

Appendix 15

Map of seabed sediment transport indicators

Southern North Sea Sediment Transport Study, Phase 2 Sediment Transport Report

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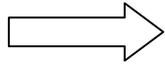
This map shows the seabed sediment transport indicators within the study area. They are mainly confined to a 20 km strip along the coastline which is where the majority of the observations have taken place.

The data has been derived from the following sources:

- Maps of seabed sediment facies with bedform indicators (and longshore littoral drift indicators) provided by British Geological Survey for the seabed area from Flamborough Head to the Deben Estuary (Evans et al, 1998)
- Additional interpretation of the sediment transport directions based on analysis of the BGS data for bedforms contained in the above
- Analysis of new sidescan sonar data collected in the SNS2 study for the mouth of the Humber, Winterton Ness/Yarmouth Banks, Gunfleet/Clacton area in 2001 (see Field Data Report, Appendix 6 to the Sediment Transport Report EX4526)
- Analysis of seabed survey data provided by the dredging industry
- Analysis of data from FEPA surveys of the Roughs Tower dredging disposal site and data obtained by Harwich Haven Authority
- Published material for seabed sediment transport indicators (Evans et al, 1998; Collins et al, 1995; Dugdale and King, 1978; Dugdale et al, 1979).

The key for the map is given as follows:

	<p>These arrows indicate the net direction of sediment transport as observed from bedform asymmetry. The bedforms from which these have been determined are sandwaves and megaripples. Sediment transport across these features usually takes place in a direction which is approximately perpendicular to their crestline. Thus from observations of crestline orientation on the seabed the approximate sediment transport direction can be determined.</p>									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Feature</th> <th style="text-align: left;">Height of feature (m)</th> <th style="text-align: left;">Wavelength (m)</th> </tr> </thead> <tbody> <tr> <td>Sandwave</td> <td>> 1 m</td> <td>> 10 m to 20 m</td> </tr> <tr> <td>Megaripple</td> <td>0.1 m to 1 m</td> <td>0.6 to 10 m</td> </tr> </tbody> </table>		Feature	Height of feature (m)	Wavelength (m)	Sandwave	> 1 m	> 10 m to 20 m	Megaripple	0.1 m to 1 m	0.6 to 10 m
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Sandwave	> 1 m	> 10 m to 20 m								
Megaripple	0.1 m to 1 m	0.6 to 10 m								
	<p>These streak lines indicate the axis of sediment transport observed from sand ribbons, sand streaks, comet marks and wreck marks. The sand ribbons are low amplitude features which are oriented parallel to the predominant tidal currents, they can be seen extending over otherwise essentially immobile seabeds of gravel and clays. Sand streaks are seen at the outer extents of sand patches and indicate transport into or out of the sand patch. Comet marks and wreck marks are the pattern of erosion and deposition seen around seafloor obstacles and wrecks, once again these are oriented parallel to the main flow direction.</p>									



These small number of arrows indicate longshore drift plotted by BGS (Evans et al, 1998). [Note: A fuller description and interpretation of longshore transport is presented in Appendix 11 to the Sediment Transport Report, Report EX4526.]

All this data is available as a GIS layer.

References

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Include large A0 Drawing here

