Area Changes and Influencing Factors of Large Inland Lakes in Recent 20 Years: A Case Study of Sichuan Province, China

Wenxin Liu, Xiaoai Dai, Meilian Wang, Yan Lan, Ge Qu, Yunfeng Shan, Jiashun Ren, Weile Li, Shuneng Liang, Youlin Wang, Dongsheng Liu

Table S1. The area of the highland lakes for the last 20 years.

Lugu Lake				Qionghai Lake				Ma Lake			
Year	Area/ km²	Annual area change/ km²	φ/%	Year	Area /km²	Annual area change/ km²	φ/%	Year	Area /km²	Annual area change/ km²	φ/%
2000	52.72	\	\	2000	26.53	\	\	2000	6.75	\	\
2001	52.13	-0.59	-1.11	2001	26.06	-0.47	-1.77	2001	6.85	0.10	1.48
2002	50.70	-1.44	-2.75	2002	25.59	-0.47	-1.80	2002	6.76	-0.09	-1.31
2003	50.06	-0.64	-1.27	2003	26.11	0.52	2.03	2003	6.89	0.13	1.92
2004	50.91	0.85	1.70	2004	26.06	-0.05	-0.19	2004	6.74	-0.15	-2.18
2005	50.72	-0.19	-0.38	2005	26.08	0.02	0.08	2005	6.60	-0.14	-2.08
2006	50.02	-0.69	-1.37	2006	26.19	0.11	0.42	2006	6.71	0.11	1.67
2007	50.41	0.39	0.78	2007	26.18	-0.01	-0.04	2007	6.75	0.04	0.60
2008	50.29	-0.12	-0.24	2008	25.96	-0.22	-0.84	2008	6.76	0.01	0.15
2009	50.04	-0.25	-0.50	2009	26.08	0.12	0.46	2009	6.59	-0.17	-2.51
2010	50.27	0.23	0.46	2010	25.74	-0.34	-1.30	2010	6.69	0.10	1.52
2011	49.81	-0.47	-0.93	2011	25.53	-0.21	-0.82	2011	6.56	-0.13	-1.94
2012	50.20	0.39	0.79	2012	26.27	0.74	2.90	2012	6.83	0.27	4.12
2013	49.92	-0.28	-0.55	2013	26.24	-0.03	-0.11	2013	6.95	0.12	1.76
2014	49.79	-0.13	-0.26	2014	25.85	-0.39	-1.49	2014	6.77	-0.18	-2.59
2015	49.56	-0.23	-0.47	2015	25.86	0.01	0.04	2015	6.78	0.01	0.15
2016	49.65	0.09	0.18	2016	25.80	-0.06	-0.23	2016	6.70	-0.08	-1.18
2017	50.29	0.64	1.29	2017	25.90	0.10	0.39	2017	6.77	0.07	1.04
2018	50.14	-0.14	-0.28	2018	25.89	-0.01	-0.04	2018	6.82	0.05	0.74
2019	49.90	-0.25	-0.49	2019	26.06	0.17	0.66	2019	6.68	-0.14	-2.05
2020	49.83	-0.07	-0.13	2020	26.51	0.45	1.73	2020	6.85	0.17	2.54

Table S2. The area of the plains lakes for the last 20 years.

Three Forks Lake				Luban Reservoir				Shengzhong Reservoir			
Year	Area/ km²	Annual area change/ km²	φ/%	Year	Area /km²	Annual area change/ km²	φ/%	Year	Area/ km²	Annual area change / km²	φ/%
2000	19.78	\	\	2000	12.41	\	\	2000	35.04	\	\
2001	19.55	-0.23	-1.16	2001	10.52	-1.89	-15.23	2001	38.10	3.06	8.73
2002	20.08	0.53	2.71	2002	12.81	2.29	21.77	2002	31.25	-6.85	-17.98
2003	21.42	1.34	6.67	2003	12.38	-0.43	-3.36	2003	28.08	-3.17	-10.14
2004	22.57	1.15	5.37	2004	12.62	0.24	1.94	2004	29.29	1.21	4.31
2005	19.56	-3.01	-13.34	2005	11.57	-1.05	-8.32	2005	29.63	0.34	1.16
2006	20.41	0.85	4.35	2006	10.49	-1.08	-9.33	2006	27.18	-2.45	-8.27
2007	21.05	0.64	3.14	2007	12.22	1.73	16.49	2007	33.23	6.05	22.26
2008	19.69	-1.36	-6.46	2008	10.39	-1.83	-14.98	2008	41.31	8.08	24.32
2009	19.08	-0.61	-3.10	2009	10.10	-0.29	-2.79	2009	42.78	1.47	3.56
2010	20.83	1.75	9.17	2010	11.42	1.32	13.04	2010	44.21	1.43	3.34
2011	18.37	-2.46	-11.81	2011	12.12	0.70	6.17	2011	42.95	-1.26	-2.85
2012	23.27	4.90	26.67	2012	12.29	0.17	1.42	2012	43.02	0.07	0.16
2013	20.29	-2.98	-12.81	2013	12.71	0.41	3.36	2013	45.89	2.87	6.67
2014	20.14	-0.15	-0.74	2014	12.27	-0.44	-3.46	2014	37.29	-8.60	-18.74
2015	21.56	1.42	7.05	2015	12.37	0.10	0.85	2015	39.72	2.43	6.52
2016	19.75	-1.81	-8.40	2016	12.02	-0.35	-2.86	2016	39.90	0.18	0.45
2017	20.73	0.98	4.96	2017	11.98	-0.03	-0.29	2017	39.30	-0.60	-1.50
2018	19.39	-1.34	-6.46	2018	11.50	-0.48	-4.02	2018	43.46	4.16	10.59
2019	20.05	0.66	3.40	2019	12.66	1.16	10.09	2019	43.18	-0.28	-0.64
2020	21.02	0.97	4.84	2020	11.85	-0.81	-6.44	2020	42.71	-0.47	-1.09

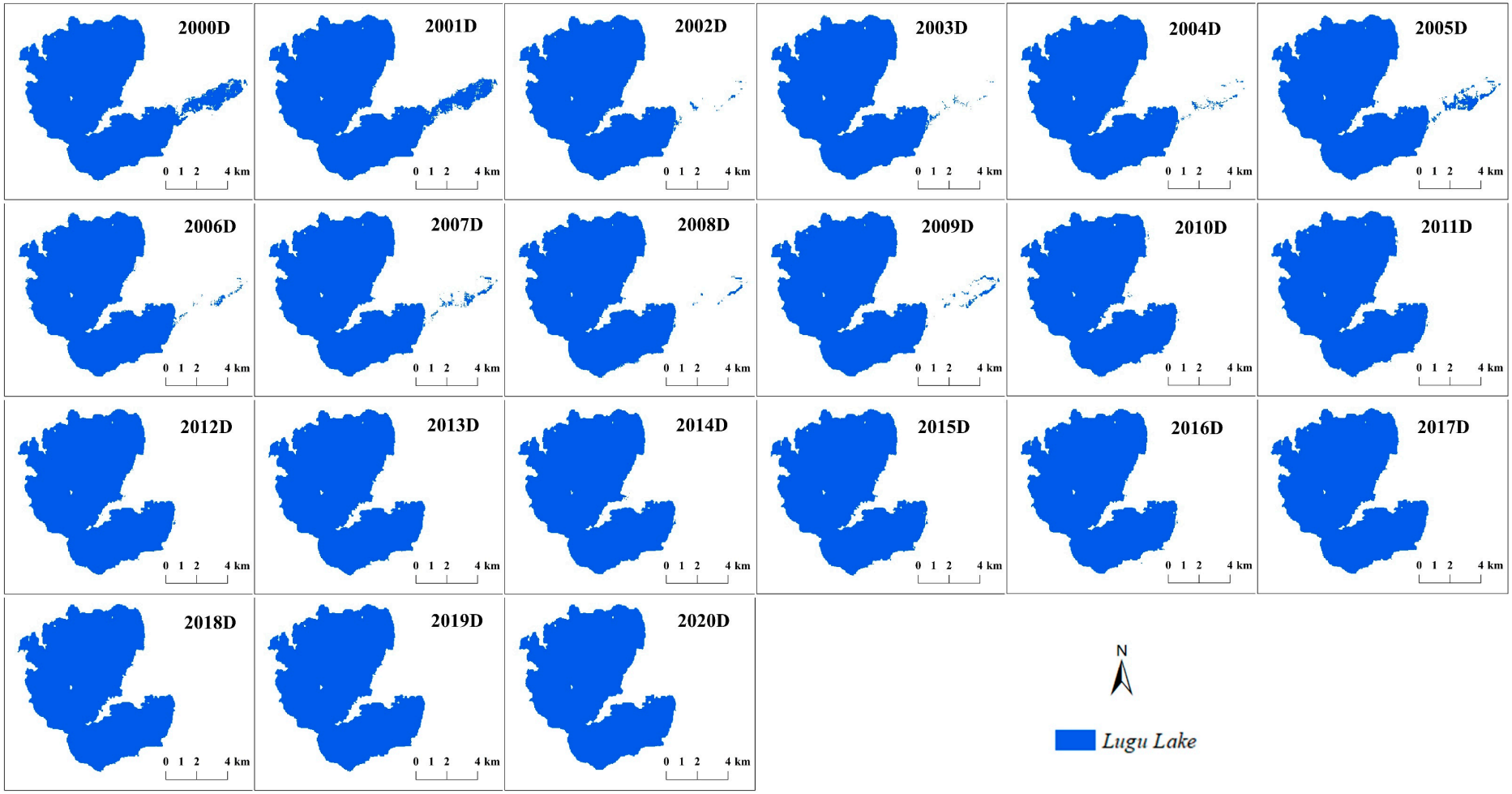


Figure S1. Information on the water bodies of Lugu Lake in the dry season from 2000 to 2020.

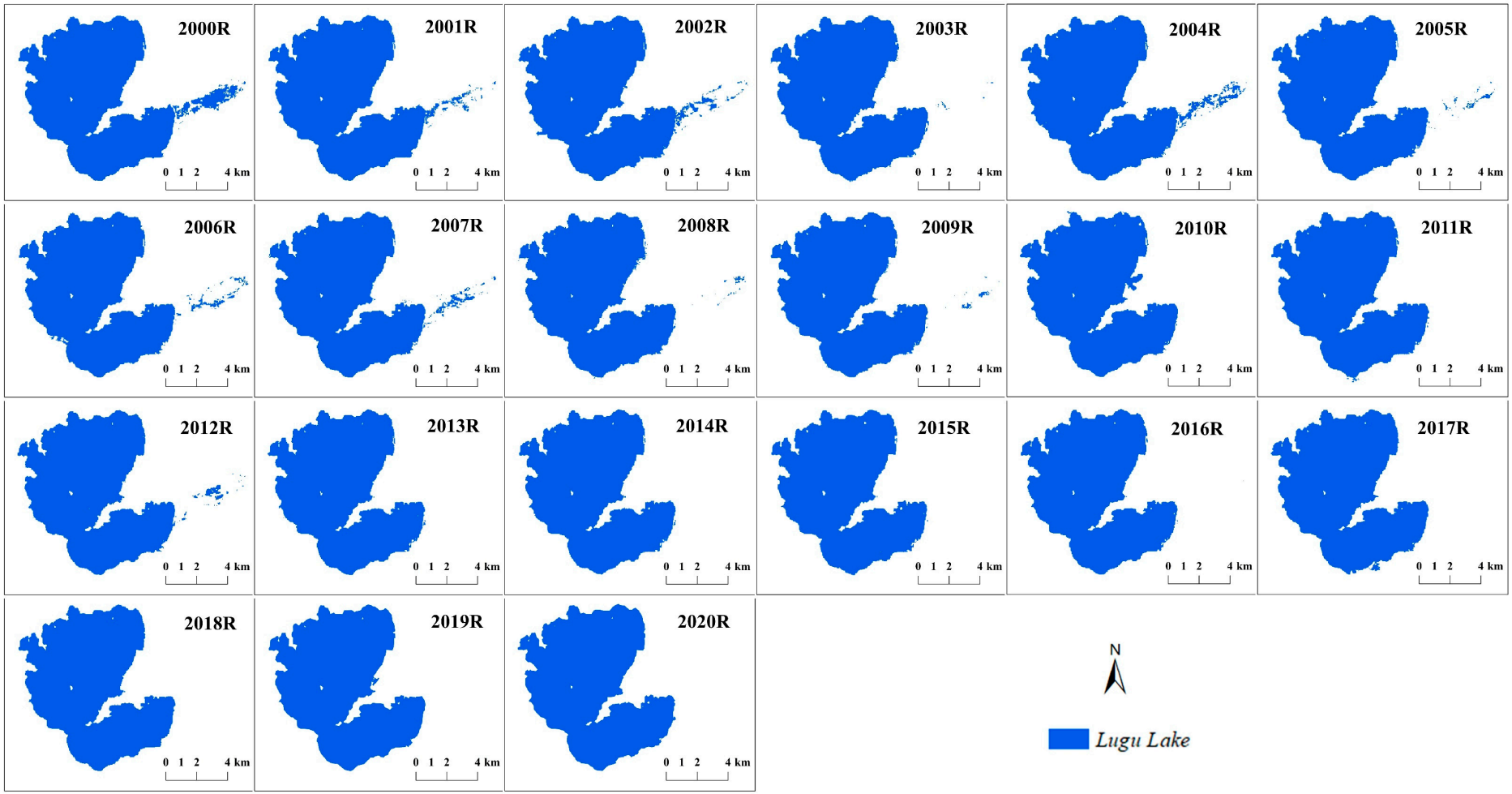


Figure S2. Information on the water bodies of Lugu Lake in the rainy season from 2000 to 2020.

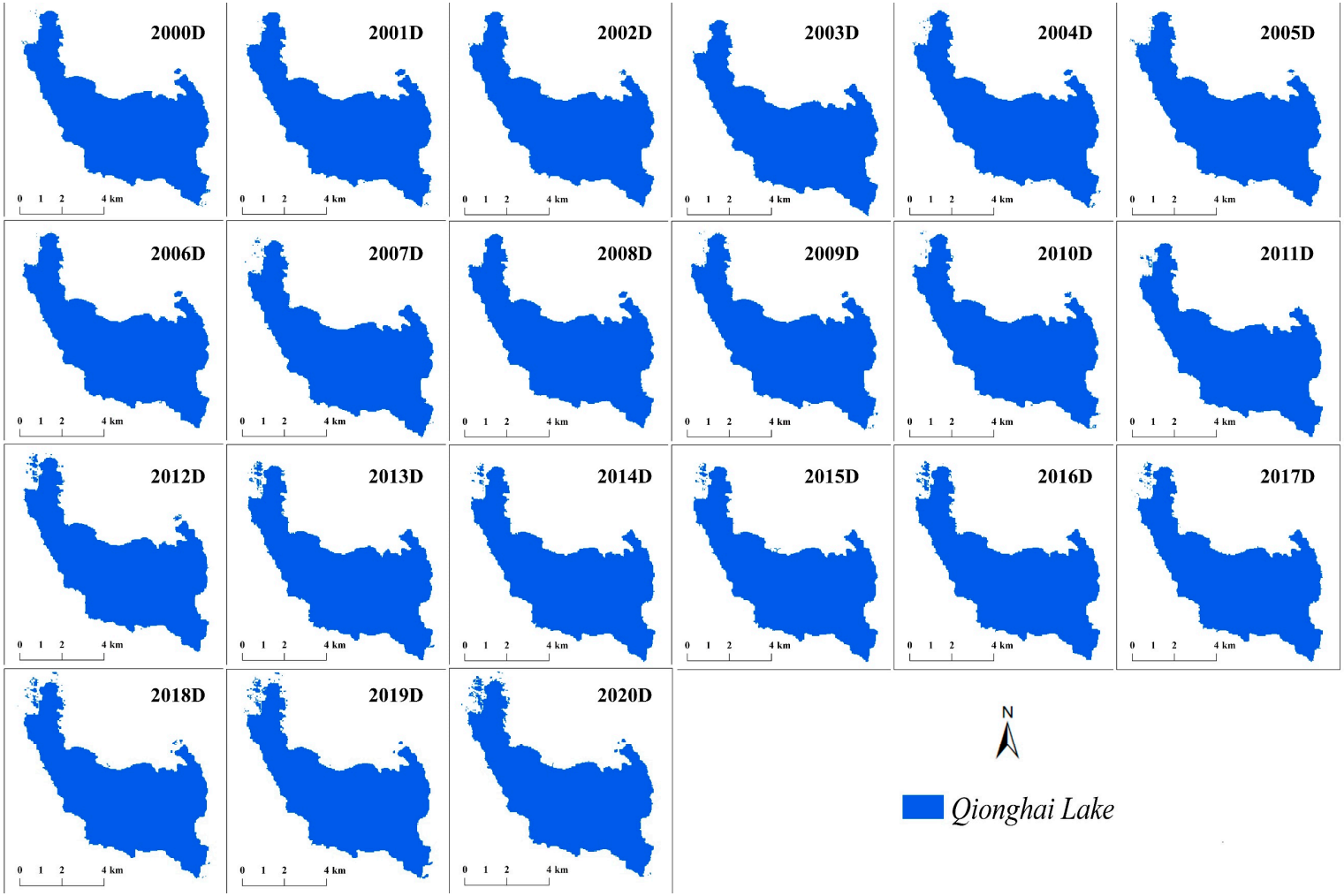


Figure S3. Information on the water bodies of Qionghai Lake in the dry season from 2000 to 2020.

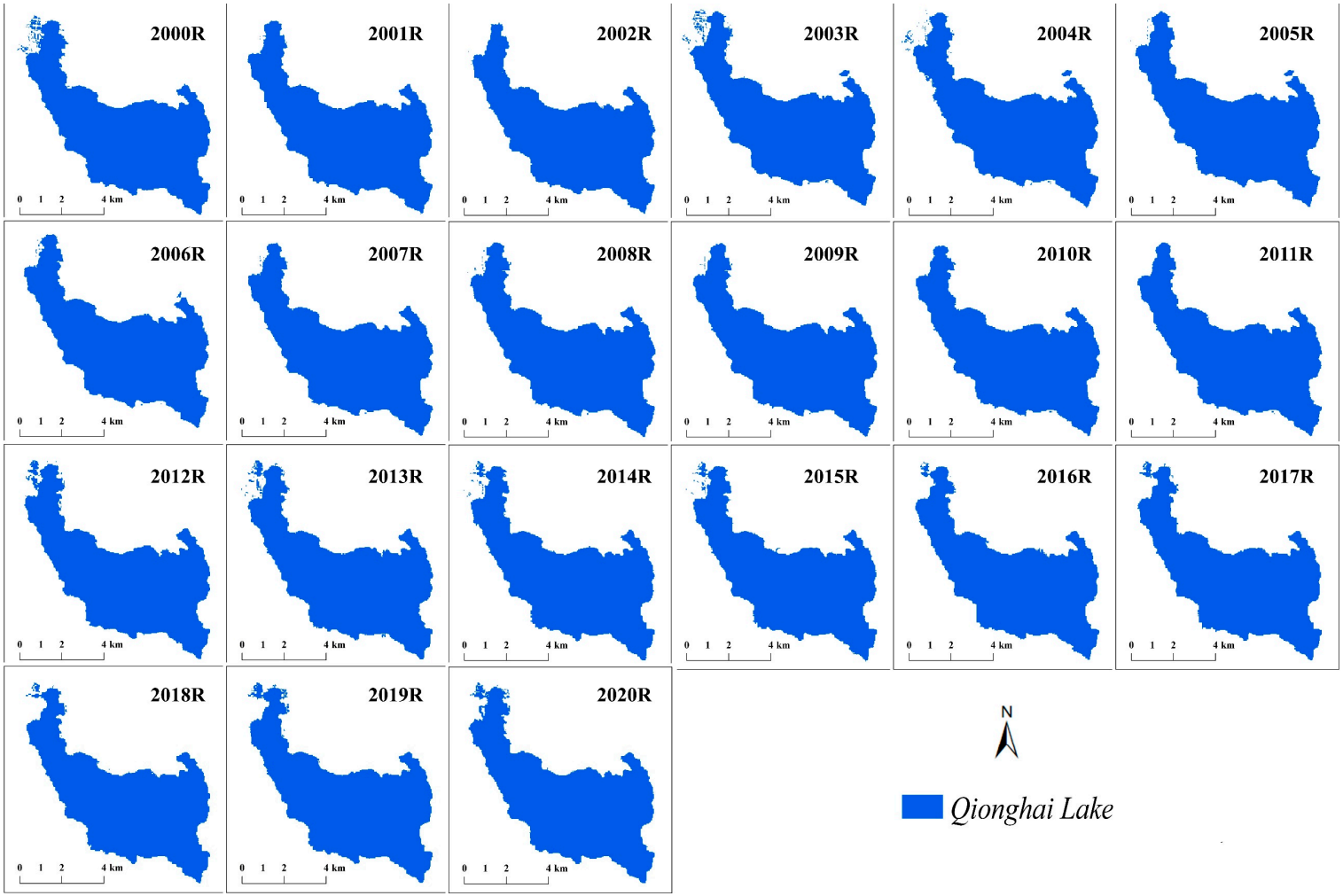


Figure S4. Information on the water bodies of Qionghai Lake in the rainy season from 2000 to 2020.

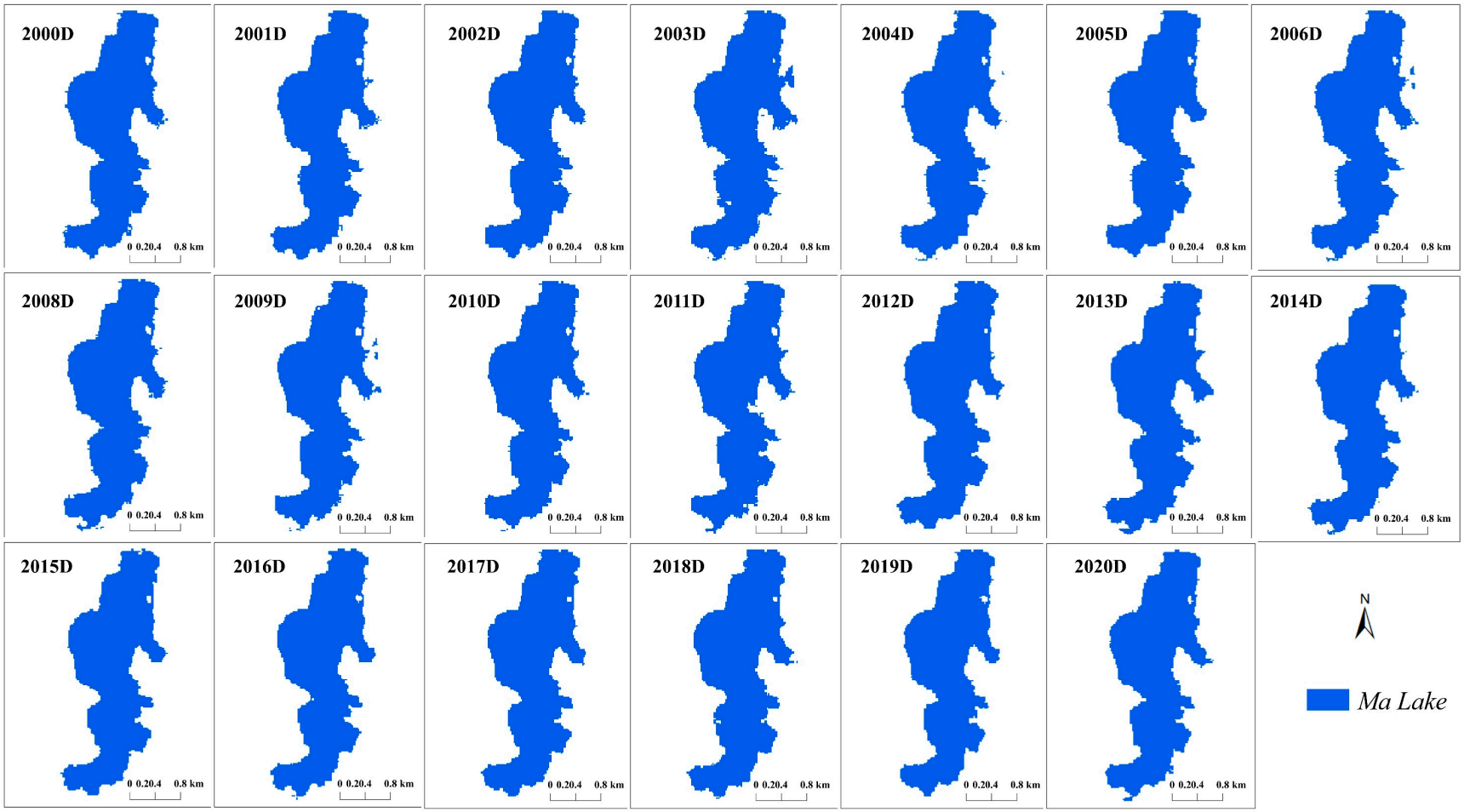


Figure S5. Information on the water bodies of Ma Lake in the dry season from 2000 to 2020.

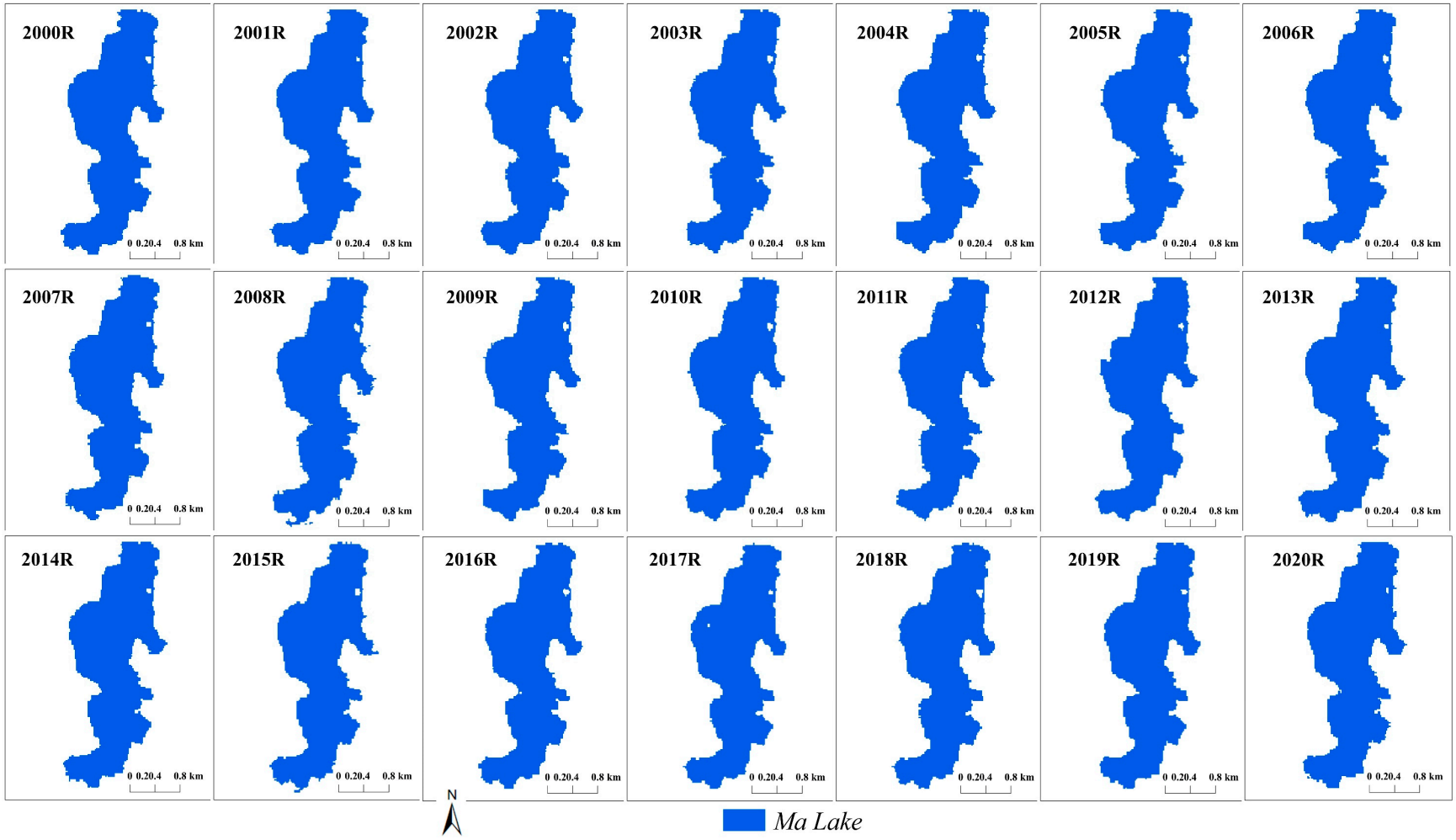


Figure S6. Information on the water bodies of Ma Lake in the rainy season from 2000 to 2020.

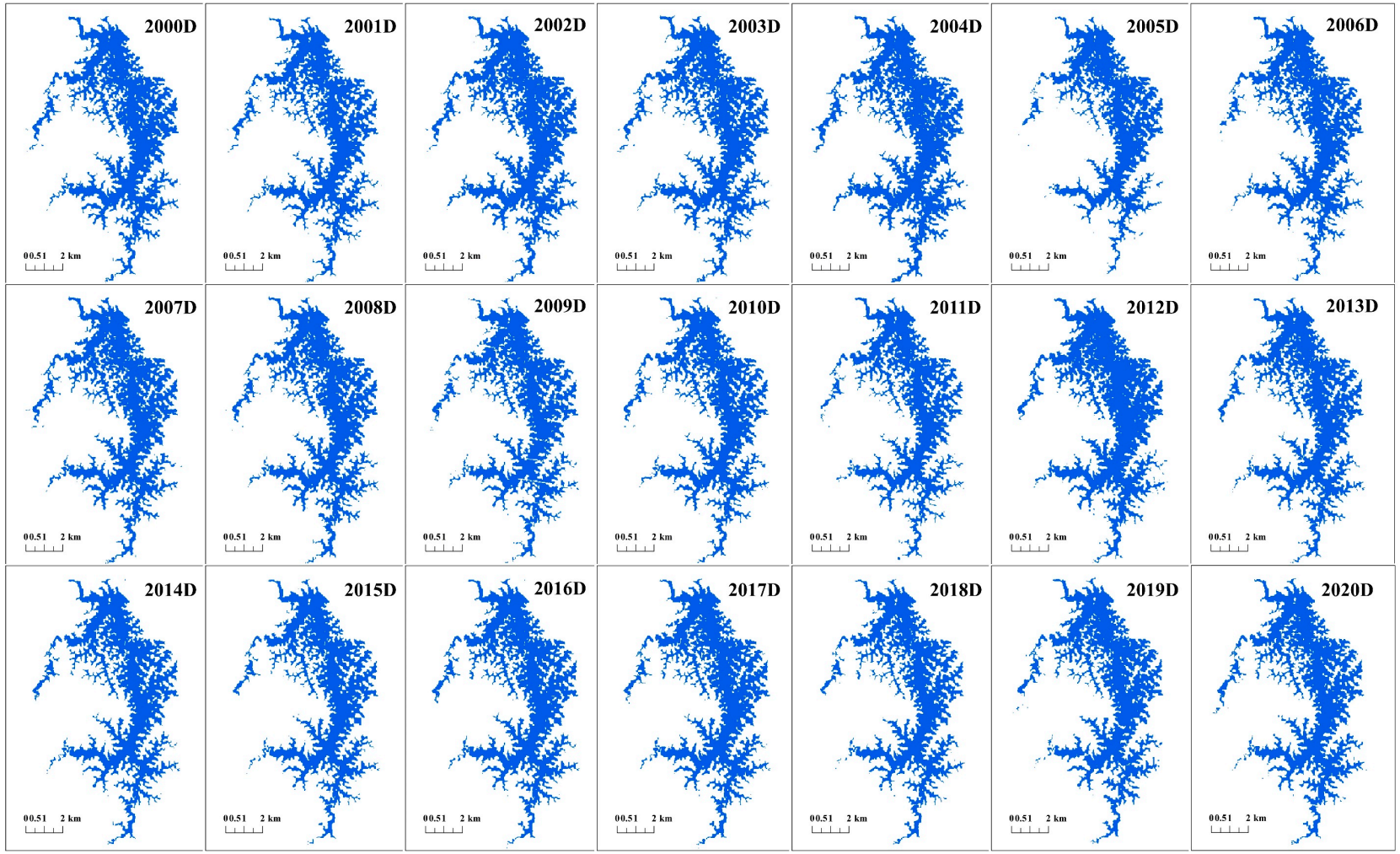


Figure S7. Information on the water bodies of Three Forks Lake in the dry season from 2000 to 2020.

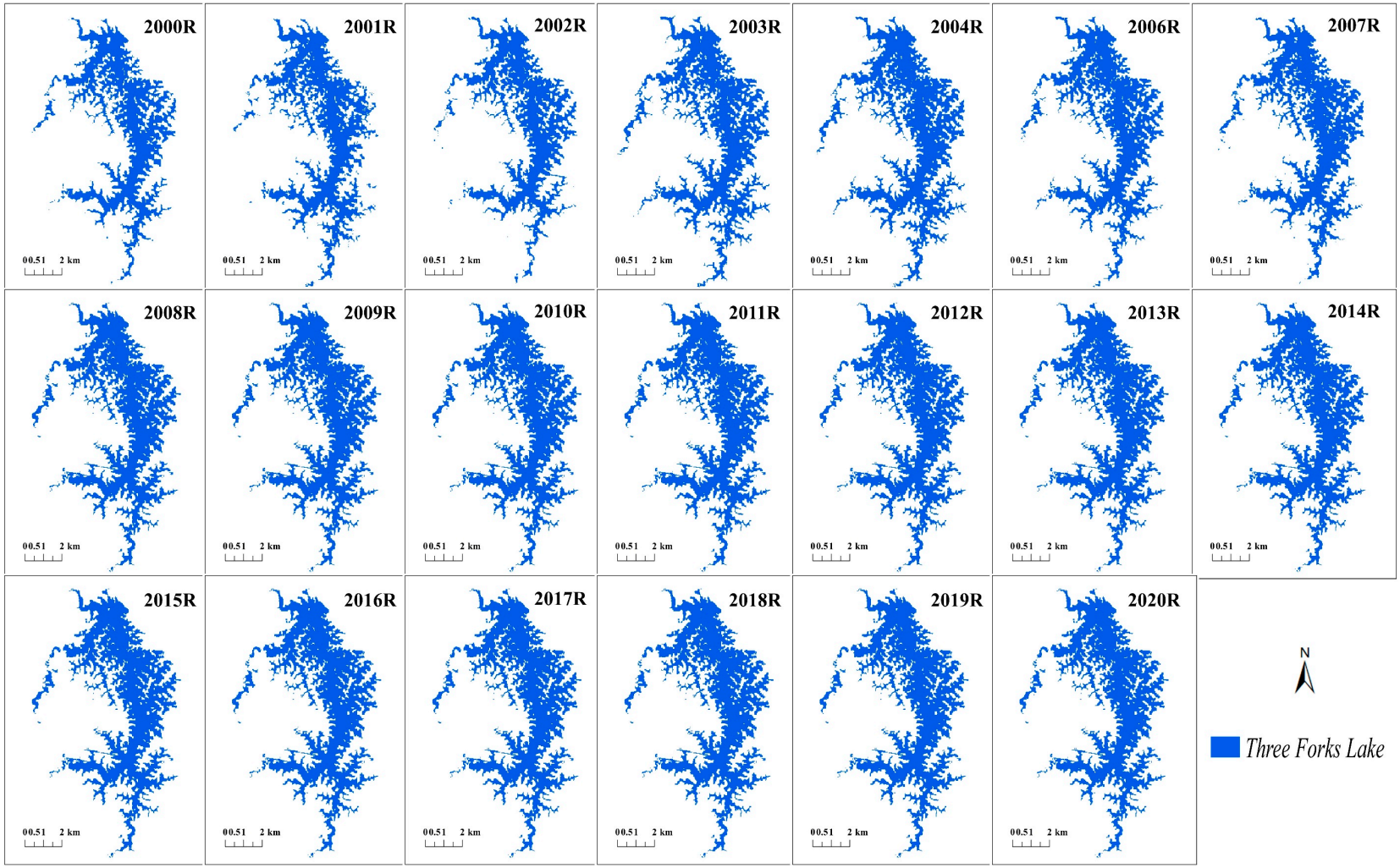


Figure S8. Information on the water bodies of Three Forks Lake in the rainy season from 2000 to 2020.

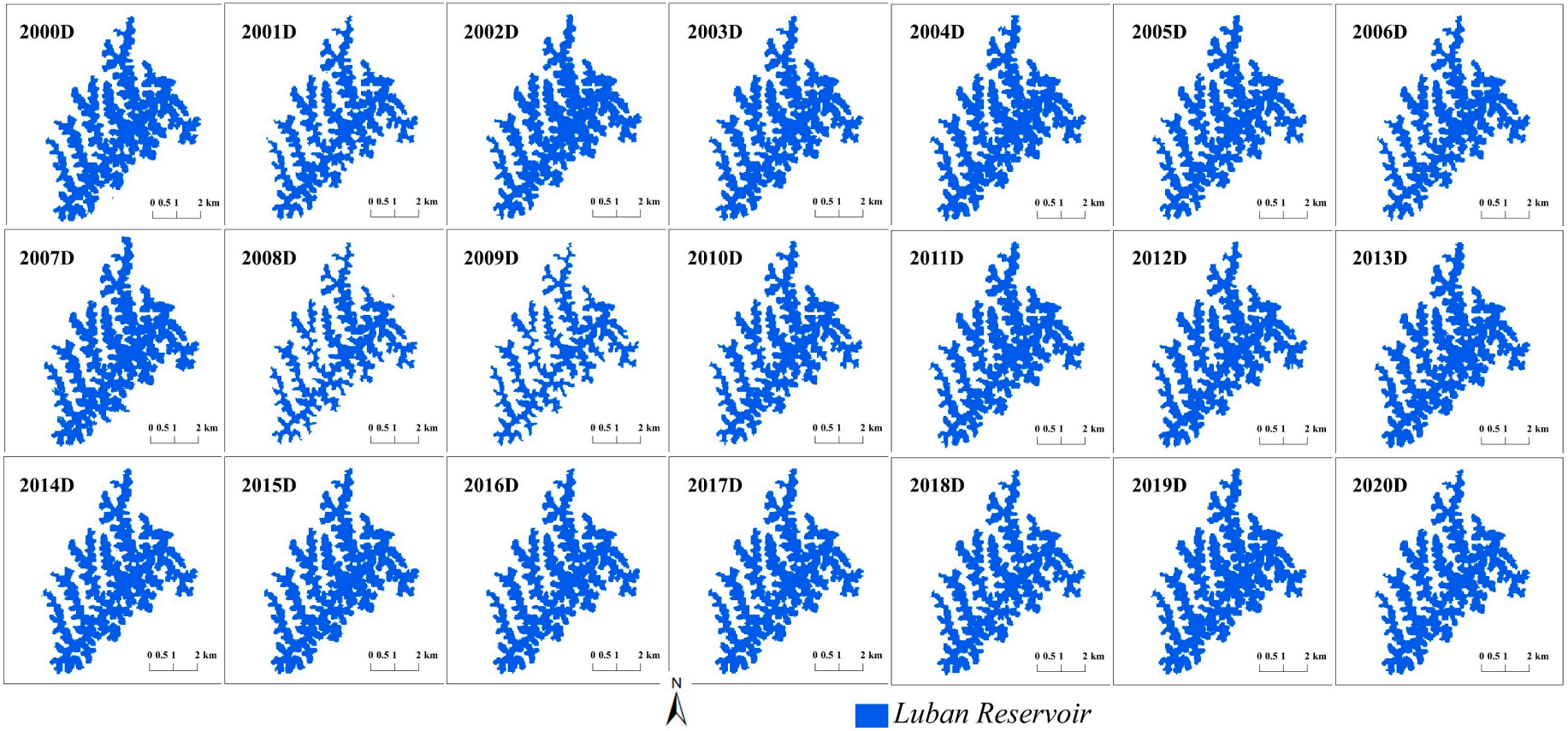


Figure S9. Information on the water bodies of Luban Reservoir in the dry season from 2000 to 2020.

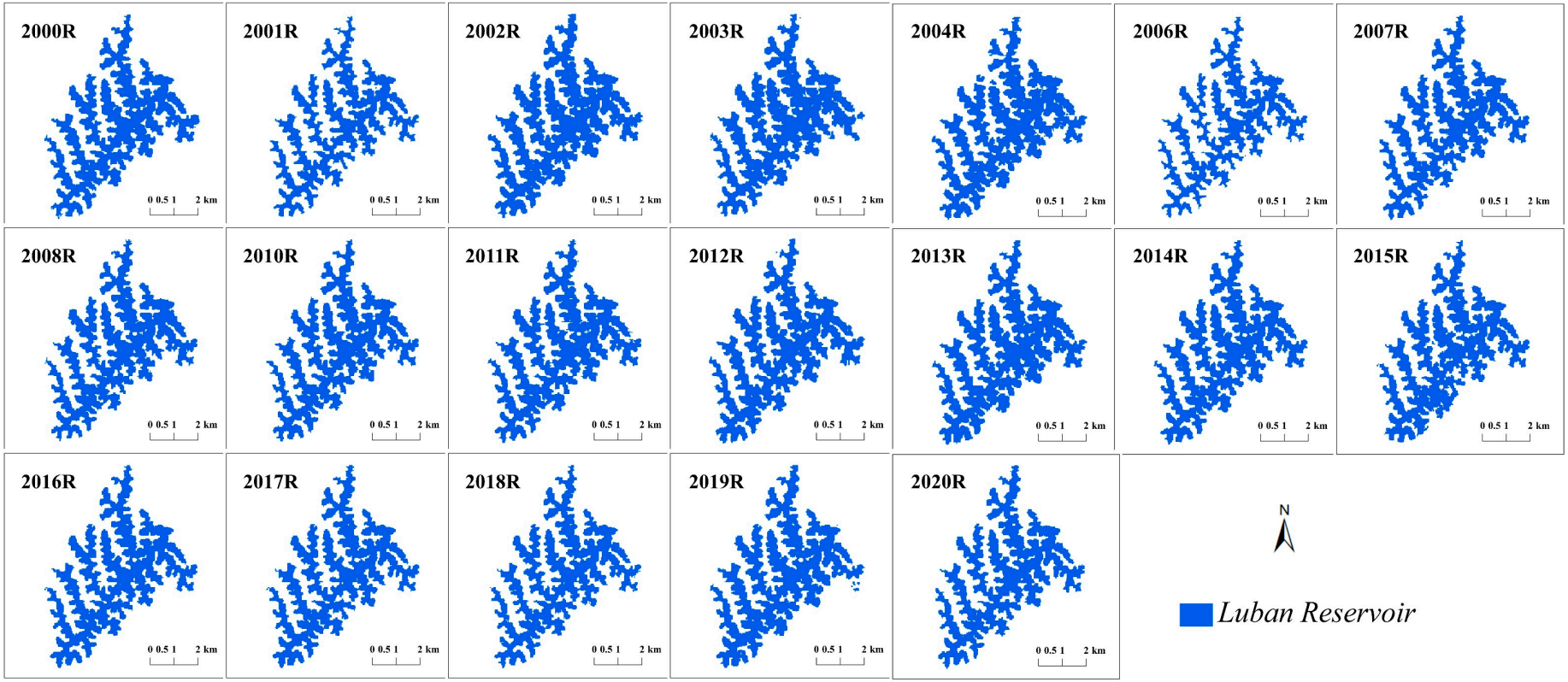


Figure S10. Information on the water bodies of Luban Reservoir in the rainy season from 2000 to 2020.

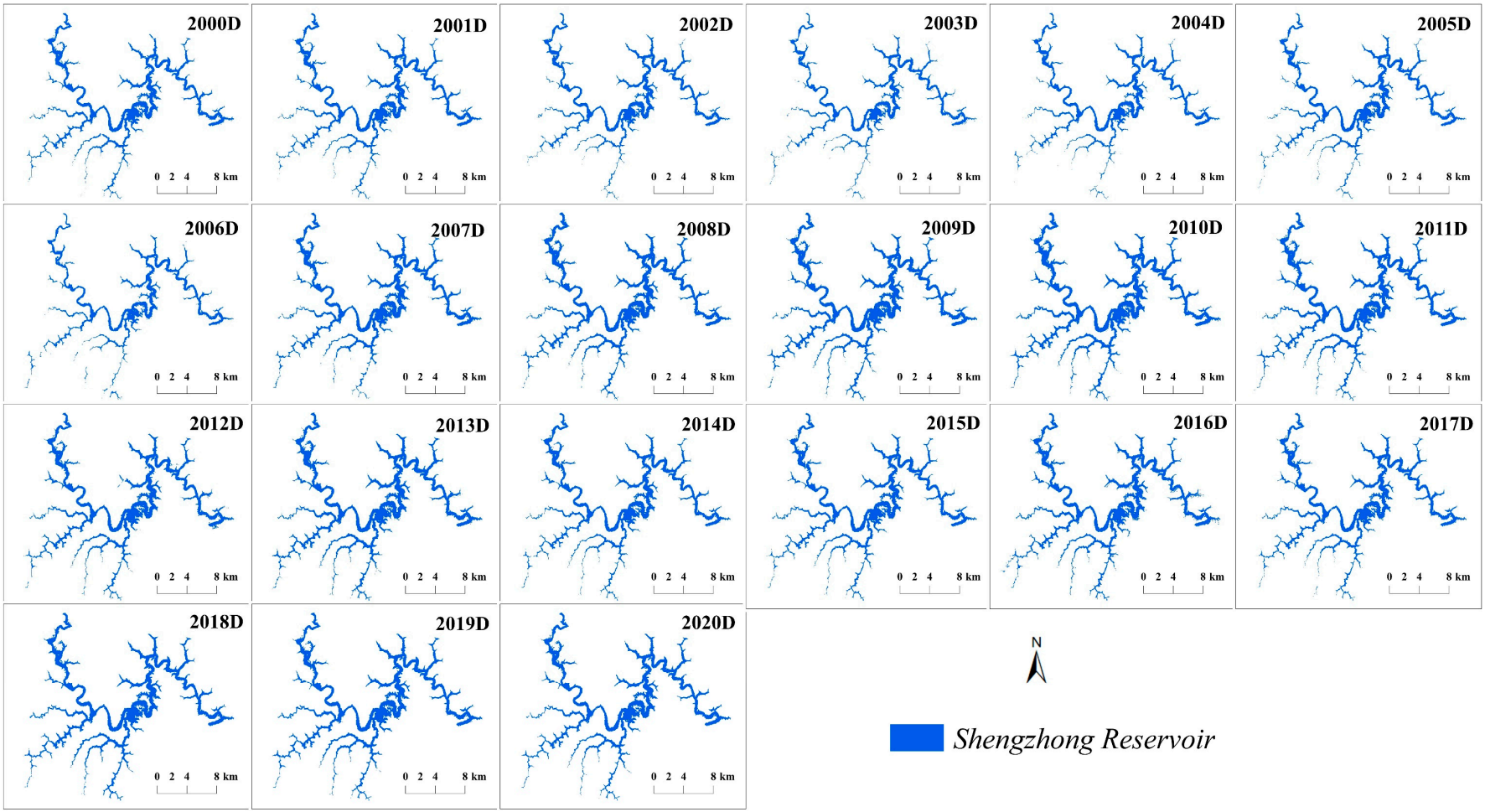


Figure S11. Information on the water bodies of Shengzhong Reservoir in the dry season from 2000 to 2020.

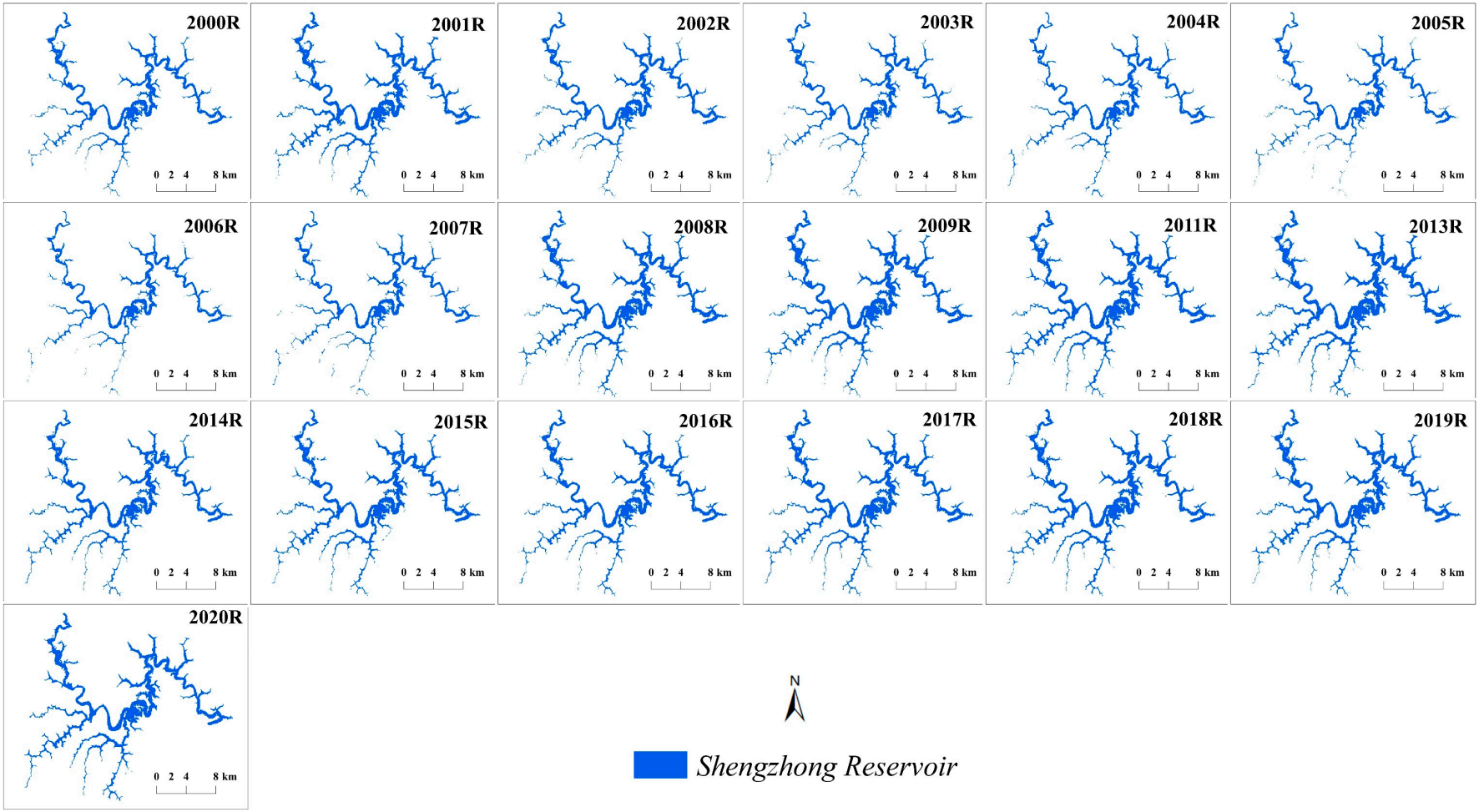


Figure S12. Information on the water bodies of Shengzhong Reservoir in the rainy season from 2000 to 2020.

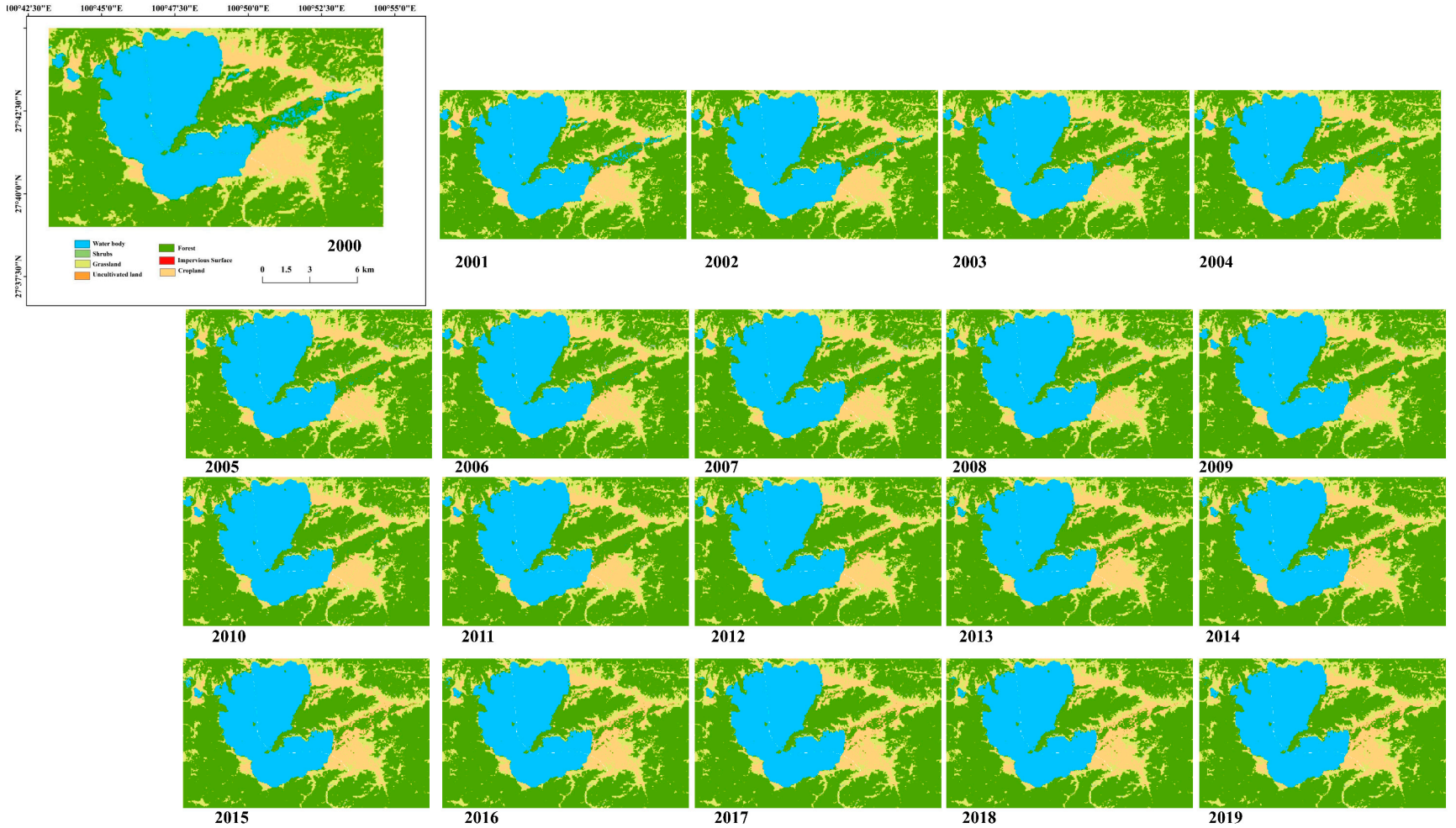


Figure S13. Land cover distribution around Lugu Lake from 2000-2019.

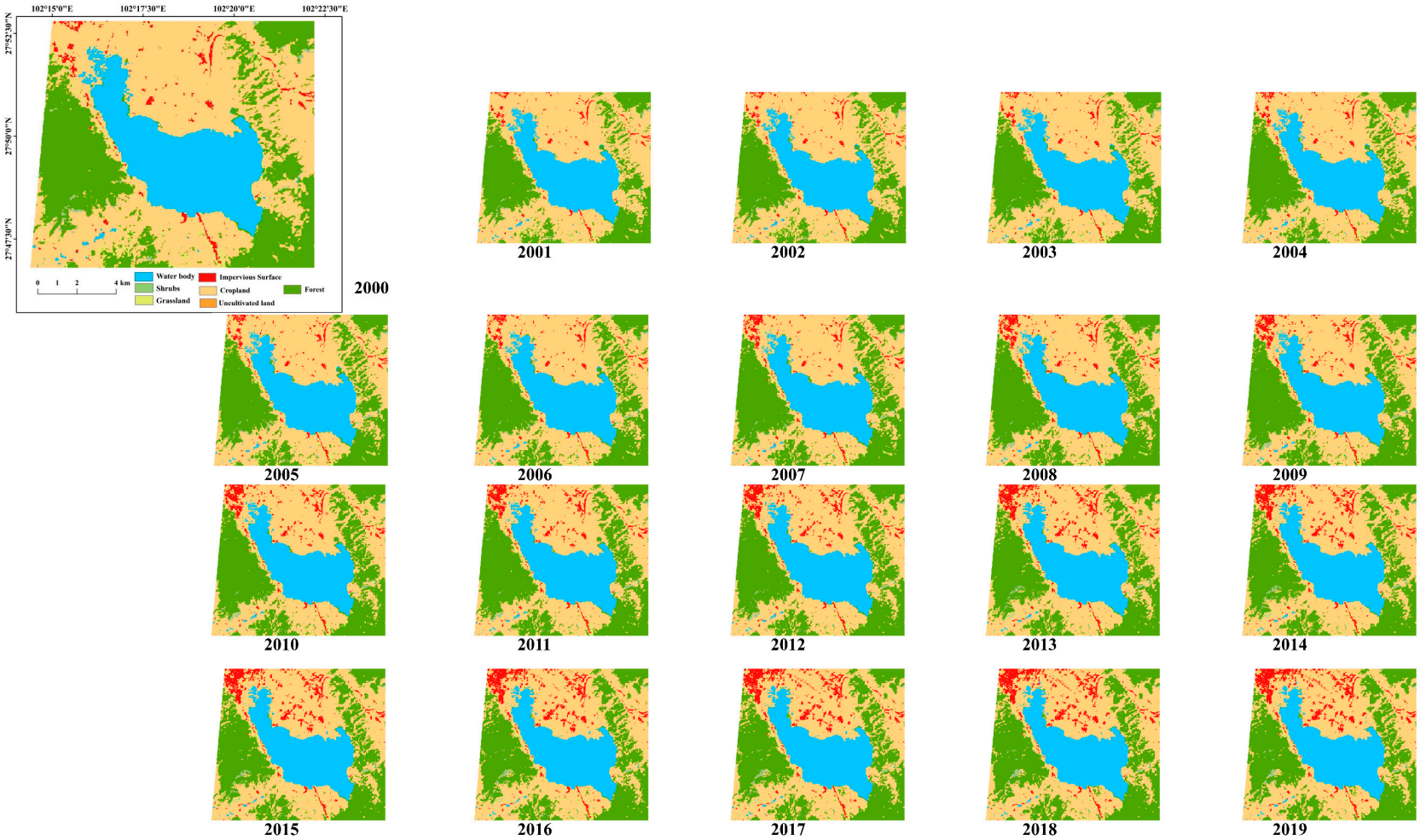


Figure S14. Land cover distribution around Qionghai Lake from 2000-2019.

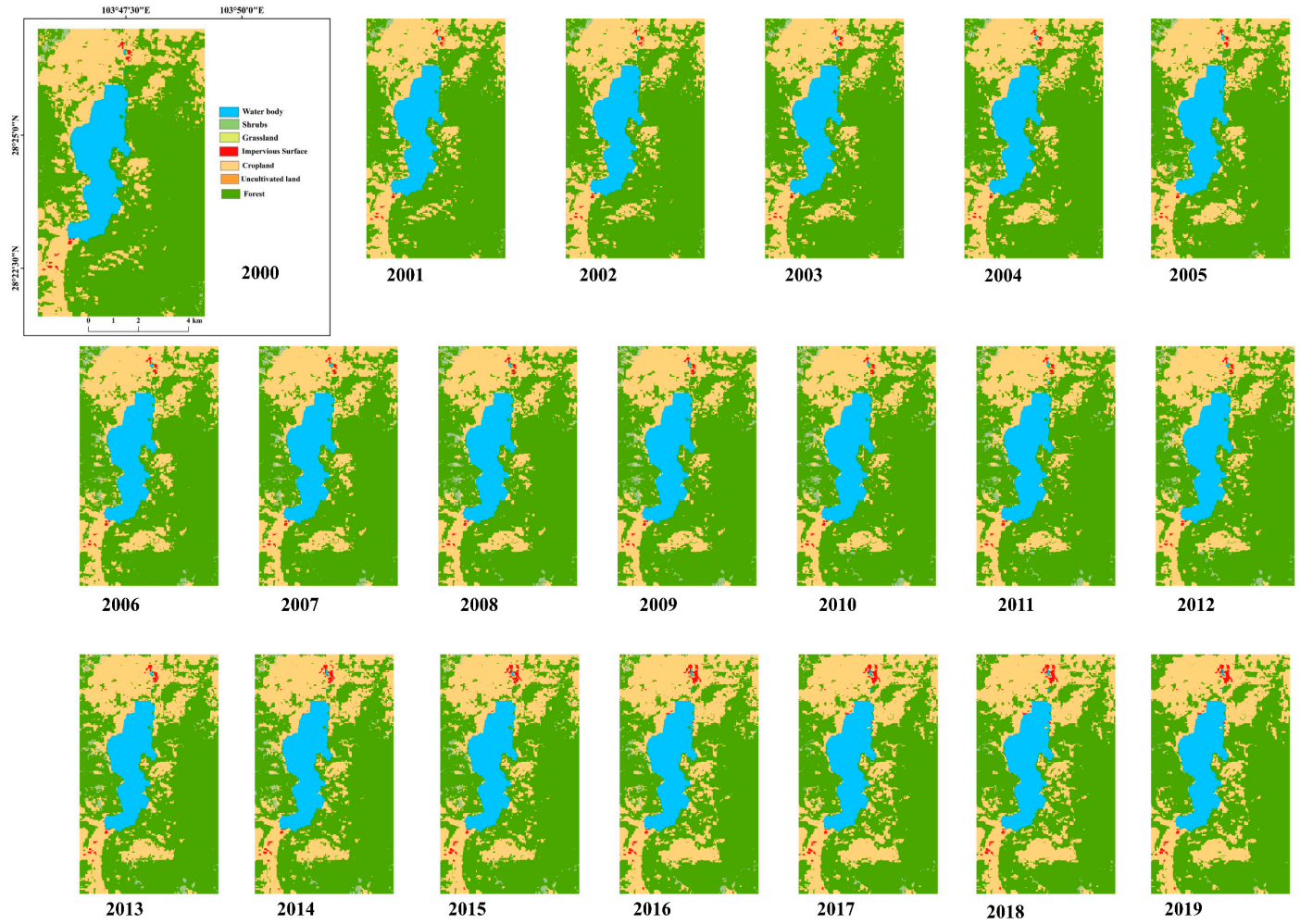


Figure S15. Land cover distribution around Ma Lake from 2000-2019.

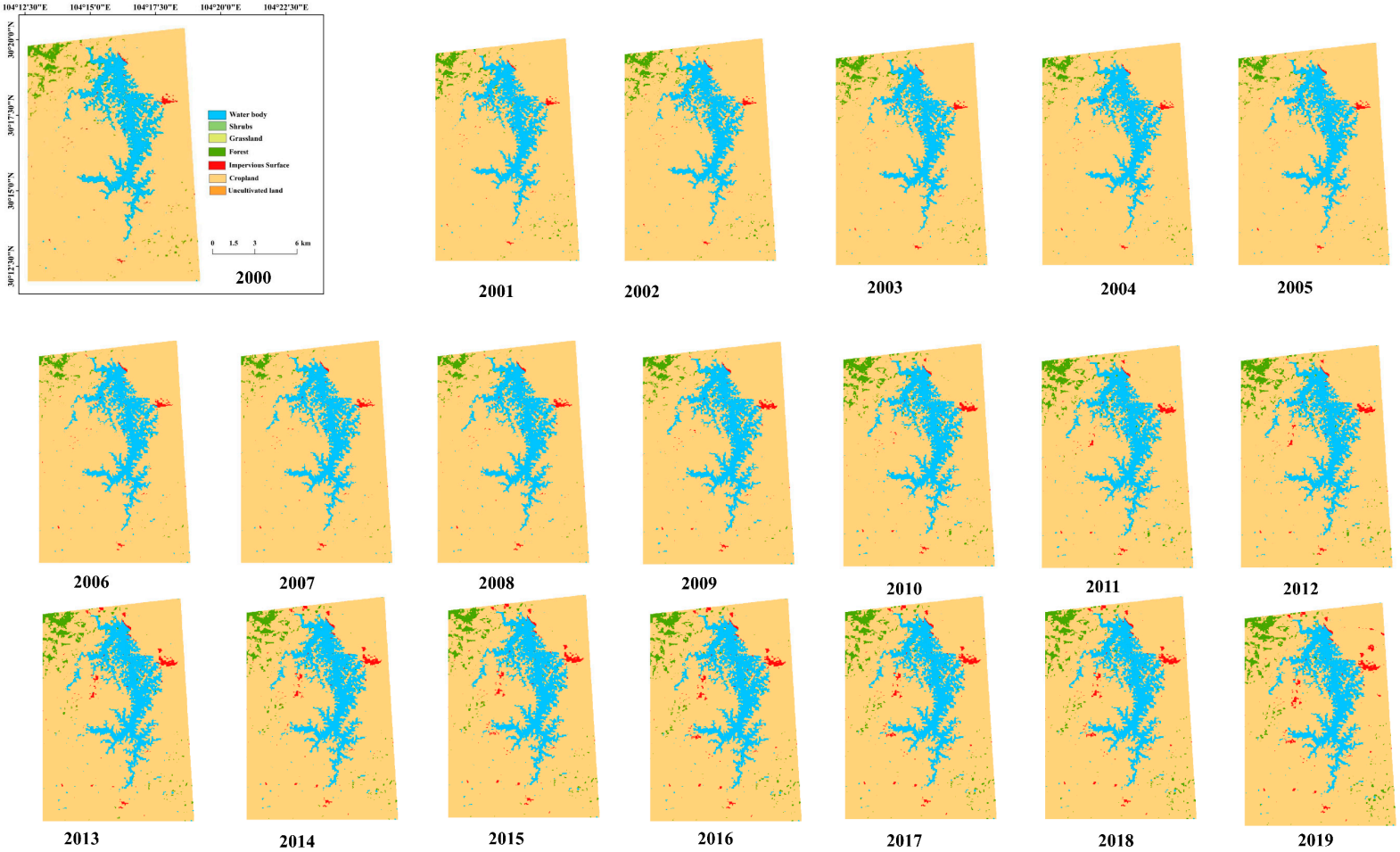


Figure S16. Land cover distribution around Three Forks Lake from 2000-2019.

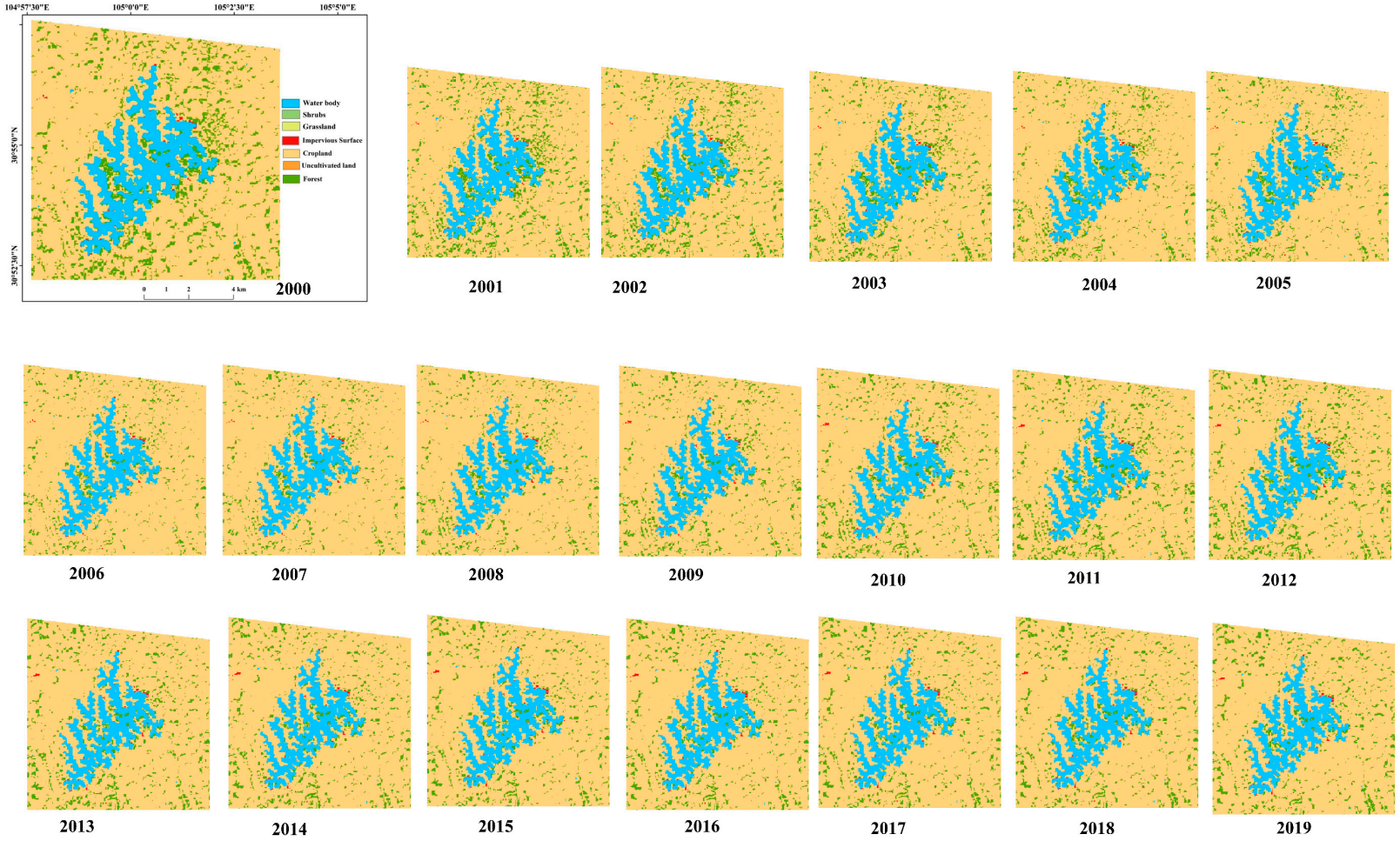


Figure S17. Land cover distribution around Luban Reservoir from 2000-2019.

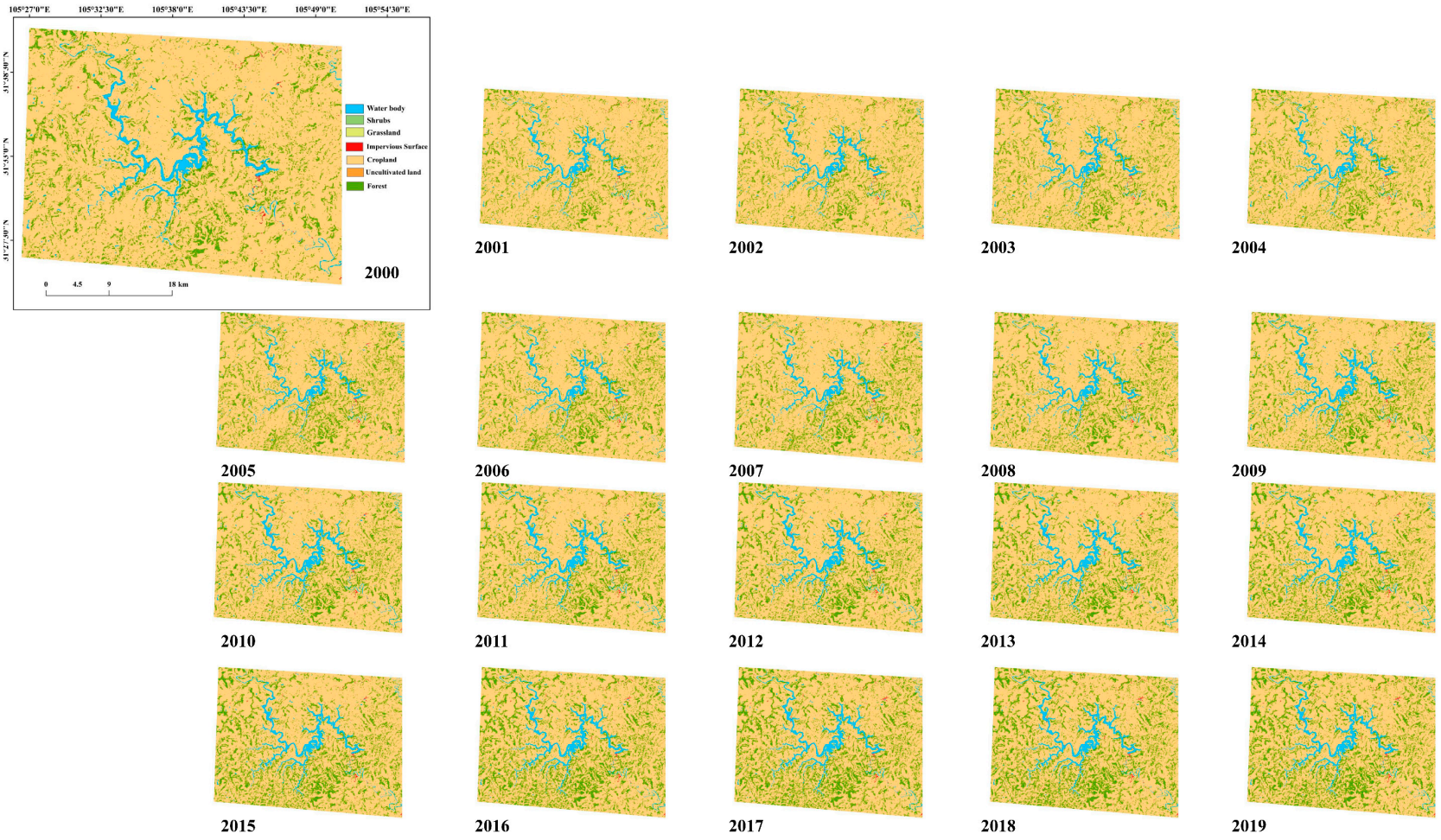


Figure S18. Land cover distribution around Shengzhong Reservoir from 2000-2019.