RESEARCH VESSEL SURVEY REPORT

RV CEFAS ENDEAVOUR
Survey: C END 11A - 2019

STAFF:

Name	Role	Name	Role
Manuel Nicolaus	SIC	Francesco Pallottino	Chem
Marc Whybrow	2IC	Eleanor Haigh	Moorings/Chem Lead Days
Oliver Twigge	Moorings Lead	Frances Mynott	Chem
Annie Meadows	Chem Lead Nights		
Dave Sivyer	Moorings		
Danja Hoehn	Moorings/Chem		
Tom Hull	Chem Training		

DURATION: **2nd August to 5th August 2019**

LOCATION: **North Sea**

AIMS:

1. Service Noise Landers at Dowsing and Warp (SLA20A)
2. Service SmartBuoys at West Gabbard and Warp (SLA25G)
3. Collection of zooplankton sample at West Gabbard
4. Underway nutrient sampling using FerryBox water sampler
5. Wash Water Sample

NARRATIVE:

Time in GMT

Friday 2nd August 2019

The RV Cefas Endeavour sailed at 21:33hrs, with the pilot disembarking at 22:12hrs. We then started to head towards the CTD water sample just off Cromer. On route we collected an underway water sample at 21:51hrs - 52° 30.330N - 1° 52.470E collecting DOC & FDOM. Sea state – calm, wind speed – light airs, wind direction – variable

Saturday 3rd August 2019

Arrived at the Wash Pytoplankton CTD water station and deployed the Rosette at 02:02hrs 52° 59.580N - 1° 26.390E, collecting Salinity, Chlorophyll, Nutrients, Suspended Particulate Matter (SPM), O_2 Oxygen. Sea state – calm, wind speed – light airs, wind direction – variable.

Underway water samples were collected at 02:30hrs, 03:27hrs, 53° 16.117N - 01° 15.887E, 04:30hrs, 53° 27.678N - 01° 7.735E. All collecting Salinity, Chlorophyll, Nutrients, Suspended Particulate Matter (SPM). Sea state – calm, wind speed – light airs, wind direction – variable.

Arrived at the Dowsing Noise Lander survey site and deployed the CTD Rosette at 05:10hrs 53° 31.213N - 01° 2.822E and recovered back on deck at 05:17hrs, collecting Salinity, Chlorophyll, Nutrients, Suspended Particulate Matter (SPM), O_2 Oxygen.

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We then completed a toolbox talk to go through the operation of recovering and deployment of the Noise Lander.
Lined up and hooked the buffs/clump line at 07:22hrs, 53° 31.6925N - 01° 3.3450E, depth 28 meters, clump recovered on deck at 07:29hrs.
Lander recorded when straight up and down at 07:48hrs, 53° 31.6715N - 01° 3.2297E, depth 28 meters, with it being recovered on deck at 07:50hrs.
Recovered Lander moved and the new one was prepared. Lander deployed at 08:38hrs 53° 31.7343N - 01° 3.1946E, depth 27 meters. Clump weight released at 08:53hrs 53° 31.770N - 01° 3.3024E, depth 28 meters.
Throughout the operations the Sea state – calm, wind speed – light airs, wind direction – variable.
NOTE: The rig in the Dowsing area notified us that they had and will be re-drilling in the area. So this may effect our data recorded from the Noise Lander.
Service work at the Dowsing completed and we started our transit south to the Warp SmartBuoy and Noise Lander site.

Underway water samples were collected on the transit south, 09:30hrs 53° 27.600N - 01° 8.350E, 11:35hrs 53° 3.290N - 01° 29.470E, 13:35hrs 52° 53.560N - 01° 52.150E, 15:39hrs 52° 35.460N - 02° 4.280E, CTD Rosette deployed at 17:44hrs, 52° 17.580N - 01° 56.540E, 19:17hrs, 52°7.410N - 01° 50.510E, 20:14hrs, 51° 58.190N - 01° 45.530E, 21:57hrs, 51° 48.310N - 01° 33.520E, 23:59, 51° 41.401N - 01° 18.430E
All underway samples collected Salinity, Chlorophyll, Nutrients, Suspended Particulate Matter (SPM). Sea state – calm, wind speed – light airs, wind direction – variable.

During the transit south, we had a power failure to the main prob at 12:33hrs, which meant for us to hold position in-till the engineers resolved the issues, we were back underway at 13:05hrs.

Sunday 4th August 2019

We continued with the underway water samples in till we arrived at the Warp service area, 01:37hrs, 51° 34.510N - 01° 9.320E. Collecting Salinity, Chlorophyll, Nutrients, Suspended Particulate Matter (SPM). Sea state – calm, wind speed – light airs, wind direction – variable.
We then deployed the CTD Rosette for the Pre SmartBuoy collection at 04:15hrs 51° 31.590N - 01° 3.500E, collecting Salinity, Chlorophyll, Nutrients, Suspended Particulate Matter (SPM), O_2 Oxygen.
05:30hrs we completed the toolbox talk to go through the operation of recovering and deployment of the SmartBuoy and Noise Lander.

Warp SmartBuoy hooked at 04:56hrs 51° 32.013N - 01° 2.9460E, depth of 21 meters. SmartBuoy recovered on deck at 04:58hrs. Clump weight hooked at 05:04hrs 51° 32.0158N - 01° 2.9571E, depth 21 meters and recovered on deck at 05:05hrs.
Noise Lander clump/buff line hooked at 05:18, 51° 32.0164N - 01° 2.7744E depth 19 meters and recovered on deck at 05:23hrs. Lander hooked at 05:35hrs, 51° 31.9584N - 01° 2.8365E depth 21 meters, recovered on deck at 05:37hrs.

Warp Noise Lander deployed at 06:36hrs, 51° 31.936N - 01° 2.805E, depth 21 meters. Clump weight and buffs released at 06:48hrs, 51° 32.000N - 01° 2.731E, depth 17 meters.
Warp SmartBuoy deployed at 07:07hrs, 51° 32.003N - 01° 2.8992E, depth 20 meters. Clump weight released at 07:07hrs, 51° 32.003N - 01° 2.900E, depth 20 meters.

Post CTD Rosette deployed at 07:16hrs, 51° 31.983N - 01° 2.997E, depth 19 meters and recovered on deck at 07:25hrs, collecting Salinity, Chlorophyll, Nutrients, Suspended Particulate Matter (SPM), O_2 Oxygen. Throughout all of the operations the Sea state – calm, wind speed – light airs, wind direction – variable.

Warp service area complete and underway to the West Gabbard area. During the transit, underway water samples were taken every hour. 08:17hrs, 51° 38.131N - 01° 14.487E, 09:17hrs, 51°45.560N - 01° 39.565E, 10:09hrs, 51° 49.398N - 01° 39.565E.
All underway samples collected Salinity, Chlorophyll, Nutrients, Suspended Particulate Matter (SPM). Sea state – calm, wind speed – light airs, wind direction – variable.

Arrived at the West Gabbard service site and deployed the CTD for the Pre SmartBuoy water sample, 12:41hrs, 51° 56.5617N - 02° 7.2852E, depth 43 meters, recovered on deck at 12:53hrs, collecting Salinity, Chlorophyll, Nutrients, Suspended Particulate Matter (SPM), O_2 Oxygen.
We then moved into position to recover the SmartBuoy. SmartBuoy hooked at 13:29hrs, 51° 57.223N - 02° 6.6307E, depth 44 meters and back on deck at 13:30hrs. Clump weight hooked at 13:33hrs, 51° 57.233N - 02° 6.638E, depth 44 meters and back on deck at 13:36hrs.

Moved the ship back into position and deployed the new SmartBuoy. Released at 14:19hrs, 51° 57.231N - 02° 6.634, depth 44 meter. Clump weight released at 14:20hrs, 51° 57.230N - 02° 6.635E, depth 44 meter.
We then deployed the CTD for the Post SmartBuoy water sample, 14:40hrs, 51° 57.376N - 02° 6.889E , depth 45 meters, recovered back on deck at 14:50hrs, collecting Salinity, Chlorophyll, Nutrients, Suspended Particulate Matter (SPM), O_2 Oxygen.
Ship then moved into position for the West Gabbard Zooplankton sample. Ring net deployed at 15:01hrs, 51° 57.856N - 02° 6.936E, depth 46 meters, recovered on deck at 15:05hrs.
West Gabbard service site completed.
During the operations the Sea state – calm, wind speed – light airs, wind direction – variable.

We then started to make our way back to Lowestoft. During the transit, underway water samples were collected. 17:09hrs, 52° 17.4.354N - 1° 54.256E. 18:13hrs, 52° 26.310N - 1° 49.600E.
All underway samples collected Salinity, Chlorophyll, Nutrients, Suspended Particulate Matter (SPM). Sea state – calm, wind speed – light airs, wind direction – variable.

We stopped to deploy the CTD Rosette for some extra water samples, but also to do extra training with the staff onboard. CTD deployed at 18:53hrs, 52° 27.580N - 1° 50.180E, depth 24 meters, recovered on deck at 19:02hrs, collecting Salinity, Chlorophyll, Nutrients, Suspended Particulate Matter (SPM), O_2 Oxygen.

Pilot boarded at 22:27hrs and we were alongside and fast at 23:06hrs.

Thanks for the Cefas team and P&O crew onboard.

Marc Whybrow
Second in Command
5th August 2019

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