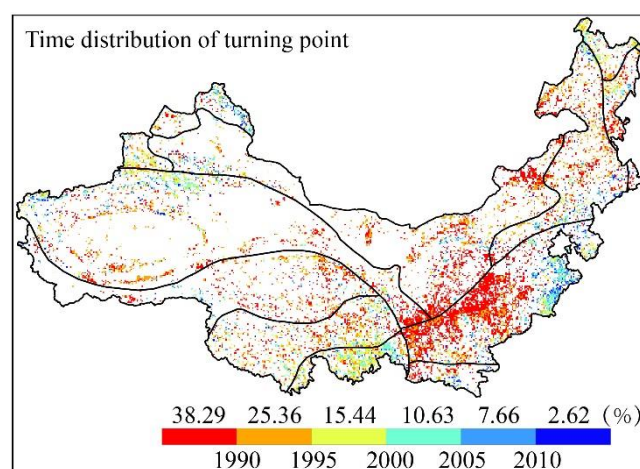


## Supplementary Materials

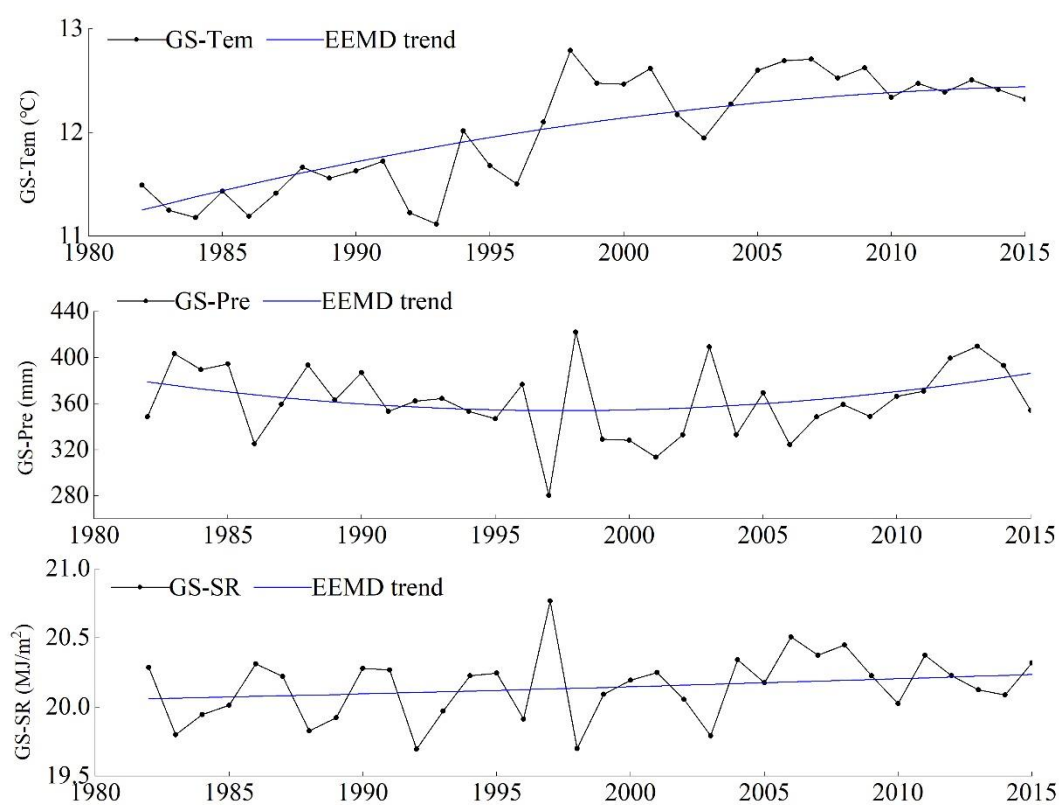


**Figure S1.** The timing of the turning points of NDVI in growing season with EEMD method ( $p < 0.05$ ).

**Table S1.** Statistical proportion of NDVI EEMD trend in vegetation growing season under different climatic zones

		Nonlinear trend base on EEMD					Proportion (%)
Climate zones	Land cover types	Non-sig	G to B	B to G	G to G	B to B	
CTH	Cropland	50	50	0	0	0	0.89
	Woodland	52.37	29.33	2.37	15.79	0.14	79.56
	Grassland	51.14	30.68	2.84	15.34	0	19.55
MTH	Cropland	0	0	0	0	0	0
	Woodland	33.33	60.00	0	6.67	0	62.50
	Grassland	66.67	33.33	0	0	0	37.50
MTSH	Cropland	28.25	6.32	31.60	25.65	8.18	25.00
	Woodland	51.31	17.72	13.43	14.18	3.36	49.81
	Grassland	39.11	16.61	21.03	18.82	4.43	25.19
MTSA	Cropland	44.09	17.22	9.56	27.96	1.17	15.66
	Woodland	53.01	24.04	7.33	13.20	2.42	20.44
	Grassland	58.70	15.29	12.73	11.60	1.68	63.90
MTA	Cropland	30.35	17.62	17.62	33.71	0.70	12.43
	Woodland	36.20	15.95	20.85	23.93	3.07	2.84
	Grassland	48.97	6.59	27.52	16.08	0.84	84.73
WTSH	Cropland	17.30	20.60	28.90	32.68	0.52	46.31
	Woodland	26.53	9.93	22.02	41.52	0	21.78
	Grassland	14.44	5.64	37.86	42.06	0	31.91
WTA	Cropland	17.46	19.60	19.91	42.42	0.61	12.76
	Woodland	43.54	21.77	20.75	10.54	3.40	5.74
	Grassland	38.29	17.78	25.85	16.28	1.80	81.50
PCSH	Cropland	14.81	9.88	37.04	38.27	0	5.10
	Woodland	36.43	50.35	4.29	8.93	0	17.63

	Grassland	41.65	48.49	2.36	6.60	0.90	77.27
PCSA	Cropland	39.47	14.47	17.11	28.95	0	3.69
	Woodland	49.49	35.15	5.81	8.53	1.02	7.11
	Grassland	54.88	18.09	12.73	12.86	1.44	89.20
PCA	Cropland	31.11	11.11	17.78	40	0	1.87
	Woodland	53.69	12.08	17.45	14.77	2.01	6.22
	Grassland	32.18	8.72	31.28	27.55	0.27	91.91
SH	Cropland	18.82	8.12	11.44	61.62	0	24.26
	Woodland	35.33	9.97	10.54	44.16	0	31.42
	Grassland	19.19	6.87	15.15	58.79	0	44.32



**Figure S2.** EEMD long-term trend of temperature, precipitation and solar radiation in the study area from 1982 to 2015.