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MBES Alignment

Correcting Vertical and Horizontal misalignment in MBES data

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1. KEY PERSONNEL

PRODUCT OWNER
TBD

TECHNICAL LEAD / TEAM
TBD

PROJECT MANAGER
Mathilde Martin

PROJECT SPONSOR
TBD

2. SUMMARY

MBES data when collected as part of different acquisition sessions - Strips, (lines/areas/assets) often shows differences in vertical and horizontal alignment, this can be in the order of 2-20 cm, and looks like "Steps" in the data.

Typical reasons for this happening can include:

- Incorrect surface pressure in applied software: that flows all depths calculations
- Poor GNSS tide: this could be poor weather that would affect the smoothing or even actual GPS signal (In the US, CNAV and Trimble confirmed that their GPS data were affected by bad weather)
- Incorrect CTD profile used for pressure to depth calculations

This can be very apparent visually, and clients do not like it (quite rightly).

We need to remove these "Steps" from the data before they are delivered, and this can be a time-consuming process, especially when you are dealing with a survey grid with 50+ lines.

3. BUSINESS CASE

This is a highly manual process.

A recent Equinor US survey cost around a month for 2 data processors "Matching-up" to realign data.

Any MBES survey with adjacent lines (all) will suffer from this issue, particularly ROTV and AUV derived MBES data.

4. SCOPE

We require an application that detects the level of vertical and horizontal misalignment across the whole dataset, and "spreads" the correction over the full survey area.

5. TECHNICAL SOLUTION

TBD

6. EFFORT

TBD

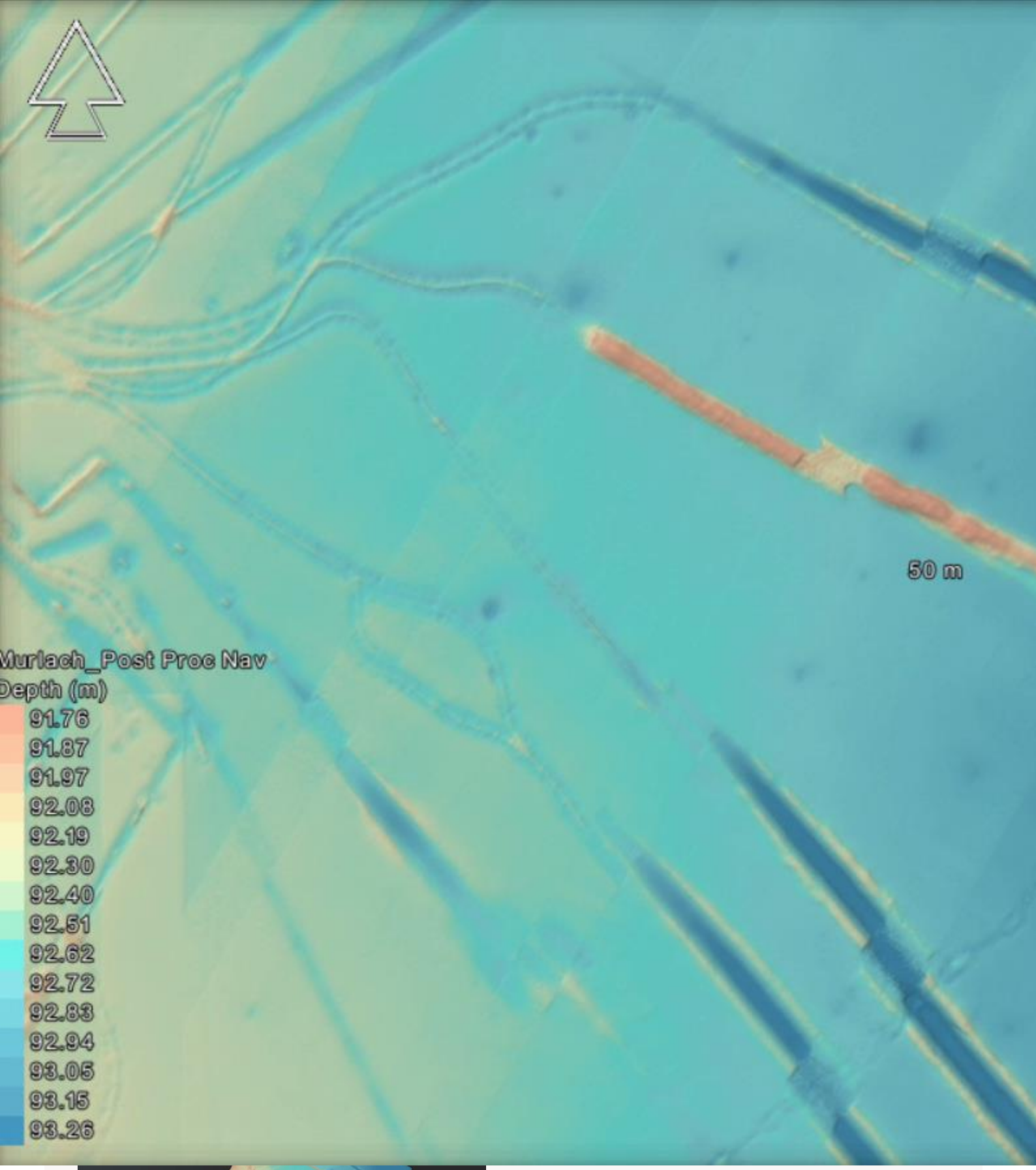
7. SUCCESS CRITERIA

Manual input required to match-up adjacent lines reduced to >10% current level.

Ability to write back new DTM surface to NaviEdit.

8. RISKS AND MITIGATION

TBD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