Database on blue carbon in European seagrass and saltmarsh habitats

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This database is a compilation of sediment organic carbon (blue carbon, hereafter) data in European seagrass and saltmarsh habitats in response to a data call with a common template launched under the framework of the Horizon Europe project MPA Europe (Grant Agreement no. 101059988). The dataset is the first part of the wider "EURO-CARBON" database on blue carbon in marine sediments of the European seas, which is under preparation.

The database contains excel sheets, one with explanation of data; one with a dataset on blue carbon of seagrass and saltmarsh sediments; and one with a dataset on the habitat biomass. Contents are summarized below:

1) *"Explanation":* descriptions of column headings and content

2) *"Sediment_SeagrassSaltmarsh":*

   <u>Location information</u>: Country, Marine region, Habitat, Key species, Location name, Station ID, Core ID, Year, Month, Day, Latitude, Longitude.
   <u>Field measurements</u>: Water depth (m), Temperature (Celsius), Salinity.
   <u>Core samples</u>: Start depth (compacted), end depth (compacted), start depth (decompacted), end depth (decompacted).
   <u>Sediment measurements</u>: Porosity (%), water content (%), Dry bulk density (g cm^{-3}), Dry bulk density_flag, Organic matter (OM) (%), Organic Carbon (OC) (%), Carbon-density (g C cm^{-3}), δ^{13}C (‰), Nitrogen (N) (%), N-density (g N cm^{-3}), δ^{15}N (‰), Phosphorus (P) (%), P-density (g cm^{-3}), Carbon reactivity index (CRI-index).
   <u>Core dating</u>: Sediment accumulation rate (SAR) (mm yr^{-1}), SAR_se, Mass accumulation rate (MAR) (g cm^{-2} yr^{-1}), MAR_se, Carbon accumulation rate (CAR) (g C m^{-2} yr^{-1}), CAR_se, Total ^{210}Pb_activity (Bq kg^{-1}), Total ^{210}Pb_activity_sd, Excess ^{210}Pb_activity (Bq kg^{-1}), Excess ^{210}Pb_activity_sd, Supported ^{210}Pb_activity (Bq kg^{-1}), Supported ^{210}Pb_activity_sd, ^{14}C_age, ^{14}C_age_sd, ^{14}C_material.
   <u>Sediment fractions</u>: Mud (<0.063 mm), Fine sands (0.063-0.25 mm), Medium sands (0.25-0.5 mm), Coarse sands (0.5-1 mm), Very coarse sands (>1 mm).
   <u>Methods used</u>: Sampling type, OM (%), OC (%) and N (%), δ^{13}C (‰) and δ^{15}N (‰), P(%), CRI-index.
   <u>Information on data input</u>: Data originator, Originator institution, Originator contact, Publications, Comments.

3) *"Biomass_SeagrassSaltmarsh":*
   <u>Location information</u>: As above.
   <u>Field measurements</u>: Water depth (m), Temperature (Celsius), Salinity, Frame replicate no., Frame area (m^2), Dominating plant species, Type of biomass.
   <u>Biomass measurements</u>: Wet weight (g), Dry weight (g), Biomass (g m^{-2}), OC (%), C (%) and N (%), δ^{13}C (‰), δ^{15}N (‰).
   <u>Methods used</u>: Biomass collection, C (%) and N (%), δ^{13}C (‰) and δ^{15}N (‰).
   <u>Information on data input</u>: Data originator, Originator institution, Originator contact, Publications, Comments.

Minimum requested data were location, depth, core depth, organic carbon (directly measured), associated method, and information on data input.

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Author contributions

AELG, AMA, CL, SGP, DKJ conceptualised and compiled the datasets for the EURO-CARBON database. All other contributors (listed in alphabetical order by first name) provided data/inputs to the database.