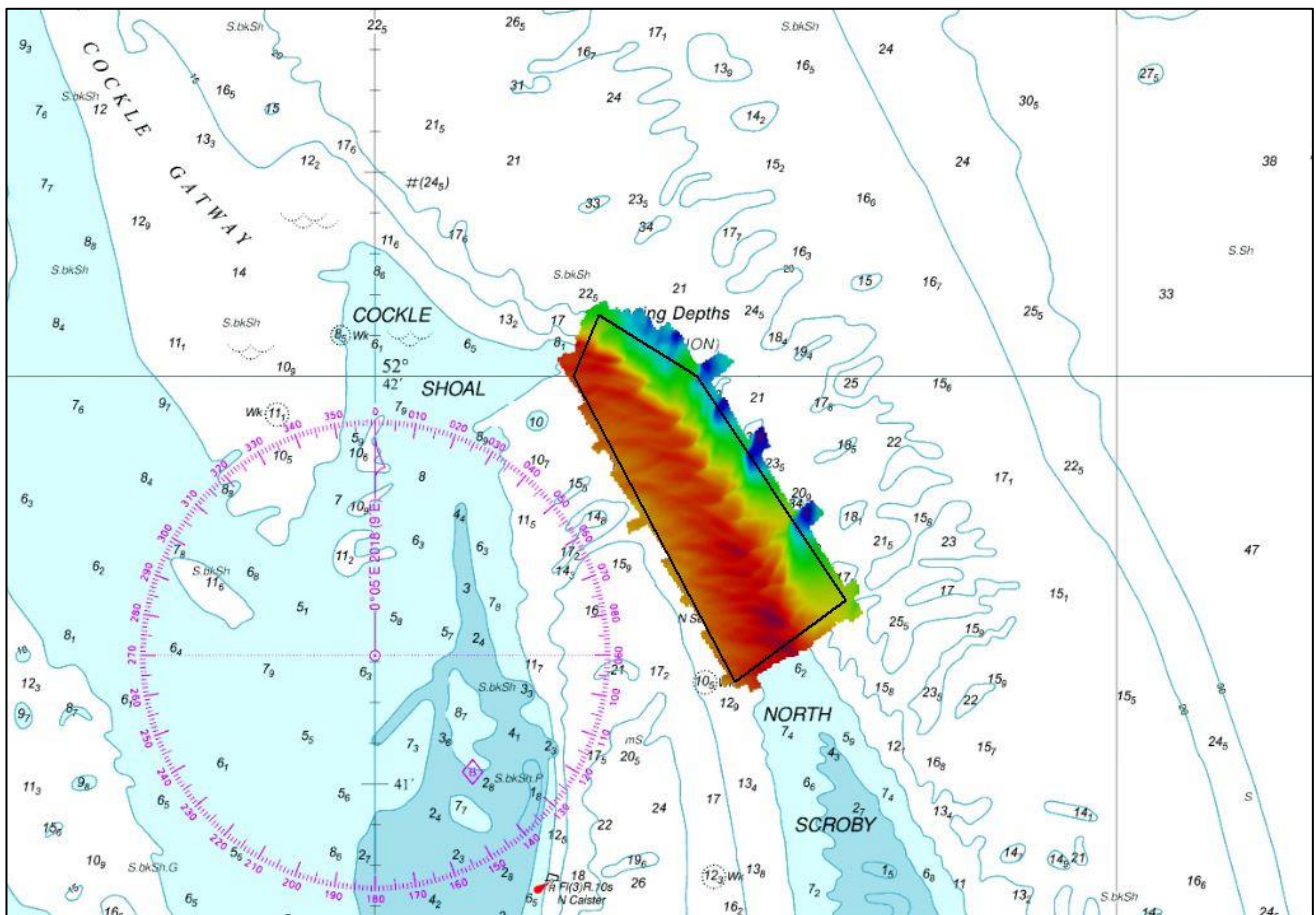




UK Hydrographic
Office

EAST ANGLIA COCKLE SHOAL FOCUSED AREA (EA3B) 2018 ASSESSMENT

An assessment of the 2018 hydrographic survey of the area EA3b Cackle Shoal Focused Area: to monitor recent seabed movement; to identify any implications for shipping; and to make recommendations for future surveys.



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Notes

This Assessment is produced by the UK Hydrographic Office (UKHO) for the Maritime and Coastguard Agency (MCA). Analysis of the Routine Resurvey Areas forms part of the Civil Hydrography Programme and the reports are made available to through the UKHO website and are presented to the Civil Hydrography Working Group. When approved, the recommendations are incorporated into the Routine Resurvey Programme. The report is governed by a Memorandum of Understanding between the DfT (including the MCA) and the MOD (including the UKHO).

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No analysis of shipping traffic has been included within this report due to no AIS data being supplied by MCA.

All depths are to Chart Datum, defined using the UKHO VORF Model

COCKLE SHOAL FOCUSED AREA (EA3B), 2018

1. SUMMARY

Changes Detected

- 1.1 Some significant shoaling on some sections on the eastern edge of the survey.
- 1.2 The central and western sections of the survey are showing stability which is consistent with historical trends in the survey area.
- 1.3 Slight movement in sand wave migration south-eastwards since 2016.

Reasons for Continuing to Resurvey the Area

- 1.4 Depths in the area remain hazardous and highly changeable in sections of the survey area and therefore require continued monitoring through annual resurveys.

Recommendations

- 1.5 Given the location of the area and the significant changes in sections of the survey area, EA3b should remain on the annual survey interval.
- 1.6 Based on the changes to the seabed on the eastern edge of the survey area, the next survey (3-year full survey, EA3) should be extended slightly eastwards and changes assessed before the annual focused EA3b survey area is modified.

2. LOCATION

- 2.1 Survey interval at time of resurvey: The full EA3 area is surveyed every 3 years with two annual focused areas covering EA3a and EA3b.
- 2.2 Area Covered: 1.09 km²

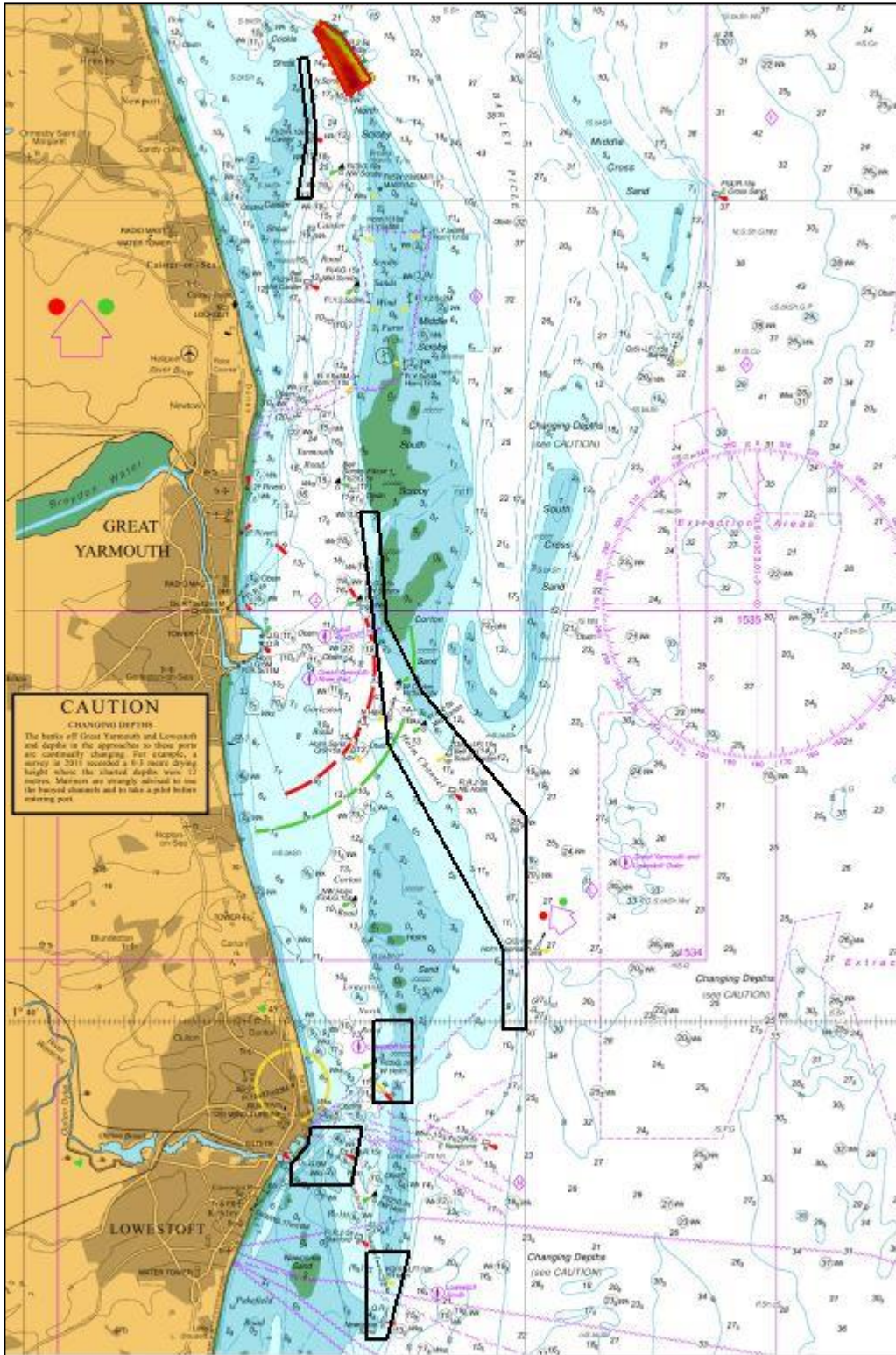


Figure 1: 2018 East Anglia RRS areas overlaid on BA Chart 1543-0 with EA3b Cockle Shoal Focused Area in red

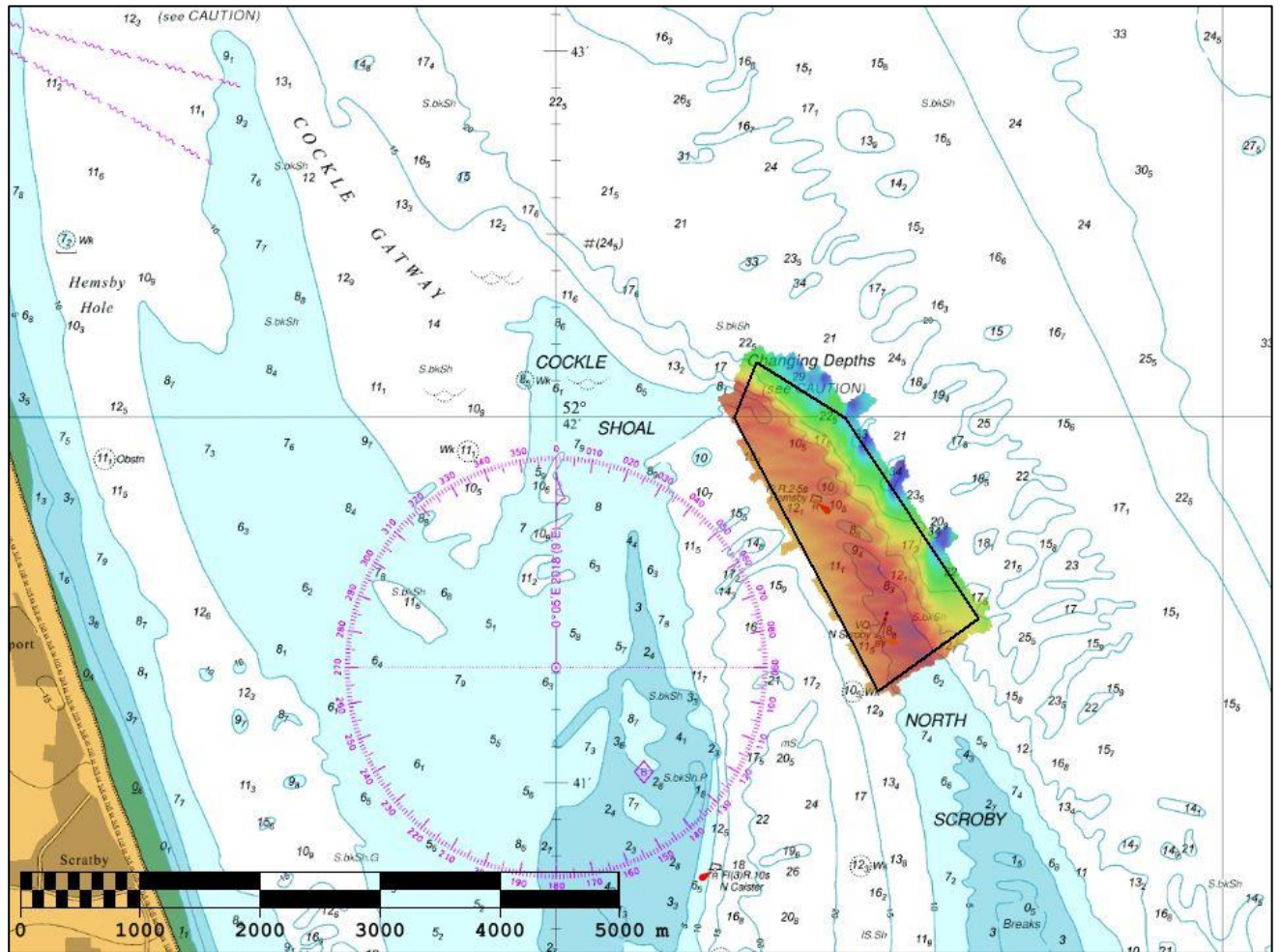


Figure 2: 2018 EA3b Cockle Shoal Focused Area survey data overlaid on BA Chart 1534-0

3. REFERENCE SURVEY DETAIL

- 3.1 The previous full survey was conducted as part of the 2017 Routine Resurvey Programme between July and November 2017 as part of HI1545. The previous focused surveys were conducted as part of the 2016 Routine Resurvey Programme in September 2016 as part of HI1521.
- 3.2 The Report of Survey for this survey is available upon request from the UKHO and the validated bathymetric surfaces are available to download from the Admiralty Marine Data Portal.

4. COMPARISON SURVEY DETAIL

- 4.1 The latest focused survey as part of the 2018 Routine Resurvey Programme was conducted in October 2018 as part of HI1609.
- 4.2 The Report of Survey for this survey is available upon request from the UKHO and the validated bathymetric surfaces are available to download from the Admiralty Marine Data Portal.

5. DESCRIPTION OF RECENT BATHYMETRIC CHANGE

- 5.1 Figures 3 to 5 show shoaling on sections of the eastern edge of the survey with the most significant examples being -10.4m since the 2017 survey.
- 5.2 The western and central sections of EA3b show some stability and less change from the 2015 surveys through to 2018.
- 5.3 The depth plot in Figure 6 shows that the least depth in the 2018 survey is 7.4m, located approximately 150m east of North Scroby Buoy, and has shoaled -1.1m since 2017.
- 5.4 Figures 4 and 5 show a slight movement south-eastwards in sand wave migration since 2016.

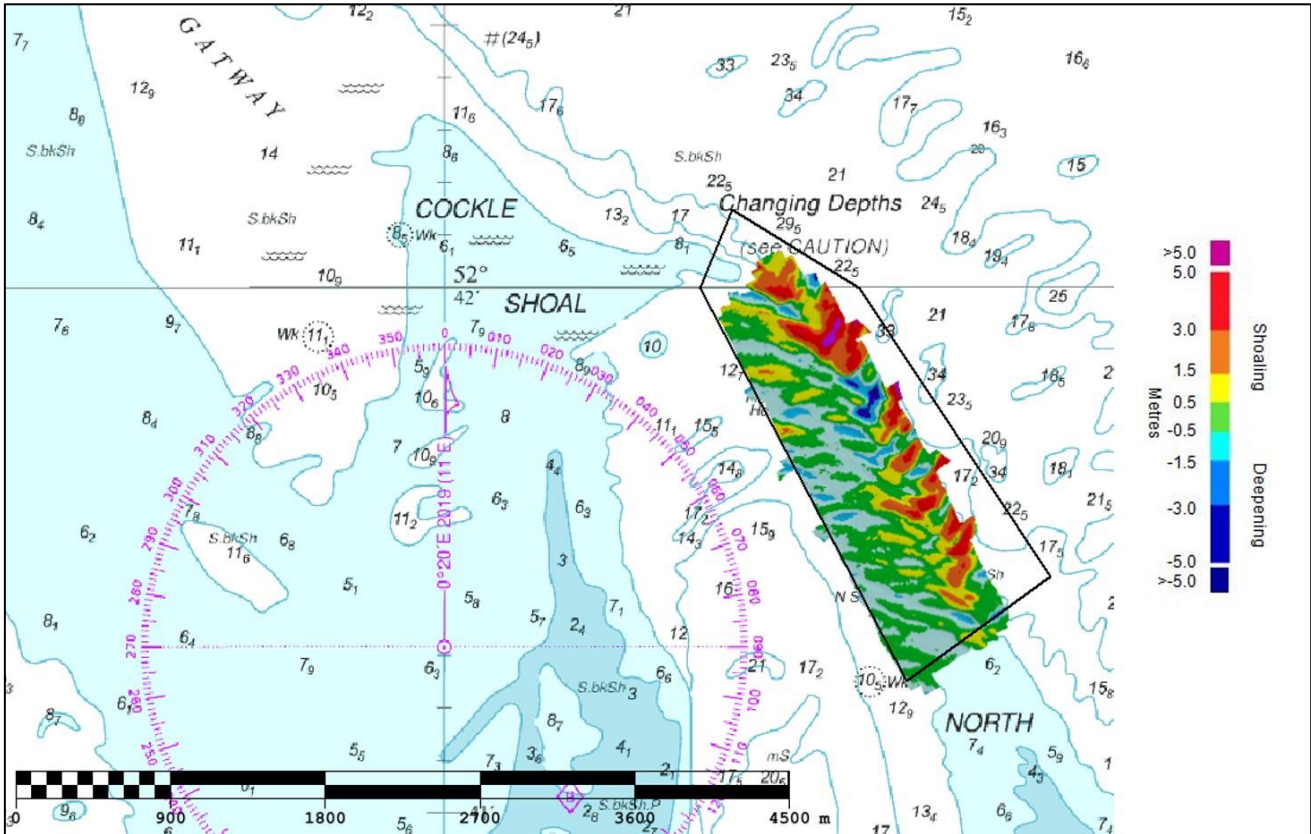


Figure 3 – Difference Plot 2018-2015 overlaid on BA Chart 1534-0

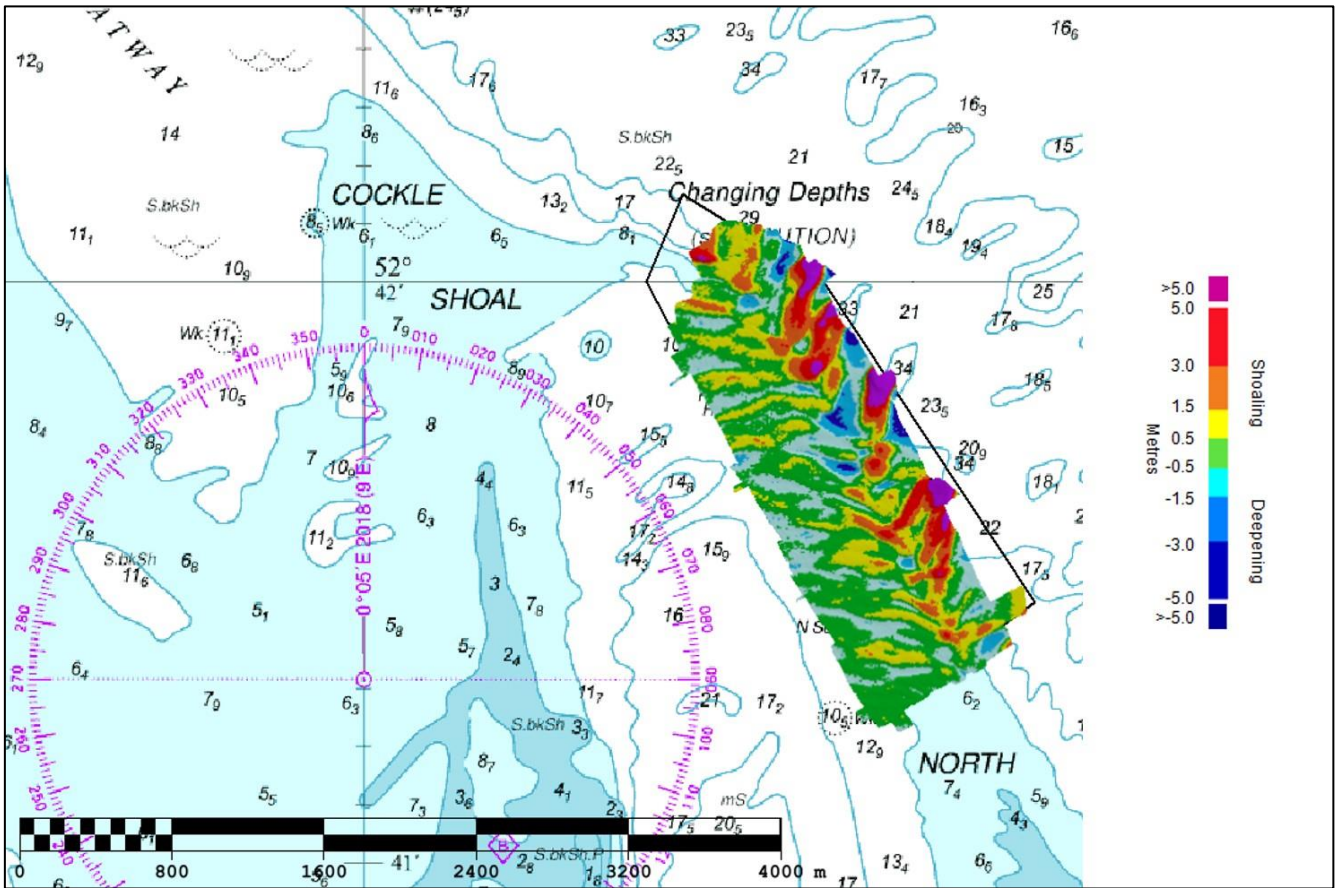


Figure 4 – Difference Plot 2018-2016 overlaid on BA Chart 1534-0

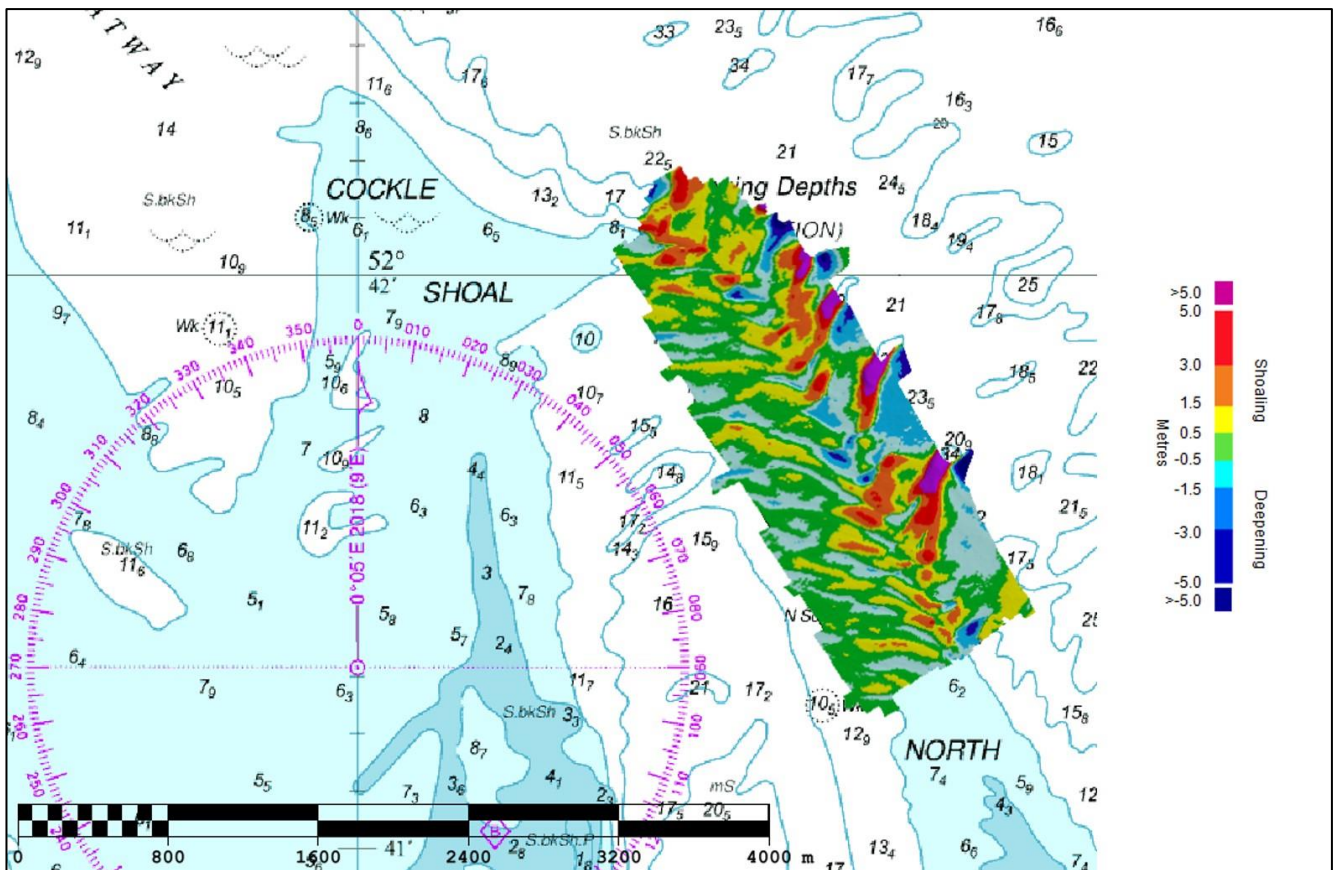


Figure 5 – Difference Plot 2018-2017 EA3b overlaid on BA Chart 1534-0

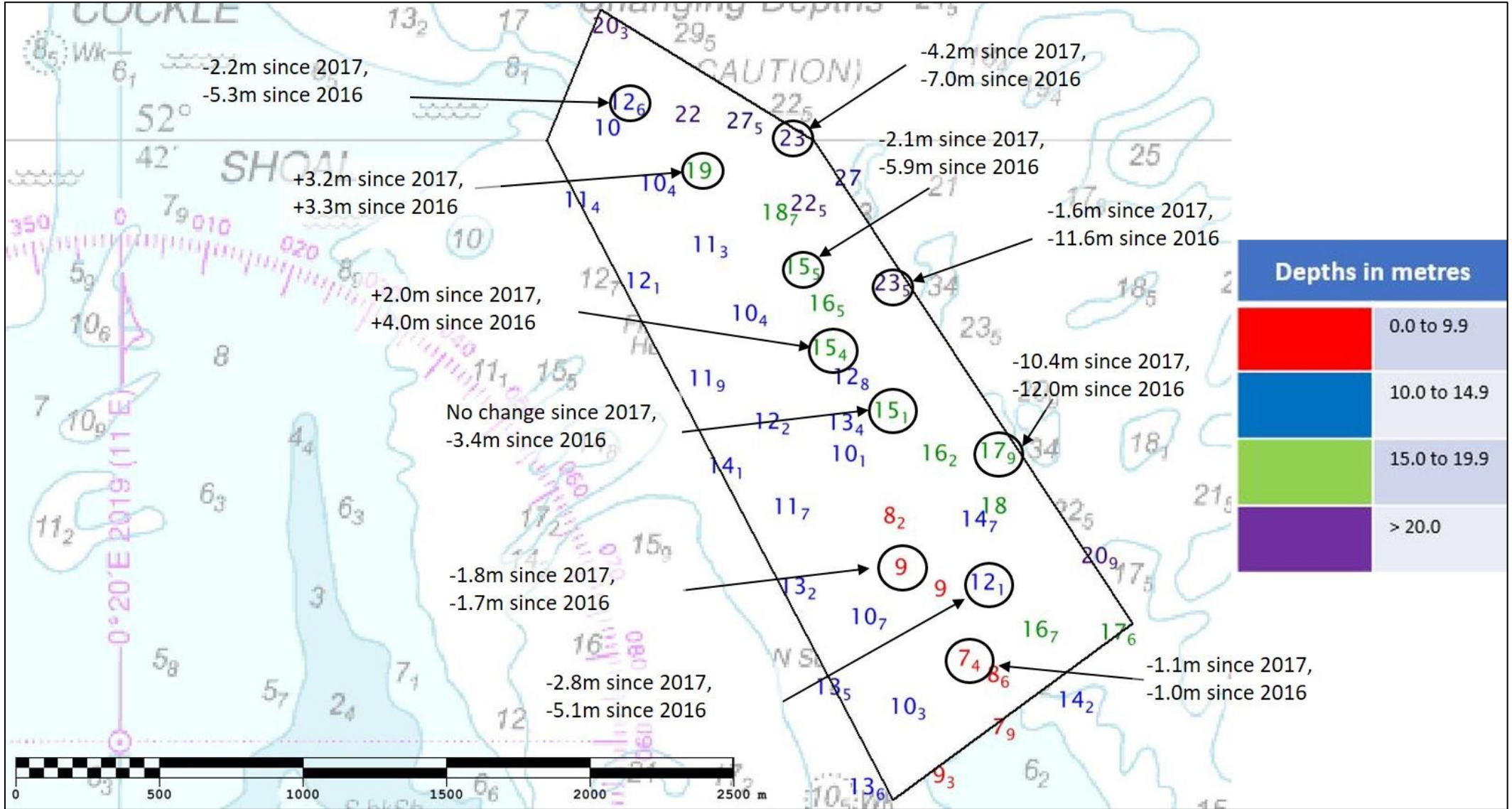


Figure 6: Colour banded depth plot from the 2018 survey with selected depth changes since the 2017 Focused survey and 2016 Full Survey.

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

6.1 Given the location of the area and the mobility and changes in the seabed, the focused survey EA3b should remain on the annual survey interval and the full survey EA3 should remain at 3 years.

Survey Area

6.2 With the significance of the shoaling on the eastern edge of the survey, with some depths changing by 10m in a 12-month period, it is suggested to slightly increase the survey area eastwards where the shoaling is occurring.

6.3 However, due to the three yearly EA3 survey being the next scheduled survey, it is recommended to extend the EA3 survey slightly eastwards and assess changes before changes are made to the annual focused EA3b survey limits.

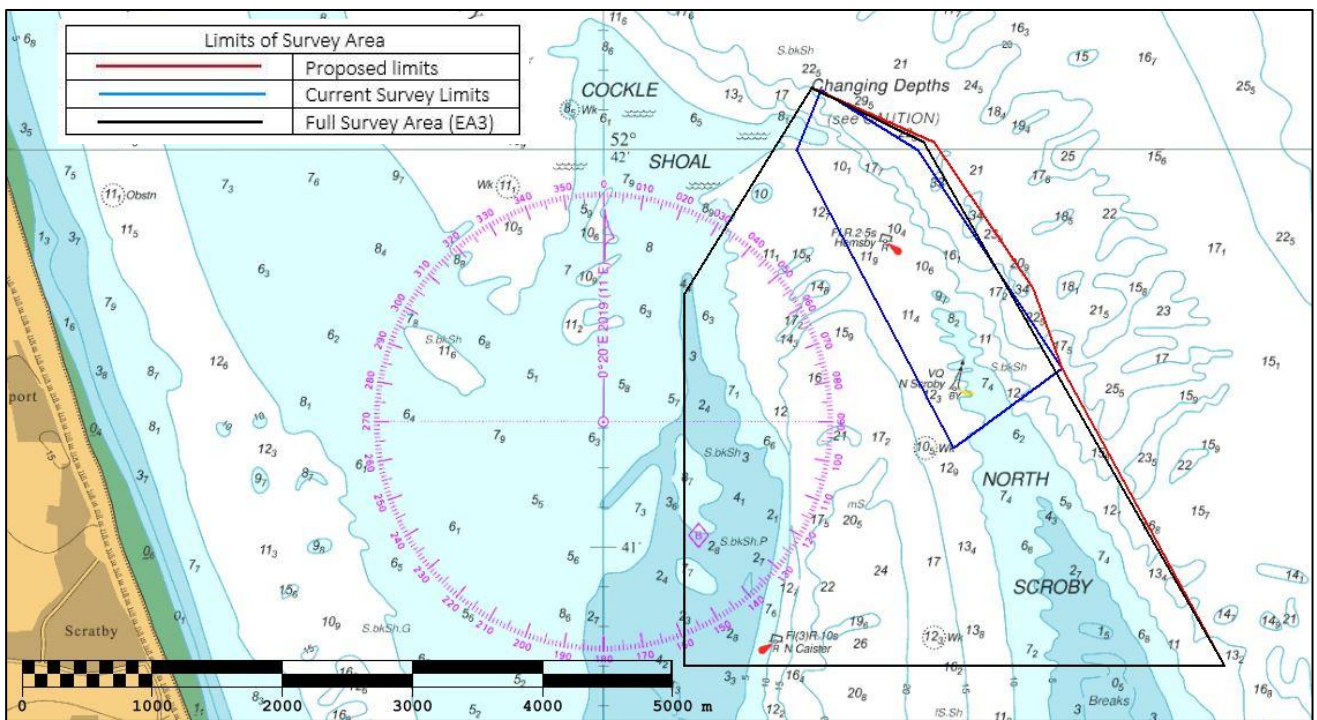


Figure 7: Recommended changes to survey limits of area EA3

The coordinates of the recommended adjusted survey area limits for the 3 yearly EA3 survey are shown below:

EA3 total area: 4.50 km²

A	52.70259N	1.76433E
B	52.70030N	1.77281E
C	52.69417N	1.77281E
D	52.69084N	1.78167E
E	52.67833N	1.78167E
H	52.67833N	1.75562E
I	52.69400N	1.75562E