

Supplementary Section C: Table S3

Summary of Time Series for Ecologically Sensitive Areas (ESAs) in the DMIC

Kendall’s tau p-value and Associated Probabilities

In Kendall’s tau column in the tables for ESAs in the DMIC, the following symbols apply:

Alpha (p-value)	Symbols used in Kendall’s Tau Significance	Probability
0.10	p-value <= 0.1, symbol = "+"	90.0%
0.05	p-value <= 0.05, symbol = *	95.0%
0.01	p-value <= 0.01, symbol = **	99.0%
0.001	p-value <= 0.001, symbol = ***	99.90%

Table S3: Summary of Time Series for ESA in the DMIC

No.	Ecologically Sensitive Area	Type	Location (Districts, State)	IMD Sub-divisions	Forest (Kendall's tau / Sen's slope)
1	Ranthambhore National Park	National Park	Sawai Madhopur, Rajasthan	East Rajasthan	0.154 / 0.000
2	Sariska Tiger Reserve	Tiger Reserve	Alwar, Rajasthan	East Rajasthan	0.280 / 0.019
3	Gir National Park	National Park	Junagadh, Gir Somnath, Amreli, Gujarat	Saurashtra & Kacchh	0.162 / 0.024
4	Nanda Devi Biosphere Reserve	Biosphere Reserve	Chamoli, Pithoragarh, Bageshwar, Uttarakhand (influence may extend to northern DMIC)	West Uttar Pradesh	0.820*** / 1.083
5	Nalsarovar Bird Sanctuary	Ramsar Site, Bird Sanctuary	Ahmedabad, Surendranagar, Gujarat	Gujarat Region	0.168 / 0.076
6	Thol Lake Wildlife Sanctuary	Bird Sanctuary	Mehsana, Gujarat	Gujarat Region	0.761*** / 0.136
7	Kumbhalgarh Wildlife Sanctuary	Wildlife Sanctuary	Rajsamand, Udaipur, Pali, Sirohi, Rajasthan	West Rajasthan	-0.079 / -0.009
8	Mount Abu Wildlife Sanctuary	Wildlife Sanctuary	Sirohi, Rajasthan	West Rajasthan	0.508** / 0.158
9	Gulf of Khambhat	Coastal and Marine Ecosystem	Anand, Bharuch, Surat, Gujarat	Gujarat Region	-0.683*** / -0.532
10	Marine National Park, Gulf of Kutch	Marine National Park	Jamnagar, Gujarat	Saurashtra & Kacchh	0.000*** / 0.000
11	Yamuna River	River and Riparian Zone	Delhi, Haryana, Uttar Pradesh	West Uttar Pradesh; Chandigarh, Haryana, Delhi	-0.022 / 0.000
12	Narmada River	River and Riparian Zone	Bharuch, Narmada, Gujarat; Barwani, Khargone, Madhya Pradesh	Gujarat Region, West Madhya Pradesh	-0.186 / -0.508
13	Velavadar Blackbuck National Park	National Park	Bhavnagar, Gujarat	Saurashtra & Kacchh	0.306+ / 0.000
14	Rann of Kutch	Salt Marsh, Desert	Kachchh, Surendranagar, Banaskantha, Gujarat	Saurashtra & Kacchh; Gujarat Region	0.371* / 8.723

Table S3: Summary of Time Series for ESA in the DMIC

No.	Ecologically Sensitive Area	Shrubland (Kendall's tau / Sen's slope)	Grassland (Kendall's tau / Sen's slope)	Waterbody (Kendall's tau / Sen's slope)	Agriculture (Kendall's tau / Sen's slope)
1	Ranthambhore National Park	-0.581*** / -13.203	-0.785*** / -27.263	0.000*** / 0.000	0.790*** / 42.313
2	Sariska Tiger Reserve	0.015 / 0.000	-0.331* / -1.250	0.000*** / 0.000	0.196 / 1.075
3	Gir National Park	-0.083 / 0.000	-0.714*** / -6.366	0.661*** / 0.083	0.695*** / 6.063
4	Nanda Devi Biosphere Reserve	0.000*** / 0.000	0.864*** / 2.198	0.000*** / 0.000	-0.914*** / -3.286
5	Nalsarovar Bird Sanctuary	-0.667*** / -35.432	-0.810*** / -96.906	0.759*** / 2.311	0.924*** / 139.604
6	Thol Lake Wildlife Sanctuary	-0.838*** / -8.525	-0.838*** / -7.881	0.795*** / 0.111	0.924*** / 18.000
7	Kumbhalgarh Wildlife Sanctuary	-0.514** / -36.159	-0.629*** / -28.672	0.416* / 0.050	0.543*** / 57.037
8	Mount Abu Wildlife Sanctuary	-0.638*** / -9.600	-0.679*** / -1.825	0.000*** / 0.000	0.648*** / 11.320
9	Gulf of Khambhat	-0.063 / -0.039	-0.933*** / -44.958	0.657*** / 1.426	0.886*** / 45.188
10	Marine National Park, Gulf of Kutch	0.234 / 0.725	-0.574*** / -4.153	0.717*** / 0.489	0.377* / 3.025
11	Yamuna River	0.000*** / 0.000	0.517** / 1.638	0.381* / 0.036	-0.724*** / -6.292
12	Narmada River	-0.309 / 0.000	-0.800*** / -21.604	0.740*** / 1.500	0.714*** / 21.479
13	Velavadar Blackbuck National Park	0.324* / 2.090	-0.857*** / -30.842	0.943*** / 4.805	0.800*** / 26.721
14	Rann of Kutch	-0.305+ / -40.866	0.238 / 24.833	0.501** / 15.317	0.371* / 37.081

Table S3: Summary of Time Series for ESA in the DMIC

No.	Ecologically Sensitive Area	Urban (Kendall's tau / Sen's slope)	Bareland (Kendall's tau / Sen's slope)
1	Ranthambhore National Park	0.632*** / 0.000	-0.763*** / -0.500
2	Sariska Tiger Reserve	0.905*** / 0.164	0.000*** / 0.000
3	Gir National Park	0.000*** / 0.000	-0.539** / -0.104
4	Nanda Devi Biosphere Reserve	0.000*** / 0.000	0.000*** / 0.000
5	Nalsarovar Bird Sanctuary	0.973*** / 0.862	-0.597*** / -3.542
6	Thol Lake Wildlife Sanctuary	0.687*** / 0.000	-0.826*** / -0.103
7	Kumbhalgarh Wildlife Sanctuary	0.921*** / 0.188	0.469** / 0.096
8	Mount Abu Wildlife Sanctuary	0.717*** / 0.019	-0.450* / -0.019
9	Gulf of Khambhat	0.837*** / 0.058	0.377* / 0.727
10	Marine National Park, Gulf of Kutch	0.000*** / 0.000	-0.487** / -0.270
11	Yamuna River	0.993*** / 4.354	-0.507** / 0.000
12	Narmada River	0.000*** / 0.000	-0.831*** / -0.588
13	Velavadar Blackbuck National Park	0.834*** / 0.030	-0.625*** / -3.188
14	Rann of Kutch	0.000*** / 0.000	-0.562*** / -44.096