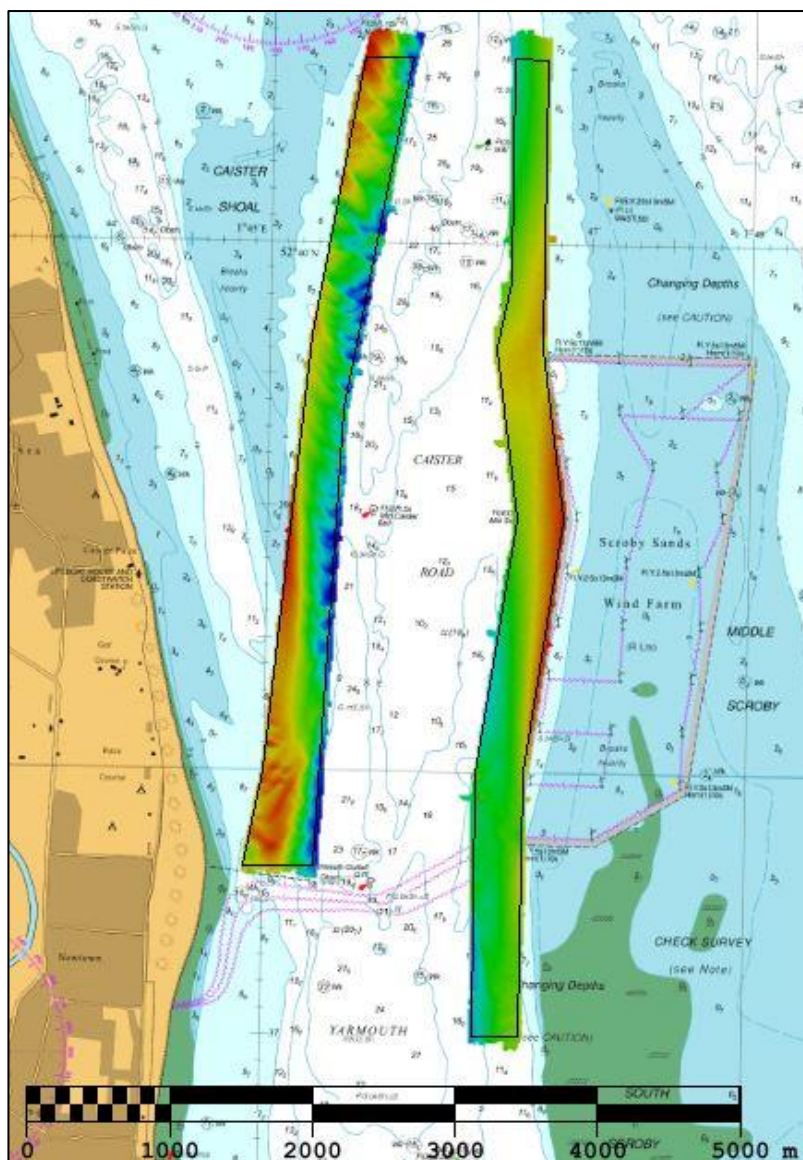




EAST ANGLIA EA4A & EA4B FOCUSED – CAISTER ROAD 2020 ASSESSMENT

An assessment of the 2020 hydrographic survey of the area Caister Road: 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

EA4A & EA4B FOCUSED – CAISTER ROAD, 2020

1. SUMMARY

Changes Detected

- 1.1 The north end of Caister Shoal is slowly moving eastwards towards Caister Road with the 10m contour moving approximately 70m eastwards in places since the 2017 full survey.
- 1.2 EA4A has seen the most change since the 2017 full survey with shoaling and deepening in the northern section, whilst the southern section is more stable with patches of shoaling and deepening scattered throughout.
- 1.3 EA4B is generally stable since the 2017 full survey with the exception of some deepening south with the 10m contour in the southern section of EA4B moving eastwards approximately 40m since 2017.

Reasons for Continuing to Resurvey the Area

- 1.4 Depths in the area remain hazardous and changeable to deep draught vessels navigating the area and therefore require continued monitoring through 12-year full resurveys and 3-year focused resurveys.

Recommendations

- 1.5 The 12-year full survey area EA4 and 3-year focused survey area EA4B adequately cover mobile areas so do not require updating currently.
- 1.6 Focused area EA4A should be revised in the northern section eastwards to continue following the movement of Caister Shoal into Caister Road.

2. LOCATION

- 2.1 Survey interval at time of resurvey: 12-years full area, 3-years focused.
- 2.2 Area Covered: 4.86 km²

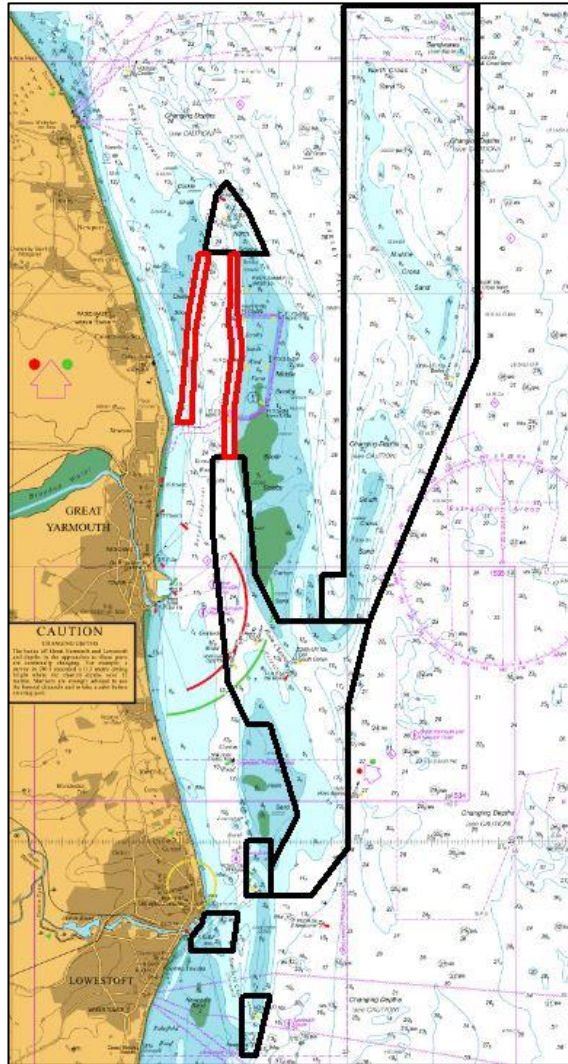


Figure 1: 2020 East Anglia Routine Resurvey areas overlaid on BA Chart 1543 with area EA4A and EA4B Focused areas in red

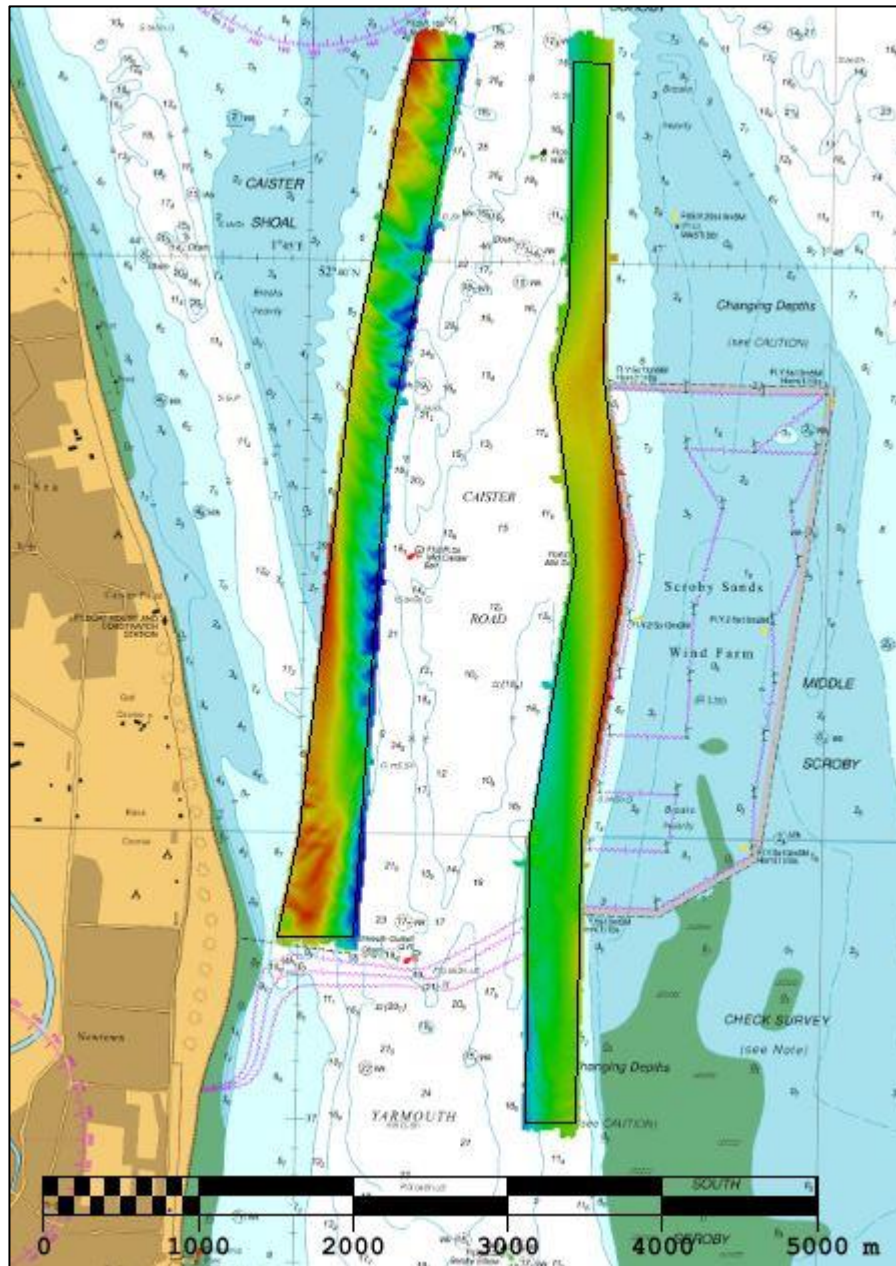


Figure 2: 2020 survey data overlaid on BA Chart 1534

3. REFERENCE SURVEY DETAIL

- 3.1 Previous full survey conducted in July and September to November of 2017 as part of HI1545, and previous focused survey conducted in June and August of 2014 as part of HI1458.
- 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. NEW SURVEY DETAIL

- 4.1 Focused surveys were conducted in June of 2020 as part of HI1685.
- 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 The difference plot in Figure 3 shows the ongoing trend of shoaling on the eastern edge of Caister shoal moving towards Caister Road in the northern section of EA4A. Significant shoaling can be seen with some depths changing by -5.5m since the 2017 full survey. This is also consistent with examination of the 2014 survey.
- 5.2 More change can be seen in the northern section of EA4A compared to the southern section, with small shoaling or deepening patches dispersed amongst some more stable patches in the southern section.
- 5.3 EA4B is generally stable since the 2017 full survey as seen in Figure 3. There is slight shoaling in depth towards the north and some deepening in the south, with the 10m contour moving eastwards. Comparison with the 2014 survey shows considerable shoaling in the central section.
- 5.4 The significant depths in the 2020 survey are 8.5m in the north section of the EA4A western leg, with the shoalest depth of 5.8m in the southern section of the same leg. On the EA4B eastern leg, the significant depths are 9.1m and 8.5m located around the central section. Depths can be seen in Figure 5.

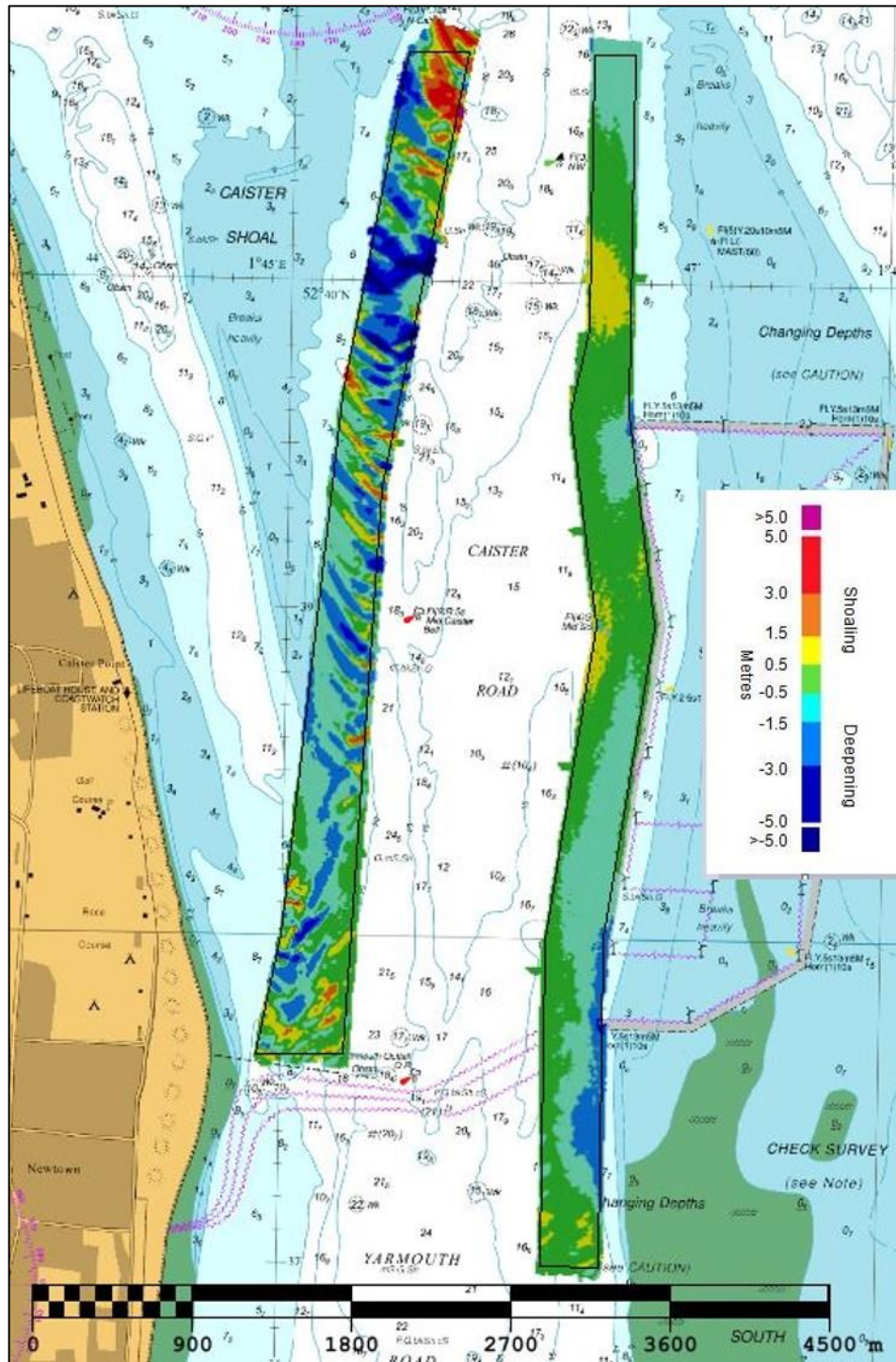


Figure 3: Difference surface showing bathymetric changes between the 2017 and 2020 surveys overlaid on BA Chart 1534

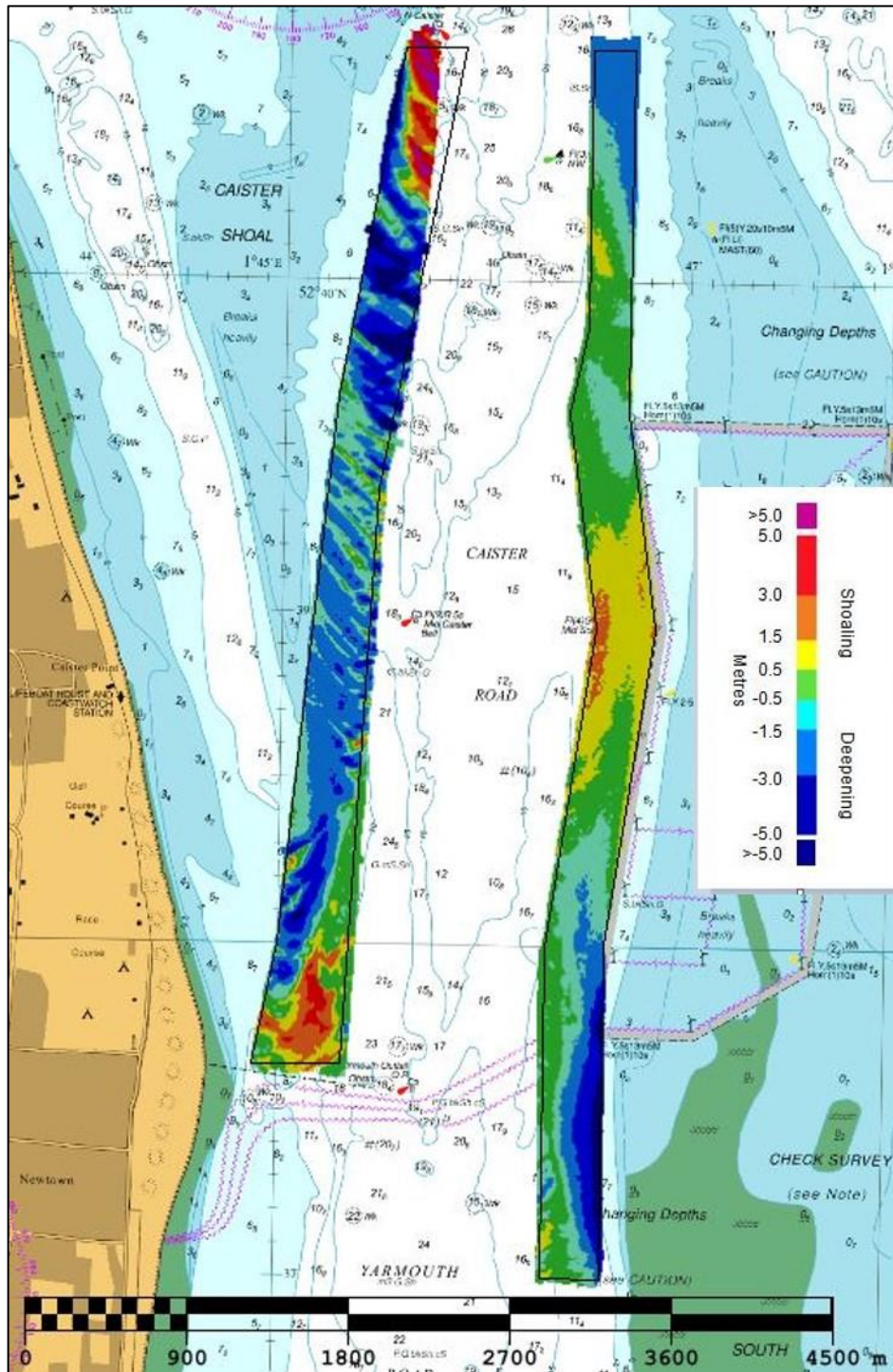


Figure 4: Difference surface showing bathymetric changes between the 2014 and 2020 surveys overlaid on BA Chart 1534

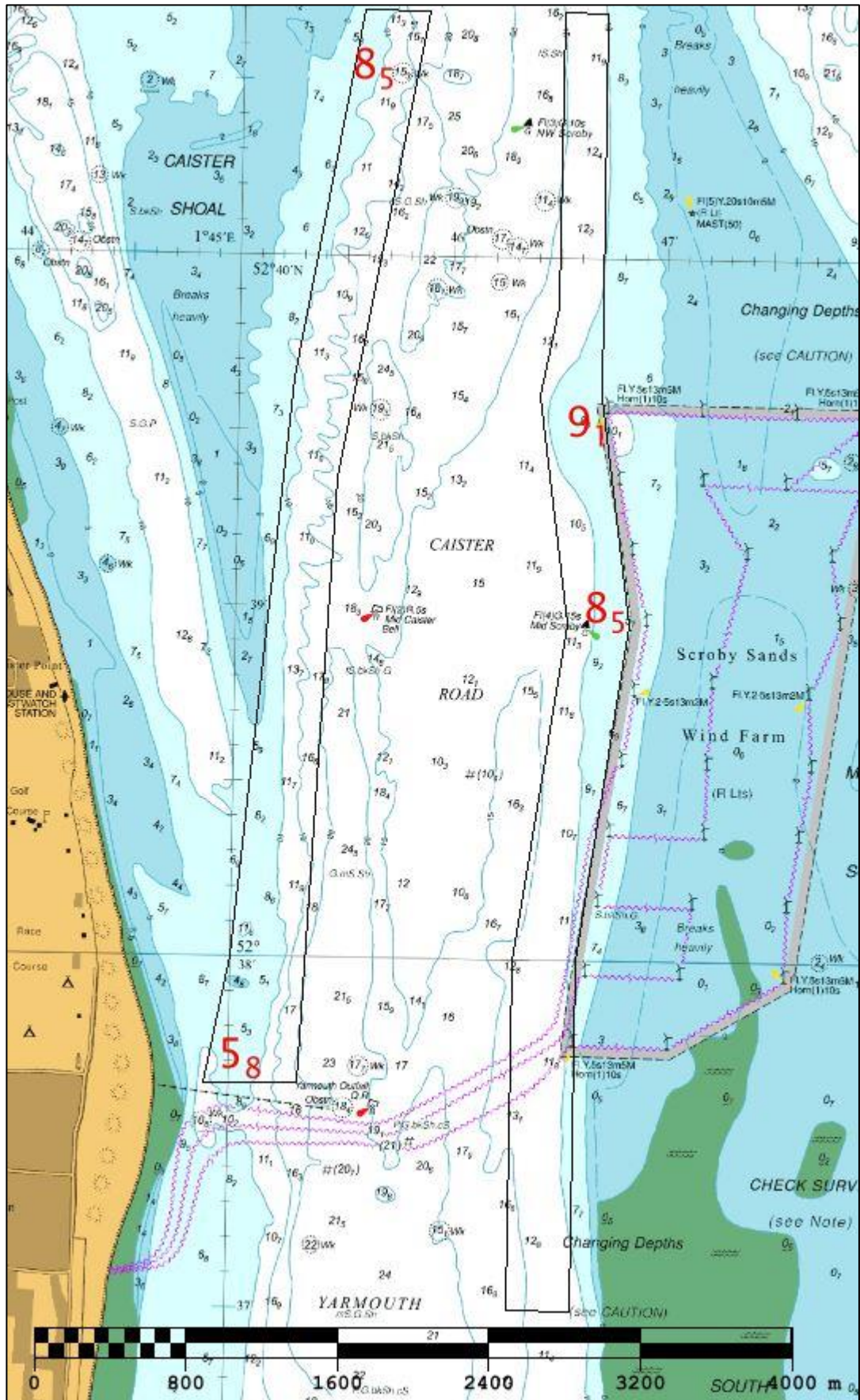


Figure 5: Significant depths from 2020 surveys (shown in red) overlaid on BA Chart 1534

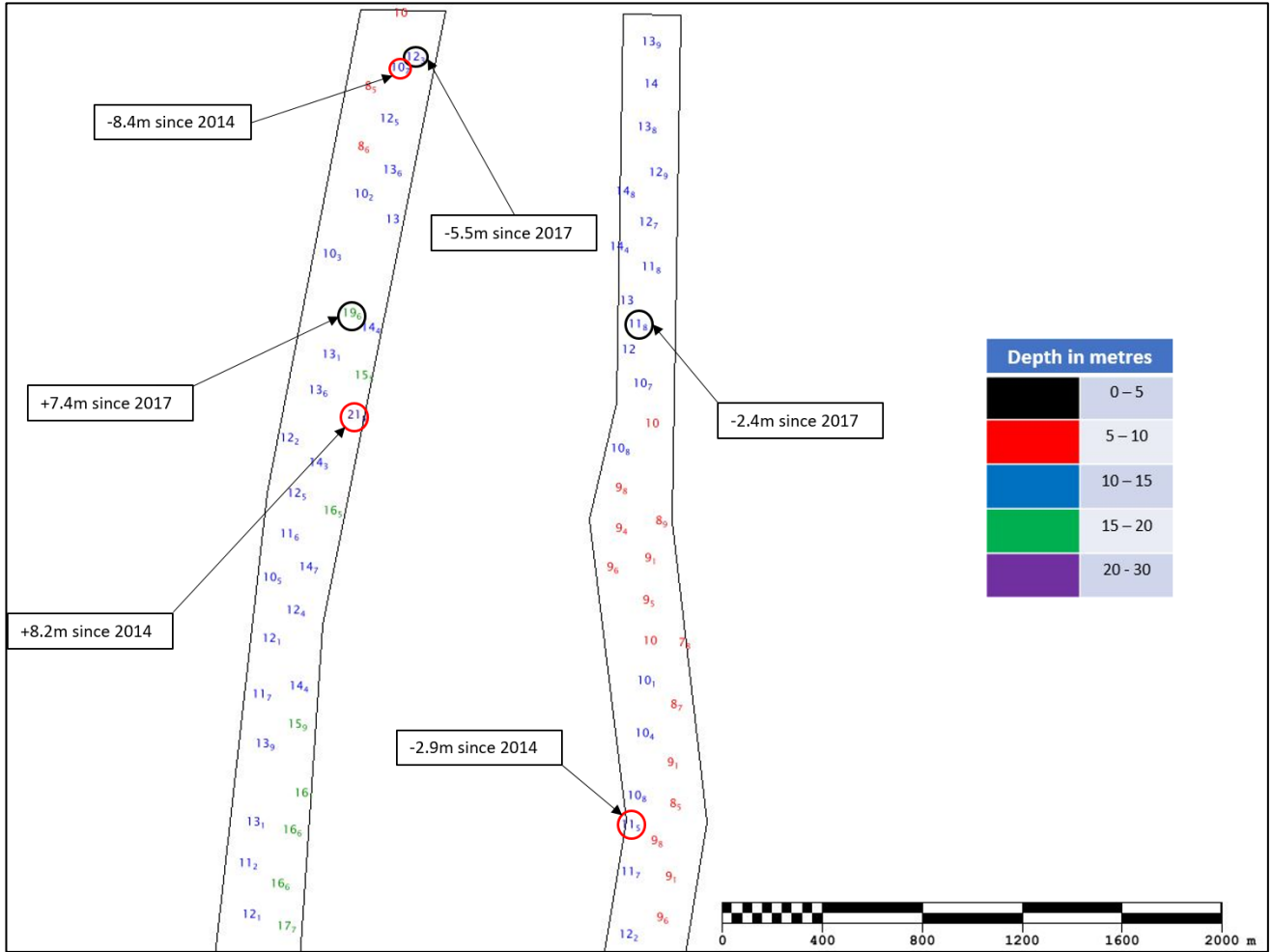


Figure 6: Colour banded depth plot from the 2020 surveys with selected depth changes since the 2017 and 2014 surveys. Positive values (+) represent deepening. Negative values (-) represent shoaling.

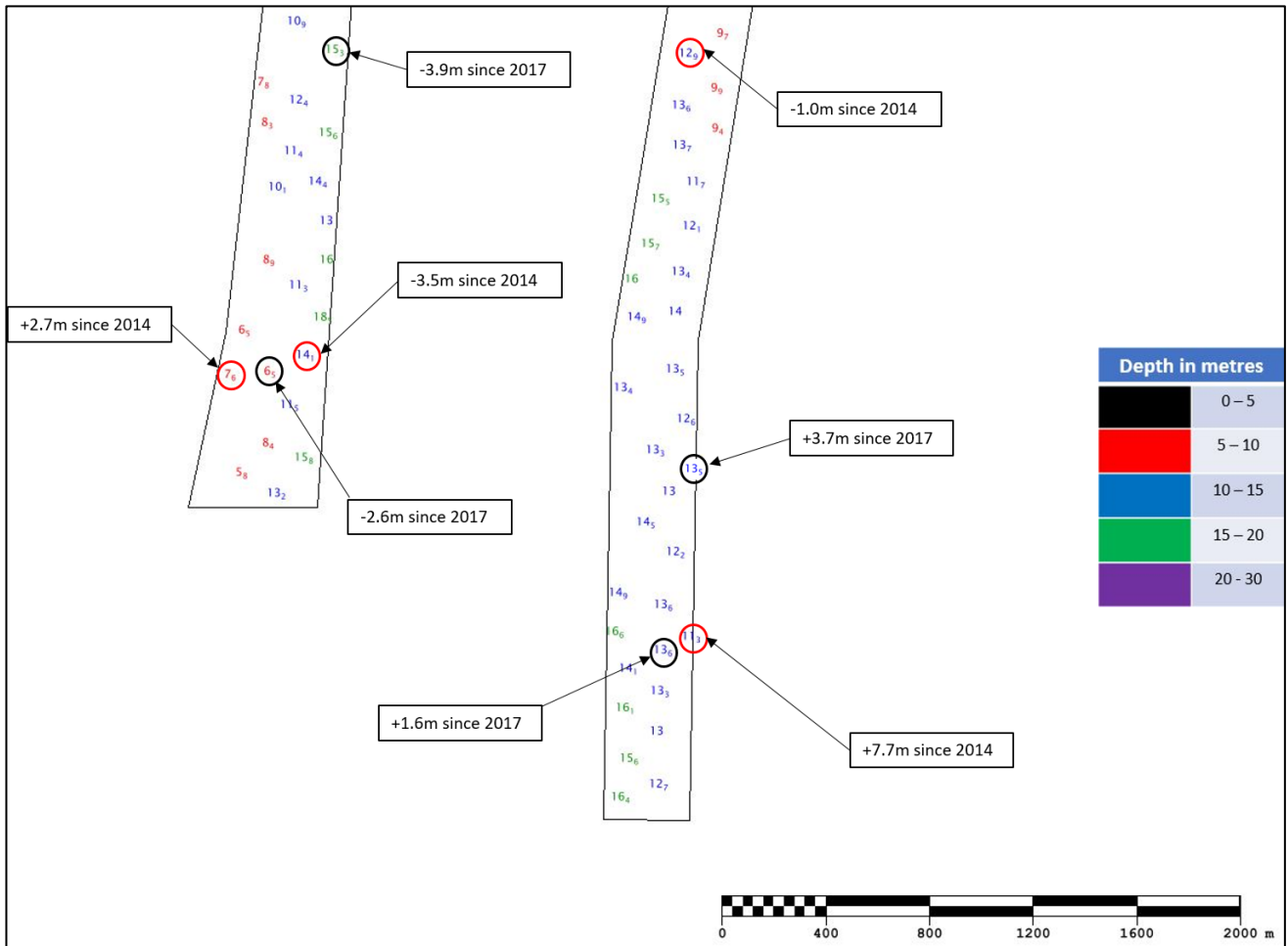


Figure 7: Colour banded depth plot from the 2020 surveys with selected depth changes since the 2017 and 2014 surveys. Positive values (+) represent deepening. Negative values (-) represent shoaling.

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

- 6.1 The seabed remains mobile in this area, which could potentially have an impact on shipping so the 12-year full area and 3-year focused area intervals should continue.

Survey Area

- 6.2 Due to the shoaling and movement of Caister Shoal eastwards towards Caister Road the focused area EA4A should be adjusted in the northern section to follow this movement and monitor its impact upon Caister Road.

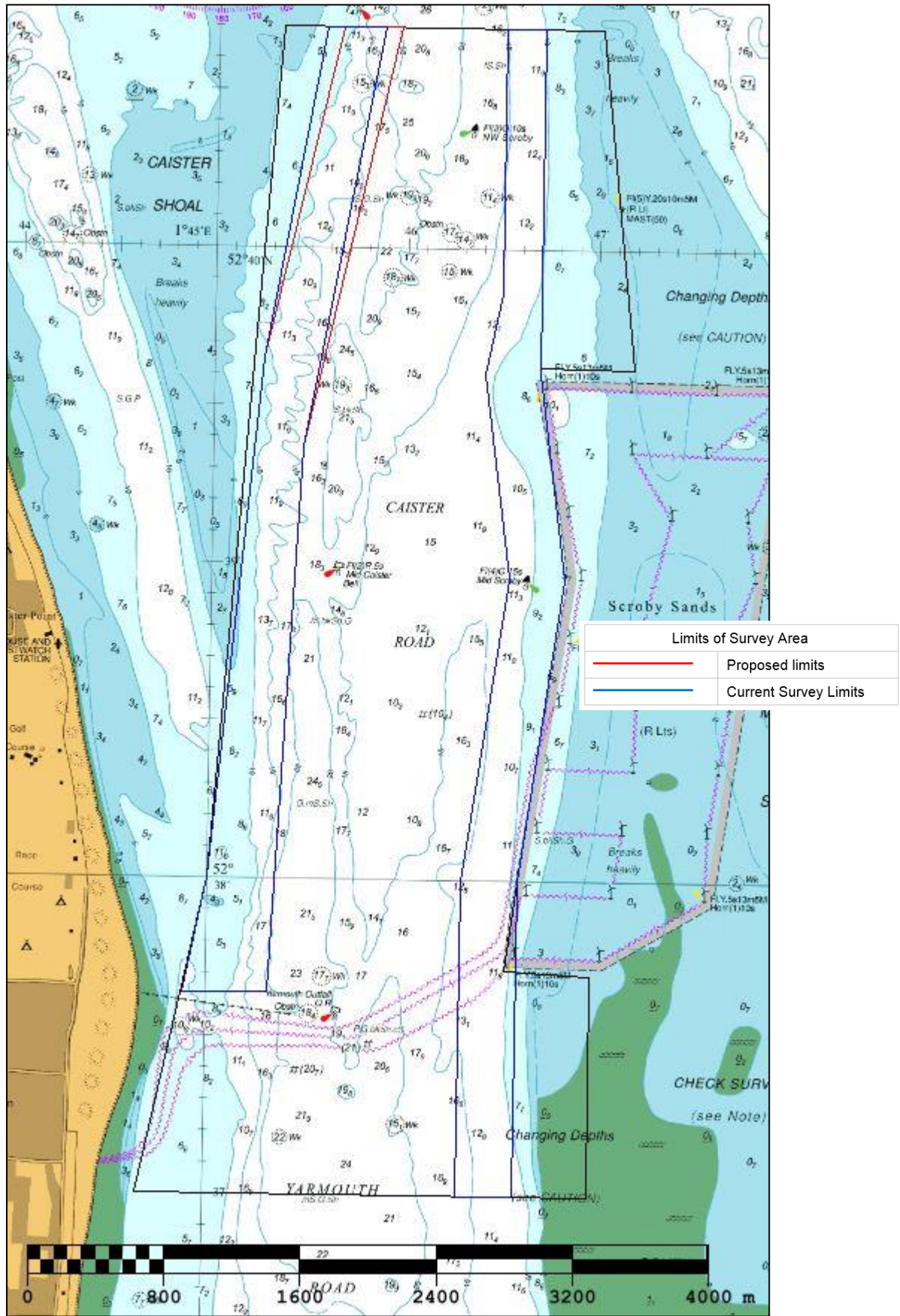


Figure 7: Recommended changes to survey limits of area EA4A. (Current limits for the focused areas in blue, proposed limit in red, and full area limit in black)

The coordinates of the recommended adjusted survey area limits for the 3-year focused area EA4A are shown below:

Revised EA4A total area: 2.00 km²

A	52.678291	1.760772
B	52.660849	1.754288
C	52.633347	1.749998
D	52.627263	1.748026
E	52.627340	1.755360
H	52.656150	1.757763
I	52.678344	1.765831