

Figure S1: Trends in mean annual SPM in the North Sea (1997-2017) derived from remote sensing data.

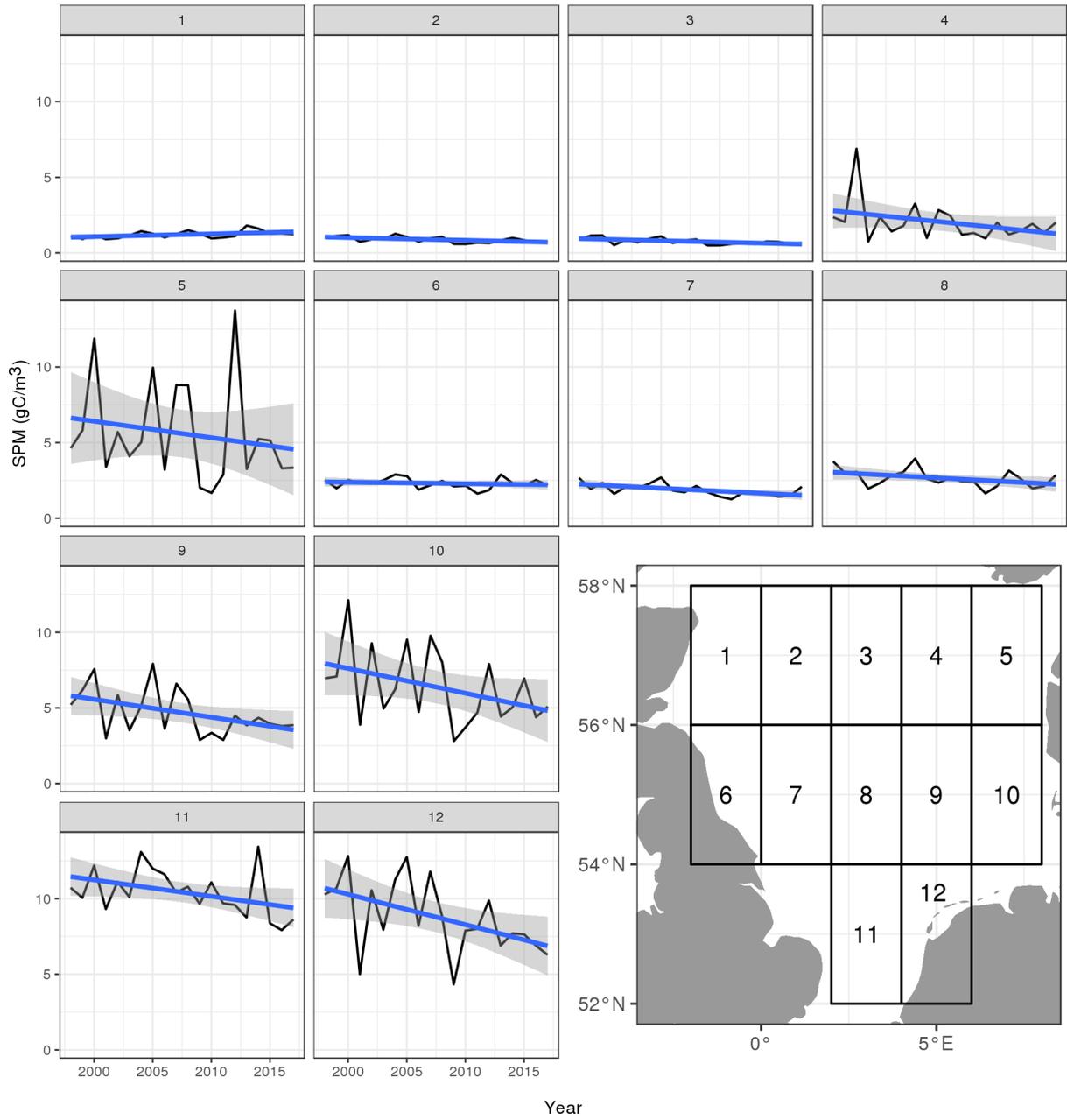


Figure S2: Trends in mean annual bed shear stress in the North Sea.

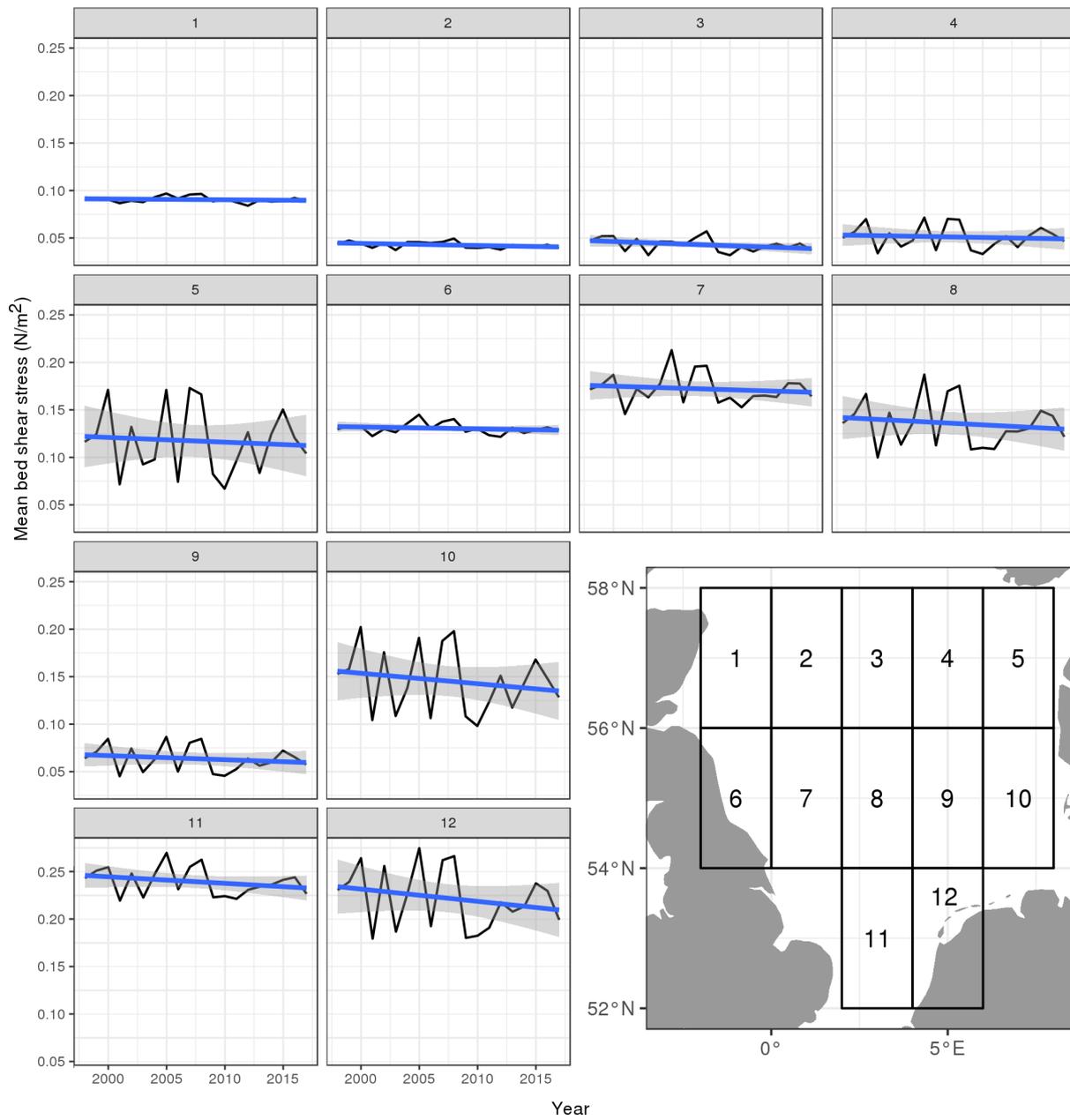


Table S1 Summary of linear regressions of bed shear stress and SPM for January.

Box	Intercept	Stress	R ²	p-value
1	-0.1984983	21.522761	0.1246955	0.12671
4	-0.8399198	68.789998	0.2755672	0.01748
5	-3.0254116	64.872158	0.4332934	0.00160
6	-0.9863120	28.754258	0.2823242	0.01591
7	1.2491779	5.689117	0.1154584	0.14271
8	2.4010043	6.531940	0.1463926	0.09592
9	-0.2182415	80.156713	0.6903900	0.00001
10	-1.8099034	56.775913	0.6313796	0.00003
11	5.8886192	25.388386	0.0938266	0.18901
12	-2.1022522	53.859287	0.7076606	0.00000

Table S2 Summary of linear regressions of bed shear stress and SPM for February.

Box	Intercept	Stress	R ²	p-value
1	0.1526017	11.80694	0.0455459	0.36629
2	-0.6350132	36.89931	0.3799965	0.00380
3	-0.0560215	19.85759	0.4769568	0.00075
4	-0.3192772	37.29811	0.5667957	0.00013
5	-3.2915778	86.73945	0.5344626	0.00025
6	-0.3887036	19.00315	0.2256498	0.03430
7	-0.1769024	12.50683	0.2591040	0.02190
8	0.9409796	13.14086	0.2813287	0.01614
9	-1.4287208	95.30499	0.7504882	0.00000
10	-0.8852190	51.45046	0.7124690	0.00000
11	-0.0963447	50.78482	0.3668541	0.00465
12	-0.4618242	49.95876	0.5433744	0.00021

Table S3 Summary of linear regressions of bed shear stress and SPM for March.

Box	Intercept	Stress	R ²	p-value
1	-2.1420312	31.86245	0.5472784	0.00019
2	-0.5322775	31.24443	0.4846909	0.00065
3	0.0390230	15.50407	0.4684545	0.00087
4	-0.1856057	32.68581	0.4356805	0.00154
5	-1.5174124	58.67537	0.5231840	0.00031
6	-1.4868256	27.56390	0.4796198	0.00071
7	-0.3466103	13.16332	0.5144329	0.00037
8	0.3061007	14.26997	0.4400504	0.00143
9	-0.5060773	77.27351	0.5713190	0.00012
10	-0.8404414	46.17795	0.5345119	0.00025
11	2.6088695	29.95346	0.2400217	0.02832
12	-0.5741124	43.59528	0.4170824	0.00210

Table S4 Summary of linear regressions of bed shear stress and SPM for November.

Box	Intercept	Stress	R ²	p-value
1	-0.5159872	16.95607	0.1424002	0.10096
2	0.0853250	11.83689	0.3061844	0.01138
3	0.0889837	12.55518	0.4149635	0.00217
4	-0.6140219	33.23494	0.5635400	0.00014
5	0.3524050	25.30948	0.2993095	0.01254
6	-0.7091274	18.27922	0.2558208	0.02289
7	-1.1356026	15.88255	0.5093241	0.00041
8	-0.5976944	19.70469	0.5706033	0.00012
9	-0.1617055	55.28292	0.5280033	0.00028
10	1.6963760	19.77244	0.2735673	0.01796
11	-0.2853692	33.76662	0.2806924	0.01628
12	1.3399891	25.32585	0.2556125	0.02296