

RESEARCH VESSEL PROGRAMME

**RV CEFAS ENDEAVOUR
Survey: C END 18 - 2018**

STAFF:

Name	Role	Cabin	Shift
Manuel Nicolaus	SIC	SIC	Day (06:00 to 18:00)
Eric Fitton	2IC Vattenfall	B1	Day (06:00 to 18:00)
David Pearce	Deck Master Moorings/Vattenfall	C2	Day (06:00 to 18:00)
Naomi Greenwood	Nutrient sampling Night lead	B2	Night (00:00 to 12:00)
Andrew Bodle	Nutrient sampling/ Moorings/Vattenfall	C3	Day (12:00 to 24:00)
Axayacatl Molina-Ramirez	Nutrient sampling/ Moorings/Vattenfall	C5	Night (00:00 to 12:00)
Nathan Merchant	Noise work	C6	Day (06:00 to 18:00)
Isabel Seguro	General support	C7	Day (06:00 to 18:00)
Paul Nelson	Nutrient sampling lead	C1	Day (12:00 to 24:00)

Vattenfall visitor at 11:00

Induction on the 12th at 15:30

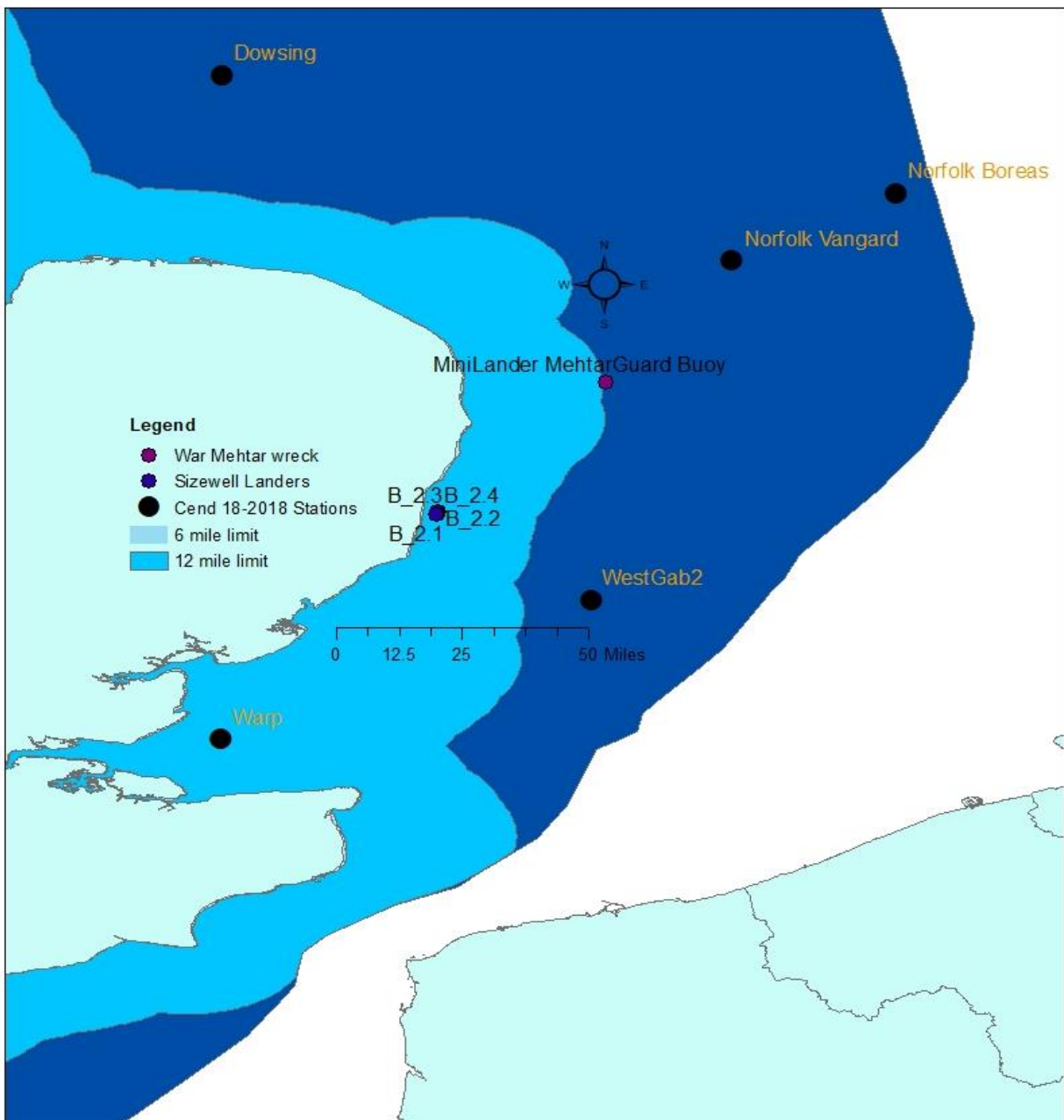
DURATION: 13th to 16th November 2018; Lowestoft to Lowestoft

LOCATION:

Dowsing:	53° 31.8727	1° 03.3601	53.531	1.056
Warp	51° 32.081	1° 03.141	51.535	1.052
WestGab2	51°57.1804	2° 06.6597	51.953	2.111
Norfolk Boreas	53°10.647	2° 59.10294	53.177	2.985
Norfolk Vanguard	52° 58.5200	2° 30.9289	52.975	2.515
Sizewell A – MiniLander 1	52° 13.1658'	1° 40.2445'	52.21943	1.671
Sizewell A – MiniLander 1	52° 13.2506'	1° 40.1205'	52.2208	1.6687
Sizewell A – MiniLander 1	52° 13.2424'	1° 40.3826'	52.2207	1.673
Sizewell A – MiniLander 1	52° 13.0809'	1° 40.3693'	52.218	1.6718



Sizewell A – MiniLander 1	52° 13.0891'	1° 40.1063'	52.2182	1.6684
Sizewell B – MiniLander 2	52° 12.6744'	1° 40.0264'	52.2111	1.6671
Sizewell B – MiniLander 2	52° 12.7585'	1° 39.9077'	52.2126	1.6651
Sizewell B – MiniLander 2	52° 12.7499'	1° 40.1662'	52.2125	1.6694
Sizewell B – MiniLander 2	52° 12.5885'	1° 40.1503'	52.2098	1.6692
Sizewell B – MiniLander 2	52° 12.5989'	1° 39.8867'	52.2099	1.6648
Mehtar - MiniLander	52° 36.54	1° 8.94	52.609	2.149
Mehtar - Guard Buoy	52° 36.54	1° 9.06	52.609	2.151



AIMS in priority order:

1. Service SmartBuoys at Dowsing, Warp and West Gabbard2 (SLA25G – 2 day);
2. Service noise landers at Dowsing and Warp SLA20 (C5785AR – 0.5 day);
3. Vattenfall Norfolk Vanguard: lander service and water sampling (C7311B – 0.5 day);
4. Vattenfall Norfolk Boreas: lander service and water sampling (C7645B – 0.5 day);
5. War Mehtar lander deployment (C6107M – 0.5 day)
6. Collection of zooplankton sample at West Gabbard for community composition analysis;
7. Sizewell MiniLander deployment
8. Testing of the Ferrybox software for controlling the water sampler – collection of samples for nutrients and phytoplankton analysis.
9. Collection of large volumes of surface seawater for DOM (Dissolved Organic Matter) extraction for use in experiments at UEA (part of the REMAIN project).

PLAN:

The RV Cefas Endeavour will sail at 00:10 on the 13th October. Steam to Vattenfall Boreas (40nm arrival around 0500) then Norfolk Vanguard, where the lander will be serviced. Water sampling will be carried at this site, before and after servicing the lander.

On the same day, the Endeavour will progress towards the Vattenfall Norfolk Boreas (arrival around 13:00), where the lander will be serviced, in addition to carry out water sampling. We will finish here around 18:00).

Then we will sail to Dowsing (ca 70nm). During the steam, water samples will be collected. On the 14th, the SmartBuoy and the 'noise lander' at Dowsing will be serviced (between 0600 and 11:00). The vessel will then steam towards the SmartBuoys at Warp. On the steam to Warp, we will deploy the landers at sizewell A and B (90nm steam). This needs to be done during hours of darkness (between 18:00 and 21:00). Then we will complete our steam to Warp (50nm).

On the 15th the SmartBuoy and noise lander at Warp, and the SmartBuoy at West Gabbard2 will be serviced. We will arrive need to arrive at Warp around 05:30. We need to get away from Warp around 10:30, to arrive at West Gabbard 2 for 15:30.

A zooplankton vertical net sample will be collected at West Gabbard2, Furthermore, water samples will be collected from the continuous flow system along the various steams.

On the 16th, we will deploy the lander at RFA War Mehtar in daylight hours. Then the Endeavour will return to port in Lowestoft around 16:00 on the 16th October.

Exact order of operations will be determined in consultation with the Master. If the weather is poor the route will be revised.

GEAR:

See Gear List

E. E. Manuel Nicolaus
Scientist in Charge
07/11/2018

DISTRIBUTION:

BODC