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Supplement of

Large-scale predictions of salt-marsh carbon stock based on simple observations of plant community and soil type

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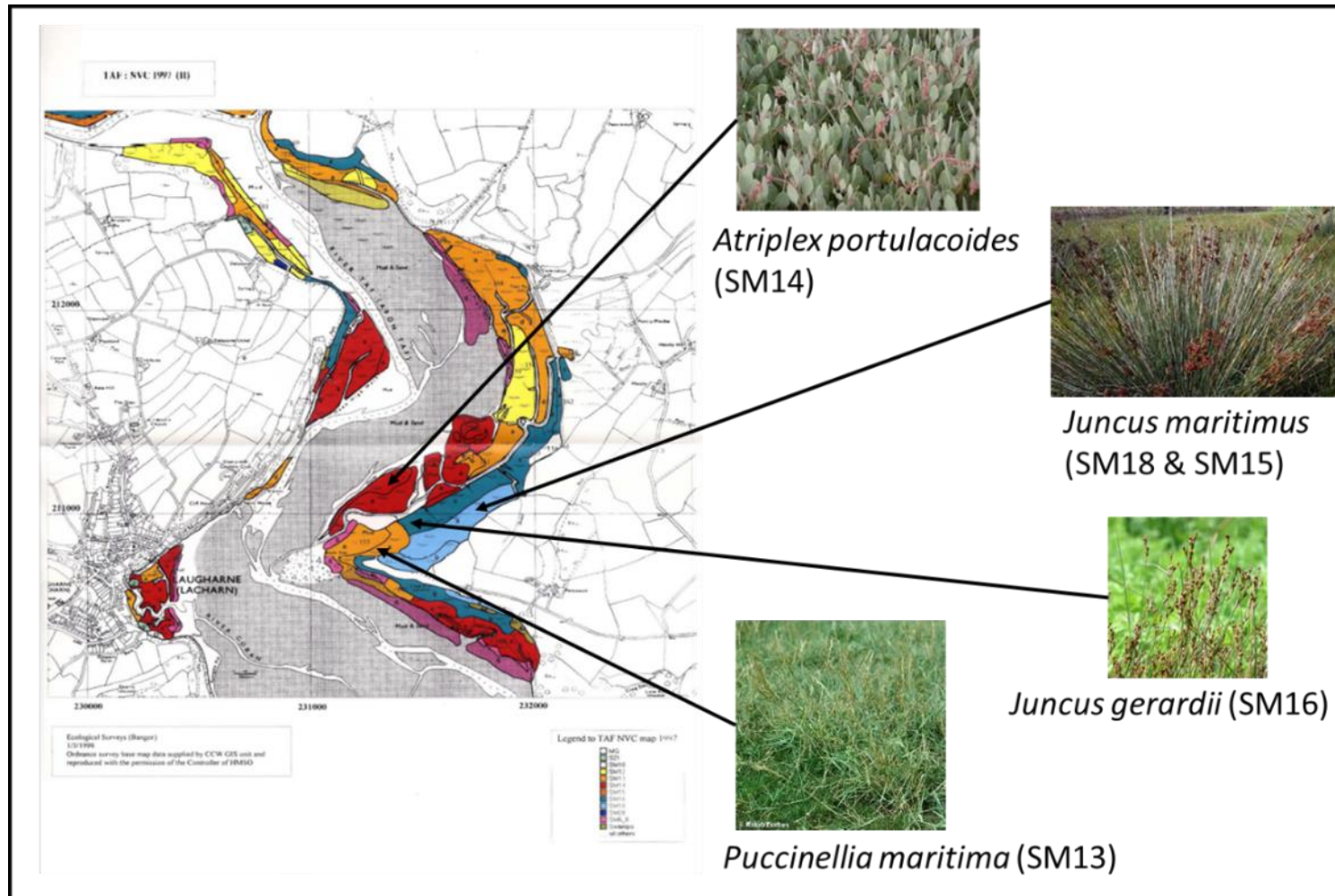


Figure S1. Annotated map illustrating how four common vegetation types (of the low, mid and high marsh) were located prior to verification via field sampling. This map shows Black Scar salt marsh and is colour-coded according to NVC class as identified by Natural Resources Wales (NRW) in the 1990's. *J. maritimus* community can be either SM18 or SM15, here only SM18 is present in light blue.

Table S1. Characterisation of soils for the 23 salt marshes included in the study. Soil are characterised into LandIS-map types (Soilscape), or by simplified soil type or texture categories based on direct empirical observations by the study.

Saltmarsh site		Soilscape category & description		Soil type (using Soilscape category description)	Simplified soil type (using field texture score)	Soil texture category (roll test)
MM	Morfa Madryn	21	Coastal flats (loamy & clayey)	2	2	L, O
Mth	Malltraeth	- (4)	Sand dune soil (sandy)	1	1,2	S, SL, SiL
4MB	Four Mile Bridge	17	Seasonally wet acid soil (loamy & clayey)	2	2	L, SiCL, O
YF	Y Foryd	- (21)	Coastal flats (loamy & clayey)	2	2	CL, O
MH	Morfa Harlech	1	Saltmarsh soils (loamy)	2	1,2	SL, L, CL, O
SI	Shell Island	15#	Naturally wet v acid soil (sandy & loamy)	1,2	1,2	Si, CL
Fb	Fairbourne	- (21)	Coastal flats (loamy & clayey)	2	2	L
DN	Dyfi North	1	Saltmarsh soils (loamy)	2	2	CL, SiL
YH	Ynys Hir	1	Saltmarsh soils (loamy)	2	2	L, CL
DW	Dyfi West	1	Saltmarsh soils (loamy)	2	2	L, SiCL, O
Gann	The Gann	20	Floodplain soils (loamy & clayey)	2	2	CL
SH	Sandy Haven	- (6)	Free draining slightly acid soil (loamy)	2	2	CL, C
LC	Laugharne Castle	6#	Free draining slightly acid soil (loamy)	2	2	C
BS	Black Scar	1	Saltmarsh soils (loamy)	2	1,2	SL, L, CL, O
TT	Trefenty	21	Coastal flats (loamy & clayey)	2	2	CL, SiC, C, O
MU	Morfa Uchaf	1	Saltmarsh soils (loamy)	2	2	CL, O
CB	Cor-y-barlys	6	Free draining slightly acid soil (loamy)	2	2	CL, O
Gw	Gwendraeth	21	Coastal flats (loamy & clayey)	2	2	L, CL
PB	Pembrey Burrows	1	Saltmarsh soil (loamy)	2	1,2	SC, L, CL
MMr	Morfa Mawr	1	Saltmarsh soil (loamy)	2	2	CL, O
Gow	Gowerton	1	Saltmarsh soil (loamy)	2	2	L, O
SP	Salthouse Point	1	Saltmarsh soil (loamy)	2	2	CL
LM	Landimore Marsh	1	Saltmarsh soil (loamy)	2	1,2	SL, L, CL

= partially mapped, - = mapped as ocean, () = adjacent to Soilscape category

Simplified soil type (2 levels: 1. 'Sandy' soil with ≥ 0.45 sand; 2. 'Non-sandy' soils with < 0.45 sand including loam, clay, organic soils)

Table S2. Site information, plant and soil characteristics for all study saltmarshes, mean \pm standard error. Colour coding relates to the four Natural Vegetation Classification (NVC) classes studied: yellow = *Puccinellia maritima* (SM13); green = *Juncus gerardii* (SM16), red = *Atriplex portulacoides* (SM14) and blue = *Juncus maritimus* (SM15 or SM18). NVC sub-classes are noted by subscripts (a, b, c, d or e).

Site information			Plant characteristics						Soil characteristics					
Name	BNG grid reference	Grazing	Vegetation type	NVC class	Species richness (m ⁻²)	Diversity (S-W) H'	Height (cm)	Root biomass (kg DW m ⁻²)	pH	EC (mS cm ⁻¹)	Bulk density (g cm ⁻³)	Organic matter (%)	Carbon stock (t C ha ⁻¹)	Texture category & Simplified soil type
Morfa Madryn	SH 66938 74628	S	<i>P. maritima</i>	SM13 (a)	4.5 \pm 0.5	1.0 \pm 0.0	13 \pm 8	1.3 \pm 0.7	6.6 \pm 0.1	16 \pm 2	0.59 \pm 0.15	20 \pm 11.1	36 \pm 3	L (O) 2
			<i>J. gerardii</i> [#]	SM16 (b)	4.5 \pm 0.5	0.7 \pm 0.1	36 \pm 3	5.0 \pm 0.1	6.1 \pm 0.2	16 \pm 1	0.17 \pm 0.02	63 \pm 0.5	59 \pm 5	O 2
Malltraeth	SH 39837 65973	none	<i>A. portulacoides</i> [#]	SM14 (c)	5.5 \pm 1.5	1.2 \pm 0.4	18 \pm 1	1.5 \pm 1.3	6.8 \pm 0.3	14 \pm 6	0.8 \pm 0.14	6 \pm 4.5	22 \pm 16	S, SiL 1, 2
			<i>J. gerardii</i> [#]	SM16 (b)	6.0 \pm 1.0	1.3 \pm 0.1	13 \pm 1	3.0 \pm 0.2	6.3 \pm 0.0	20 \pm 2	0.30 \pm 0.01	28 \pm 3.5	44 \pm 6	SiL 1
			<i>J. maritimus</i>	SM18	4.3 \pm 0.3	1.1 \pm 0.1	48 \pm 2	1.7 \pm 0.6	7.0 \pm 0.1	2 \pm 0	0.68 \pm 0.12	7 \pm 2.3	22 \pm 3	S, SL 1
Four Mile Bridge	SH 28068 78155	none	<i>P. maritima</i>	SM13 (d)	7 \pm 0.4	1.3 \pm 0.1	10 \pm 1	2.0 \pm 0.3	6.5 \pm 0.0	23 \pm 1	0.53 \pm 0.03	12 \pm 1.1	35 \pm 2	SiCL 2
			<i>J. gerardii</i>	SM16 (c, d)	4.5 \pm 0.6	0.9 \pm 0.1	26 \pm 1	2.6 \pm 0.2	6.7 \pm 0.0	17 \pm 1	0.33 \pm 0.02	30 \pm 2.8	54 \pm 2	L (SiCL) 2
			<i>J. maritimus</i>	SM15	6 \pm 1.7	1.0 \pm 0.3	54 \pm 8	5.2 \pm 1.0	6.6 \pm 0.1	15 \pm 4	0.21 \pm 0.03	44 \pm 7.1	48 \pm 4	O 2
Y Foryd	SH 44468 58537	none	<i>P. maritima</i>	SM13a (c, d)	8.5 \pm 0.6	1.4 \pm 0.1	14 \pm 2	2.2 \pm 0.4	5.8 \pm 0.2	15 \pm 0	0.56 \pm 0.03	11 \pm 0.6	33 \pm 0	CL 2
			<i>J. gerardii</i>	SM16 (b, d)	5.5 \pm 0.3	1.2 \pm 0.1	18 \pm 2	2.3 \pm 0.4	6.1 \pm 0.2	17 \pm 0	0.32 \pm 0.04	29 \pm 4.7	46 \pm 1.0	O (CL) 2
Morfa Harlech	SH 57793 35097	C, S	<i>P. maritima</i>	SM13a (b, d)	9.3 \pm 0.6	1.7 \pm 0.0	8 \pm 0	4.2 \pm 0.2	6.2 \pm 0.0	14 \pm 0	0.67 \pm 0.03	12 \pm 3.1	44 \pm 12	CL 2
			<i>J. maritimus</i>	SM18 (a)	8.0 \pm 0.7	1.3 \pm 0.0	25 \pm 2	3.0 \pm 0.5	6.3 \pm 0.1	10 \pm 0	0.81 \pm 0.05	16 \pm 3.4	69 \pm 11	L,O,SL 2 (1)
Shell Island	SH 56338 26471	none	<i>P. maritima</i>	SM13 (a)	6.8 \pm 0.5	1.6 \pm 0.0	13 \pm 1	2.0 \pm 0.3	7.4 \pm 0.0	19 \pm 1	0.64 \pm 0.02	9 \pm 1.1	31 \pm 3	CL 2
			<i>A. portulacoides</i> [#]	SM14 (a)	1.5 \pm 0.5	0.1 \pm 0.1	28 \pm 1	0.8 \pm 0.2	7.2 \pm 0.1	17 \pm 2	0.76 \pm 0.03	6 \pm 0.5	23 \pm 1	CL 2
			<i>J. maritimus</i>	SM15	4.5 \pm 0.6	0.6 \pm 0.2	55 \pm 2	1.6 \pm 0.8	7.0 \pm 0.0	13 \pm 1	0.50 \pm 0.01	9 \pm 0.3	24 \pm 0	Si 1
Fairbourne	SH 61508 13765	S	<i>J. gerardii</i>	SM16 (a)	5.5 \pm 0.3	1.2 \pm 0.1	8 \pm 1	1.5 \pm 0.3	7.2 \pm 0.1	14 \pm 0	0.73 \pm 0.04	15 \pm 2.6	58 \pm 11	L 2
Dyfi North	SN 68724 97521	C, S, G	<i>P. maritima</i>	SM13a (d)	5.0 \pm 0.4	1.0 \pm 0.2	10 \pm 1	2.6 \pm 0.3	6.5 \pm 0.1	11 \pm 1	0.78 \pm 0.03	10 \pm 0.3	40 \pm 2	CL 2
			<i>J. maritimus</i> [#]	SM15	8.5 \pm 0.5	1.5 \pm 0.1	35 \pm 5	4.7 \pm 2.2	6.2 \pm 0.1	10 \pm 1	0.45 \pm 0.02	16 \pm 2	39 \pm 3	CL, SiL 2
Ynys Hir	SN 68194 97299	S, G	<i>P. maritima</i>	SM13 (d)	3.3 \pm 0.3	1.1 \pm 0.1	5 \pm 0	1.8 \pm 0.2	6.8 \pm 0.0	9 \pm 1	0.79 \pm 0.04	6 \pm 0.9	27 \pm 3	L 2
			<i>J. gerardii</i>	SM16 (b)	2.5 \pm 0.3	0.6 \pm 0.1	20 \pm 1	1.5 \pm 0.2	6.8 \pm 0.0	12 \pm 1	0.57 \pm 0.04	12 \pm 0.9	37 \pm 1	CL 2
Dyfi West	SN 62731 93655	S, G	<i>P. maritima</i> [#]	SM13	5.0 \pm 0.0	1.0 \pm 0.2	3 \pm 1	2.8 \pm 0.4	6.3 \pm 0.1	22 \pm 2	0.52 \pm 0.05	14 \pm 2	39 \pm 2	SiCL 2
			<i>J. gerardii</i>	SM16 (d)	6.5 \pm 1.0	1.0 \pm 0.2	5 \pm 1	2.8 \pm 1.2	6.1 \pm 0.0	13 \pm 0	0.60 \pm 0.08	16 \pm 2.9	49 \pm 4	L, SiCL 2
			<i>J. maritimus</i> [#]	SM18	5.0 \pm 0.0	1.2 \pm 0.1	45 \pm 3	5.9 \pm 0.4	6.3 \pm 0.0	9 \pm 1	0.39 \pm 0.01	26 \pm 0.5	54 \pm 1	O 2
The Gann	SM 81339 07207	none	<i>P. maritima</i>	SM13 (d)	11.3 \pm 0.5	1.6 \pm 0.0	17 \pm 1	3.4 \pm 0.7	7.4 \pm 0.1	20 \pm 1	0.47 \pm 0.07	18 \pm 2.5	44 \pm 1	CL 2
			<i>A. portulacoides</i>	SM14 (a)	2.8 \pm 0.3	0.1 \pm 0.1	21 \pm 2	1.3 \pm 0.1	7.6 \pm 0.0	18 \pm 1	0.66 \pm 0.02	9 \pm 0.6	33 \pm 1	CL 2
Sandy Haven	SM 86221 08721	none	<i>P. maritima</i>	SM13 (d)	7.3 \pm 0.3	1.0 \pm 0.2	24 \pm 1	3.7 \pm 0.4	6.6 \pm 0.1	23 \pm 1	0.29 \pm 0.02	29 \pm 0.5	46 \pm 2	CL, C 2
			<i>A. portulacoides</i>	SM14a (c)	3.5 \pm 1.0	0.4 \pm 0.2	27 \pm 4	2.8 \pm 0.9	7.1 \pm 0.1	16 \pm 2	0.64 \pm 0.12	12 \pm 3.3	35 \pm 6	CL 2

Laugharne Castle	SN 30329 10743	none	<i>A. portulacoides</i>	SM14 (a)	1.5 ± 0.5	0.1 ± 0.1	31 ± 1	1.7 ± 0.4	7.1 ± 0.1	13 ± 0	0.65 ± 0.01	10 ± 0.9	36 ± 2	C	2
Black Scar	SN 31262 10866	none	<i>P. maritima</i>	SM13 (a)	4.0 ± 0.9	0.6 ± 0.1	29 ± 3	0.6 ± 0.0	6.9 ± 0.1	13 ± 0	0.58 ± 0.04	10 ± 0.6	31 ± 1	CL	2
			<i>A. portulacoides</i>	SM14 (a, c)	1.8 ± 0.5	0.3 ± 0.2	33 ± 2	1.1 ± 0.2	7.4 ± 0.1	12 ± 1	0.69 ± 0.02	9 ± 0.5	32 ± 1	CL	2
			<i>J. gerardii</i>	SM16 (b)	4.8 ± 0.3	0.9 ± 0.1	30 ± 7	3.4 ± 0.6	7.3 ± 0.1	11 ± 1	0.58 ± 0.05	16 ± 0.6	52 ± 4	O (L)	2
			<i>J. maritimus</i>	SM15 SM18	5.0 ± 0.4	0.8 ± 0.2	52 ± 7	2.0 ± 0.5	7.0 ± 0.0	10 ± 1	0.41 ± 0.13	15 ± 1.1	34 ± 10	O, CL, SL	2 (1)
Trefenty	SN 30298 13197	C, S	<i>P. maritima</i>	SM13 (a)	9.3 ± 0.5	0.9 ± 0.2	10 ± 1	2.3 ± 0.2	7.4 ± 0.1	10 ± 1	0.83 ± 0.07	12 ± 2.0	58 ± 13	SiC (CL)	2
			<i>J. gerardii</i>	SM16 (b, d)	9.8 ± 0.6	1.5 ± 0.1	9 ± 1	5.9 ± 0.9	7.5 ± 0.1	9 ± 2	0.31 ± 0.02	31 ± 1.2	53 ± 4	O	
			<i>J. maritimus</i>	SM18	10 ± 0.4	1.3 ± 0.1	54 ± 5	5.2 ± 1.1	7.5 ± 0.1	10 ± 1	0.52 ± 0.02	22 ± 2.1	62 ± 4	C	2
Morfa Uchaf	SN 37418 12526	C	<i>J. maritimus</i>	SM18	6.0 ± 0.4	1.2 ± 0.1	58 ± 5	4.1 ± 0.7	6.5 ± 0.1	11 ± 1	0.36 ± 0.09	30 ± 6.3	50 ± 2	CL, O	2
Cor-y-barlys	SN 38755 13858	unknown	<i>J. gerardii</i>	SM16 (b, d)	7.0 ± 0.6	1.3 ± 0.1	33 ± 3	1.7 ± 0.3	6.8 ± 0.3	14 ± 1	0.22 ± 0.04	33 ± 4.5	36 ± 5	O	2
			<i>J. maritimus</i>	SM18	7.0 ± 0.4	1.2 ± 0.0	47 ± 3	5.6 ± 0.9	5.9 ± 0.1	10 ± 1	0.26 ± 0.03	40 ± 4.6	56 ± 5	CL (O)	2
Gwendraeth	SN 39881 04635	C / none	<i>P. maritima</i>	SM13 (a)	7.8 ± 0.3	1.1 ± 0.1	7 ± 1	2.2 ± 0.5	7.3 ± 0.1	8 ± 2	0.82 ± 0.06	12 ± 0.7	54 ± 3	L	2
			<i>A. portulacoides</i>	SM14 (a)	1.3 ± 0.1	0.1 ± 0.1	32 ± 2	1.0 ± 0.3	7.2 ± 0.2	13 ± 2	0.75 ± 0.02	9 ± 0.8	37 ± 2	CL	2
			<i>J. gerardii</i>	SM16a (d, e)	9.3 ± 0.8	1.5 ± 0.1	15 ± 1	2.8 ± 0.2	6.9 ± 0.2	10 ± 0	0.74 ± 0.03	13 ± 0.3	54 ± 1	L	2
Pembrey Burrows	SS 42705 99822	none	<i>P. maritima</i>	SM13 (c, d)	7.5 ± 1.0	1.6 ± 0.1	26 ± 1	1.0 ± 0.2	6.9 ± 0.1	16 ± 1	0.57 ± 0.01	13 ± 0.3	40 ± 1	CL (L)	2
			<i>A. portulacoides</i>	SM14 (a)	1.0 ± 0.0	0.0 ± 0.0	29 ± 3	0.7 ± 0.3	7.5 ± 0.1	13 ± 1	0.92 ± 0.03	5 ± 0.5	23 ± 3	SC (CL)	1 (2)
Morfa Mawr	SN 58140 01896	S / none	<i>P. maritima</i>	SM13 (a)	4.5 ± 0.6	0.6 ± 0.1	2 ± 0	2.1 ± 0.2	7.5 ± 0.1	9 ± 1	0.69 ± 0.03	10 ± 0.4	38 ± 0	CL	2
			<i>J. maritimus</i>	SM18	6.3 ± 0.3	1.4 ± 0.1	47 ± 4	4.0 ± 0.7	7.5 ± 0.0	7 ± 1	0.45 ± 0.02	12 ± 2.3	30 ± 5	O	2
Gowerton	SS 55147 96086	C, P, S	<i>P. maritima</i>	SM13 (a)	5.0 ± 0.9	0.5 ± 0.0	14 ± 1	0.7 ± 0.1	7.8 ± 0.1	9 ± 0	0.96 ± 0.04	10 ± 1.6	53 ± 7	L	2
			<i>J. gerardii</i>	SM16 (b)	5.0 ± 0.6	0.9 ± 0.0	13 ± 1	4.2 ± 0.3	7.5 ± 0.0	16 ± 1	0.43 ± 0.04	21 ± 1.7	48 ± 6	O	2
Salthouse Point	SS 53229 95838	C, P, S	<i>A. portulacoides</i>	SM14 (a)	1.3 ± 0.3	0.0 ± 0.0	24 ± 1	1.2 ± 0.2	7.6 ± 0.0	14 ± 1	0.58 ± 0.03	11 ± 0.4	36 ± 1	CL	2
Landimore Marsh	SS 46873 93908	C, P, S	<i>P. maritima</i>	SM13 (a, d)	5.3 ± 0.6	0.4 ± 0.2	3 ± 1	1.9 ± 0.6	8.3 ± 0.0	6 ± 1	1.10 ± 0.03	5 ± 0.3	29 ± 1	SL	2
			<i>J. gerardii</i>	SM16 (b)	6.3 ± 0.5	1.2 ± 0.1	3 ± 0	4.6 ± 0.5	7.9 ± 0.2	11 ± 1	0.54 ± 0.05	17 ± 0.9	50 ± 4	CL	2
			<i>J. maritimus</i>	SM18	6.3 ± 0.5	1.4 ± 0.0	63 ± 16	0.8 ± 0.2	7.6 ± 0.1	7 ± 1	0.83 ± 0.08	10 ± 1.4	45 ± 3	CL, L	2

Grazing information refers to the locations and vegetation communities we visited; other parts of the salt marsh may differ in grazing management.

NVC class was calculated after sampling by Tablefit.

= only 2 quadrats per vegetation type instead of 4.

Grazing column: C = cattle, S = sheep, P = ponies, G = geese

EC = electrical conductivity.

Soil texture category defined in Table 2 (main manuscript).

Simplified soil type (2 levels: 1. 'Sandy' soil with ≥0.45 sand; 2. 'Non-sandy' soils with <0.45 sand including loam, clay, organic soils

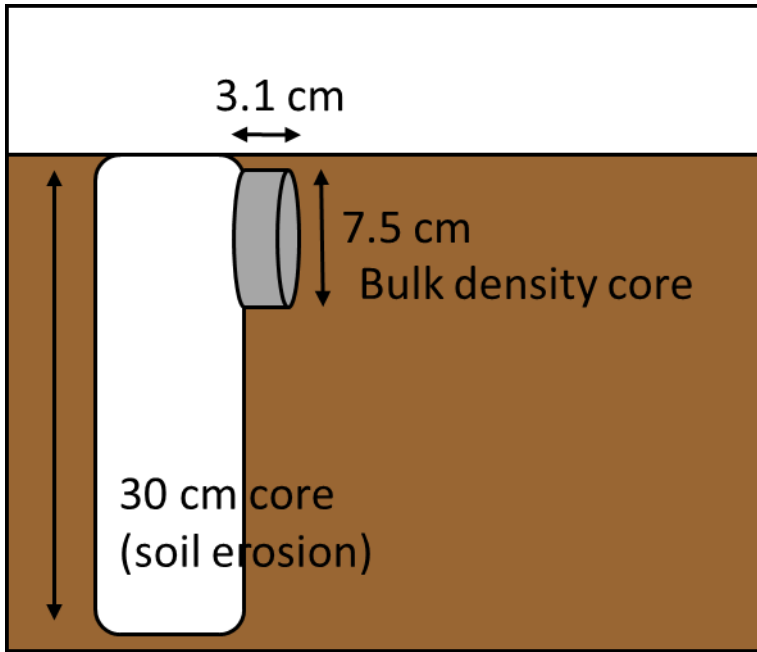


Figure S2. Schematic to show sampling of bulk density, horizontally at a depth of 2-9.5 cm to quantify the top 10cm of soil. The 30 cm soil erosion core was removed prior to sampling for a separate experiment.

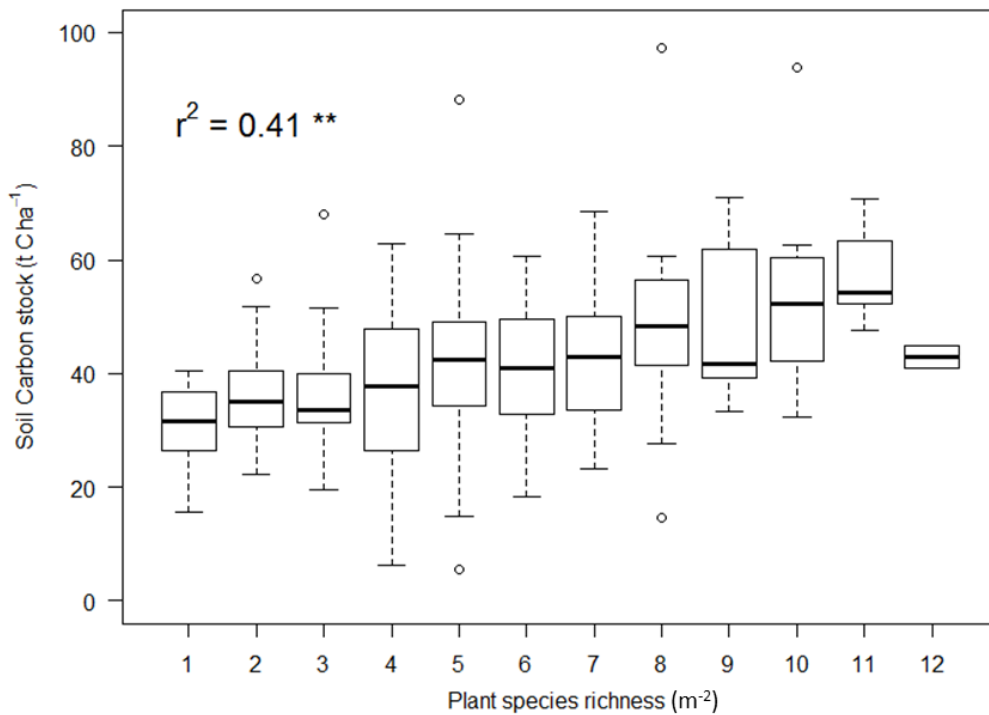


Figure S3. Results of mixed effects model with pseudo r^2 showing proportion of soil carbon stock explained by plant species richness per m² in 23 Welsh saltmarshes, $p < 0.01$. Thick bar = median, box = interquartile range, whiskers = full range, open circles = outliers.

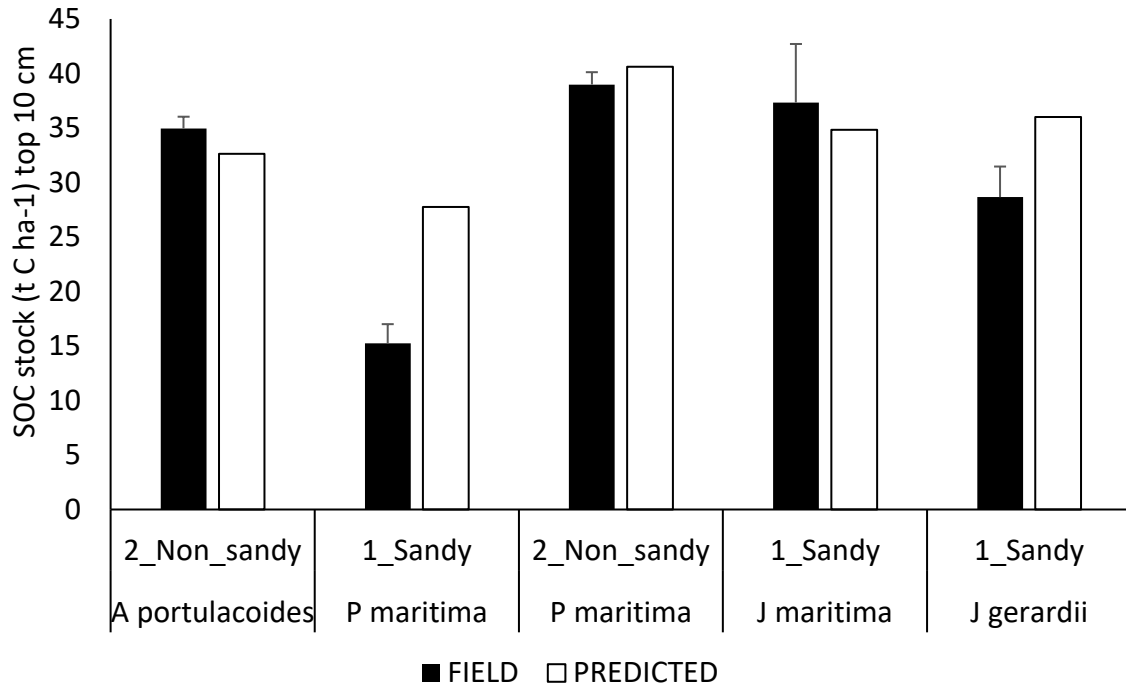


Figure S4. Field measurements of soil organic carbon (SOC) stock (n = 132) using data from three Lancashire and three Essex (UK) saltmarshes (Ford et al., 2016) compared to predictions from the SCSP tool (Veg_soil_model – ‘Vegetation type’ and ‘simplified soil type’ combined). Reference: Ford, H., Garbutt, A., Ladd, C., Malarkey, J. and Skov, M.W.: Soil stabilization linked to plant diversity and environmental context in coastal wetlands. *J. Veg. Sci.* 27, 259-268, 2016.

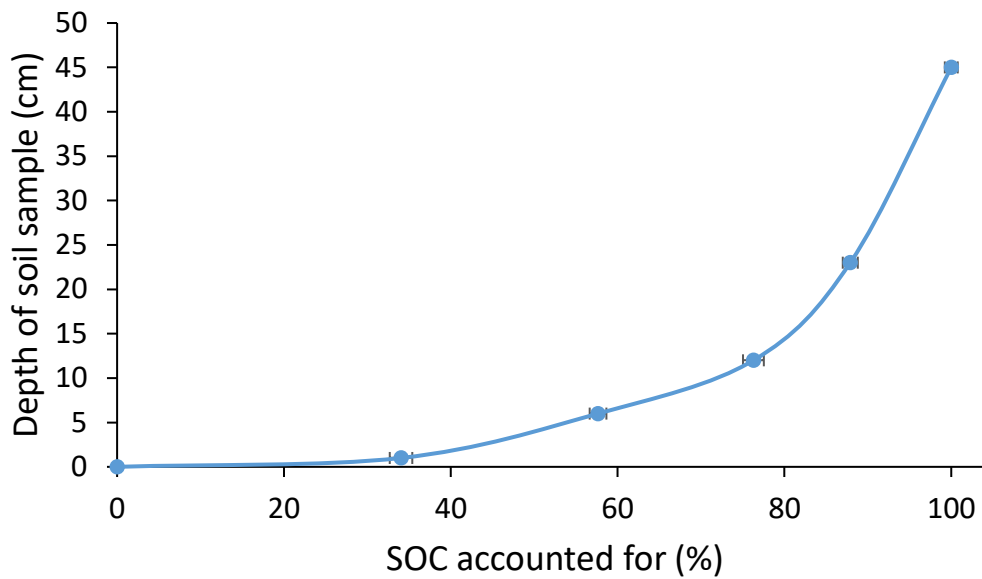


Figure S5. Soil carbon (%) accounted for by cumulative soil depth (total core length 45 cm) based on 224 saltmarsh cores from 22 saltmarshes in the study region, differing in soil type, plant community type and grazing intensity. Data re-analysed from Kingham (2013). Reference: Kingham, R.: The broad-scale impacts of livestock grazing on saltmarsh carbon stocks. PhD thesis, Bangor University, UK, 2013.

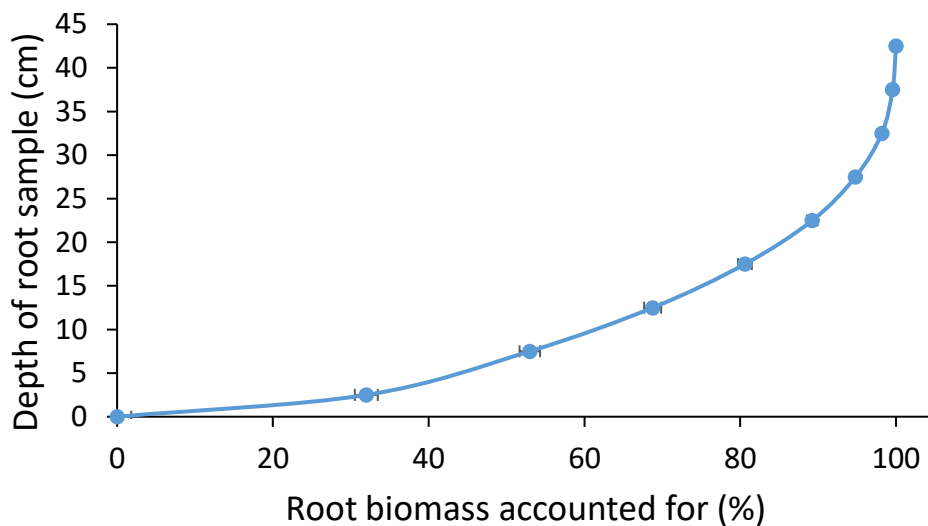


Figure S6. Root biomass (%) accounted for by cumulative soil depth (total core length 45 cm) based on 224 saltmarsh cores from 22 saltmarshes in the study region, differing in soil type, plant community type and grazing intensity. Data re-analysed from Kingham (2013). Reference: Kingham, R.: The broad-scale impacts of livestock grazing on saltmarsh carbon stocks. PhD thesis, Bangor University, UK, 2013.



Figure S7. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Morfa Madryn saltmarsh. SOC stock based on 'simplified soil type' (Soil_model; hatched grayscale) as target NVC classes absent from NRW shapefile.

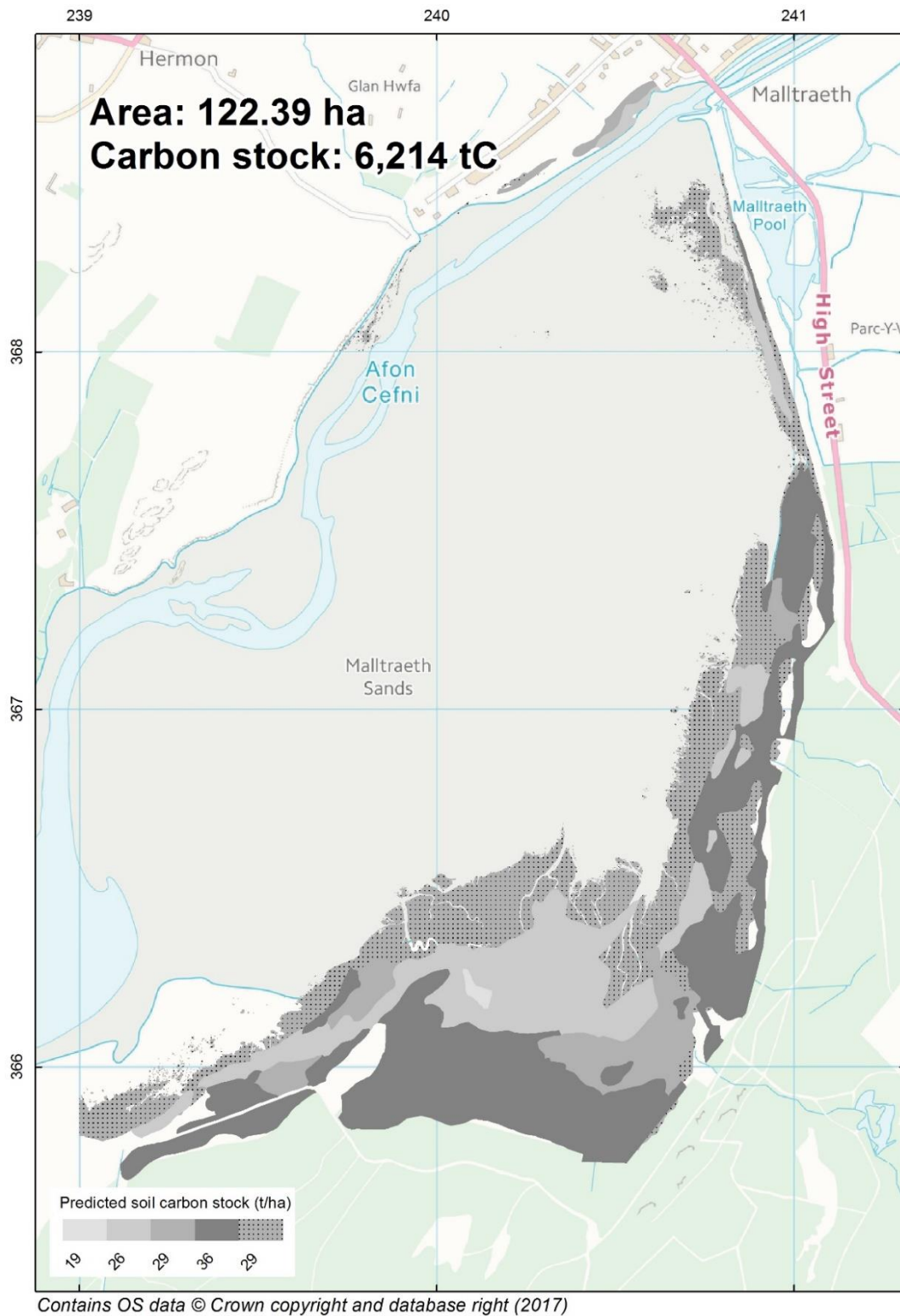


Figure S8. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Maltraeth saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.



Figure S9. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Four Mile Bridge saltmarsh. SOC stock based on 'simplified soil type' (Soil_model; hatched grayscale) as target NVC classes absent from NRW shapefile.

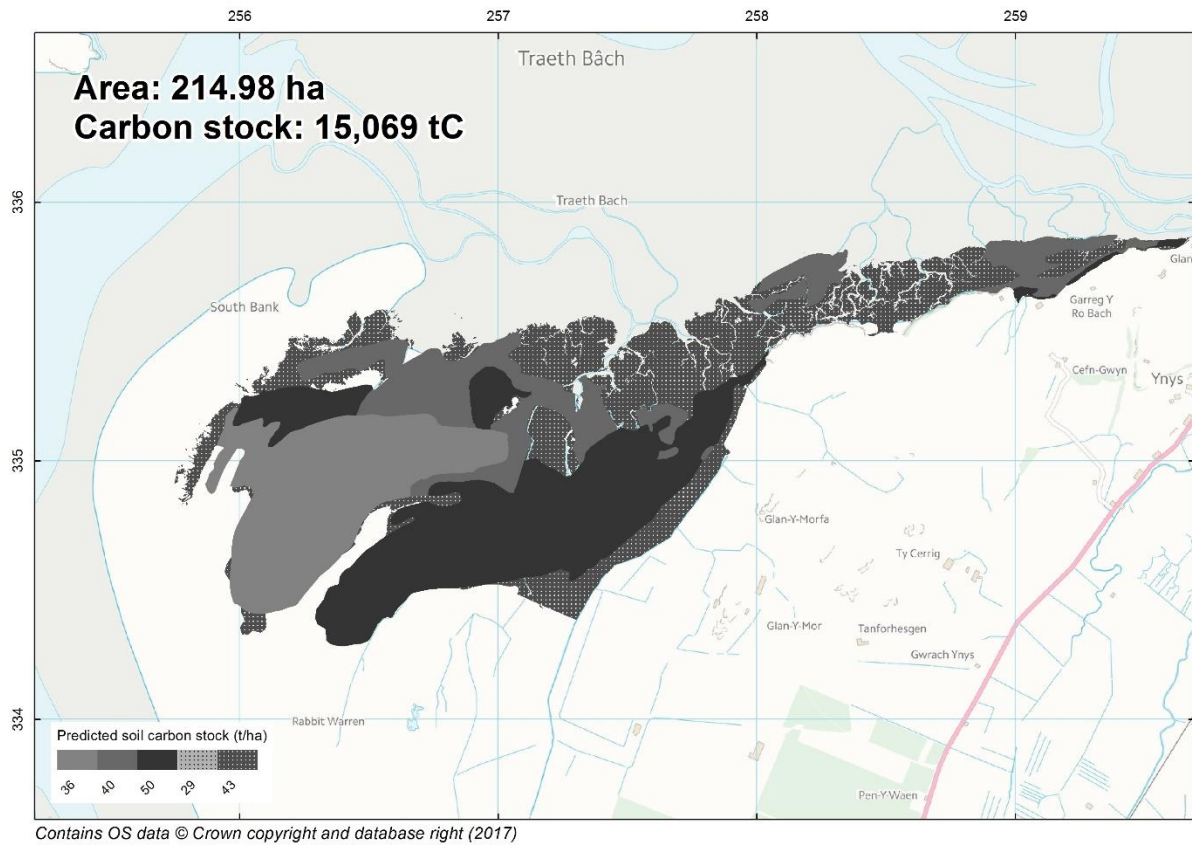


Figure S11. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Morfa Harlech saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

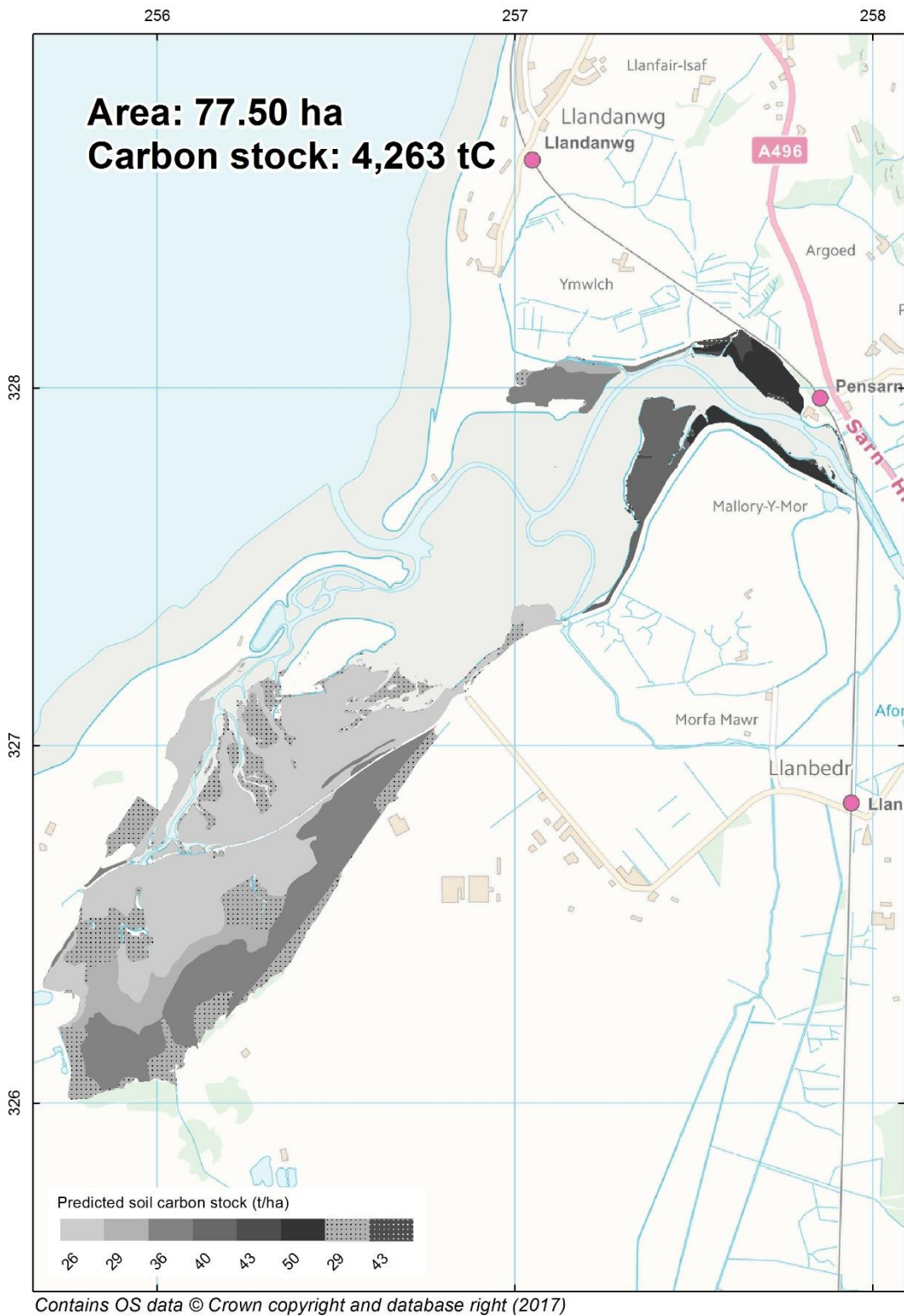


Figure S12. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Shell Island saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

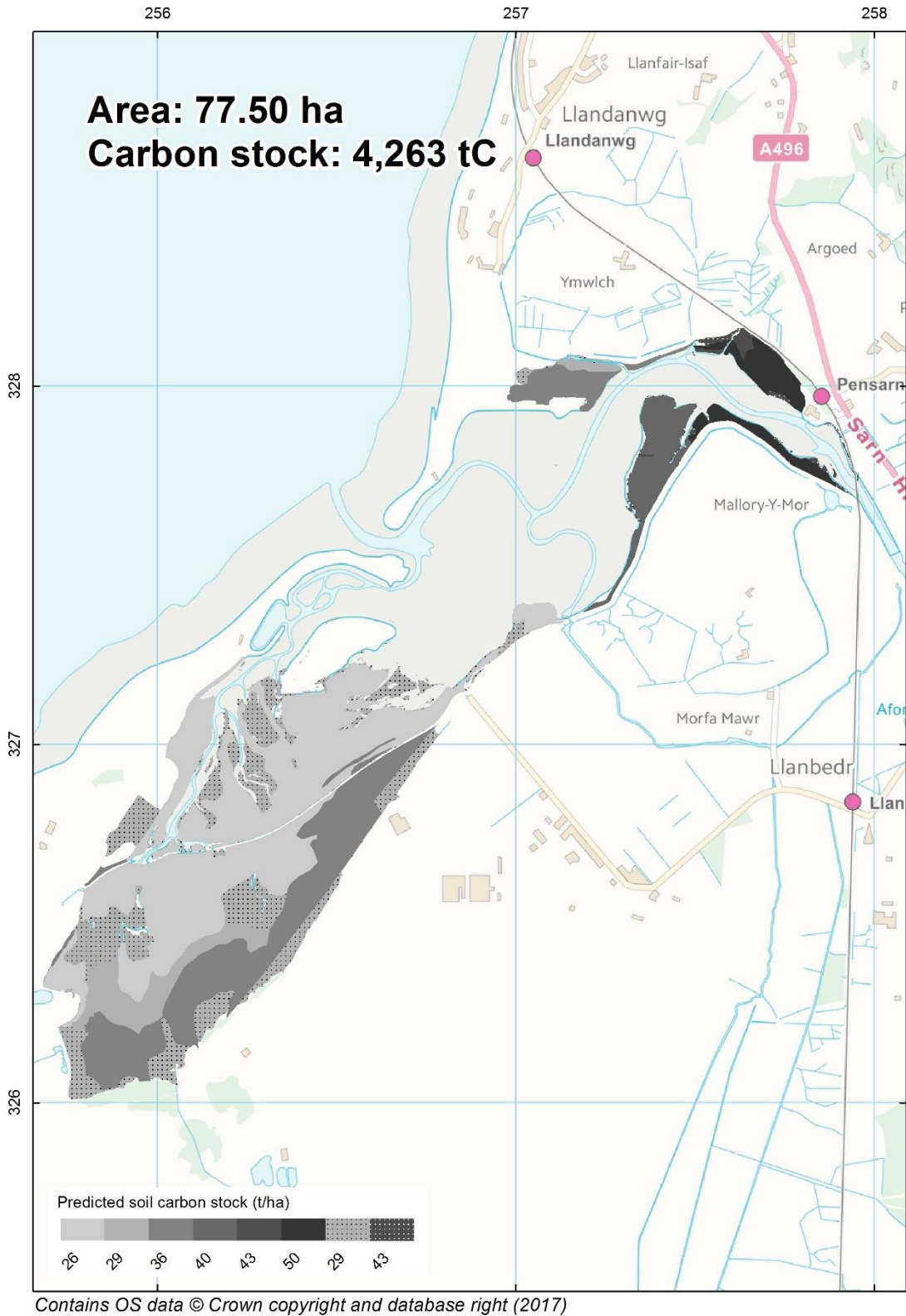


Figure S13. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Fairbourne saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

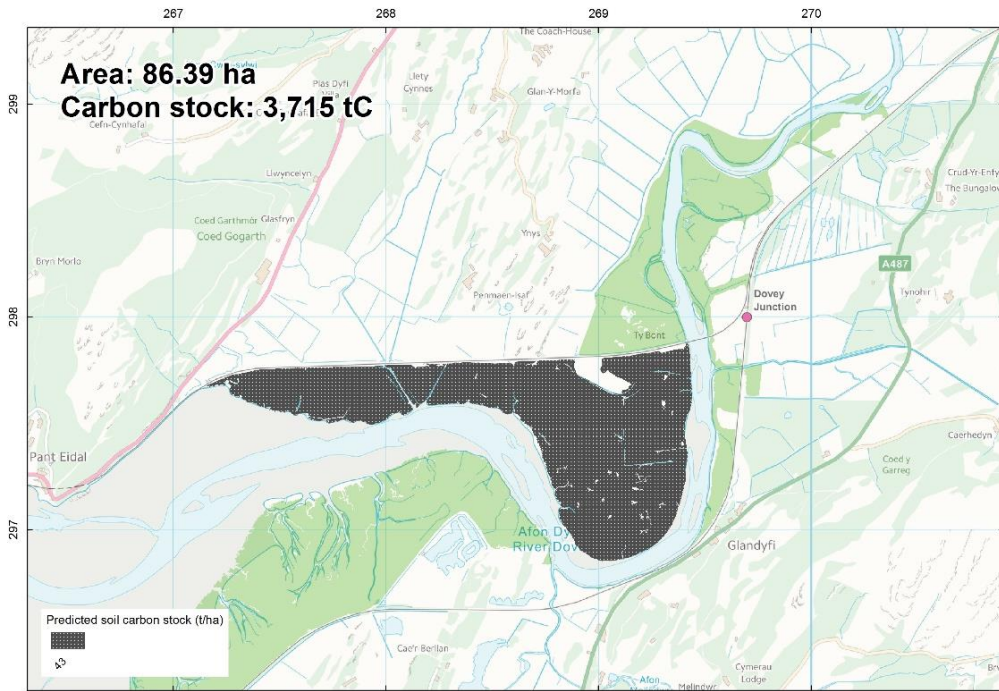


Figure S14. Predictions of SOC stock ($t\ C\ ha^{-1}$ for top 10 cm) for Dyfi North saltmarsh. SOC stock based on 'simplified soil type' (Soil_model; hatched grayscale) as target NVC classes absent from NRW shapefile.

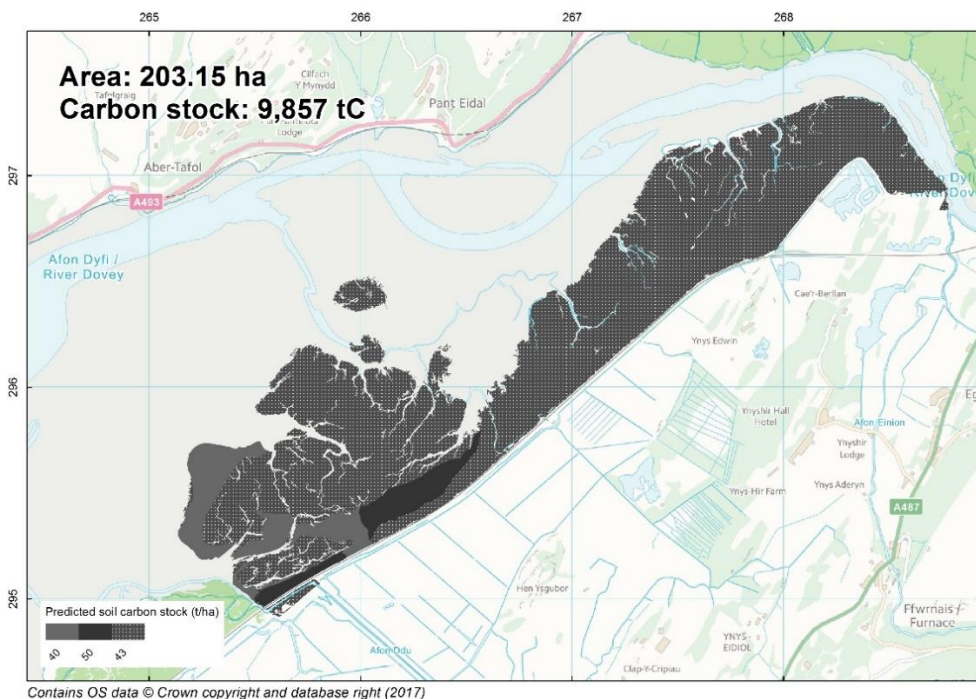


Figure S15. Predictions of SOC stock ($t\ C\ ha^{-1}$ for top 10 cm) for Ynys Hir saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

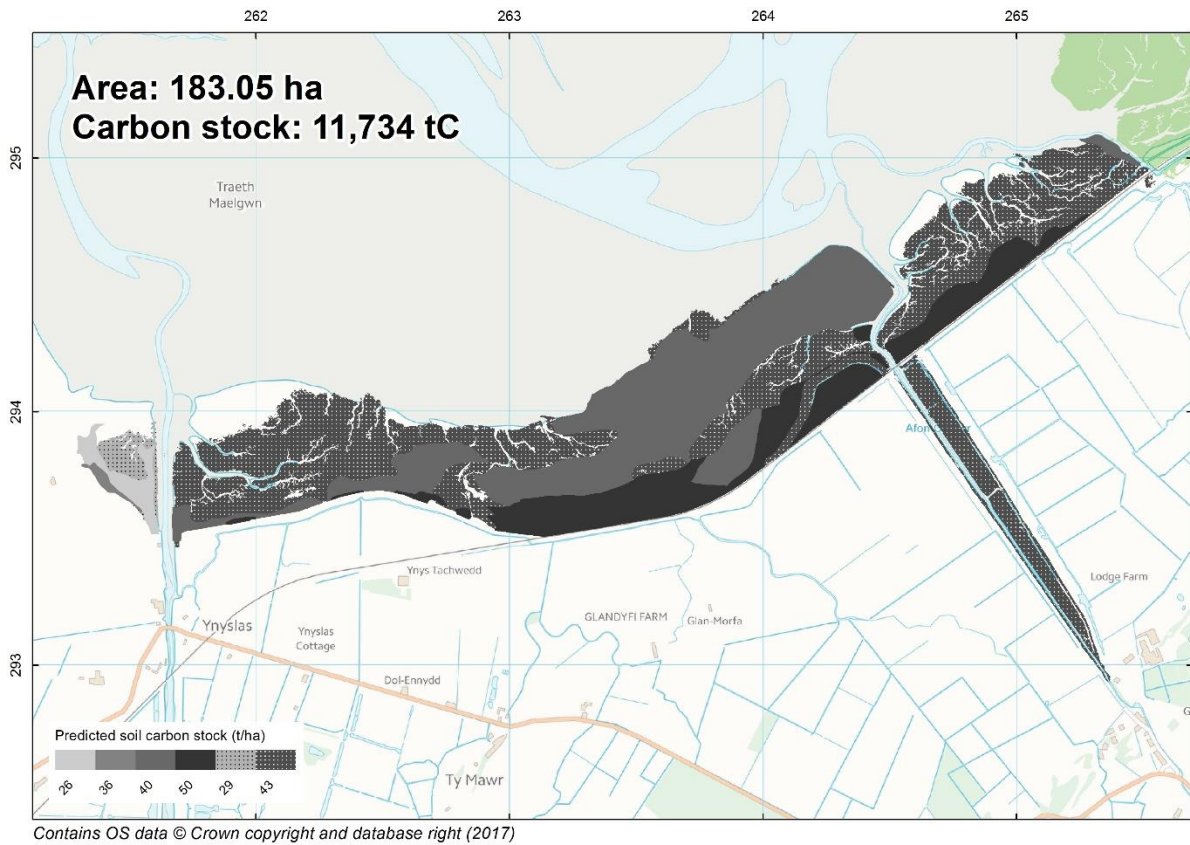


Figure S16. Predictions of SOC stock ($t\ C\ ha^{-1}$ for top 10 cm) for Dyfi West saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

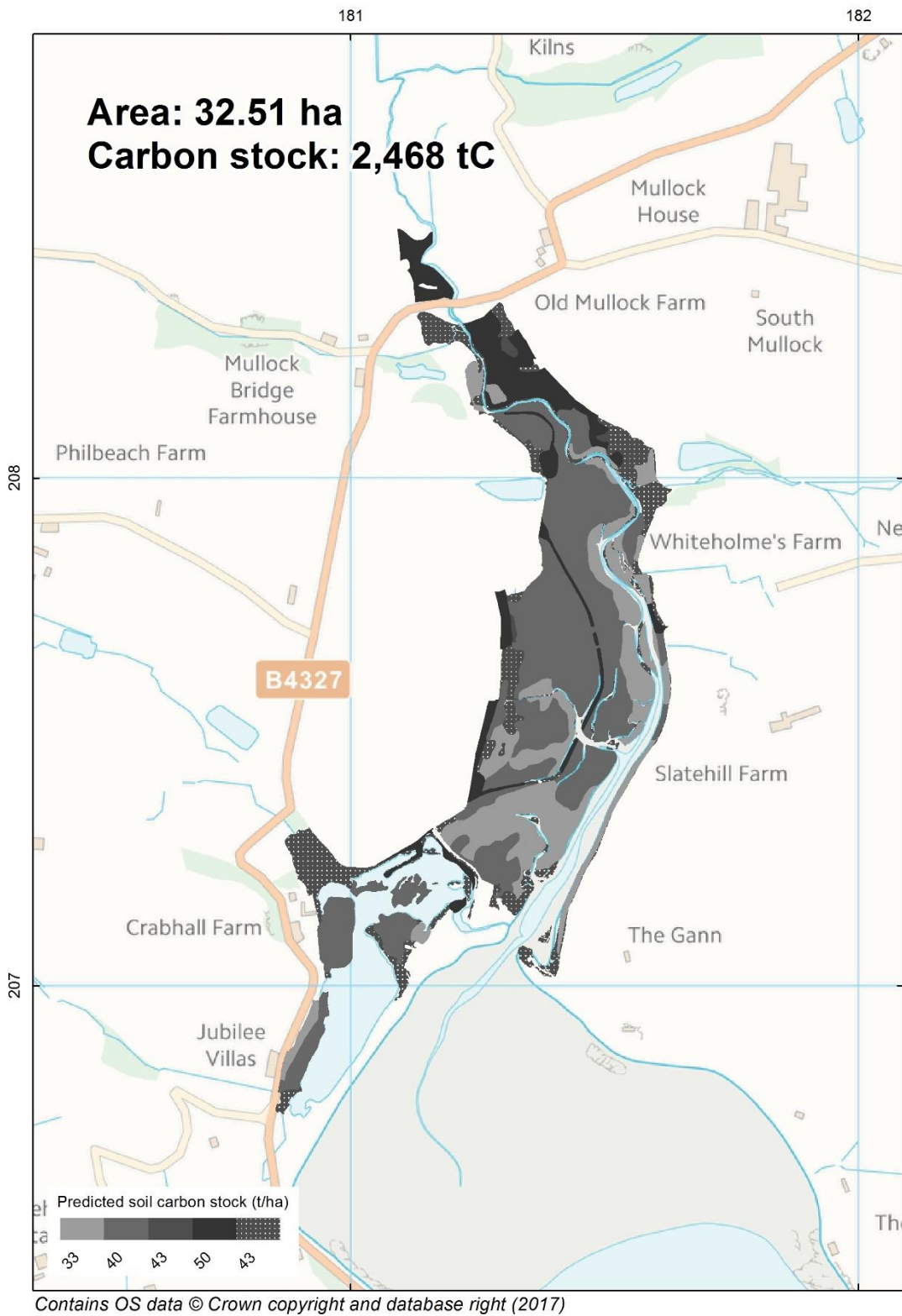


Figure S17. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for The Gann saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

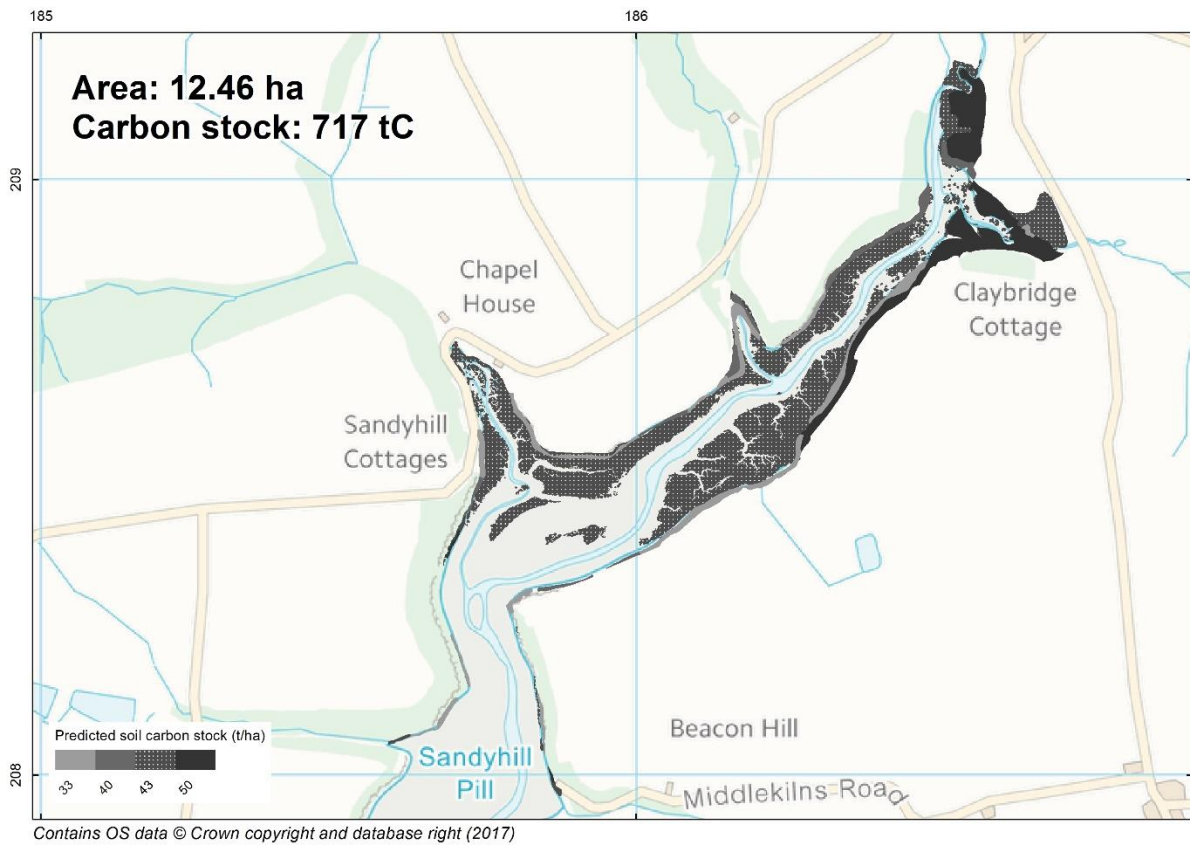
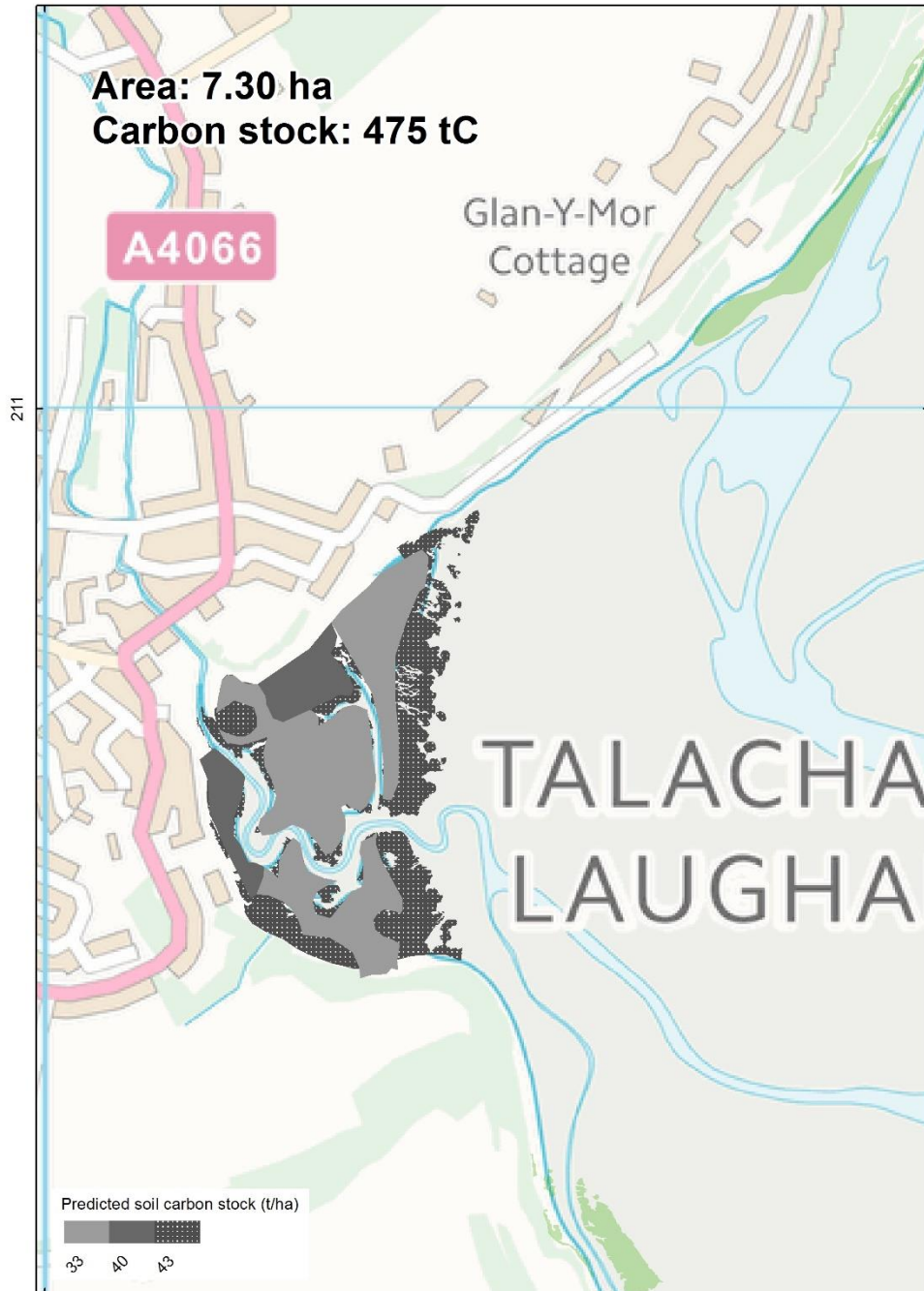


Figure S18. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Sandy Haven saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.



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Figure S19. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Laugharne Castle saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

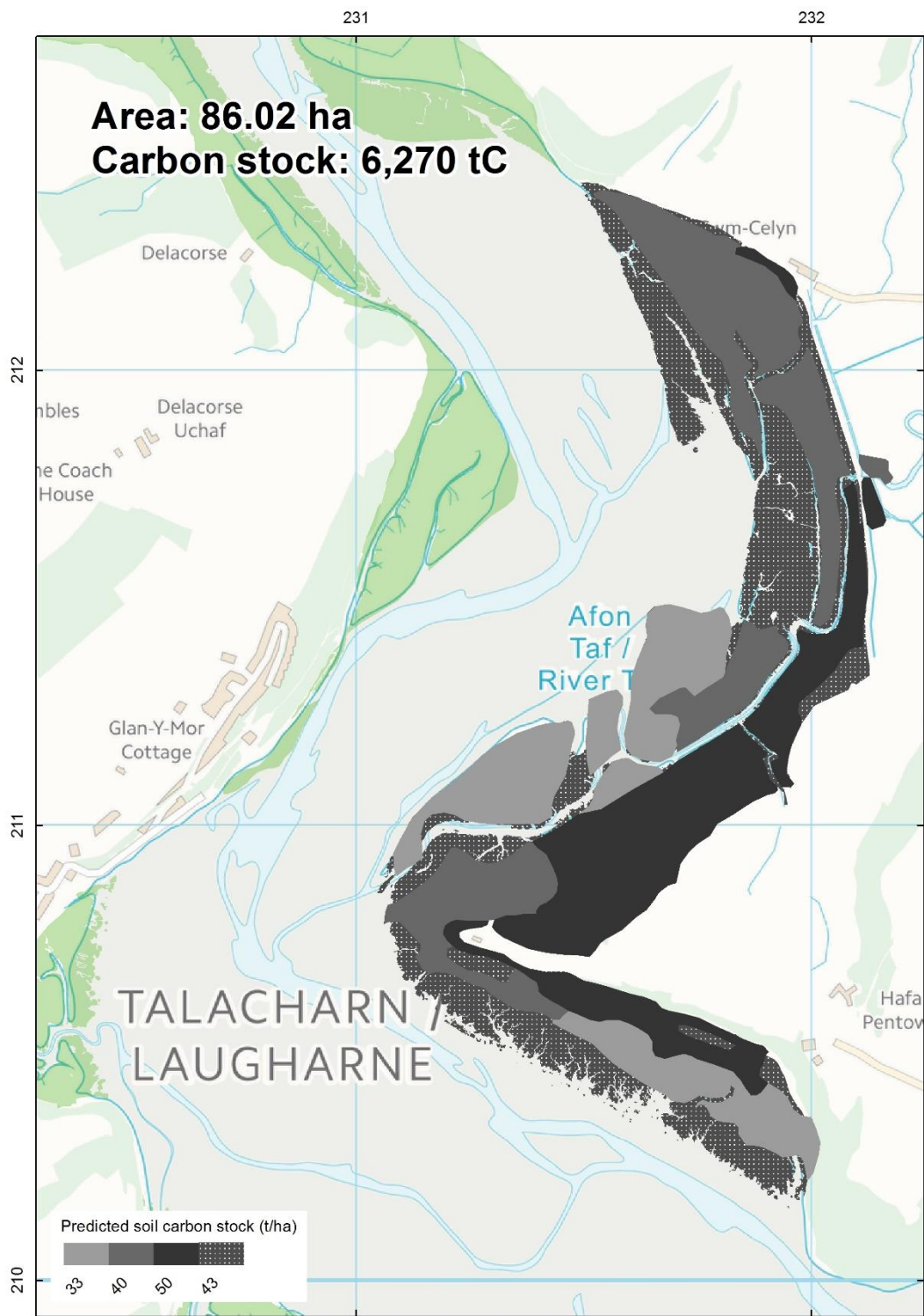


Figure S20. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Black Scar saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

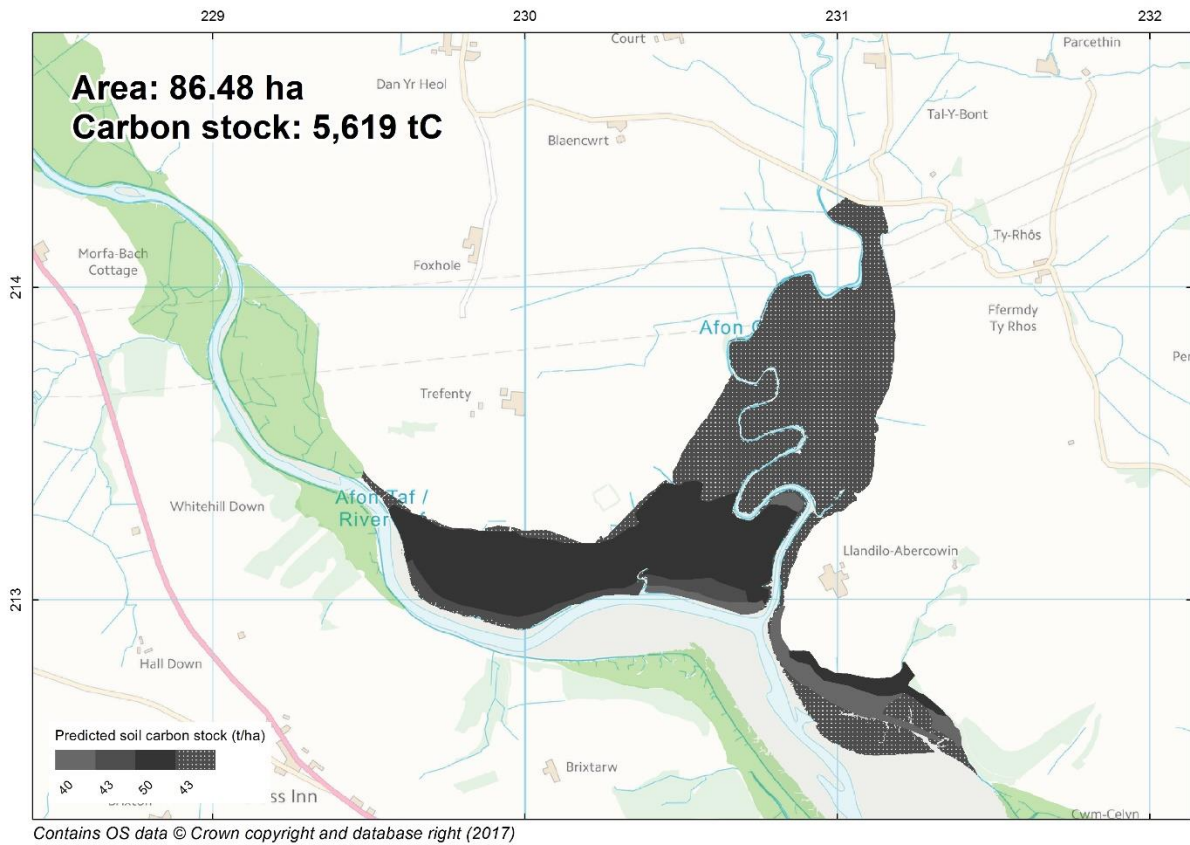
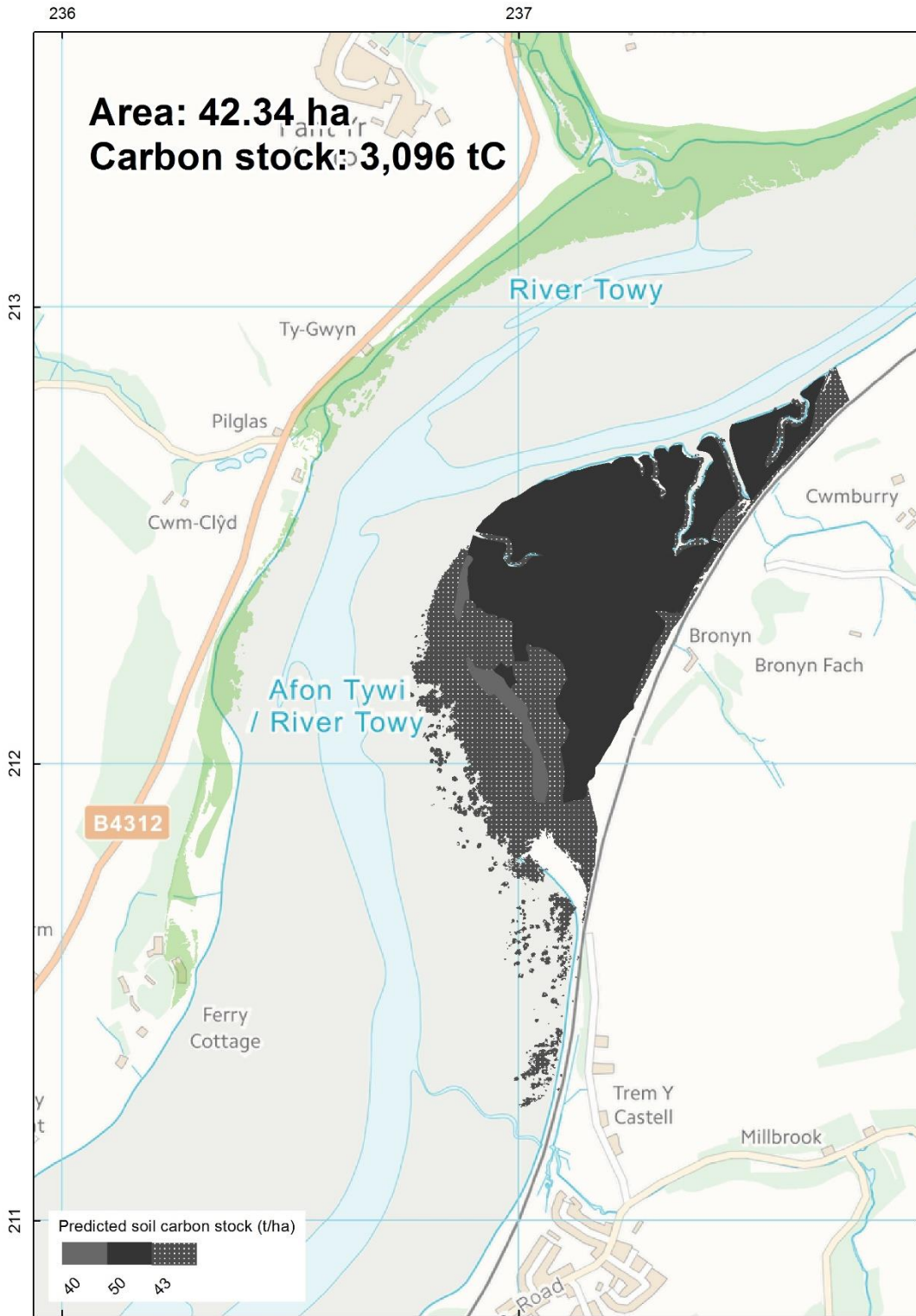


Figure S21. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Trefenty saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.



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Figure. S22. Predictions of SOC stock ($t\ C\ ha^{-1}$ for top 10 cm) for Morfa Uchaf saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

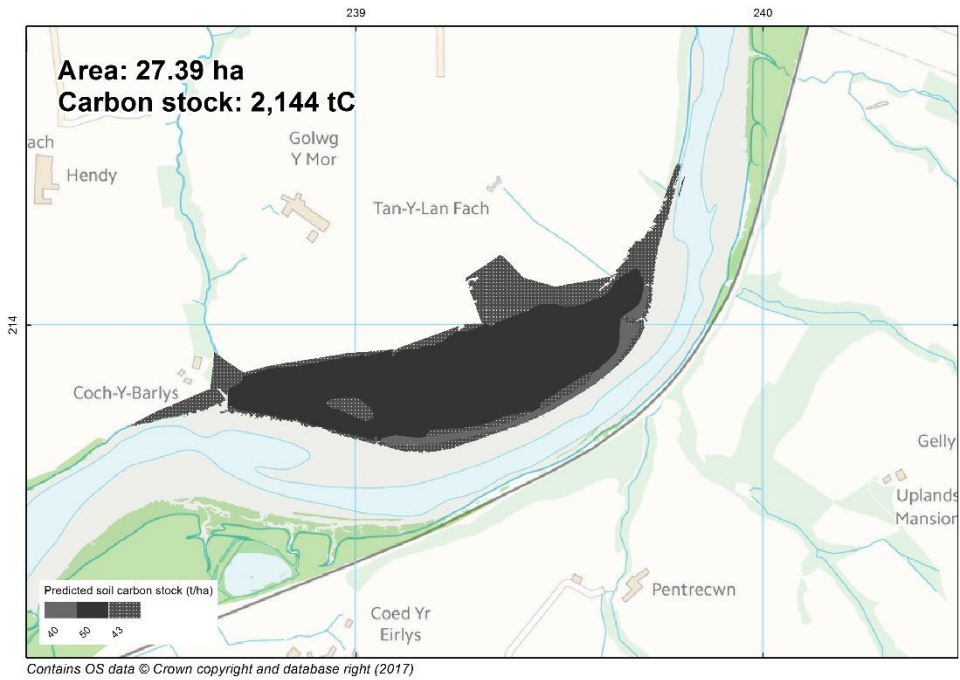


Figure S23. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Cor-y-Barlys saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

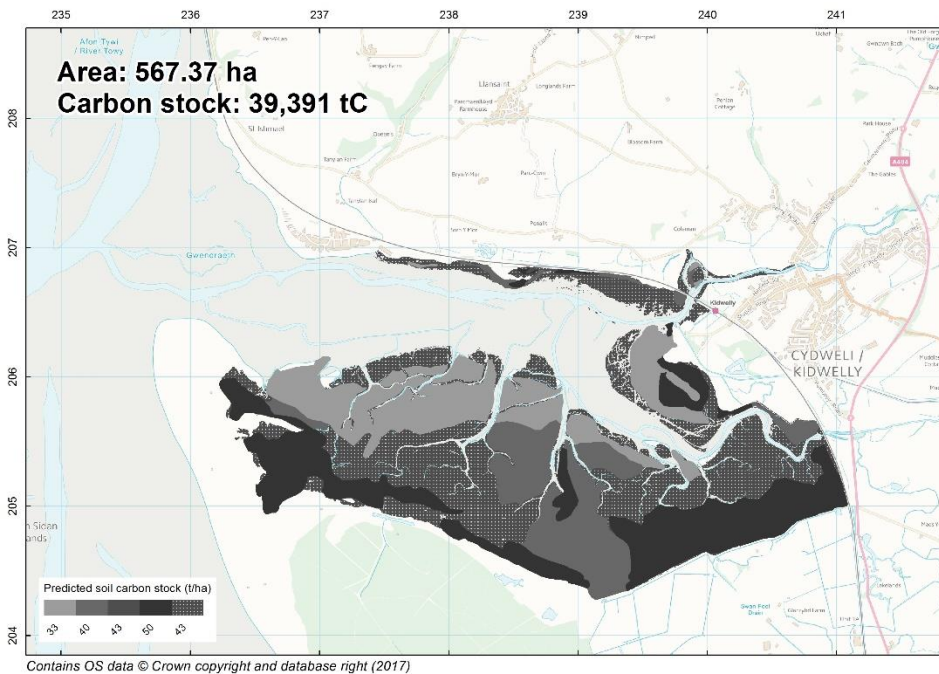


Figure S24. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Gwendraeth saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

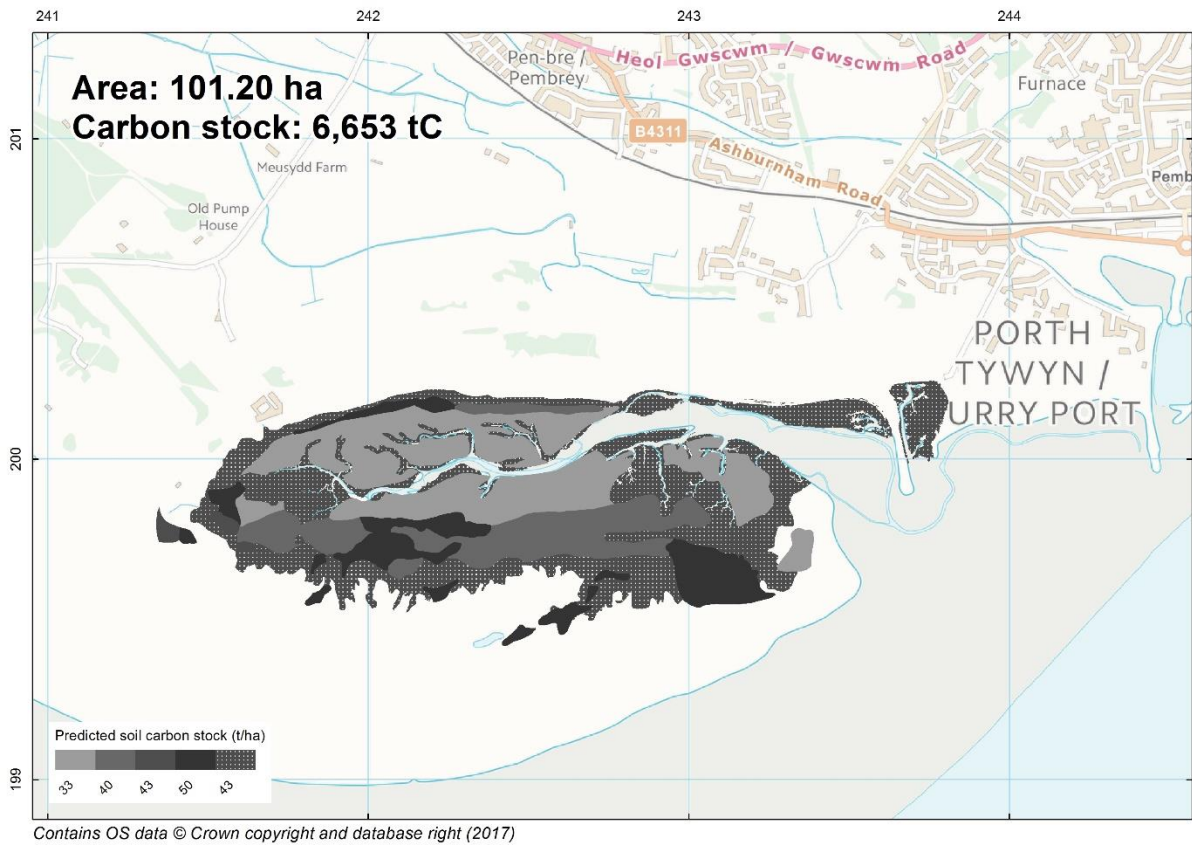


Figure S25. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Pembrey Burrows saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

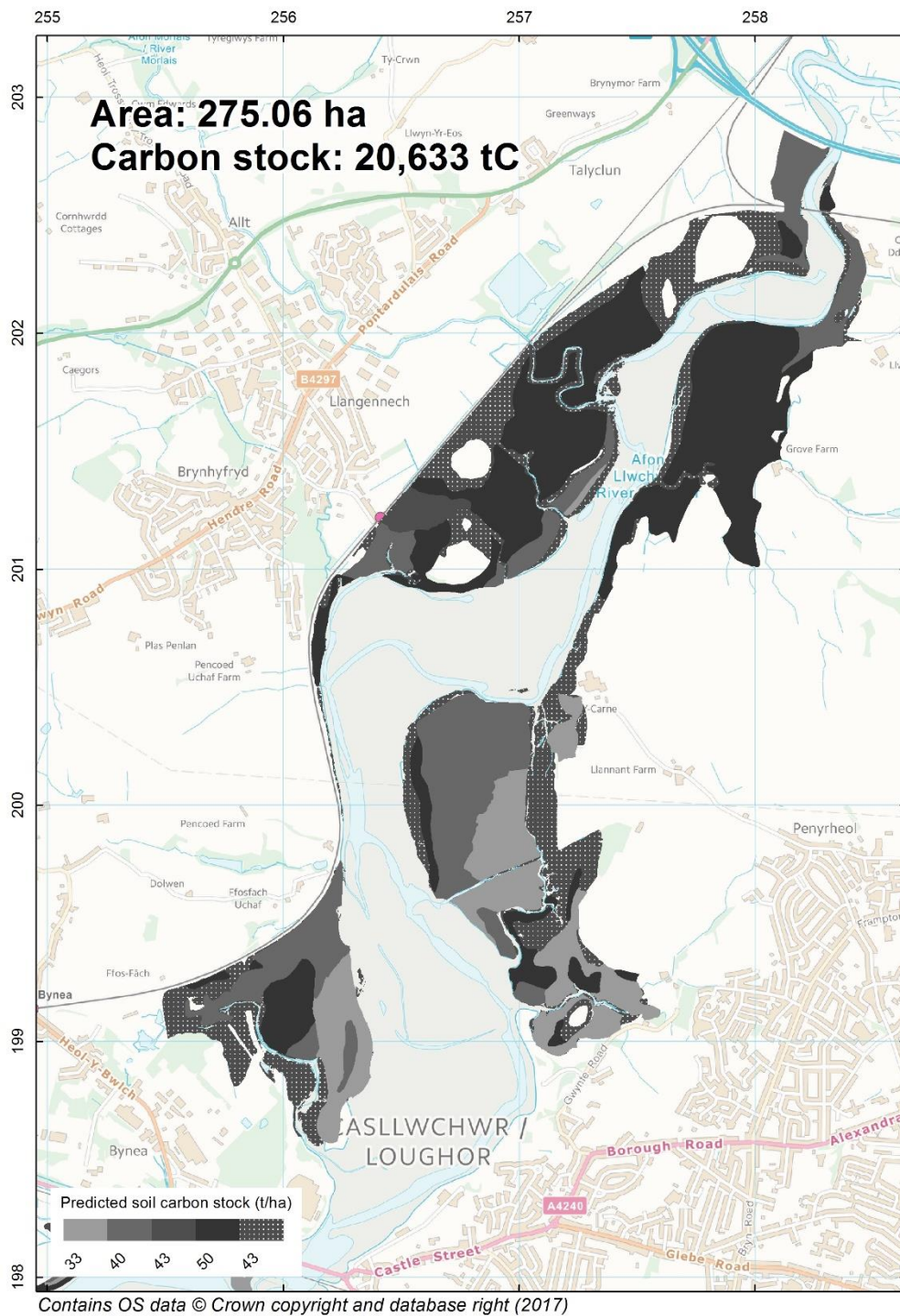


Figure S26. Predictions of SOC stock ($t\ C\ ha^{-1}$ for top 10 cm) for Morfa Mawr saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

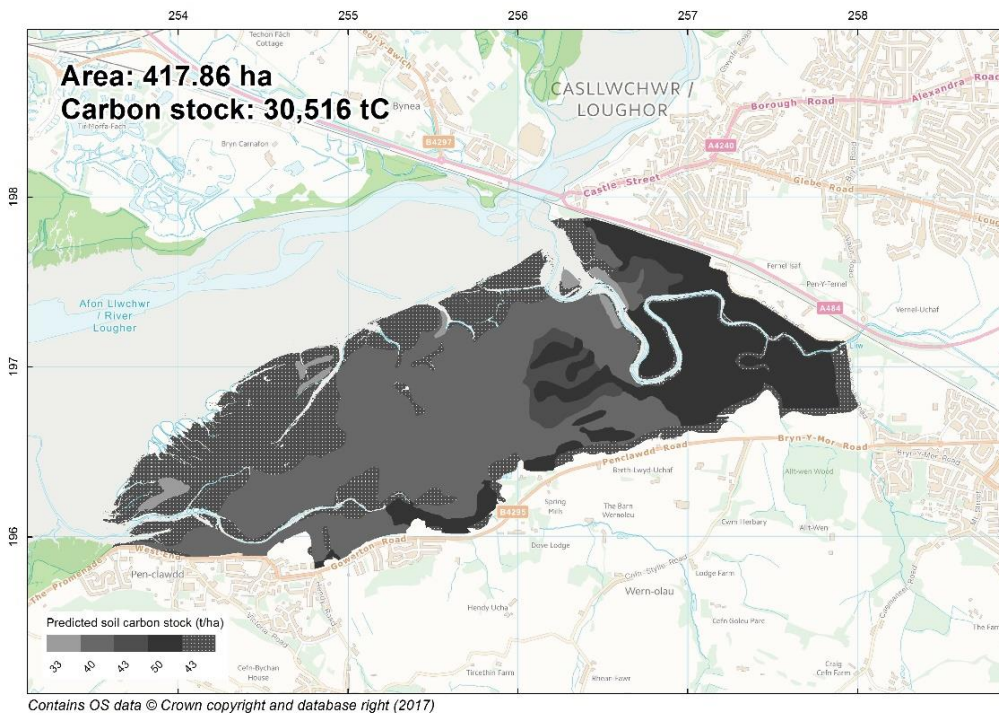


Figure S27. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Gowerton saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

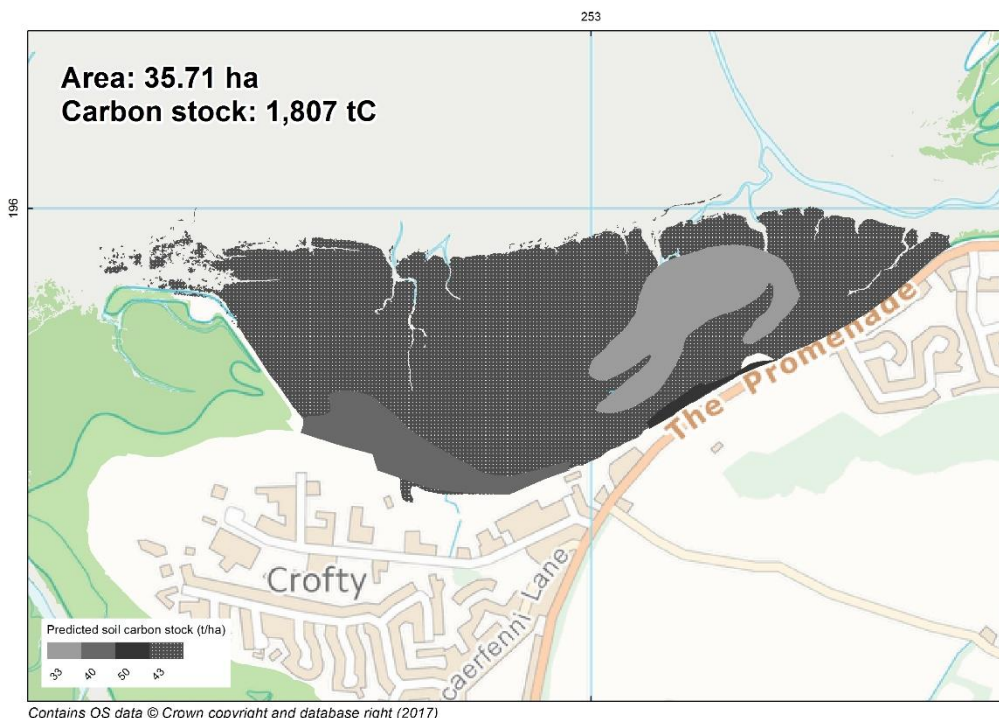


Figure S28. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Salthouse Point saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.

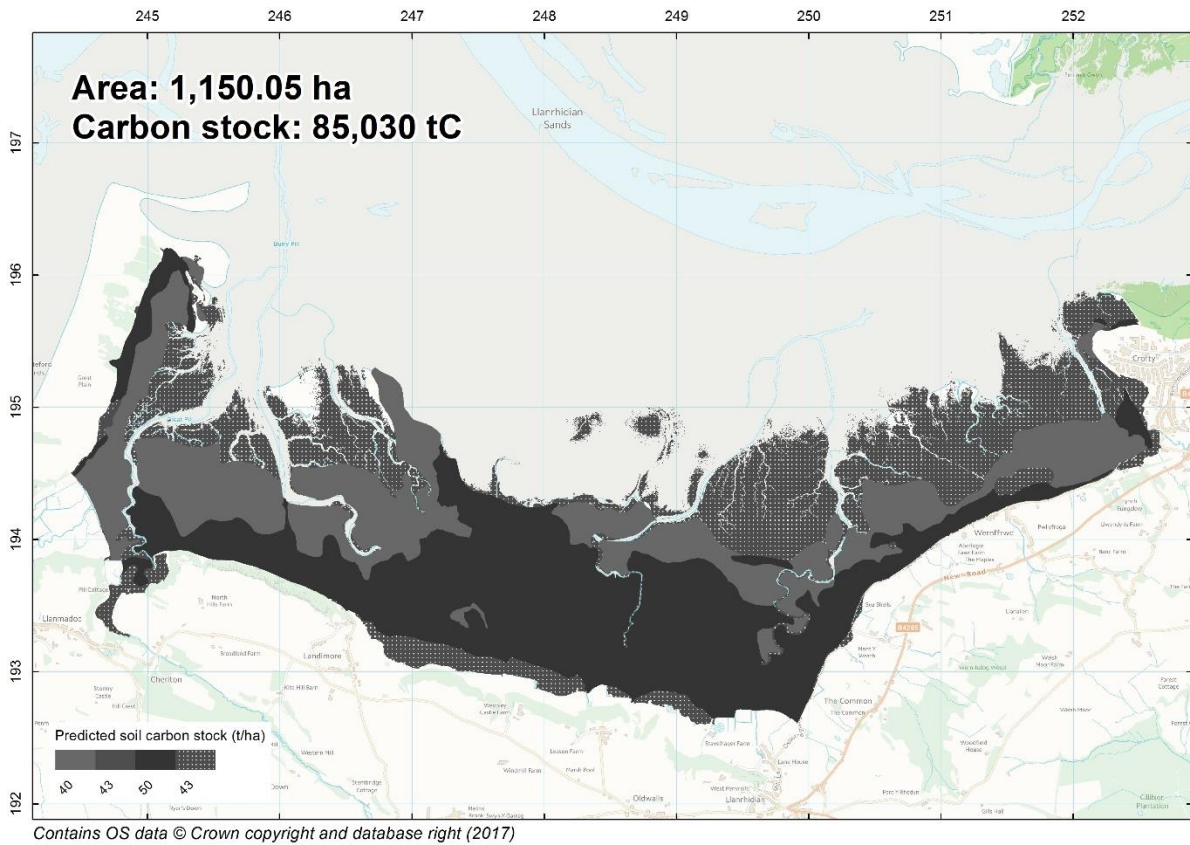


Figure S29. Predictions of SOC stock (t C ha^{-1} for top 10 cm) for Landimore Marsh saltmarsh. SOC stock based on 'NVC and simplified soil type' combined (NVC_soil_model; solid grayscale) plus 'simplified soil type' (Soil_model; hatched grayscale) where predictions for NVC communities were not known.