	1997/3/7	26.09	2001/3/2	25.97	2006/11/27	25.91	2011/4/15	25.82	2016/11/22	13.27	2022/2/8	28.44
1977/3/8	28.84	1990/3/4	27.45	1994/1/10	27.90	1997/10/17	27.83	2001/6/26	24.27	2007/5/6	25.94	2011/7/20	24.94	2017/1/9	17.01	2022/4/13	27.48
1977/5/1	29.00	1990/5/7	25.26	1994/2/11	27.23	1997/12/20	25.12	2002/3/13	25.72	2007/6/23	25.00	2012/3/17	23.38	2017/3/14	19.09	2022/4/29	26.97
1978/8/21	14.32	1990/11/15	28.96	1994/3/15	25.81	1998/1/5	24.44	2002/10/7	26.49	2008/4/6	25.98	2012/5/3	15.43	2017/5/1	20.45	2022/7/2	27.21
1979/4/3	12.44	1990/12/17	30.59	1994/4/15	25.36	1998/3/10	23.64	2002/11/8	23.22	2008/11/16	22.77	2012/8/11	11.73	2018/1/28	25.34	2022/8/19	26.53
1986/7/31	38.35	1991/1/2	30.09	1994/5/2	25.92	1998/4/27	19.06	2003/3/16	27.17	2008/12/2	25.52	2012/10/20	13.66	2018/3/1	24.11	2022/11/23	29.18
1987/1/7	40.50	1991/3/23	26.05	1994/8/6	26.99	1998/6/14	15.10	2003/11/19	15.24	2009/1/19	27.31	2012/12/3	13.70	2019/1/31	28.89	2022/12/9	29.34
1987/2/8	40.24	1991/4/8	25.20	1994/10/25	32.33	1998/11/5	17.35	2004/1/6	16.06	2009/2/20	27.52	2012/12/21	12.20	2019/2/16	28.81	-	-
1987/5/15	31.17	1991/12/4	24.87	1994/12/12	30.87	1998/12/23	17.00	2004/3/10	24.47	2009/3/8	26.96	2013/4/20	10.64	2019/4/21	28.44	-	-
1987/11/23	35.18	1992/1/5	25.71	1995/2/14	30.91	1999/1/24	20.16	2004/4/27	22.28	2009/4/9	25.59	2013/9/11	15.90	2019/5/7	27.96	-	-
1987/12/9	31.10	1992/3/9	24.08	1995/4/19	29.09	1999/2/25	19.41	2004/5/13	20.39	2009/11/3	27.05	2013/10/13	13.87	2019/9/28	27.38	-	-
1988/1/23	35.10	1992/4/10	23.53	1995/5/21	28.88	1999/3/29	19.11	2004/6/14	23.80	2010/1/22	27.27	2014/2/2	19.25	2019/10/30	28.00	-	-
1988/2/27	33.11	1992/8/16	27.31	1995/10/12	30.89	1999/11/24	26.76	2004/10/20	25.11	2010/4/15	26.87	2014/3/6	13.00	2019/12/17	28.84	-	-