

A dataset of *Zostera marina* and *Zostera noltei* structure and functioning in four sites along the French coast over a period of 18 months.

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TABLE DESCRIPTION

All tables	
Column label	Description
SPECIES	ZM: <i>Zostera marina</i> ZN: <i>Zostera noltei</i>
SITE	DN: Dinard GM: Golfe du Morbihan AC: Arcachon TH: Thau
SEASON	Sampling period
MODALITY	A: absence (bare sediment) S: stable D: dynamic
STATION	station number
REPLICATE	replicate number

Sampling location table	
LON	longitude coordinates (WGS84)
LAT	latitude coordinate (WGS84)

environment table	
Column label	Description
waterTemp.mean	Continuous water temperature recording: daily mean average (2 months before experiment) in °C
waterTemp.min	Continuous water temperature recording: daily mean minimum (2 months before experiment) in °C
waterTemp.max	Continuous water temperature recording: daily mean maximum (2 months before experiment) in °C
waterTemp.med	Continuous water temperature recording: daily mean median (2 months before experiment) in °C
waterLight.mean	Continuous light acquisition during immersion: daily mean average (2 months before experiment) in lumens.m ⁻²
waterLight.min	Continuous light acquisition during immersion: daily mean minimum (2 months before experiment) in lumens.m ⁻²
waterLight.max	Continuous light acquisition during immersion: daily mean maximum (2 months before experiment) in lumens.m ⁻²
waterLight.med	Continuous light acquisition during immersion: daily mean median (2 months before experiment) in lumens.m ⁻²
light.tot_mean	Continuous light acquisition during immersion and emersion (ZN): daily mean average (2 months before experiment) in lumens.m ⁻²
light.tot_min	Continuous light acquisition during immersion and emersion (ZN): daily mean minimum (2 months before experiment) in lumens.m ⁻²
light.tot_max	Continuous light acquisition during immersion and emersion (ZN): daily mean maximum (2 months before experiment) in lumens.m ⁻²
light.tot_med	Continuous light acquisition during immersion and emersion (ZN): daily mean median (2 months before experiment) in lumens.m ⁻²

NH4	ammonium ($\mu\text{mol/L}$) - ND=<LQ (0.25)
NOX	nitrate+nitrite ($\mu\text{mol/L}$) - ND=<LQ (0.25)
PO4	phosphate ($\mu\text{mol/L}$) - ND=<LQ (0.25)
CHLA	chlorophyll-a ($\mu\text{g/L}$)
Salinity	salinity (PSU)

sediment table	
Column label	Description
OM (mean)	mean percent organic matter (average by position, n=9)
OM (sd)	sd percent organic matter (n=9)
G1 to T1	inferior size of the fraction in μm
G2 to T107	percentage of the fraction in μm

seagrass_quadrat table	
Column label	Description
CANOPY_HEIGHT_cm	in situ estimation of canopy height in cm
ENGINE_SURFACE_m2	quadrat surface in m2
shoot_density_m2	number of shoots per surface unit (m2) for ZM
BARE	percentage of bare sediment
ALGAE	percentage of algae
SEAGRASS_tot	percentage total of seagrass cover (ZM + ZN)
%NOLTEI	proportion of <i>Z. noltei</i> in seagrass
%MARINA	proportion of <i>Z. marina</i> in seagrass

seagrass_core table	
Column label	Description
nb_shoots_per_core	number of shoots per core
shoot_density_m2	number of shoots per surface unit (m2) for ZN
nb_shoots_measured	number of shoots measured per core (max 5)
nb_leaves_per_shoot	mean number of leaves per shoot
leaves_area_per_shoot	mean area of leaves per shoot (m2)
leaves_area_m2	mean area of leaves per surface unit (m2)
max_leaf_lenght_cm	max leaf length in core (cm)
belowground_biomass_gm2	biomass of roots+rhizome in g per m2
aboveground_biomass_gm2	leaves biomass in g per m2
algae_biomass_gm2	algae biomass in g per m2

epifauna_density table	
Column label	Description
F to LV	Taxon name
F2 to LV 115	density (individual per m2)

epifauna_biomass table	
Column label	Description
F to LV	Taxon name
F2 to LV 115	biomass (Ash free dry mass in mg per m2)

benthic_fluxes table	
Column label	Description
salinity_clear	salinity during clear incubation (PSU)
salinity_dark	salinity during dark incubation (PSU)
PAR_Mean	mean underwater photosynthetically available radiation (PAR, $\mu\text{mol quanta m}^{-2} \text{ s}^{-1}$)
PAR_Sd	sd underwater photosynthetically available radiation (PAR, $\mu\text{mol quanta m}^{-2} \text{ s}^{-1}$)
temp_mean_clear	mean temperature in benthic chamber during light incubation ($^{\circ}\text{C}$)
temp_sd_clear	sd temperature in benthic chamber during light incubation ($^{\circ}\text{C}$)
temp_mean_dark	mean temperature in benthic chamber during dark incubation ($^{\circ}\text{C}$)
temp_sd_dark	sd temperature in benthic chamber during dark incubation ($^{\circ}\text{C}$)
NCP.DIC	net community production measured with DIC method ($\text{mmol.m}^{-2}.\text{h}^{-1}$)
CR.DIC	community respiration measured with DIC method ($\text{mmol.m}^{-2}.\text{h}^{-1}$)
NCP.O2	net community production measured with O2 method ($\text{mmol.m}^{-2}.\text{h}^{-1}$)
CR.O2	community respiration measured with O2 method ($\text{mmol.m}^{-2}.\text{h}^{-1}$)
NH4_fluxes	ammonium fluxes in $\mu\text{mol.m}^{-2}.\text{h}^{-1}$
NOX_fluxes	nitrate+nitrite fluxes in $\mu\text{mol.m}^{-2}.\text{h}^{-1}$
PO4_fluxes	phosphate fluxes in $\mu\text{mol.m}^{-2}.\text{h}^{-1}$

benthic_fluxes_macrofauna table	
Column label	Description
core_surface	core surface in m^{-2}
AFDM_mg	pooled organisms ash free dry mass per core (mg)
H to GV	Taxon name
H2 to GV 265	number of individual per core

SAMPLING PERIODS

SPECIES	SITE	SEASON	start_sampling	end_sampling
ZM	AC	2020 - Winter	03/02/2020	04/02/2020
ZM	AC	2020 - Summer	16/07/2020	17/07/2020
ZM	AC	2020 - Autumn	11/10/2020	12/10/2020
ZM	AC	2021 - Winter	06/02/2021	08/02/2021
ZM	AC	2021 - Spring	03/05/2021	05/05/2021
ZN	AC	2020 - Winter	06/02/2020	14/02/2020
ZN	AC	2020 - Summer	19/07/2020	22/07/2020
ZN	AC	2020 - Autumn	11/10/2020	15/10/2020
ZN	AC	2021 - Winter	29/01/2021	06/02/2021
ZN	AC	2021 - Spring	28/04/2021	02/05/2021
ZM	DN	2020 - Winter	01/02/2020	19/02/2020
ZM	DN	2020 - Summer	20/07/2020	30/07/2020
ZM	DN	2020 - Autumn	17/10/2020	26/10/2020
ZM	DN	2021 - Winter	28/01/2021	08/02/2021
ZM	DN	2021 - Spring	16/04/2021	28/04/2021
ZN	DN	2020 - Winter	19/02/2020	19/02/2020
ZN	DN	2020 - Summer	22/07/2020	26/07/2020
ZN	DN	2020 - Autumn	16/10/2020	25/10/2020
ZN	DN	2021 - Winter	01/03/2021	02/03/2021
ZN	DN	2021 - Spring	18/04/2021	27/04/2021
ZM	GM	2019-1ete	23/07/2019	24/07/2019
ZM	GM	2020 - Winter	14/02/2020	22/02/2020
ZM	GM	2020 - Summer	01/08/2020	03/08/2020
ZM	GM	2020 - Autumn	26/09/2020	30/09/2020
ZM	GM	2021 - Winter	09/02/2021	10/02/2021
ZM	GM	2021 - Spring	20/04/2021	23/04/2021
ZN	GM	2019-1ete	24/07/2019	24/07/2019
ZN	GM	2020 - Winter	14/02/2020	22/02/2020
ZN	GM	2020-pri	14/05/2020	30/05/2020
ZN	GM	2020 - Summer	23/07/2020	07/08/2020
ZN	GM	2020 - Autumn	21/09/2020	30/09/2020
ZN	GM	2021 - Winter	05/02/2021	15/02/2021
ZN	GM	2021 - Spring	21/04/2021	30/04/2021
ZM	TH	2019-2aut	12/11/2019	19/11/2019
ZM	TH	2020 - Winter	28/01/2020	30/01/2020
ZM	TH	2020 - Summer	10/08/2020	13/08/2020
ZM	TH	2020 - Autumn	02/11/2020	06/11/2020
ZM	TH	2021 - Winter	21/01/2021	29/01/2021
ZM	TH	2021 - Spring	27/04/2021	30/04/2021
ZN	TH	2019-2aut	18/11/2019	21/11/2019
ZN	TH	2020 - Winter	27/01/2020	30/01/2020
ZN	TH	2020 - Summer	10/08/2020	13/08/2020
ZN	TH	2020 - Autumn	02/11/2020	06/11/2020
ZN	TH	2021 - Winter	25/01/2021	29/01/2021
ZN	TH	2021 - Spring	27/04/2021	30/04/2021

SAMPLING LOCATION

SPECIES	SITE	MODALITY	STATION	LON	LAT
ZM	AC	A	1	-1.19407	44.67672
ZM	AC	A	2	-1.19463	44.67685
ZM	AC	A	3	-1.19522	44.67687
ZM	AC	S	1	-1.18967	44.67773
ZM	AC	S	2	-1.1908	44.67735
ZM	AC	S	3	-1.19168	44.67732
ZM	DN	A	1	-2.04724	48.63168
ZM	DN	A	2	-2.04741	48.63214
ZM	DN	A	3	-2.04533	48.63103
ZM	DN	S	2	-2.043672	48.633945
ZM	DN	S	4	-2.043064	48.633403
ZM	DN	S	5	-2.044595	48.634446
ZM	DN	D	1	-2.04556	48.63234
ZM	DN	D	2	-2.04586	48.63281
ZM	DN	D	3	-2.04314	48.63134
ZM	GM	A	1	-2.75757	47.57
ZM	GM	A	2	-2.748171	47.57182
ZM	GM	A	3	-2.748284	47.57294
ZM	GM	S	1	-2.757894	47.563187
ZM	GM	S	2	-2.757332	47.561904
ZM	GM	S	3	-2.75677	47.561008
ZM	GM	D	1	-2.748863	47.569417
ZM	GM	D	2	-2.748505	47.568384
ZM	GM	D	3	-2.748064	47.567402
ZM	TH	A	1	3.54048	43.35308
ZM	TH	A	2	3.54049	43.35208
ZM	TH	A	3	3.53812	43.34996
ZM	TH	S	1	3.53828	43.35232
ZM	TH	S	2	3.53673	43.35189
ZM	TH	S	3	3.53699	43.35128
ZM	TH	D	1	3.53982	43.3525
ZM	TH	D	2	3.5395	43.35187
ZM	TH	D	3	3.53713	43.34986
ZN	AC	A	1	-1.09287	44.65693
ZN	AC	A	2	-1.093492	44.657182
ZN	AC	A	3	-1.093494	44.657118
ZN	AC	S	1	-1.09645	44.65625
ZN	AC	S	2	-1.09655	44.65628
ZN	AC	S	3	-1.09675	44.65623
ZN	DN	A	3	-2.197875	48.607003
ZN	DN	A	5	-2.197552	48.606358
ZN	DN	A	6	-2.198	48.607523
ZN	DN	S	2	-2.198143	48.603275
ZN	DN	S	3	-2.197857	48.602648
ZN	DN	S	4	-2.197624	48.601788
ZN	DN	D	2	-2.194559	48.59573
ZN	DN	D	3	-2.194308	48.595264

ZN	DN	D	4	-2.193824	48.594565
ZN	GM	A	1	-2.74263	47.55437
ZN	GM	A	2	-2.7517	47.55101
ZN	GM	A	3	-2.75801	47.54881
ZN	GM	S	1	-2.7552	47.54044
ZN	GM	S	2	-2.74996	47.54142
ZN	GM	S	3	-2.737081	47.546265
ZN	GM	D	1	-2.75077	47.54455
ZN	GM	D	2	-2.74496	47.54694
ZN	GM	D	3	-2.74169	47.54935
ZN	TH	A	1	3.57383	43.3594
ZN	TH	A	2	3.57494	43.35975
ZN	TH	A	3	3.5732	43.35868
ZN	TH	S	1	3.57339	43.3637
ZN	TH	S	2	3.574	43.36335
ZN	TH	S	3	3.57302	43.36289
ZN	TH	D	1	3.57396	43.36161
ZN	TH	D	2	3.57396	43.36072
ZN	TH	D	3	3.57419	43.36001