

RESEARCH VESSEL SURVEY REPORT

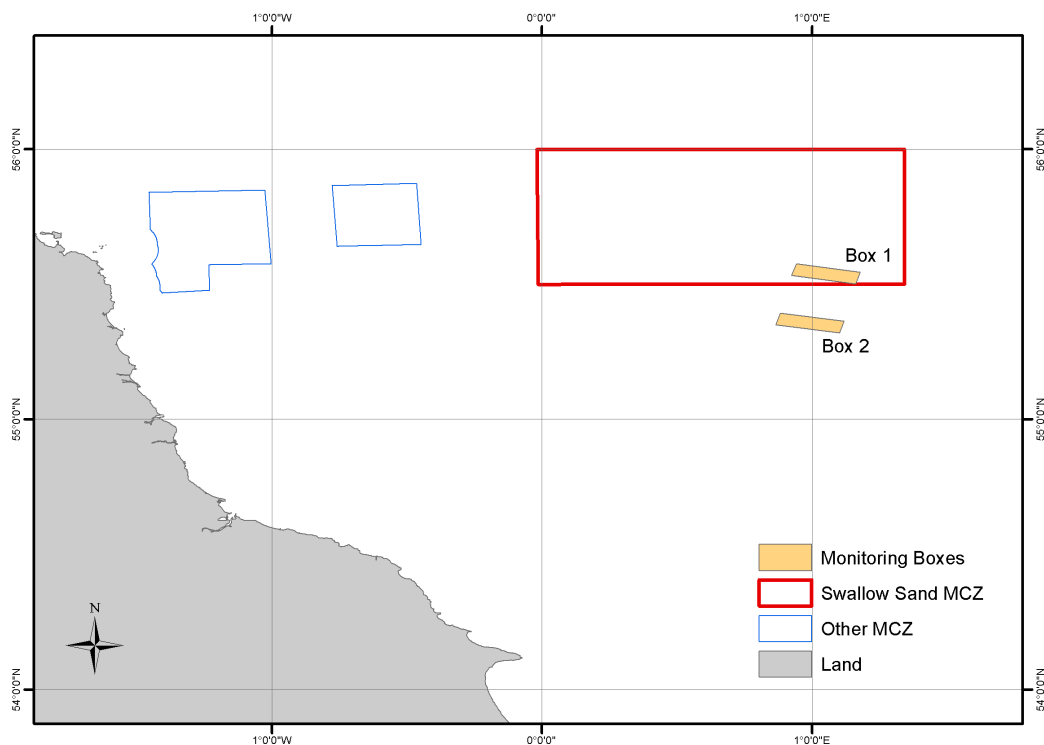
RV CEFAS ENDEAVOUR
Survey: C END 01 - 2018.

STAFF:

Name	Role	Cabin	Shift
Simeon Archer-Rand	SIC	SIC	Float
Alison Pettafor	Shift Lead	D2	N
Bill Meadows	Shift Lead	B1	D
Malgorzata Wilczynska	Surveyor	C2	D
Carolyn Graves	Surveyor	D3	N
Nevena Almeida	Surveyor	C1	D
Christopher Martin	Surveyor	D4	N
Marc Whybrow	TC	B1	0800-2000
Alfie Howat	Engineer	C5	0800-2000
Andrew Bodle	Engineer	D6	0800-2000
Axa Molina-Ramirez	Engineer	C6	0800-2000
Ben Wood	Engineer	C3	0800-2000

DURATION: 5 days (7th January to 11th January 2018)

LOCATION: Swallow Sand Marine Conservation Zone, North Sea, UK



AIMS:

This survey forms the first of two surveys which aim to collect a “before” benthic dataset forming the first monitoring event in a Before-After-Control-Impact (BACI) study to allow the future evaluation of the effectiveness of proposed fisheries management measures at Swallow Sands (SWSD) MCZ.

This survey will collect multi-beam echo sounder data to help characterise the extent and distribution of the different habitats within the monitoring areas.

Objective from POA

Objective 2.2: Acquire multibeam backscatter data within areas of interest within and outside SWSA

NARRATIVE:

The RV Cefas Endeavour departed Lowestoft at 0030 on 7th January 2018 and began transit to the Swallow Sands MCZ in the central North Sea.

At 1100 Endeavour arrived at the pre-determined calibration site. Following the collection of a sound velocity profile (SVP) a calibration of the multi-beam echo sounder (MBES) proceeded over a known wreck location. After the successful calibration of the MBES Endeavour continued its transit to the Swallow Sands MCZ.

The Endeavour arrived at site at 2200 on 7th January 2018. A SVP was collected and MBES data collection began at the southern edge of monitoring Box 1.

Following the analysis of the first couple of lines of data it was identified that the port channel was experiencing a high level of interference. This interference extended from approx. half way along the across track to the edge of the data. Following communications with the supplier it was identified that the interference is likely to be associated with the new transducer plate fitted during the last maintenance period. To counter the interference the beam angle on the port channel was reduced to remove the interference and the starboard channel was extended. No survey time was lost during the troubleshooting and seabed coverage remained as planned.

MBES data was collected continuously until 1933 on 8th January 2018 when due to deteriorating weather conditions data could only be collected travelling east to west with a following sea. This method was utilised until 0630 on 9th January 2018 when operations in Box 1 were halted and the vessel was directed to begin operations in Box 2.

After a SVP at Box 2 MBES operations began at 0900 on 9th January 2018 surveying in only one direction (east to west) due to the moderate/rough conditions. At 0019 on 10th January 2018 the weather improved sufficiently for lines to be run in both directions.

MBES operations continued in Box 2 until 1730 on 10th January 2018. The vessel then transited back to Lowestoft arriving at 1700 on 11th January 2018 for demobilisation.

RESULTS:

Box 1

A total of 19 lines were collected from Box 1, each with a length of ~15km with an across track coverage of between 160 m and 210 m depending on depth. Total coverage of MBES data for Box 1 was 49.82 km² (Figure 1).

Box 2

A total of 21 lines of data were collected from Box 2 each with a length of ~15km with an across track coverage of between 150 m and 200 m depending on depth. Total coverage for Box 2 was 54.38 km² (Figure 2).

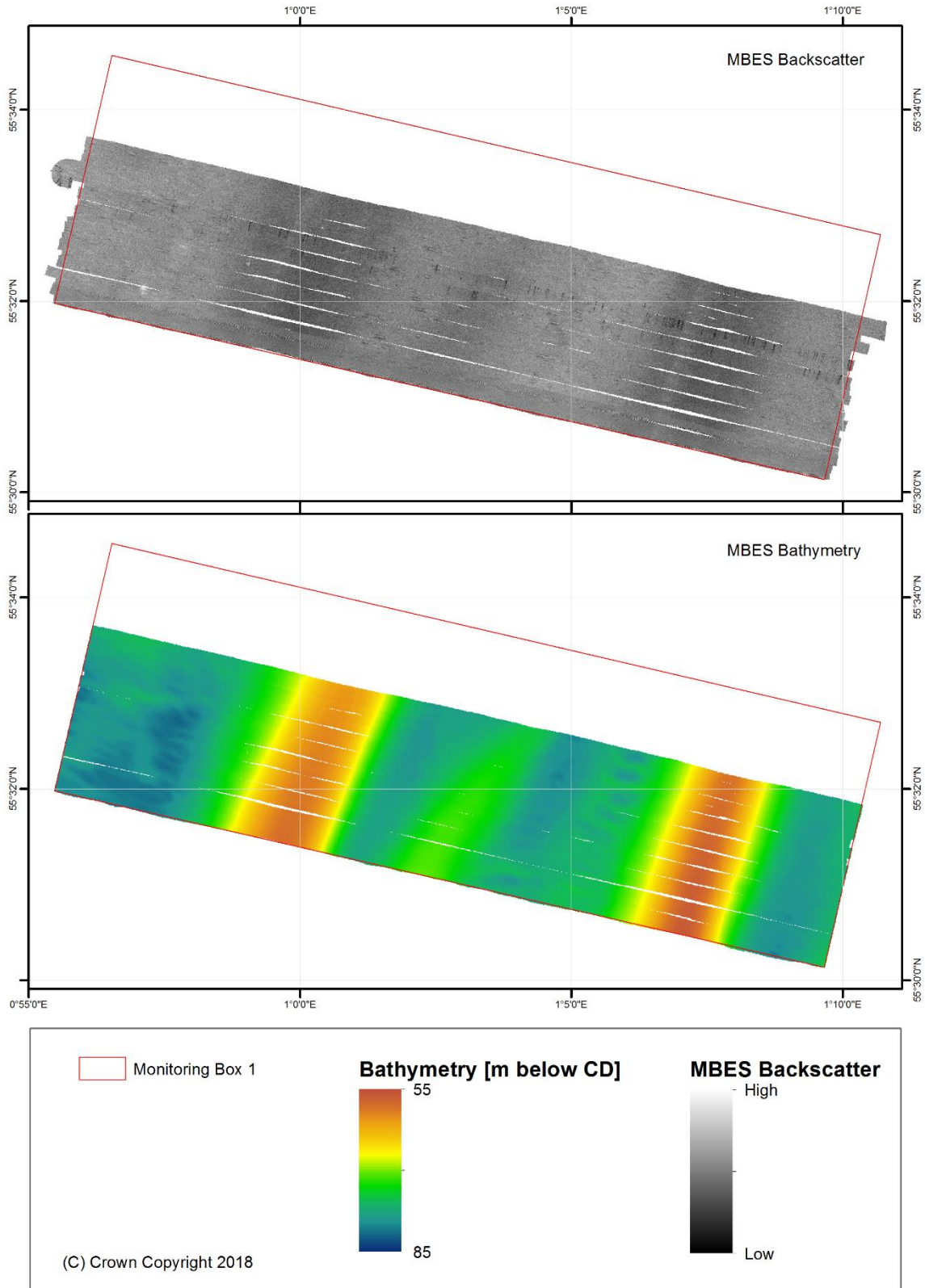


Figure 1. MBES bathymetry and backscatter data from monitoring box 1

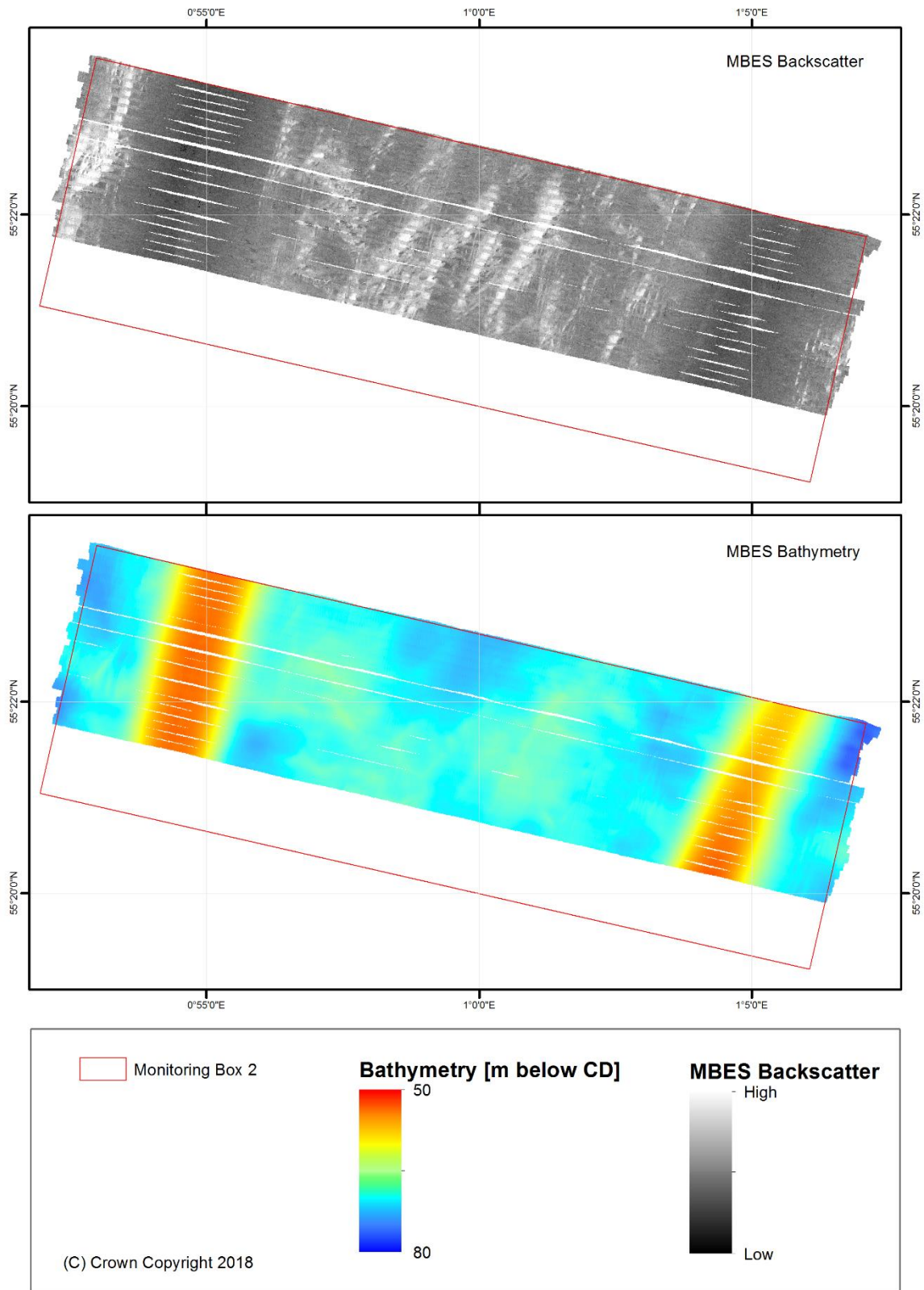


Figure 2. MBES bathymetry and backscatter data from monitoring box 2

Simeon Archer-Rand
Scientist In Charge
11/01/2018

SEEN IN DRAFT

Master:

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