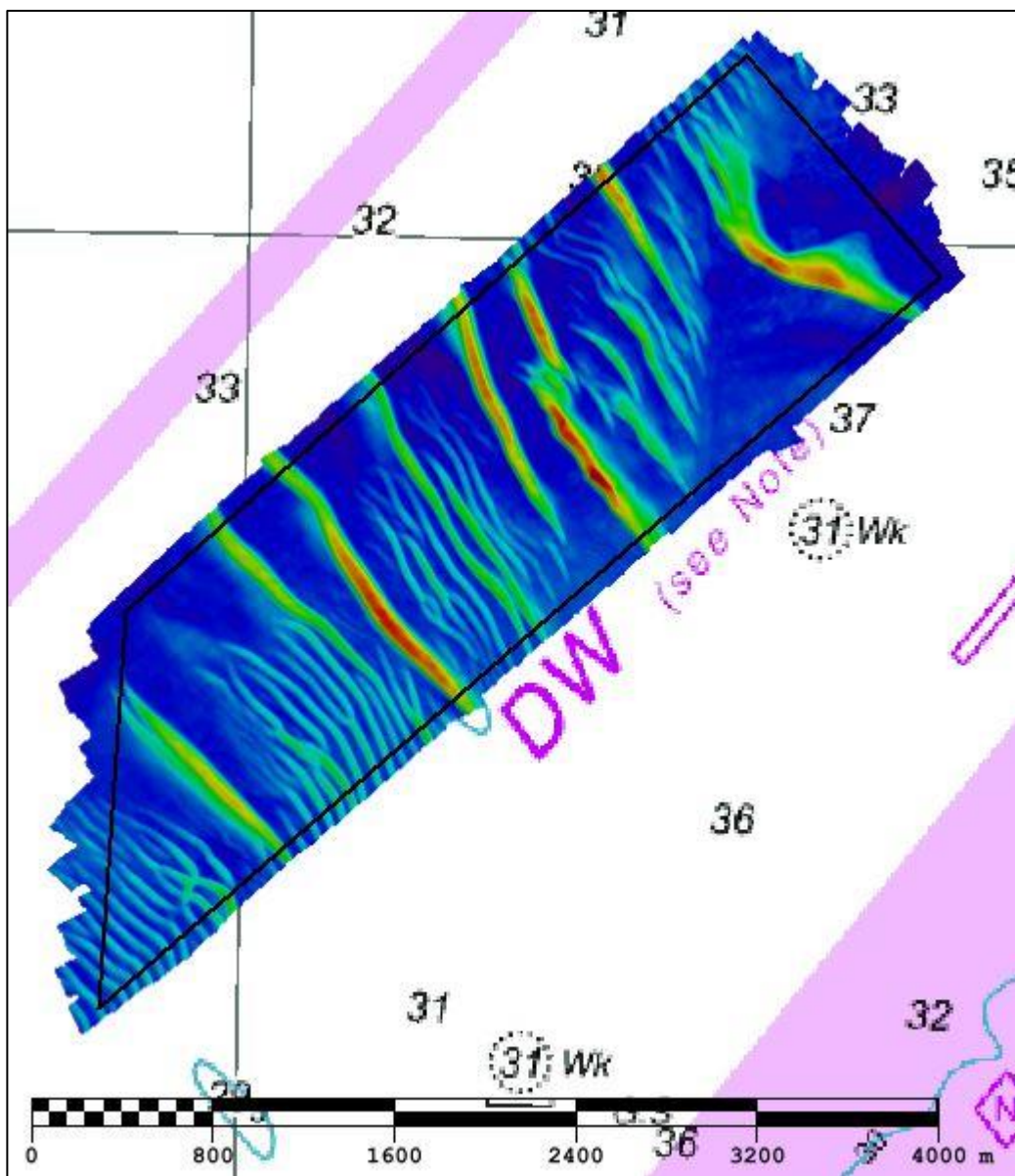




UK Hydrographic
Office

DOVER STRAIT DWR T DEEP WATER ROUTE FOCUSED 2023 ASSESSMENT

An assessment of the 2023 hydrographic survey of the area DWR T: 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 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 Vertical Offshore Reference Frame (VORF) Model.

DWR T DEEP WATER ROUTE, 2023

1. SUMMARY

Changes Detected

- 1.1 The controlling depth is 0.7m deeper than in 2020, and 0.2m deeper than in 2019. It is 0.9m deeper than charted.
- 1.2 Sandwaves continue to show inwards movement in north-easterly and south-westerly directions towards the centre of the survey area as they have in previous years' surveys.
- 1.3 Survey shows large differences in depths compared to previous years. This is largely due to sandwave migration and overall seabed mobility.

Reasons for Continuing to Resurvey the Area

- 1.4 The survey area covers a major shipping route in the Dover Strait. The seafloor has mobile sandwave features which should be monitored for continued safety of maritime traffic; therefore, continued resurveying is recommended.

Recommendations

- 1.5 This analysis finds the 3-yearly interval to remain sufficient.
- 1.6 The current limits of the survey area sufficiently covers the main controlling depth as well as the sandwave features. No adjustments to survey limits are therefore required.

2. LOCATION

- 2.1 Survey interval at time of resurvey: 3 years (with the full area surveyed every 6 years)
- 2.2 Area Covered: 6.64 km²

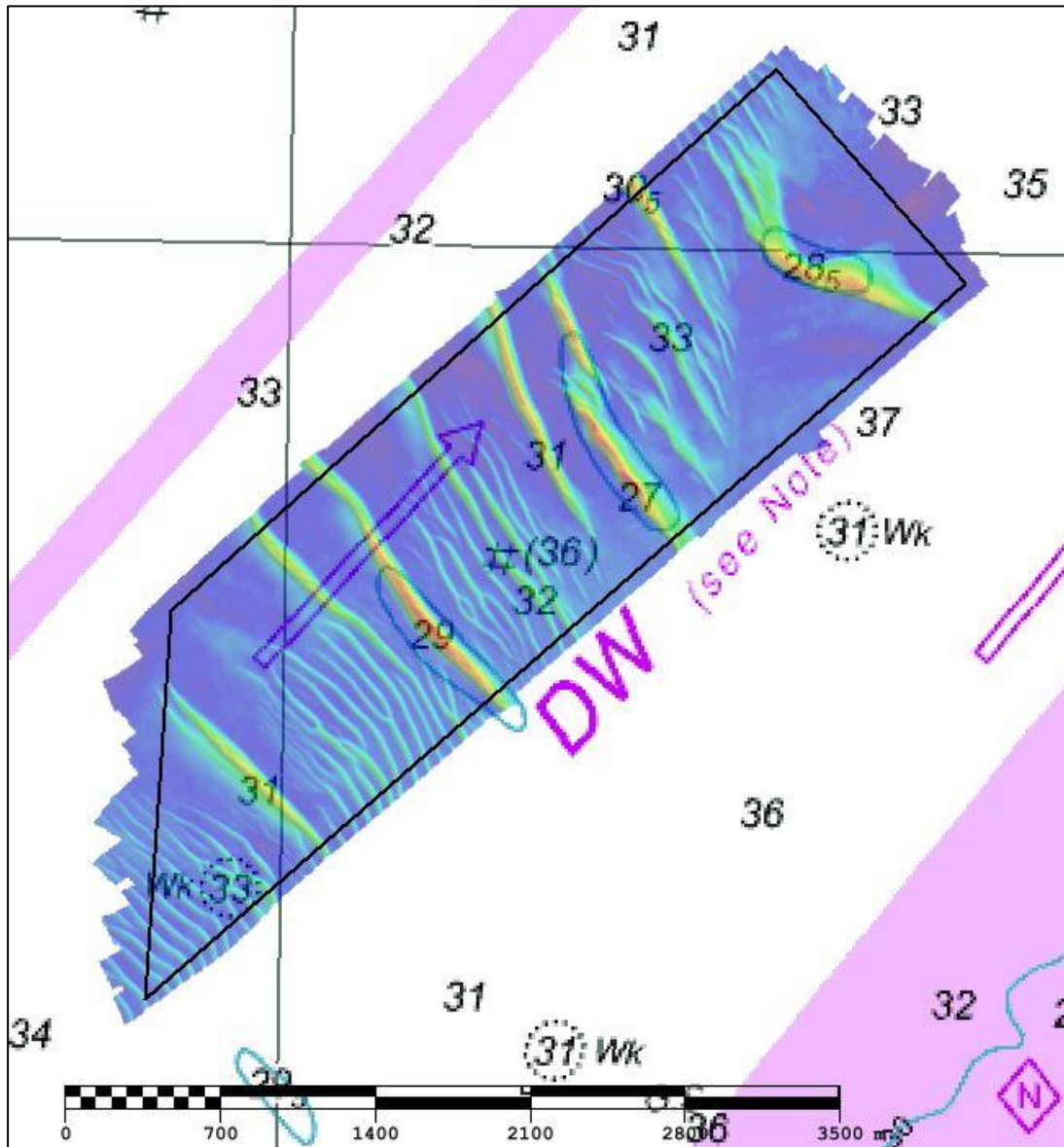


Figure 2: 2023 survey data overlaid on BA Chart 0323

3. REFERENCE SURVEY DETAIL

- 3.1 The previous focused survey was conducted as part of the 2020 Routine Resurvey Programme in August 2020 as part of HI1695. Another focused survey was conducted as part of the 2019 Routine Resurvey Programme between June and July 2019 as part of HI1658. One final focused survey covered in this report was conducted as part of the 2016 Routine Resurvey Programme between July and August 2016 as part of HI1523.
- 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 This latest survey within the 2023 Routine Resurvey Programme, was conducted in October 2023 as part of HI1835.
- 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 Significant depths from the 2023 survey can be seen in Figure 3. The controlling depth remains on the same sandwave as 2020, at 27.9 meters, which has experienced a 0.7m deepening since 2020, and a 0.2m deepening since 2019.
- 5.2 The difference surfaces in Figures 4-6 show migrating sandwaves moving towards the centre of the survey in a north-easterly and south-westerly fashion. As a result, large differences in depths are recorded in figure 8 however these are often deceptive.
- 5.3 Both figures 7 and 8 show the extent of sandwave migration by contour and depth changes. Sandwaves appear to be moving at a greater rate in the north-eastern-most section of the survey, moving towards the south-west, with the largest difference being a 6.8m shoaling since 2020. Conversely movement rate appears slower in the south-western area of the survey, with shoaling of no more than 1.3m.
- 5.4 Between the 2023, 2020 and 2019 surveys, it appears the sandwaves both deepen and shoal differently between the years, see Figures 3 and 8. This is likely due to differing natural forces causing more or less build up between surveys, showing the need to continue regular surveys.

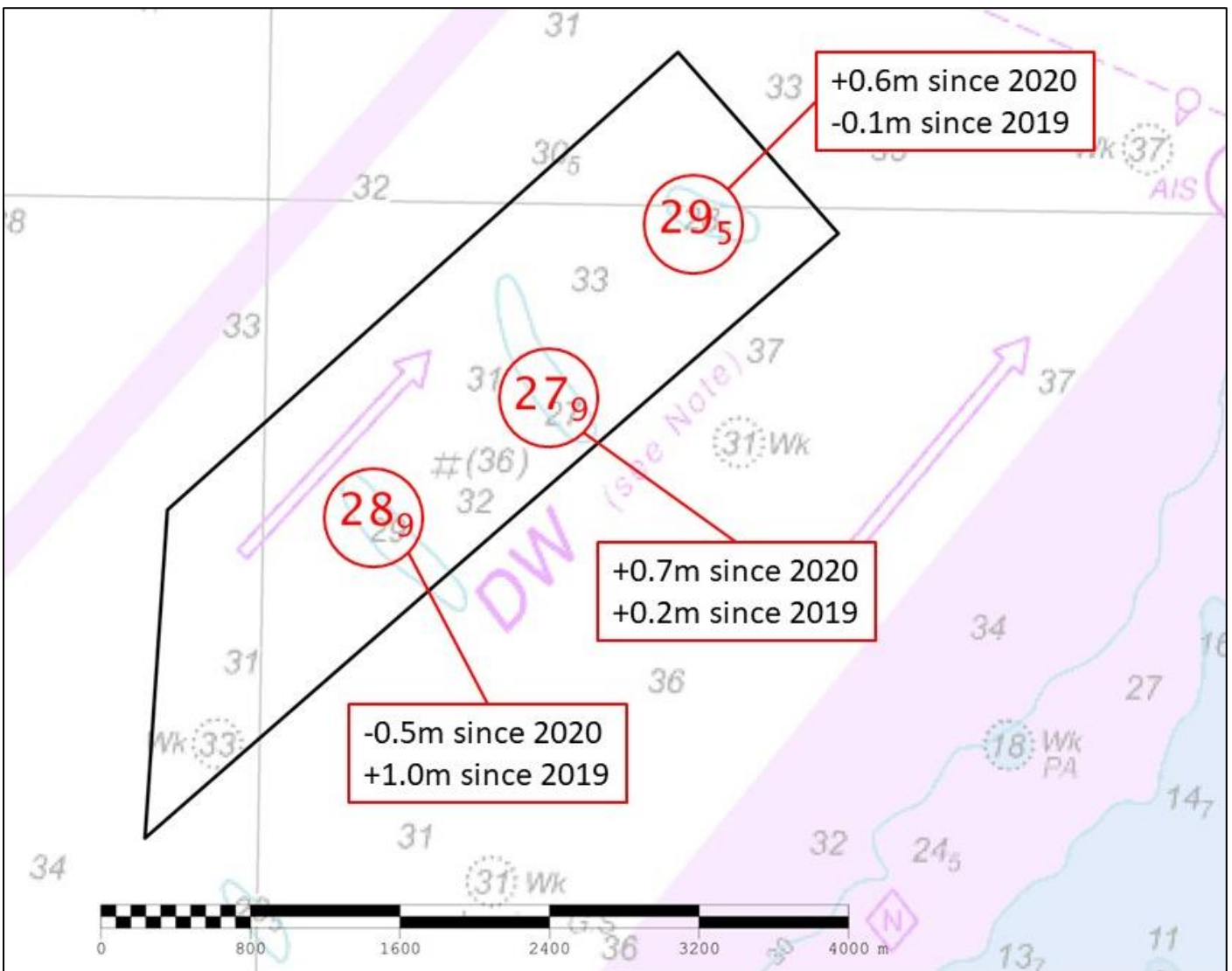


Figure 3: Controlling and Significant Depth soundings highlighted, overlaid on BA Chart 0323

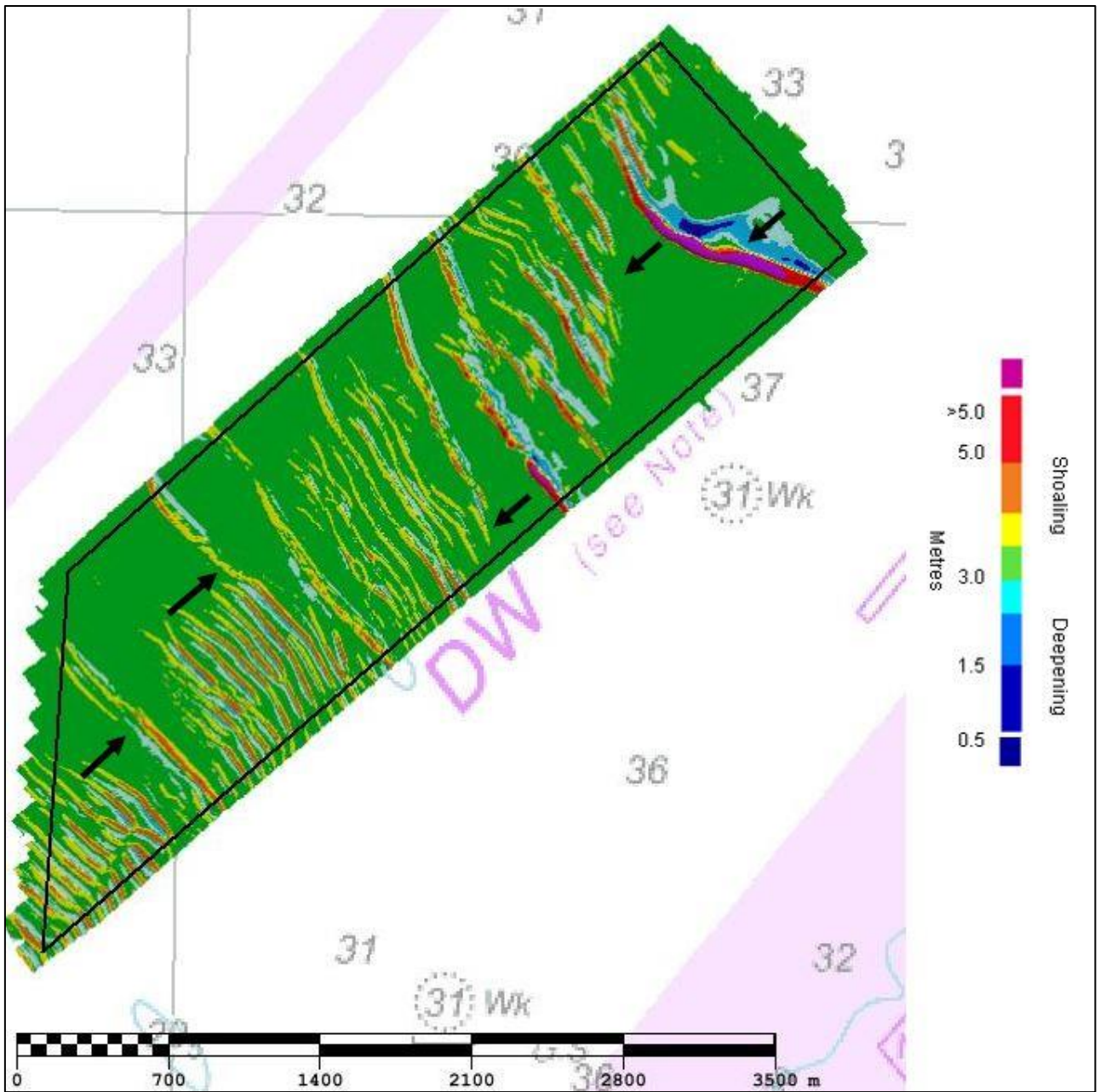


Figure 4: Difference surface showing bathymetric changes between the 2023 and 2020 surveys overlaid on BA Chart 0323 (Black arrows represent sandwave migration since 2020 survey)

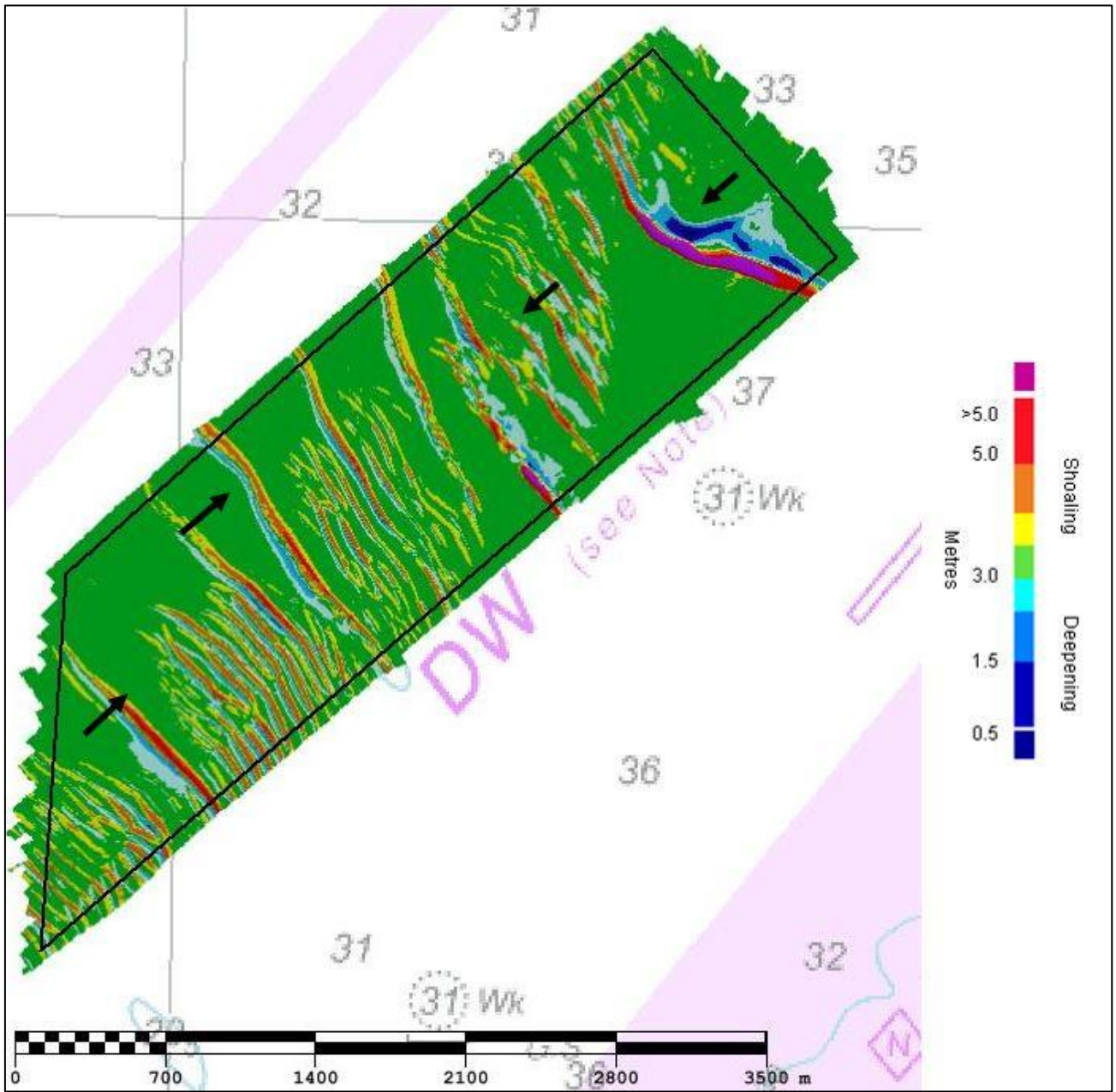


Figure 5: Difference surface showing bathymetric changes between the 2023 and 2019 surveys overlaid on BA Chart 0323 (Black arrows represent sandwave migration since 2019 survey)

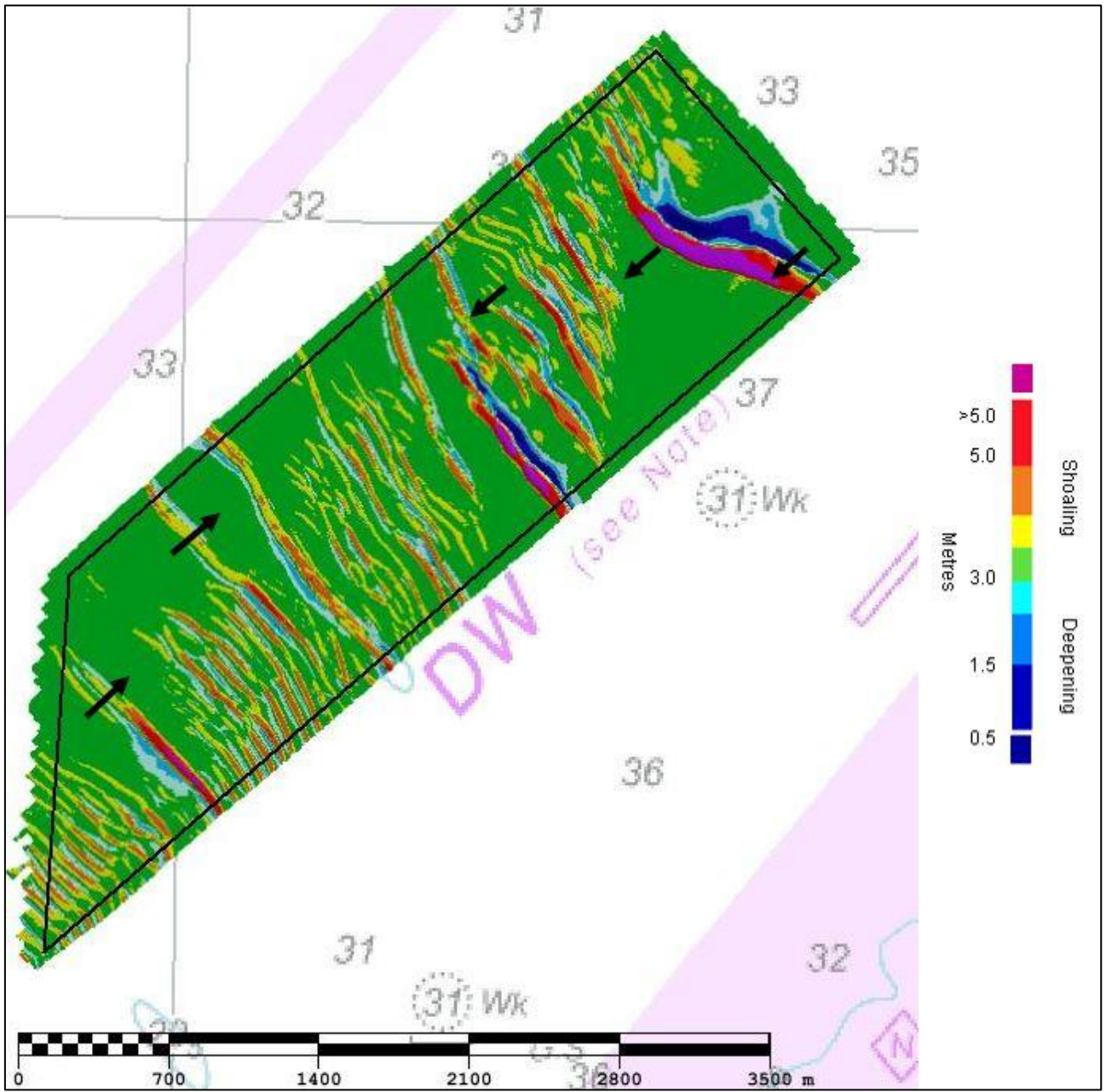


Figure 6: Difference surface showing bathymetric changes between the 2023 and 2016 surveys overlaid on BA Chart 0323 (Black arrows represent sandwave migration since 2016 survey)

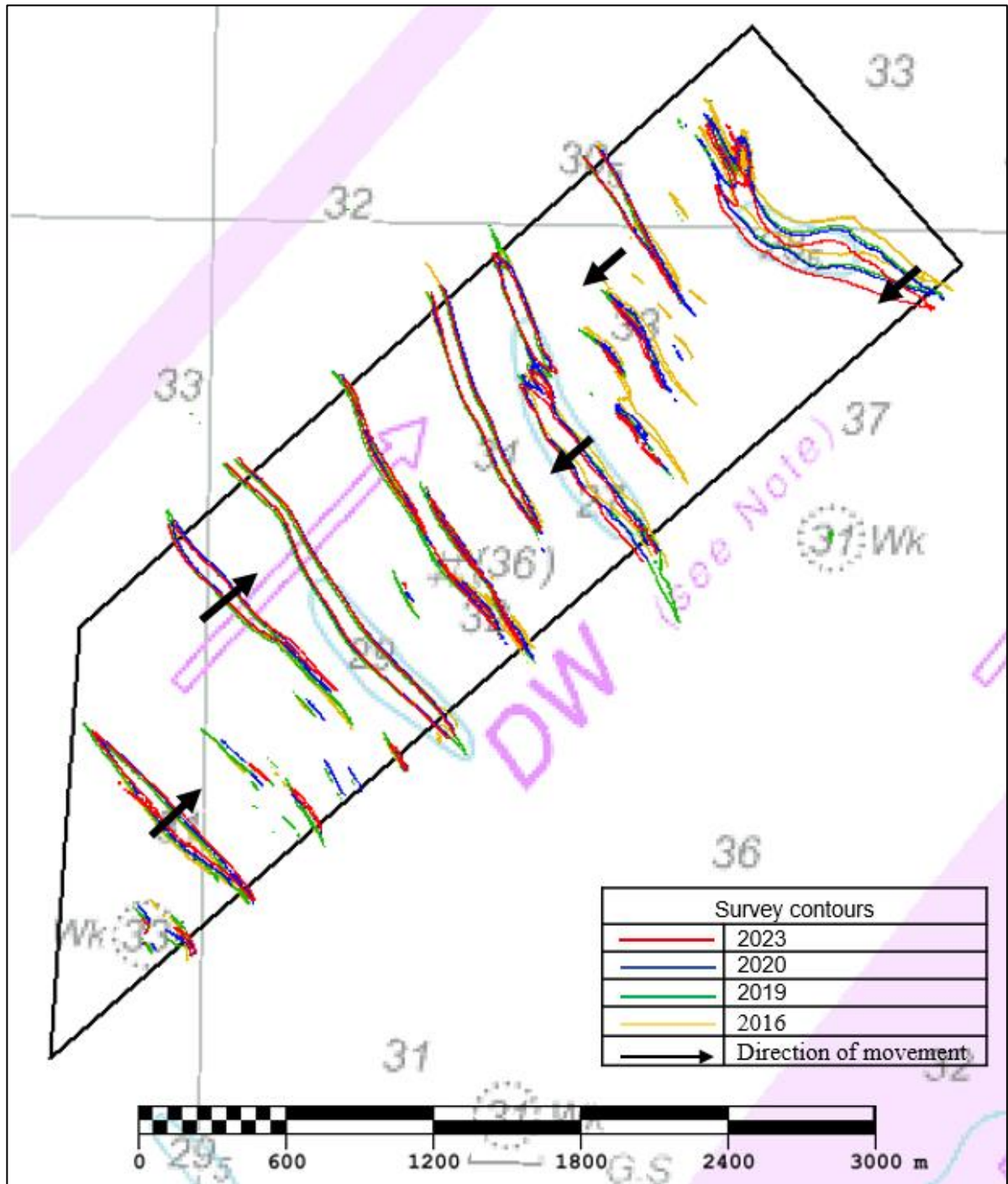


Figure 7: Contour plot showing changes in the 35m contours from 2023 to 2016. Black arrow represents feature migration.

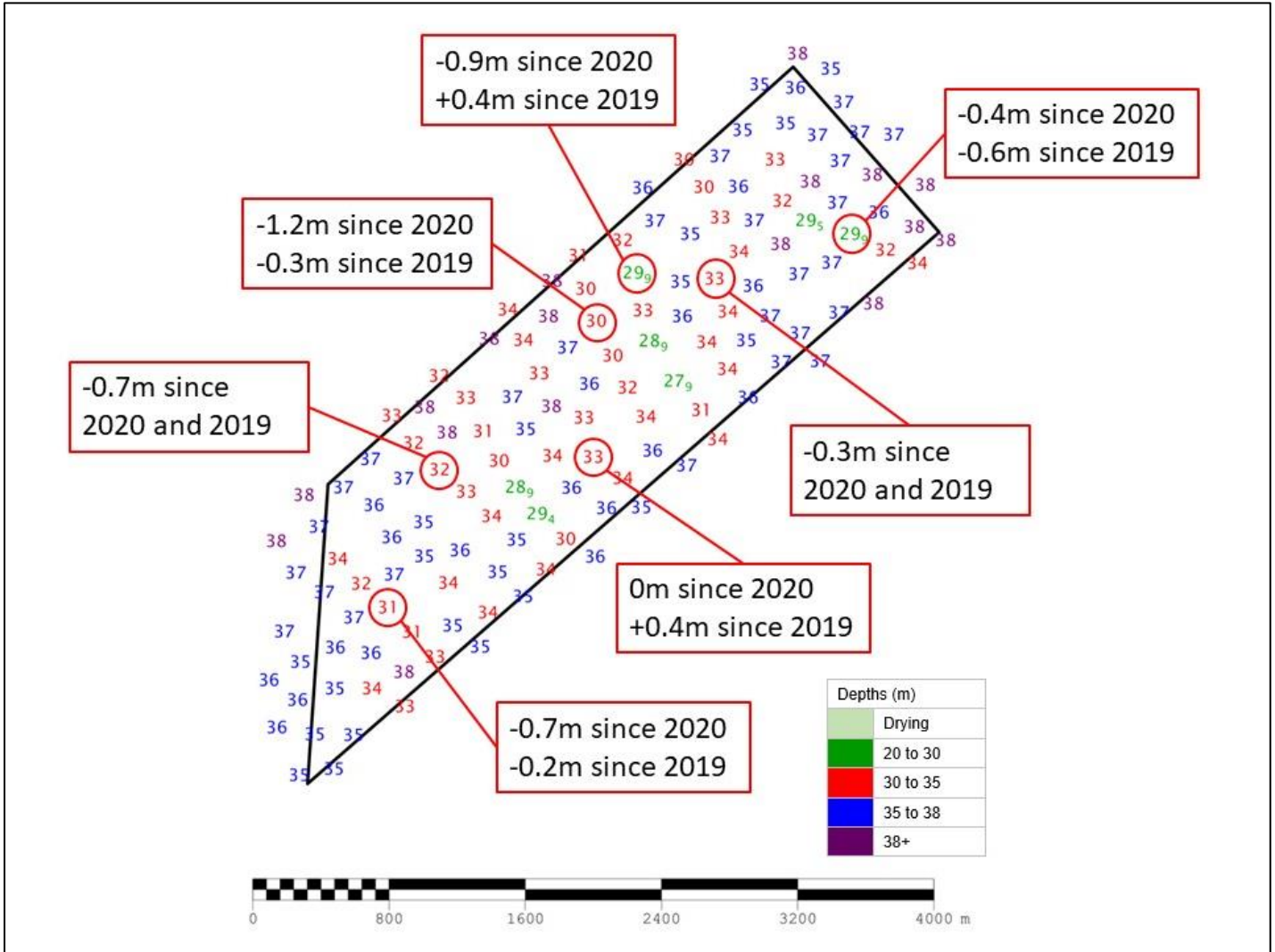


Figure 8: Colour banded depth plot from the 2023 survey with selected depth changes since past surveys. Positive values (+) represent deepening. Negative values (-) represent shoaling.

6. RECOMMENDATIONS FOR FUTURE SURVEYS

Survey Interval

6.1 With no critical changes in depths compared to those charted in the last multiple DWR T focused surveys, there would be no reason to increase the interval period. Therefore 3-yearly focused surveys alongside 6-yearly full surveys remain suitable.

Survey Area

6.2 The arranged limits for this survey continue to adequately satisfy the need for regular attention by covering the controlling depth as well as the main sandwave features. This latest survey shows no reason to consider adjusting those limits.