

# Supplementary Materials: Analysis and Mapping of the Spectral Characteristics of Fractional Green Cover in Saline Wetlands (NE Spain) Using Field and Remote Sensing Data

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Table S1. Data of sampling points with spectrometer Ocean Optics (OO).

Wetland	Point	Munsell Color	Gravimetric Moisture (%)	Point Description	%Soil	%Green	%Yellow-Green	%Woody	%Mixed	OO_Band1	OO_Band2	OO_Band3	OO_Band4	NDVI
Pito	Pto1	10YR 7/2	0	<i>Lygeum spartum</i>	1.9	12.0	19.0	34.0	34.0	15.950	23.170	24.770	53.460	0.370
Pito	Pto2	10YR 7/3	0	<i>L. spartum</i>	3.3	2.5	3.9	67.0	24.0	12.310	18.150	18.700	21.310	0.070
Pito	Pto3	10YR 7/4	0	<i>L. spartum</i>	6.0	11.0	32.0	32.0	18.0	13.390	20.640	19.580	46.400	0.410
Pito	Pto4	10YR 7/5	0	<i>L. spartum</i>	15.0	4.7	8.6	0.1	71.0	10.880	18.680	19.010	25.670	0.150
Pito	Pto6	10YR 7/7	0	<i>L. spartum</i>	1.2	5.8	5.1	55.0	33.0	21.880	29.730	32.540	36.410	0.060
Pito	Pto7	2.5YR 7/2	0	<i>Arthrocnemum macrostachyum</i>	35.0	19.0	29.0	5.9	12.0	1.550	4.100	3.000	10.220	0.550
Pito	Pto8	2.5YR 7/3	0	<i>A. macrostachyum</i>	60.0	8.1	7.0	8.0	17.0	4.030	6.220	6.330	9.430	0.200
Pito	Pto9	2.5YR 7/4	0	Bare soil, efflorescence +	100.0	0.0	0.0	0.0	0.0	23.620	28.780	32.860	34.670	0.030
Pito	Pto10	2.5YR 7/5	0	<i>A. macrostachyum</i>	10.0	16.0	28.0	18.0	27.0	4.380	7.700	6.960	18.100	0.440
Pito	Pto11	2.5YR 7/6	0	<i>A. macrostachyum</i>	74.0	3.7	2.6	10.0	8.9	20.330	25.420	29.110	36.080	0.110
Pito	Pto12	2.5YR 7/7	0	Bare soil, efflorescence +	100.0	0.0	0.0	0.0	0.0	23.360	28.390	32.100	33.640	0.020
La Playa	lpl1	10YR 3/3	15.57	<i>A. macrostachyum</i>	62.0	1.4	0.9	8.3	27.0	11.960	14.670	17.790	20.240	0.060
La Playa	lpl2	10YR 3/4	15.57	<i>A. macrostachyum</i>	16.0	6.9	5.2	26.0	46.0	8.300	10.270	12.140	14.470	0.090
La Playa	lpl3	10YR 3/5	15.57	<i>A. macrostachyum</i>	88.0	6.6	2.6	0.1	2.9	10.220	12.670	15.160	18.010	0.090
La Playa	lpl4	10YR 3/6	15.57	<i>A. macrostachyum</i>	100.0	0.0	0.0	0.0	0.0	11.040	13.020	15.180	16.180	0.030
La Playa	lpl6	10YR 3/8	15.57	<i>A. macrostachyum</i>	67.0	2.4	0.9	4.1	26.0	10.500	12.810	15.510	16.720	0.040
La Playa	lpl7	10YR 3/2	12.24	<i>A. macrostachyum</i>	52.0	2.8	10.0	21.0	14.0	11.530	14.060	16.140	18.170	0.060
La Playa	lpl8	10YR 3/3	12.24	<i>A. macrostachyum</i>	17.0	8.9	12.0	13.0	49.0	3.050	5.010	5.800	8.840	0.210
La Playa	lpl9	10YR 3/4	12.24	<i>A. macrostachyum</i>	11.0	18.0	29.0	7.4	35.0	1.950	4.130	3.890	11.290	0.490
La Playa	lpl10	10YR 3/5	12.24	<i>A. macrostachyum</i>	3.5	17.0	42.0	7.3	30.0	0.610	1.940	1.820	5.190	0.480
La Playa	lpl11	10YR 3/6	12.24	<i>A. macrostachyum</i>	6.8	17.0	25.0	9.0	42.0	2.000	4.310	3.990	11.170	0.470
La Playa	lpl12	10YR 5/2	23.7	Bare soil, polygons, efflorescence	100.0	0.0	0.0	0.0	0.0	10.340	12.690	14.760	13.870	-0.030
La Playa	lpl13	10YR 5/3	23.7	Bare soil, polygons, efflorescence	100.0	0.0	0.0	0.0	0.0	10.560	13.060	15.280	14.620	-0.020
La Playa	lpl14	10YR 5/4	23.7	Bare soil, polygons, efflorescence	100.0	0.0	0.0	0.0	0.0	14.090	16.500	18.520	18.250	-0.010

Table S1. Cont.

Wetland	Point	Munsell Color	Gravimetric Moisture (%)	Point Description	%Soil	%Green	%Yellow-Green	%Woody	%Mixed	OO_Band1	OO_Band2	OO_Band3	OO_Band4	NDVI
La Playa	lpl15	10YR 5/5	23.7	Bare soil, polygons, efflorescence	100.0	0.0	0.0	0.0	0.0	11.270	13.790	15.950	15.160	-0.030
La Playa	lpl16	10YR 5/6	23.7	Bare soil, polygons, efflorescence	100.0	0.0	0.0	0.0	0.0	12.020	14.480	16.460	15.700	-0.020
Agustín	agu2	2.5YR 5/3	2.18	<i>Suaeda vera</i>	41.0	10.0	15.0	0.6	33.0	4.530	6.180	6.780	14.410	0.360
Agustín	agu3	2.5YR 5/4	2.18	<i>S. vera</i>	74.6	9.7	0.9	1.7	13.1	12.370	14.910	17.440	19.910	0.070
Agustín	agu4	2.5YR 5/5	2.18	Bare soil, polygons	93.0	0.0	0.0	0.0	6.9	12.530	14.960	17.260	18.440	0.030
Agustín	agu5	2.5YR 5/6	2.18	<i>S. vera</i>	67.0	7.6	5.3	1.1	20.0	11.520	13.810	16.050	18.250	0.060
Agustín	agu6	10YR 7/2	0.44	<i>A. macrostachyum</i>	3.2	44.0	20.0	15.0	18.0	2.400	3.680	3.220	16.250	0.670
Agustín	agu7	10YR 7/3	0.44	<i>A. macrostachyum</i>	7.9	20.0	26.0	21.0	25.0	3.840	5.470	5.430	18.350	0.540
Agustín	agu8	10YR 7/4	0.44	<i>A. macrostachyum</i>	60.0	2.5	0.0	5.0	33.0	12.630	15.030	17.250	18.740	0.040
Agustín	agu9	10YR 7/5	0.44	Bare soil, polygons	96.0	0.0	0.0	0.0	4.0	12.930	15.590	18.140	19.990	0.050
Agustín	agu10	10YR 7/6	0.44	<i>A. macrostachyum</i>	39.0	5.6	0.9	4.8	49.0	9.140	11.150	12.920	15.000	0.070
Agustín	agu11	10YR 7/7	0.44	<i>A. macrostachyum</i>	52.0	8.9	0.0	7.4	32.0	11.040	13.390	15.710	17.210	0.050
Agustín	agu12	10YR 7/8	0.44	Bare soil, polygons	100.0	0.0	0.0	0.0	0.0	12.210	14.640	16.710	17.500	0.020
Agustín	agu13	2.5Y 6/2	5.78	Bare soil, efflorescence +	100.0	0.0	0.0	0.0	0.0	22.990	26.470	29.210	31.930	0.040
Agustín	agu14	2.5Y 6/3	5.78	Bare soil, efflorescence +	100.0	0.0	0.0	0.0	0.0	17.480	20.860	23.380	26.850	0.070
Agustín	agu15	2.5Y 6/4	5.78	Bare soil, efflorescence +	100.0	0.0	0.0	0.0	0.0	66.090	63.670	62.630	59.460	-0.030
Agustín	agu16	2.5Y 6/5	5.78	Bare soil, efflorescence +	100.0	0.0	0.0	0.0	0.0	17.250	19.220	20.310	21.780	0.030
Agustín	agu17	2.5Y 6/6	5.78	Bare soil, efflorescence ++	100.0	0.0	0.0	0.0	0.0	26.180	30.330	34.690	38.950	0.060
Agustín	agu18	2.5Y 6/7	4.2	Bare soil, efflorescence ++	100.0	0.0	0.0	0.0	0.0	21.140	23.180	24.870	26.670	0.030
Agustín	agu19	2.5Y 6/8	4.2	Bare soil, efflorescence ++	100.0	0.0	0.0	0.0	0.0	19.420	20.540	21.040	22.140	0.030
Agustín	agu20	2.5Y 6/9	4.2	Bare soil, efflorescence ++	100.0	0.0	0.0	0.0	0.0	21.520	22.560	22.990	23.930	0.020
Agustín	agu21	2.5Y 6/10	4.2	Bare soil, efflorescence ++	100.0	0.0	0.0	0.0	0.0	21.870	24.200	26.250	28.790	0.050
Agustín	agu22	2.5Y 6/11	4.2	Bare soil, efflorescence ++	100.0	0.0	0.0	0.0	0.0	22.330	23.660	24.880	26.090	0.020
Agustín	agu23	2.5Y 6/12	4.2	Bare soil, efflorescence ++	100.0	0.0	0.0	0.0	0.0	49.040	51.010	53.120	54.990	0.020
Agustín	agu24	2.5Y 6/13	8.4	Bare soil, efflorescence +++	100.0	0.0	0.0	0.0	0.0	38.380	40.830	42.460	43.980	0.020
Agustín	agu25	2.5Y 6/14	8.4	Bare soil, efflorescence +++	100.0	0.0	0.0	0.0	0.0	33.240	35.380	36.970	38.660	0.020

Table S1. Cont.

Wetland	Point	Munsell Color	Gravimetric Moisture (%)	Point Description	%Soil	%Green	%Yellow-Green	%Woody	%Mixed	OO_Band1	OO_Band2	OO_Band3	OO_Band4	NDVI
Agustín	agu26	2.5Y 6/15	8.4	Bare soil, efflorescence +++	100.0	0.0	0.0	0.0	0.0	42.680	44.910	46.200	47.750	0.020
Salineta	sal1	2.5Y 4/2	8.14	<i>S. vera</i>	10.0	9.5	22.0	28.0	30.0	5.280	7.830	8.350	14.460	0.270
Salineta	sal2	2.5Y 4/2	8.14	<i>S. vera</i>	5.1	19.0	26.0	21.0	29.0	4.550	7.650	7.370	22.760	0.510
Salineta	sal3	2.5Y 4/2	8.14	<i>S. vera</i>	3.5	30.0	11.0	27.0	29.0	2.220	4.300	4.350	10.100	0.400
Salineta	sal4	2.5Y 4/2	8.14	<i>Phragmites australis</i>	0.8	25.0	47.0	0.9	26.0	1.550	3.810	3.460	13.050	0.580
Salineta	sal5	2.5Y 4/2	8.14	<i>P. australis</i>	0.3	43.0	31.0	6.2	19.0	1.170	3.420	2.980	18.240	0.720
Salineta	sal6	2.5Y 4/2	8.14	<i>S. vera</i>	53.0	8.5	12.0	6.5	20.0	7.870	10.890	12.250	21.870	0.280
Salineta	sal7	2.5Y 5/3	16.05	Bare soil, efflorescence ++, algal mats (masked)	100.0	0.0	0.0	0.0	0.0	14.470	17.610	19.500	17.450	-0.060
Salineta	sal8	2.5Y 5/4	16.05	Bare soil, efflorescence ++, algal mats (masked)	100.0	0.0	0.0	0.0	0.0	12.570	15.440	17.260	15.180	-0.060
Salineta	sal9	2.5Y 5/5	16.05	Bare soil, efflorescence ++, algal mats (masked)	100.0	0.0	0.0	0.0	0.0	15.080	18.320	20.580	18.530	-0.050
Salineta	sal10	2.5Y 5/6	16.05	Bare soil, efflorescence ++, algal mats (masked)	100.0	0.0	0.0	0.0	0.0	16.080	19.420	21.720	20.120	-0.040
Salineta	sal11	2.5Y 5/7	16.05	Bare soil, efflorescence ++, algal mats (masked)	100.0	0.0	0.0	0.0	0.0	14.940	17.990	20.080	17.980	-0.060
Salineta	sal13	2.5Y 4/0	23.95	Bare soil, efflorescence +++, Sapropel (algal mats)	100.0	0.0	0.0	0.0	0.0	28.640	31.060	31.820	30.060	-0.030
Salineta	sal14	2.5Y 4/1	23.95	Bare soil, efflorescence +++, Sapropel (algal mats)	100.0	0.0	0.0	0.0	0.0	26.530	28.410	28.620	25.920	-0.050

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Wetland	Point	Munsell Color	Gravimetric Moisture (%)	Point Description	%Soil	%Green	%Yellow-Green	%Woody	%Mixed	OO_Band1	OO_Band2	OO_Band3	OO_Band4	NDVI
Salineta	sal15	2.5Y 4/2	23.95	Bare soil, efflorescence +++, Sapropel (algal mats)	100.0	0.0	0.0	0.0	0.0	20.480	21.510	20.430	15.990	-0.120
Salineta	sal16	2.5Y 4/3	23.95	Bare soil, efflorescence +++, Sapropel (algal mats)	100.0	0.0	0.0	0.0	0.0	25.180	26.820	26.650	23.460	-0.060
Farnaca	far7	10YR 6 or 5/2	2.03	<i>S. vera</i>						4.180	6.310	6.290	11.470	0.290
Farnaca	far8	10YR 6 or 5/3	2.03	<i>S. vera, P. australis</i>	0.070	24.000	18.000	20.000	38.000	1.990	4.050	3.540	11.620	0.530
Farnaca	far9	10YR 6 or 5/4	2.03	<i>S. vera</i>	35.000	3.100	8.800	4.000	50.000	6.650	8.720	9.300	11.100	0.090
Farnaca	far10	10YR 6 or 5/5	2.03	<i>S. vera</i>	1.500	15.000	25.000	8.200	50.000	1.720	3.790	3.680	8.950	0.420
Farnaca	far11	10YR 6 or 5/6	2.03	<i>S. vera, P. australis</i>	73.000	15.000	7.500	0.240	4.500	3.820	6.460	7.190	12.430	0.270
Farnaca	far12	10YR 6 or 5/7	2.03	<i>Phragmites australis</i>	0.930	15.000	2.400	53.000	28.000	3.000	4.740	5.100	5.590	0.050
Farnaca	far13	10YR 6 or 5/8	2.03	<i>S. vera, P. australis</i>	0.550	12.000	34.000	15.000	38.000	2.620	5.010	5.400	10.930	0.340
Farnaca	far14	10YR 6 or 5/9	2.03	<i>S. vera, P. australis</i>	2.500	9.800	22.000	34.000	32.000	4.200	6.940	7.170	15.000	0.350
Farnaca	far15	10YR 6 or 5/10	2.03	<i>S. vera, P. australis</i>	1.800	10.000	20.000	29.000	38.000	2.850	4.910	5.190	8.250	0.230
Guallar	gll1	10YR 7/2	4.36	<i>S. vera</i>	14.000	15.000	33.000	3.400	34.000	3.710	6.030	5.700	11.980	0.360
Guallar	gll2	10YR 7/3	4.36	<i>S. vera</i>	33.000	9.000	3.400	41.000	14.000	5.190	7.500	8.320	10.430	0.110
Guallar	gll3	10YR 7/4	4.36	<i>S. vera</i>	60.000	8.500	3.700	7.600	20.000	8.790	11.540	13.590	14.940	0.050
Guallar	gll4	10YR 7/5	4.36	<i>S. vera</i>	41.000	7.500	16.000	0.430	35.000	4.580	6.810	7.230	10.790	0.200
Guallar	gll5	10YR 7/6	4.36	<i>S. vera</i>	60.000	6.000	3.300	5.800	25.000	10.950	14.620	17.400	22.520	0.130
Guallar	gll6	10YR 7/2	0.08	Bare soil, efflorescence +	93.000	0.390	3.000	2.200	1.200	24.790	30.200	35.050	38.980	0.050
Guallar	gll7	10YR 7/3	0.08	Bare soil, efflorescence +						23.550	29.230	33.950	40.220	0.080
Guallar	gll8	10YR 7/4	0.08	Bare soil, efflorescence +	99.000	0.000	0.560	0.000	0.290	34.840	41.330	47.530	52.770	0.050
Guallar	gll9	10YR 7/5	0.08	Bare soil, efflorescence +	99.000	0.000	0.000	0.000	1.000	34.520	40.640	46.390	51.410	0.050

Table S1. Cont.

Wetland	Point	Munsell Color	Gravimetric Moisture (%)	Point Description	%Soil	%Green	%Yellow-Green	%Woody	%Mixed	OO_Band1	OO_Band2	OO_Band3	OO_Band4	NDVI
Guallar	gll10	10YR 7/6	0.08	Bare soil, efflorescence +	100.000	0.000	0.000	0.000	0.000	21.460	26.970	32.420	36.850	0.060
Guallar	gll11	2.5Y 4/2	19.91	Bare soil, algal mats, polygons, sapropel	100.000	0.000	0.000	0.000	0.000	12.160	14.600	15.670	13.270	-0.080
Guallar	gll12	2.5Y 4/3	19.91	Bare soil, algal mats, polygons, sapropel	100.000	0.000	0.000	0.000	0.000	11.420	13.480	14.010	10.680	-0.130
Guallar	gll13	2.5Y 4/4	19.91	Bare soil, algal mats, polygons, sapropel	100.000	0.000	0.000	0.000	0.000	11.050	13.000	13.420	10.220	-0.140
Guallar	gll14	2.5Y 4/5	19.91	Bare soil, algal mats, polygons, sapropel	100.000	0.000	0.000	0.000	0.000	13.060	15.100	15.490	12.330	-0.110
Guallar	gll15	2.5Y 4/6	19.91	Bare soil, algal mats, polygons, sapropel	100.000	0.000	0.000	0.000	0.000	12.110	13.950	14.010	10.680	-0.140



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