Table S1. Grading standards of influencing factors

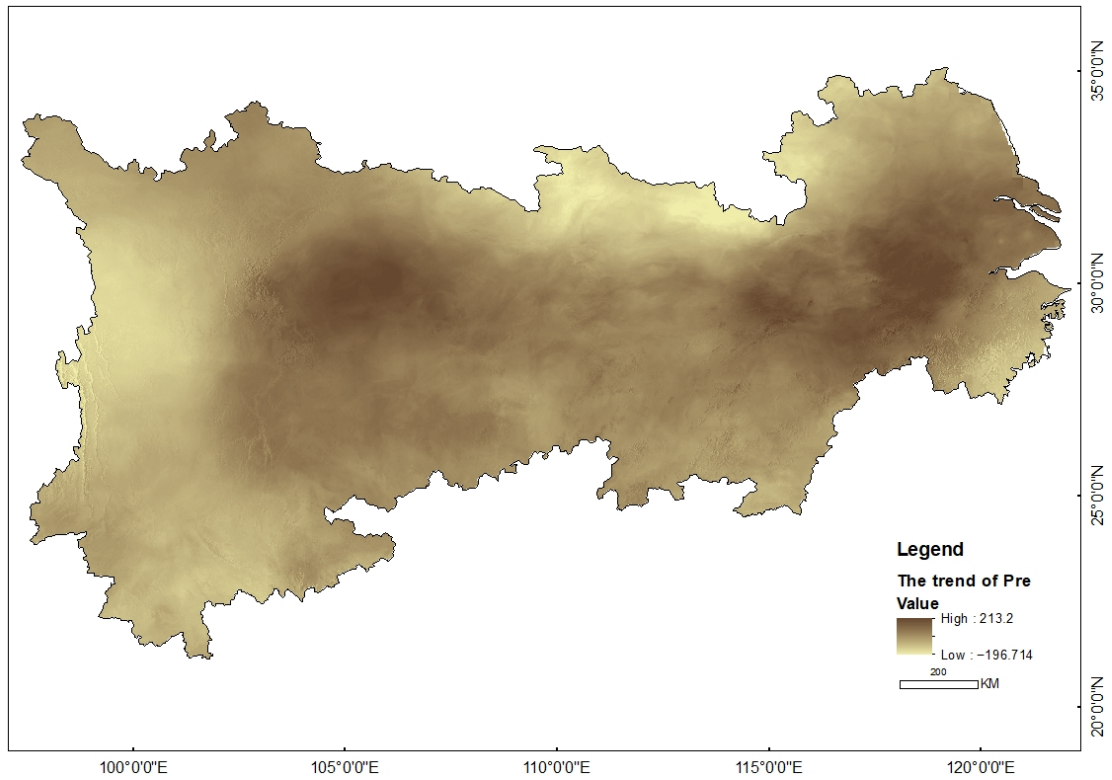| categories	Pre/ 0.1mm	Tem/ 0.1℃	wind speed/ m/s	PM2.5/ ug/m³	PD/ People/km²	CO_2 emissions/ ton	LULC/ types	DEM/ m	Aspect/ °	Slope/ °
1	3947~5782	-90~36	0.17~0.61	13.23~19.83	0~616	0	Cropland	-143~219	-1~37.07	0~1.55
2	5782~6703	36~59	0.61~0.82	19.83~24.73	616~4315	0~9646	Forest	219~533	37.07~77.96	1.55~3.87
3	6703~7597	59~82	0.82~1.01	24.73~29.44	4315~9862	9646~31693	Shrub	533~874	77.96~117.45	3.87~6.35
4	7597~8790	82~110	1.01~1.20	29.44~33.96	9862~17874	31693~63385	Grassland	874~1247	117.45~156.93	6.35~8.99
5	8790~10584	110~141	1.20~1.44	33.96~38.48	17874~29585	63385~85432	Barren	1247~1657	156.93~197.82	8.99~11.77
6	10584~15812	141~169	1.44~3.17	38.48~42.81	29585~46844	85432~99212	Impervious	1657~2090	197.82~238.71	11.77~14.87
7		169~192		42.81~47.52	46844~73963	99212~144684	Water	2090~2595	238.71~278.20	14.87~18.44
8		192~212		47.52~61.64	73963~157789	144684~231494	Snow/Ice	2595~3207	278.20~317.68	18.44~23.08
9		212~231				231494~352753	Wetland	3207~3803	317.68~359.99	23.08~39.66
10		231~247						3803~4332		
11		247~274						4332~6448		

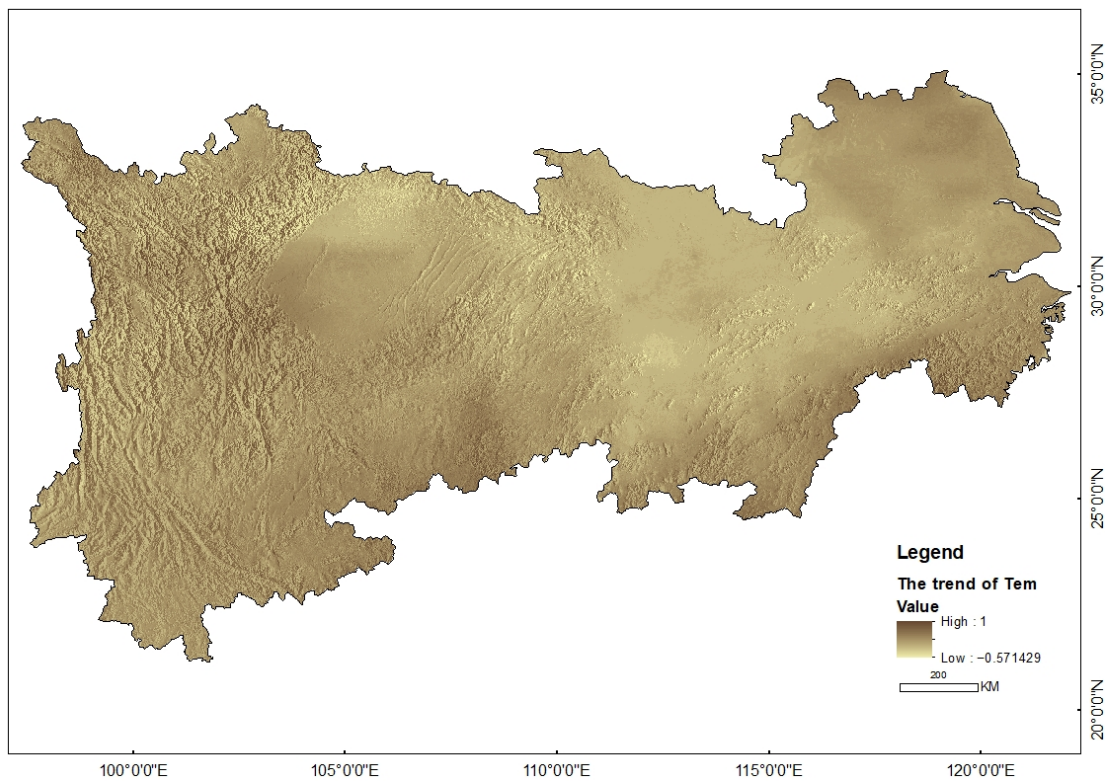**Figure S1.** The trend of pre in the study area (2000-2020).

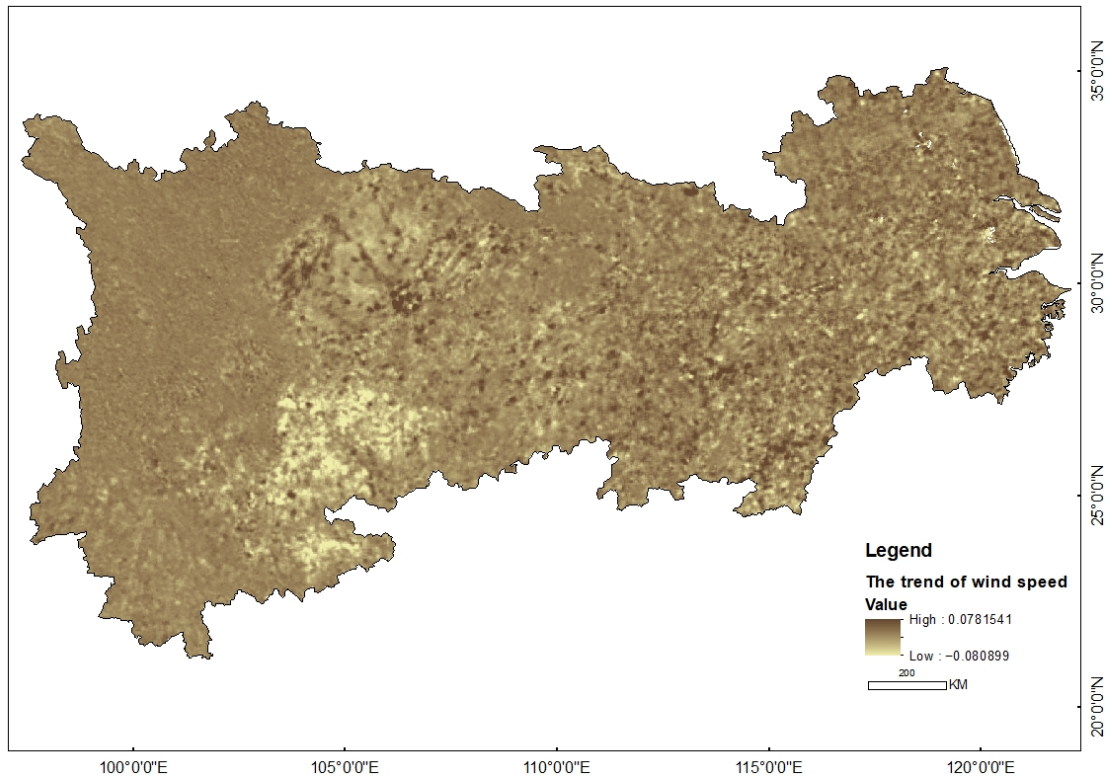**Figure S2.** The trend of tem in the study area (2000-2020).

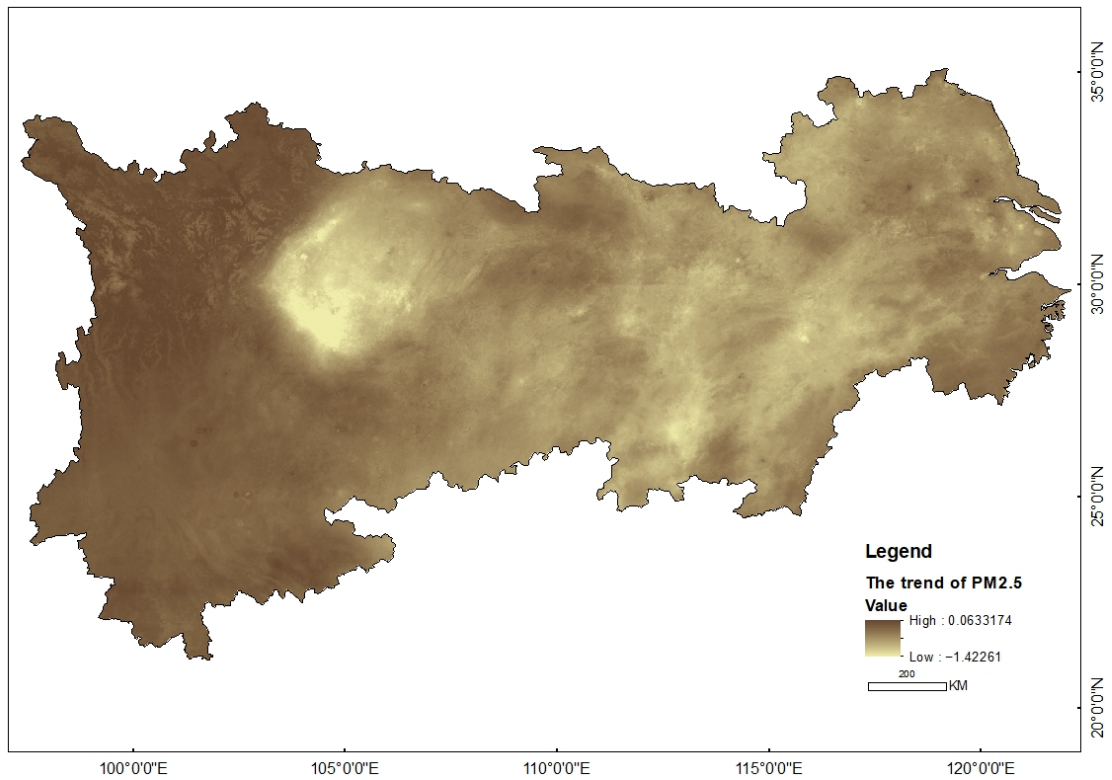**Figure S3.** The trend of wind speed in the study area (2000-2020).

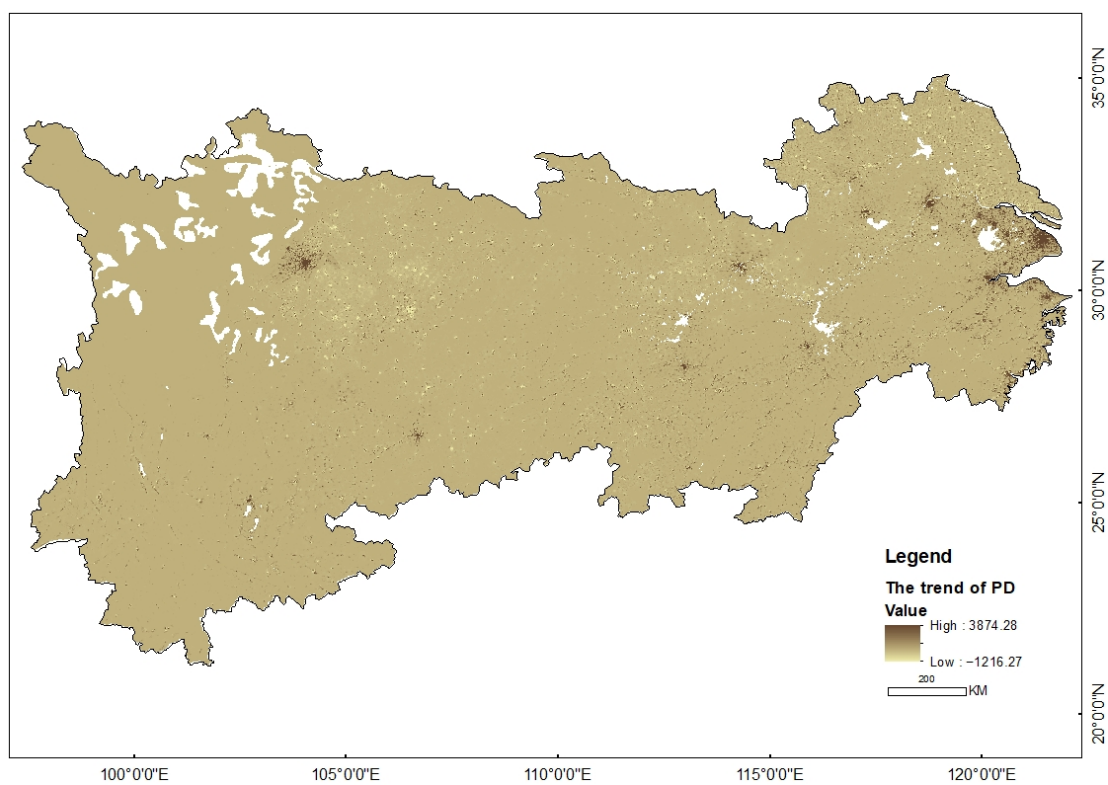**Figure S4.** The trend of PM2.5 in the study area (2000-2020).

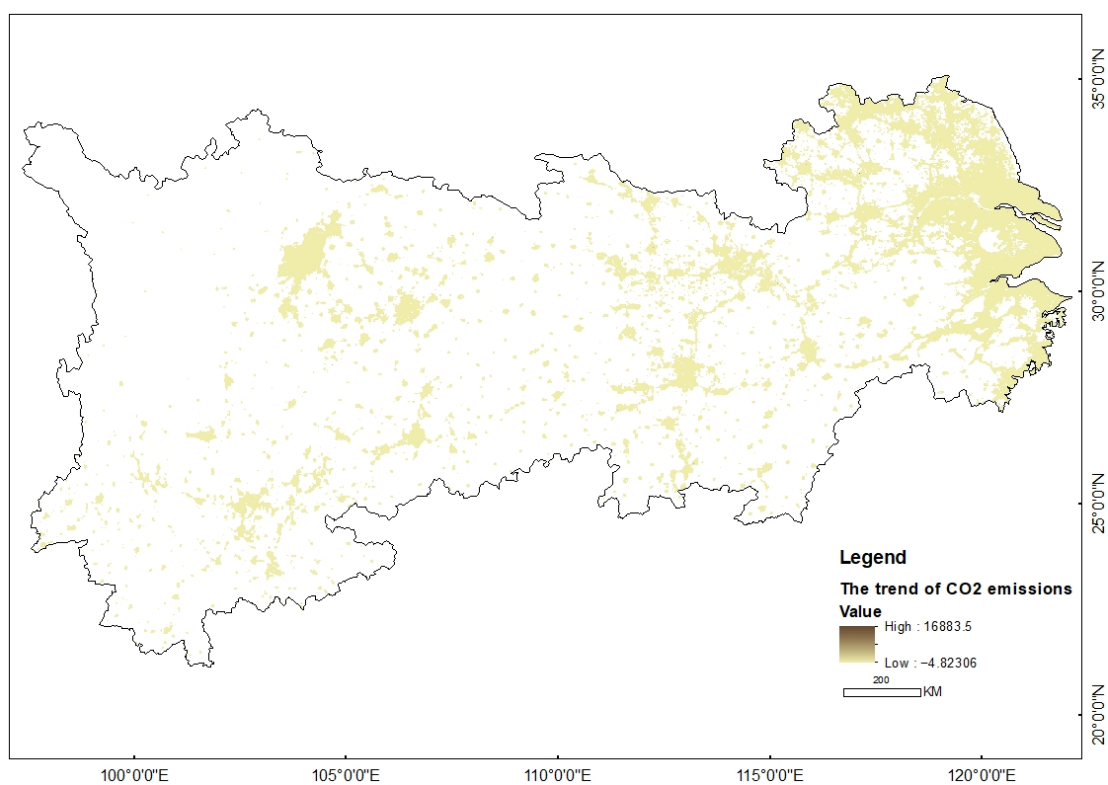**Figure S5.** The trend of PD in the study area (2000-2020).

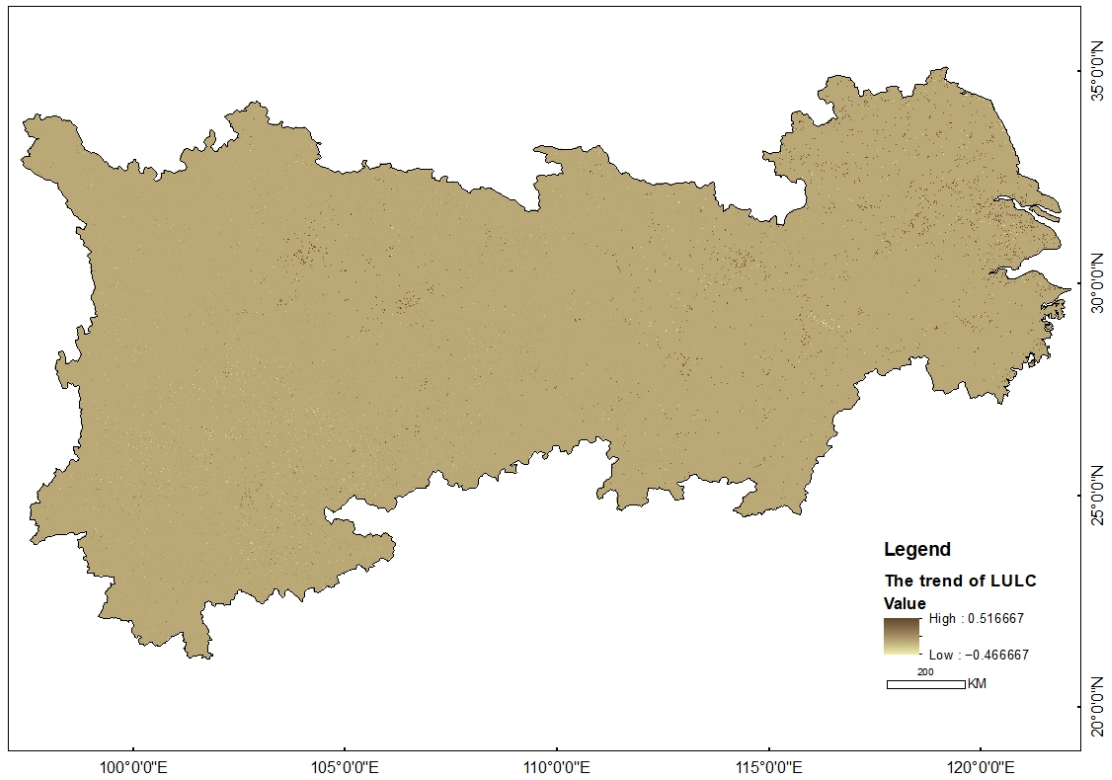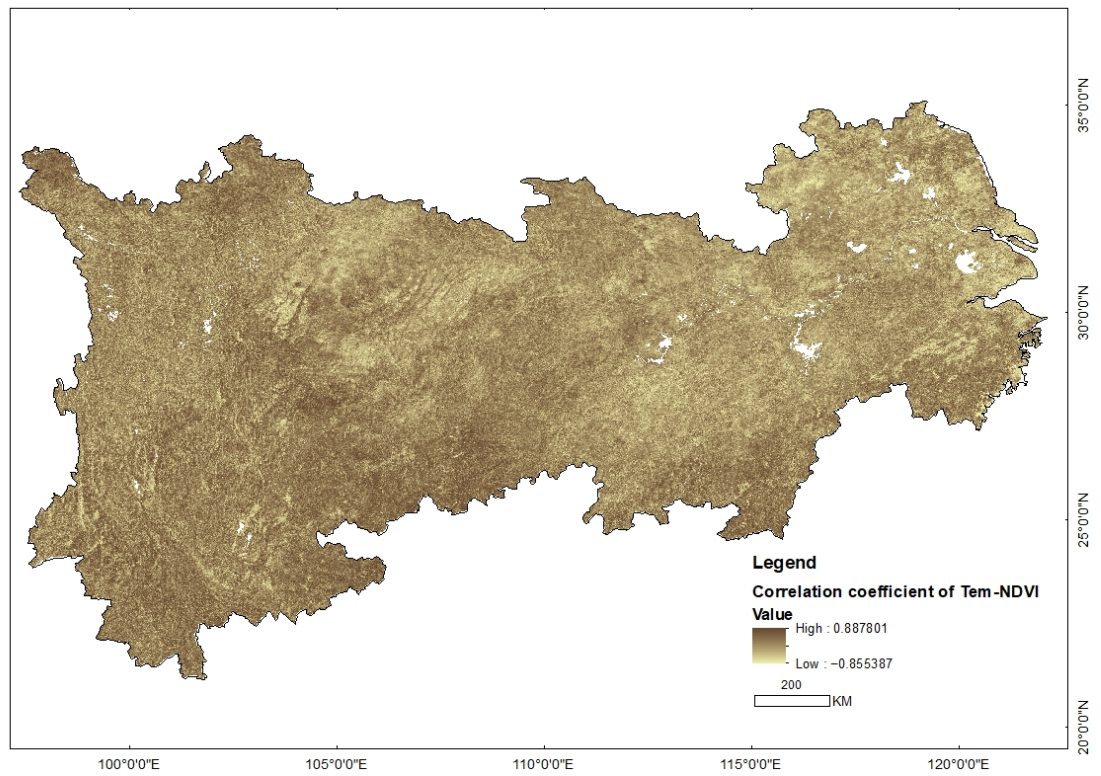**Figure S6.** The trend of CO_2 emission in the study area (2000-2020).

Figure S7. The trend of LULC in the study area (2000-2020).

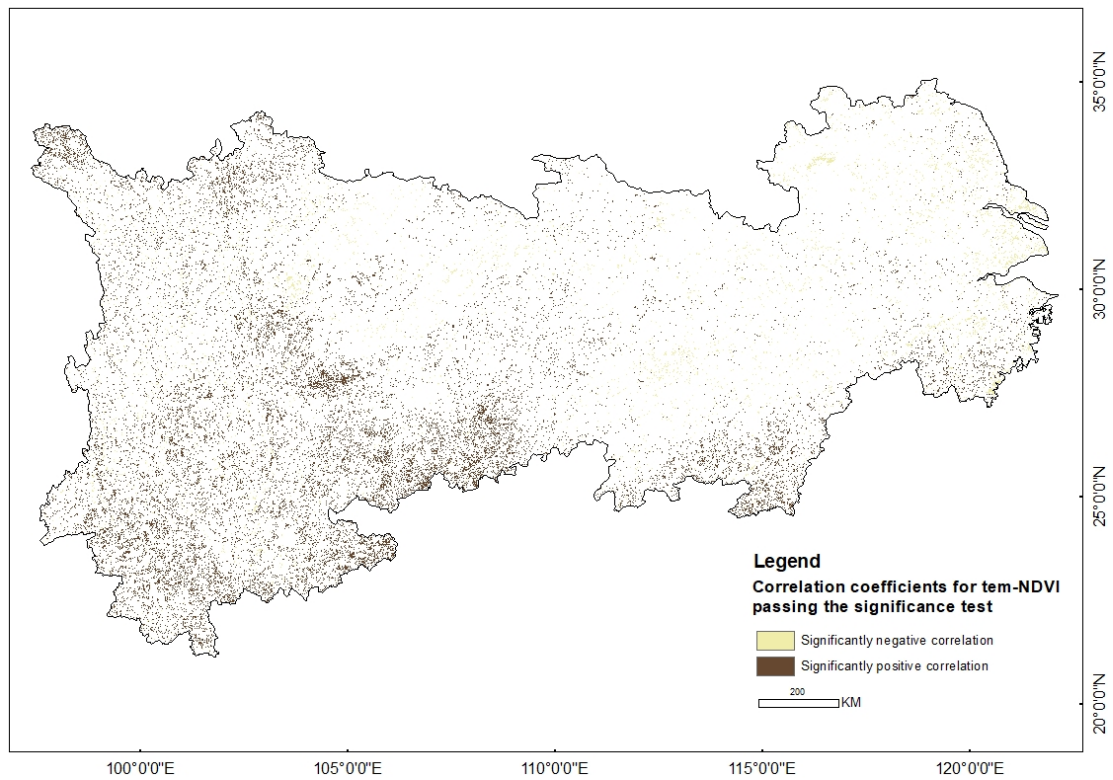**Figure S8.** Correlation coefficients of tem-NDVI (2000-2020).

Figure S9. Correlation coefficients of tem-NDVI passing the significance test (2000-2020).
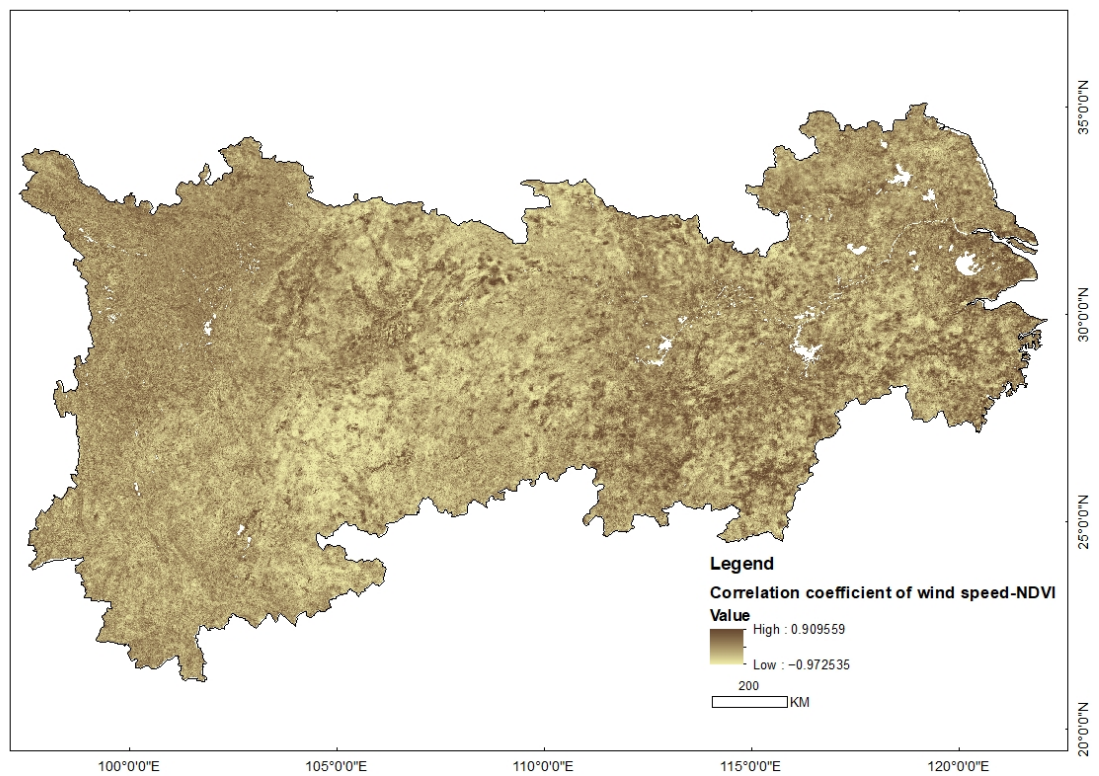

Figure S10. Correlation coefficients of wind speed-NDVI (2000-2020).
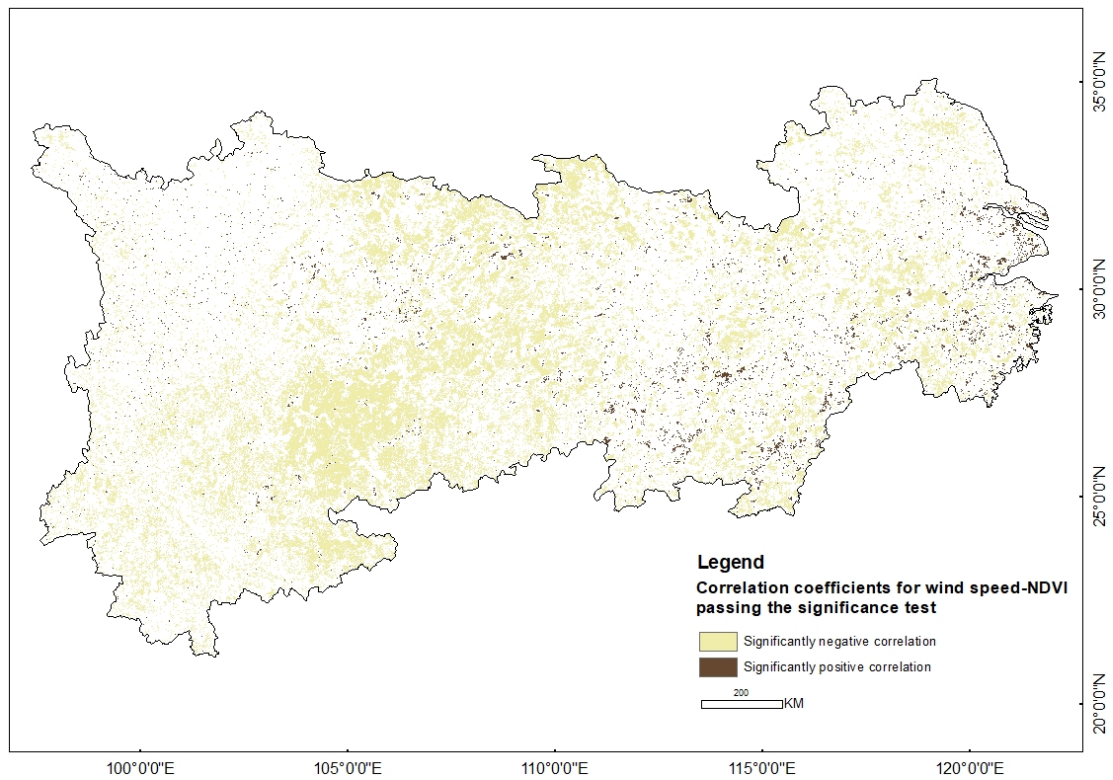
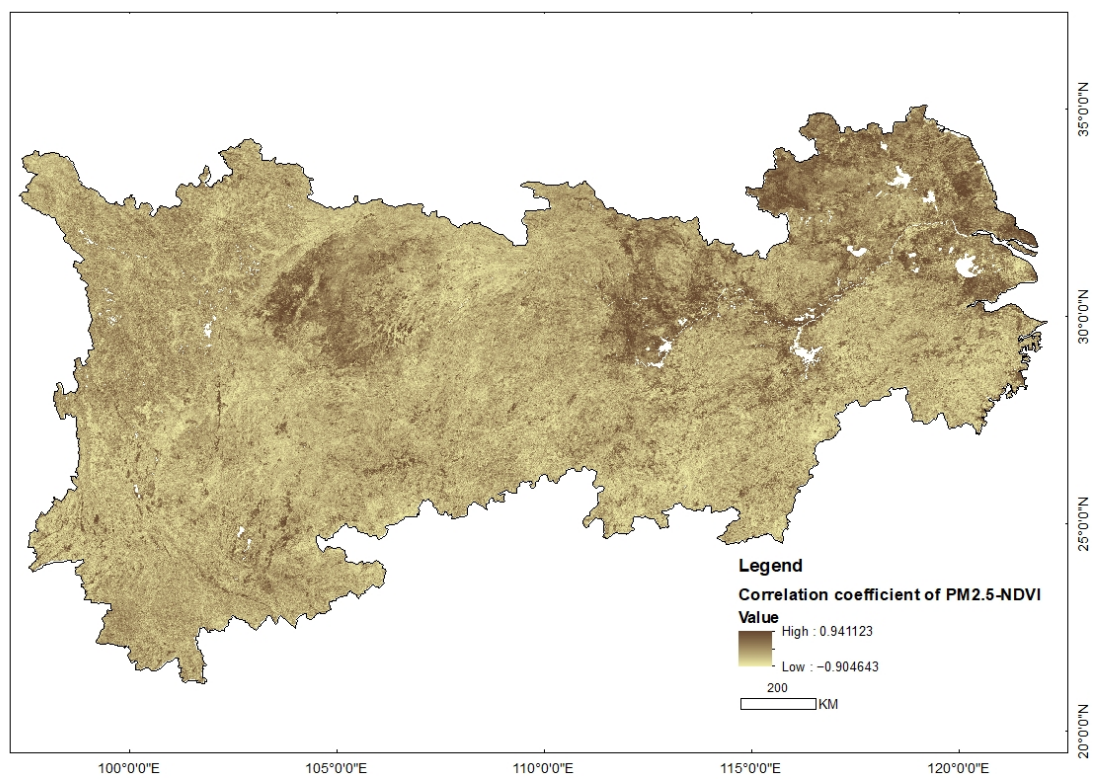**Figure S11.** Correlation coefficients of wind speed-NDVI passing the significance test (2000-2020).

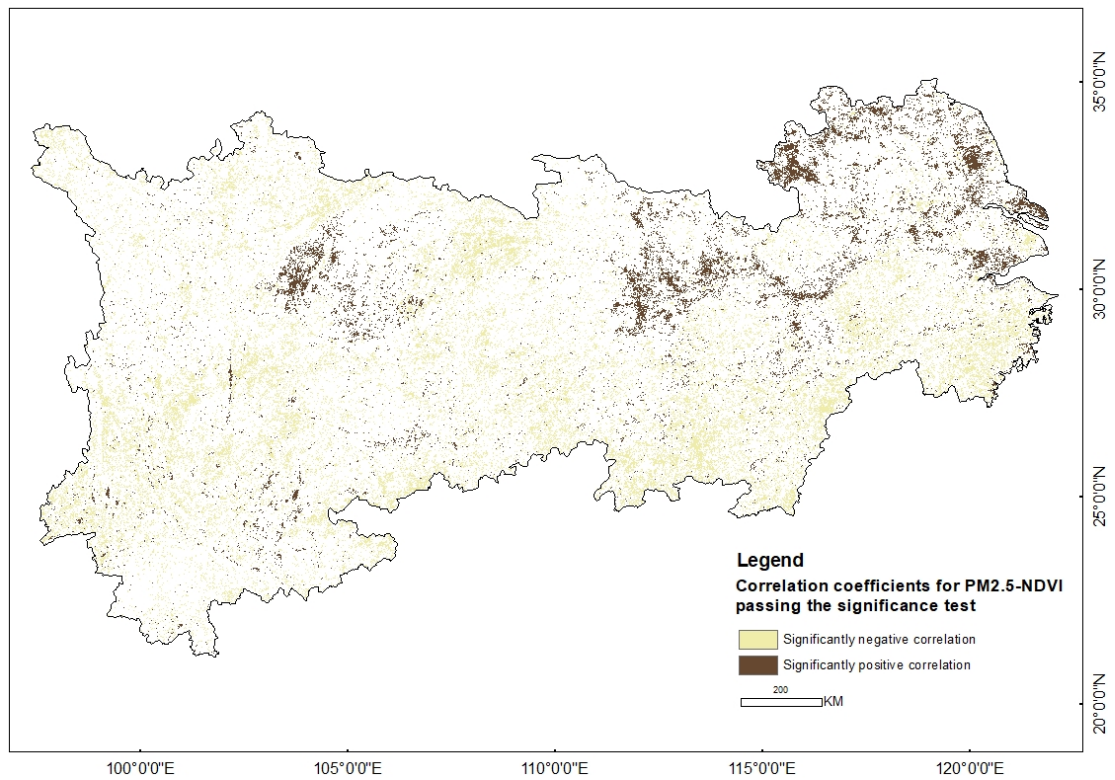**Figure S12.** Correlation coefficients of PM2.5-NDVI (2000-2020).

Figure S13. Correlation coefficients of PM2.5-NDVI passing the significance test (2000-2020).
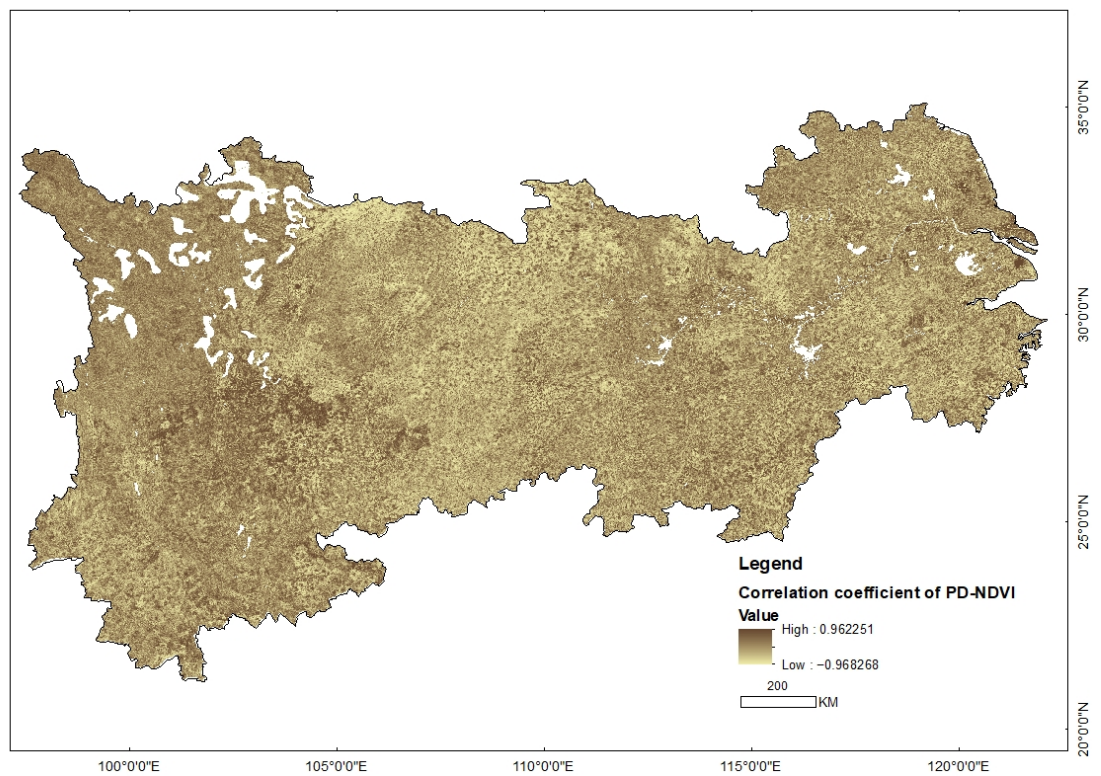

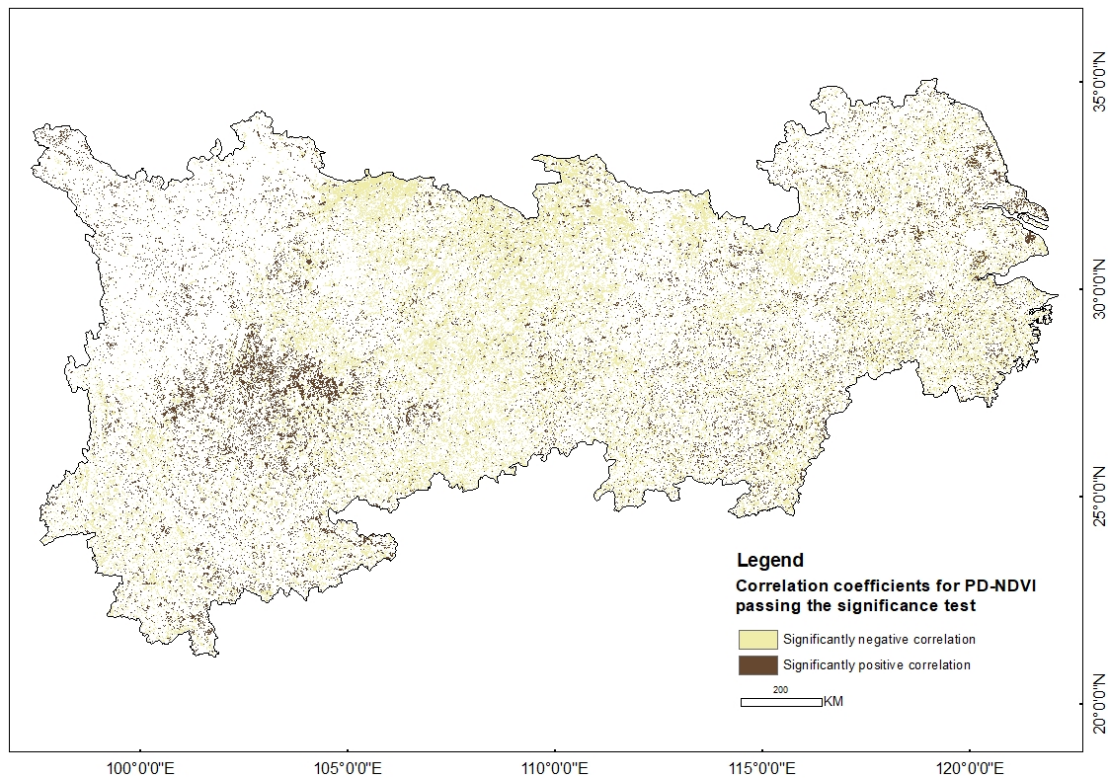**Figure S14.** Correlation coefficients of PD-NDVI (2000-2020).

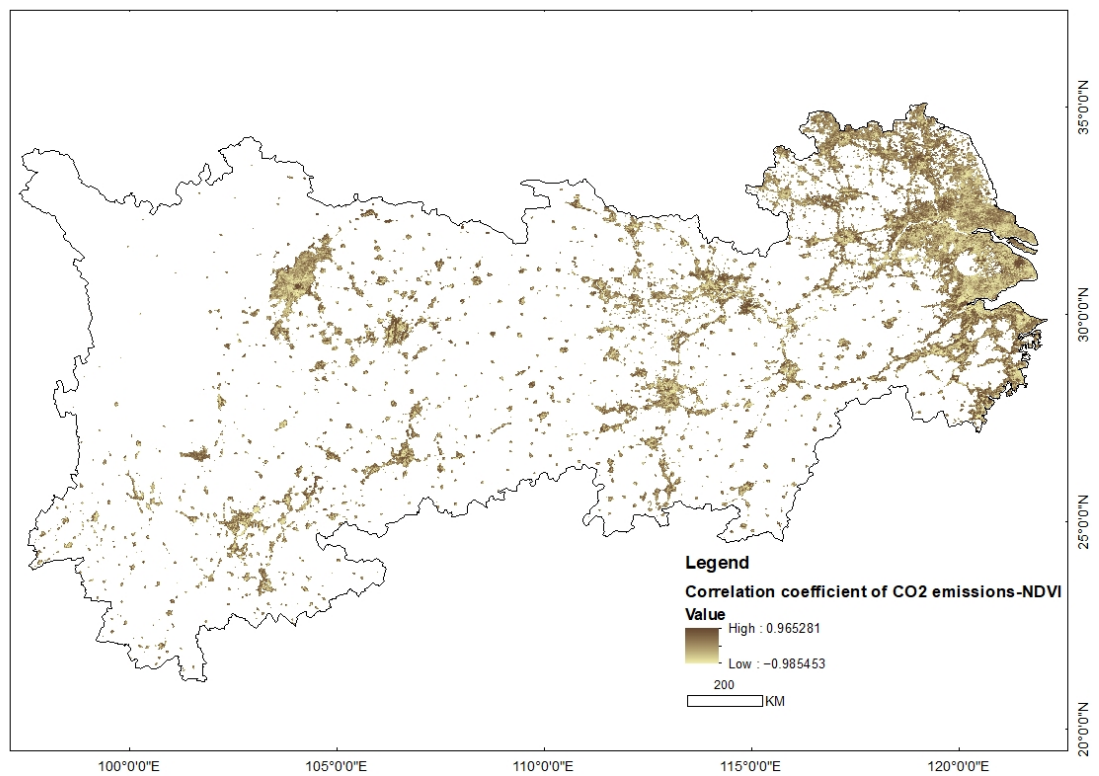**Figure S15.** Correlation coefficients of PD-NDVI passing the significance test (2000-2020).

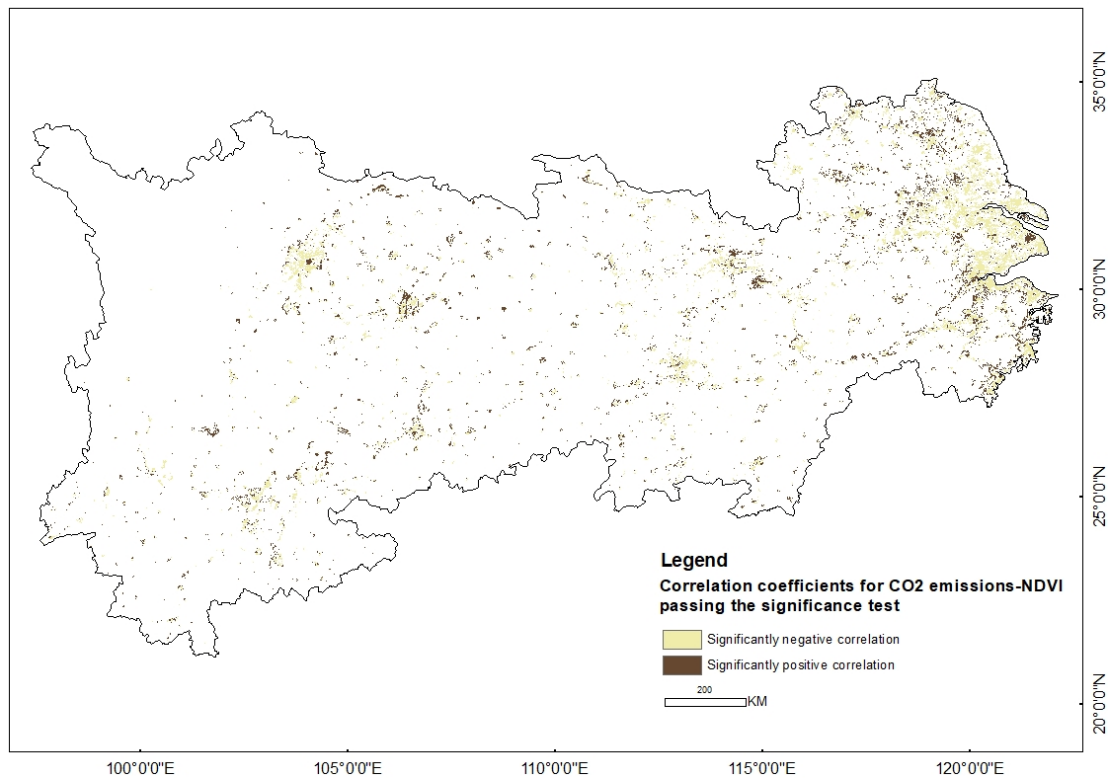**Figure S16.** Correlation coefficients of CO_2 emissions -NDVI (2000-2020).

Figure S17. Correlation coefficients of CO_2 emissions -NDVI passing the significance test (2000-2020).
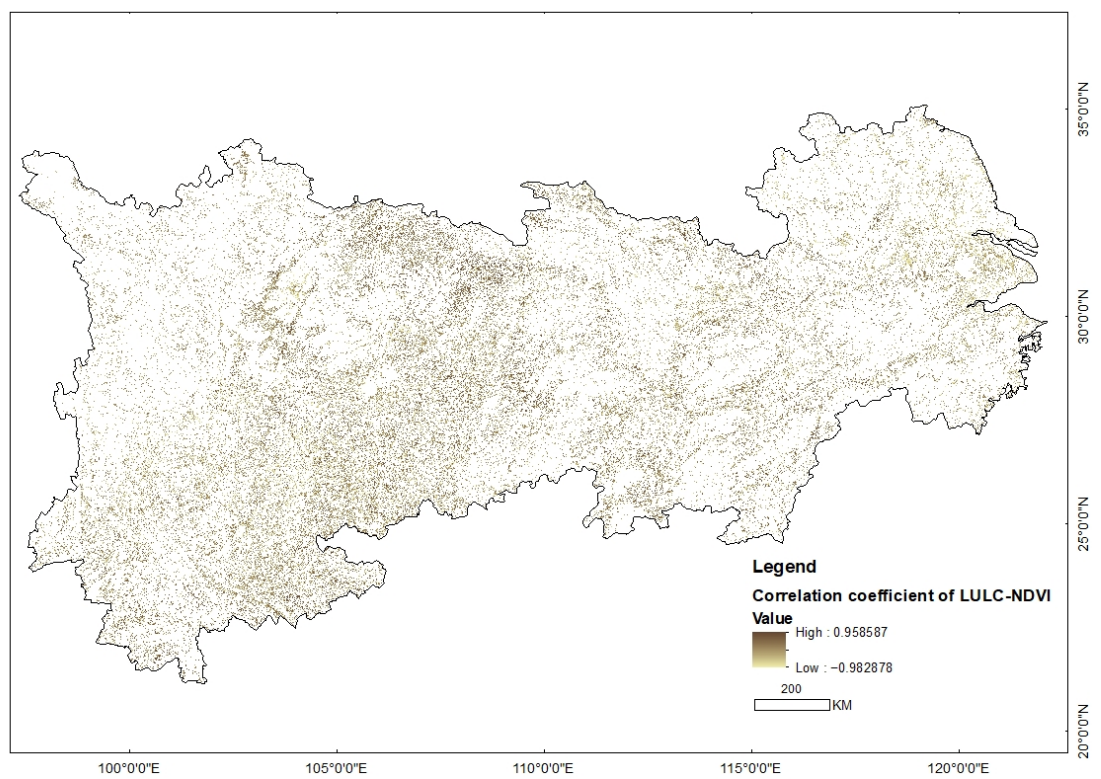

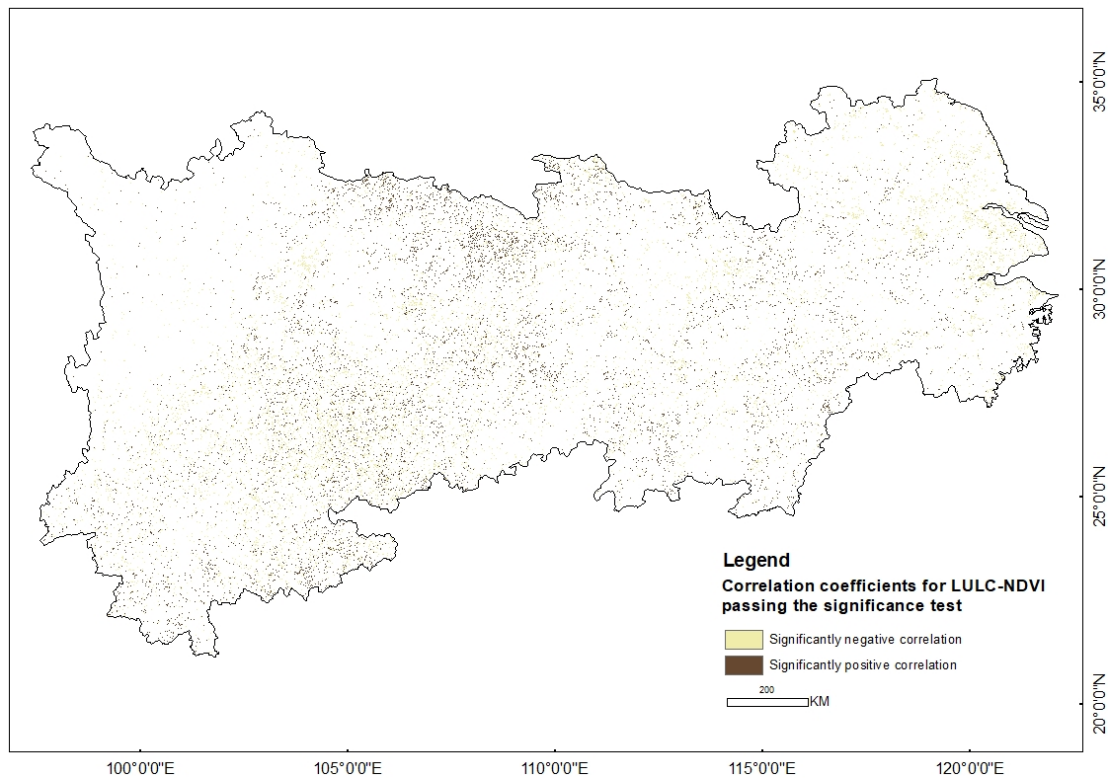**Figure S18.** Correlation coefficients of LULC -NDVI (2000-2020).

Figure S19. Correlation coefficients of LULC -NDVI passing the significance test (2000-2020).