The dataset is composed of three files providing the data used in the published paper Mueller et al. (2020) in the journal Nature Communications:

1.) **data_experiment_1.csv** (refers to experiment 1, a full-factorial marsh-organ experiment including manipulations of relative sea level, atmospheric [CO_2] and nitrogen availability)
2.) **data_experiment_2.csv** (refers to experiment 2, a full-factorial marsh-organ experiment including manipulations of relative sea level and plant-species composition)
3.) **data_field.csv** (refers to the field data from the *Salt Marsh Accretion Response to Temperature Experiment*)

Information on column headings / variables:

File	Column heading	Variable explanation
data_experiment_1.csv	chamber_ID	# of marsh organ chamber (1-6)
data_experiment_1.csv	sea_level	mean sea level (cm) as used in publication
data_experiment_1.csv	mesocosm_ID	# of replicated mesocosm of sea level-chamber combination
data_experiment_1.csv	co2	CO_2 treatment, ambient (A) versus elevated (E) as used in publication
data_experiment_1.csv	nitrogen	nitrogen treatment, fertilized (N) versus control (C) as used in publication
data_experiment_1.csv	sc_ag	aboveground biomass of Schoenoplectus (g/mesocosm)
data_experiment_1.csv	sp_ag	aboveground biomass of Spartina (g/mesocosm)
data_experiment_1.csv	total_bg	belowground biomass (g/mesocosm)
data_experiment_1.csv	total_biomass	total biomass (g/mesocosm)
data_experiment_1.csv	roots	root biomass (g/mesocosm)
data_experiment_1.csv	rhizomes	rhizome biomass (g/mesocosm)
data_experiment_1.csv	bg_stems	belowground-stem biomass (g/mesocosm)
data_experiment_1.csv	sc_rhizomes	*Schoenoplectus* rhizome biomass (g/mesocosm)
data_experiment_1.csv	sp_rhizomes	Spartina rhizome biomass (g/mesocosm)
data_experiment_1.csv	sc_stem	*Schoenoplectus* belowground-stem biomass (g/mesocosm)
data_experiment_1.csv	sp_stem	*Spartina* belowground-stem biomass (g/mesocosm)
data_experiment_1.csv	beta	Root depth distribution (ß) *sensu* Gale and Grigal 1987 (https://doi.org/10.1139/x87-131)
data_experiment_1.csv	flux	methane emissions (µmol/m2/hr)
data_experiment_2.csv	replicate	# of replicated observation of sea level-species combination
data_experiment_2.csv	sea_level	mean sea level (cm) as used in publication
data_experiment_2.csv	species	mesocosm either planted with *Spartina* (Sp) or *Schoenoplectus* (Sc)
data_experiment_2.csv	flux	methane emissions (µmol/m2/hr)
data_experiment_2.csv	redox	soil redox potential (mV) at 10 cm depth referenced to standard hydrogen electrode
data_field.csv	plot_ID	identifier of field plot of the SMARTX warming experiment of the Smithsonian Environmental Research Center

data_field.csv	sc_relative	relative amount (0-1) of *Schoenoplectus* aboveground biomass to total aboveground biomass
data_field.csv	flux	methane emissions (μmol/m2/d)