Project	Sources, Sinks and Subsidies: Understanding Sedimentary Carbon Across Scotland's Coastal Seas
Funding	Scottish Blue Carbon Forum (Scottish Government)
Staff Responsible	Craig Smeaton
Research Team	Craig Smeaton (University of St Andrews) Corralie A. Hunt (University of St Andrews) William R. Turrell (Marine Scotland) William E.N. Austin (University of St Andrews/Scottish Association of Marine Science)

Metadata Type	**Details**
Data Resource ID	UK EEZ Sediment Type
Description of dataset	Spatial mapping of seafloor sediment type across the United Kingdom's Exclusive Economic Zone and the territorial waters of the Isle of Man and the Channel Islands. This data resource include two data types: (**i**) harmonized sediment type point data and (**ii**) spatial mapping of sediment type across the UK EEZ.
Locations of the observations	United Kingdom Exclusive Economic Zone (UK EEZ) and the territorial waters of the Isle of Man and Channel Islands. Geographic Extent: -26.243, 64.133 -26.243, 47.255 3.64, 64.133 3.64, 47.255
Location Descriptions	The harmonized point data extends across the UK EEZ and the territorial waters of the Isle of Man and the Channel Islands. Additionally, harmonized sediment type point data also partially extends into the Republic of Ireland EEZ. The spatial mapping data is exclusive to the UK EEZ and the Crown Dependencies of the Isle of Mann and the Channel Islands.

Names of the variables or parameters observed or simulated	**Sediment Type:** Seafloor (Sub-tidal) sediment type based on a modified Folk classification scheme (Folk, 1954; Kaskela et al., 2019). This data is in two forms (**i**) point observations (.Shp) and (**ii**) spatial maps (.GeoTIFF). **Variance:** Variance in the predications of the spatial model were used as a measure of uncertainty. Low variance values indicate a high degree of confidence in the prediction, while high values indicate lower confidence.
All procedures used to make observations or simulations (field/lab where applicable)	**Data Collection:** Point observations describing the seabed for the UK EEZ were compiled from numerous sources *(See Smeaton et al., 2021*). In total, 274,531 point-observations describing seabed type were compiled with 70,460 data points not be used due to issues being identified during data quality screening. **Data Harmonization:** The seabed descriptions compiled from multiple datasets differ in the original classification schemes used to describe the sediment types. To harmonize all of these data sources, a modified 16-class Folk classification scheme was used (Folk, 1954; Kaskela et al., 2019). This classification scheme generates 16 Folk classes (Kaskela et al., 2019). In conjunction with the classification scheme, a hierarchical classification tree was used allowing non-standard seabed descriptions to be classified (Smeaton and Austin, 2019). **Spatial Mapping:** Indicator Kriging (Journal, 1983; Marinoni, 2002), was used to map the categorical variables, e.g. sediment type. This technique was combined with a variable cell size structure, of 500 m^2 in the continental shelf and deep sea zones to 5 m^2 in the coastal and fjord areas. The areal coverage of each sediment type within the UK EEZ was calculated using the Zonal Statistic tool in ArcGIS.
Calibration procedures, where applicable	NA
Statistical treatment of the observations or simulations	Indicator Kriging (Journal, 1983; Marinoni, 2002)
Data checking procedures (quality control)	**Point Observations**: Quality control measures were undertaken during this classification process, such that if a sediment description did not meet the criteria set out in the classification scheme and hierarchical classification tree, the data point was discarded. This was normally because the original sediment description was vague or overly complex. In total, 70,460 sediment descriptions were discarded and 203,710 descriptions were retained. **Spatial Mapping:** Variance in the spatial modelling predications were used

	as a measure of uncertainty. Low output variance values indicate a high degree of confidence in the prediction, while high values indicate lower confidence.
File formats used	.Shp .GeoTIFF .lyr .lpk
Other information	**Spatial projection:** WGS84 **Software:** ESRI ArcGIS
References	Folk, R. L. (1954). The distinction between grain size and mineral composition in sedimentary-rock nomenclature. *J. Geol.* 62, 344–359. doi: 10.1086/626171 Journel, A.G., (1983). Nonparametric estimation of spatial distributions. Journal of the International Association for Mathematical Geology, 15(3), pp.445-468. Kaskela, A. M., Kotilainen, A. T., Alanen, U., Cooper, R., Green, S., Guinan, J., et al. (2019). Picking up the pieces–Harmonising and collating seabed substrate data for European maritime areas. *Geosciences* 9:84. doi: 10.3390/ geosciences9020084 Marinoni, O., (2003). Improving geological models using a combined ordinary–indicator kriging approach. *Engineering geology, 69(1-2), pp.37-45* Smeaton, C., & Austin, W. E. N. (2019). Where's the Carbon: Exploring the Spatial Heterogeneity of Sedimentary Carbon in Mid-Latitude Fjords. *Frontiers in Earth Science*, *7*, 269.