

Supplementary Materials

Impacts of land-use changes on soil erosion in water-wind crisscross erosion region of China

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Table S1. Datasets we used in this study. .

Datasets	Format	Spatial Resolution	Time	Applications in this Study
Soil erosion dataset	Vector		1995	A baseline of soil erosion
Land-use datasets	Vector		1995–2000, 2000–2005, 2005–2010	Land-use dynamics, soil erosion estimate
MODIS vegetation index	Raster	250-m	2000, 2005, and 2010	Soil erosion estimate
ASTER GDEM V2	Raster	30-m	2011	Soil erosion estimate
Soil survey map	Raster	1-km	2008	Soil erosion estimate

Table S2. Areas (km^2) of each soil erosion intensity level over the water-wind crisscross erosion area of China in 1995, 2000, 2005, and 2010. This table shows the soil erosion by water (Wa) and wind (Wi) with five intensity levels of slight (Sl), Moderate (MO), Intensive (It), Very Intensity (VI), and Severe (Se), respectively. For example, “SIWa-MoWi” presents the region having a water erosion intensity level of slight and wind erosion intensity level of moderate.

	1995	2000	2005	2010
SIWa-SIWi	78507.99	75996.74	76863.44	78486.69
SIWa-MoWi	70296.47	69041.96	68115.58	69888.95
SIWa-ItWi	39101.85	39726	39350.67	39077.68
SIWa-VIWi	16229.46	15938.9	15935.13	16138.62
SIWa-SeWi	35987.79	35658.77	35615.16	35528.37
MoWa-SIWi	4708.7	5753.67	5330.31	4955.06
MoWa-MoWi	2909.81	2904.71	2901.36	2905.4
MoWa-ItWi	2366.9	2343.31	2343.82	2339.61
MoWa-VIWi	127.49	1057.04	719.01	339.11
MoWa-SeWi	586.22	584.82	585.18	578.92
ItWa-SIWi	46.89	86.7	51.85	47.05
ItWa-MoWi	884.8	860.18	851.91	880.95
ItWa-ItWi	296.3	283.33	292.36	306.21
ItWa-VIWi	13.54	108.44	26.16	14.18
ItWa-SeWi	249.19	743.53	1145.67	415.99
VIWa-SIWi	40.35	42.97	40.45	40.37
VIWa-MoWi	106	104.25	94.93	104.46
VIWa-ItWi	72.24	72.18	71.98	72.14
VIWa-VIWi	11.47	12.62	11.01	11.29
VIWa-SeWi	149.85	165.85	162.88	136.81
SeWa-SIWi	271.8	273.38	251.77	270.1
SeWa-MoWi	480.79	476.3	466.03	473.95
SeWa-ItWi	343.58	339.31	330.97	338.97
SeWa-VIWi	128.79	128.5	128	128.72
SeWa-SeWi	90.27	80.8	89.85	90
Total area	254008.5	252784.26	251775.5	253569.6

Table S3. Areas (km^2) of each land-use type over the water-wind crisscross erosion area of China in 2000, 2005, and 2010. Only the regions experiencing land-use changes during the study periods of 1995–2000, 2000–2005, and 2005–2010 were examined.

	2000	2005	2010
Cultivated land	2280.22	1286.5	944.48
Woodland	215.88	475.43	37.37
Grassland	3203.63	2167.8	605.58
Water body	88.12	39.08	55.92
Built-up land	83.56	125.74	183.68
Unused land	812.53	1107.73	179.91
Total area	6683.94	5202.28	2006.94

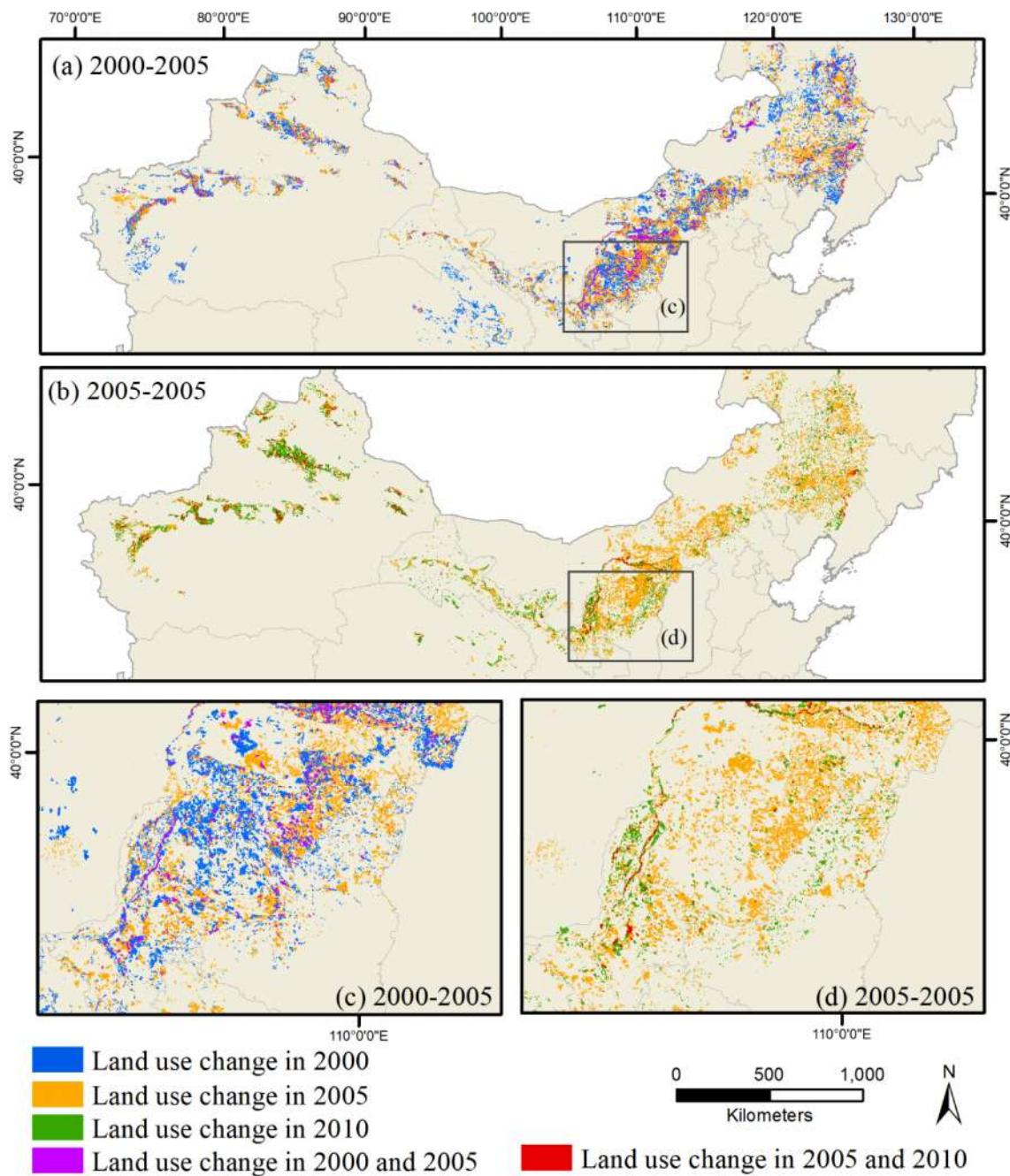


Figure S1. Difference maps of land-use change between the years of 2000 and 2005 (a) and the years of 2005 and 2010 (b). (c, d) show the zoom-in maps for the region highlighted by black rectangles in figure a, b, respectively. These figures show the regions experiencing land-use change only in 2000, 2005, 2010, and both in the years of 2000 and 2005, and both in the years of 2005 and 2010.