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Title:	**The MESH Study Area Data Exchange Format (DEF)**
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Summary:	The MESH Study Area Data Exchange Format (DEF) describes the format required for outlines of data coverage supplied to the MESH partnership. The outlines can show the boundaries of acoustic data or of maps. Specifically it relates to fields in the attribute tables of the GIS vector file.
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MESH Study Area Data Exchange Format

The MESH webGIS includes a study area theme containing the outlines of studies listed in the metadata catalogue. The MESH Study Area DEF defines the fields that should be present in the attribute table of this type of shapefile when providing a study area shapefile to the MESH Partnership. A single study area shapefile can contain the outlines of more than one seabed mapping study. A study can also have an outline which is a multipart polygon, for example if the study mapped several areas in close proximity to each other.

Data files must be provided as ESRI Shapefiles using geographic coordinates (lat/long) and the WGS84 datum. Use the sequence of attributes as specified below.

MESH Study Area DEF		
Field name	**Data type (length)**	**Description**
FID	Number	Feature ID. Internally generated identification number for each polygon (not visible if .dbf file is opened using MS Excel).
Shape	Text (8)	Internally generated text, indicating whether the feature is a polygon, point or line (not visible if .dbf file is opened using MS Excel). This will be 'POLYGON' in the Study Area DEF.
POLYGON	Long integer (Precision 8)	Identification number for each polygon which must be manually created as ascending integers 1,2,3… etc. **Do not use the value 0, as this can cause errors on the MESH webGIS**. This label for each polygon is necessary to identify the original polygon because the *FID* field may change during the processing of datasets.
GUI	Text (8)	Globally unique identifier (GUI) of the study area dataset – i.e. the GUI for the study area shapefile. Consists of 2 letter country code (which corresponds to ISO3166-1) plus 6 digits. This field will be identical in all records of the shapefile, and is used during the processing of datasets. **If you are not a MESH Partner please leave blank**.
ORIG_GUI	Text (8)	The Globally Unique Identifier (GUI) of the study which the outline delimits, in the form of a 2 letter country code (which corresponds to ISO3166-1) plus 6 digits. Each ORIG_GUI must correspond to a record in the **metadata catalogue**. A metadata template can be downloaded from the MESH website, www.searchmesh.net.

Example Study Area Data Exchange Format

The example shapefile attribute table below contains information relating to the outlines of 11 UK study areas. Individual outline polygons delimiting a study in the metadata catalogue are dissolved into a single multipart polygon, and these polygons are merged to create a study area shapefile. MESH partners will have a metadata entry for their study area shapefile, and in this case the GUI of the study area shapefile can be added to the attribute table of the study area shapefile (GB000520 in this example).. For non-MESH partners, where the shapefile is an intermediate to be submitted to a MESH partner, there is no need to populate the GUI field.

FID	Shape	POLYGON	GUI	ORIG_GUI
0	Polygon	1	GB000520	GB000007
1	Polygon	2	GB000520	GB000035
2	Polygon	3	GB000520	GB000074
3	Polygon	4	GB000520	GB000121
4	Polygon	5	GB000520	GB000123
5	Polygon	6	GB000520	GB000145
6	Polygon	7	GB000520	GB000146
7	Polygon	8	GB000520	GB000147
8	Polygon	9	GB000520	GB000153
9	Polygon	10	GB000520	GB000177
10	Polygon	11	GB000520	GB000189