

Underway navigation and meteorology data series for cruise Dana D1198 (13 to 26 October 1998)

Cruise Principal Scientist and Data Originator

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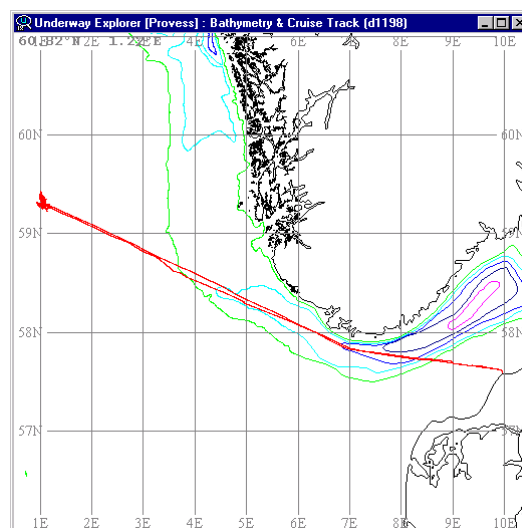
Content of data series

Parameter	Unit	Parameter code	Comments
Latitude	degrees +ve North	A	none
Longitude	degrees +ve East	B	none
Ship's Heading	degrees	u	none
Water depth (uncorrected)	m	J	not valid over 310 m depth
Relative wind speed	knots	l	none
Relative wind direction	degrees	m	none
Absolute wind speed	knots	Y	none
Absolute wind direction	degrees	V	none

Sampling strategy

Navigation and meteorological data were recorded for the duration of the cruise from 13 October 1998 19:10 GMT, one day before the ship left the port of Hirtshals in northern Jutland, until 26 October 1998 10:00 when the cruise ended.

Fig. 1. Cruise track of cruise Dana D1198.



Instrumentation, data acquisition and data processing by originator

The wind sensors, Wind Speed Sensor 2740 and Wind Direction Sensor 2750, from Aanderaa instruments were located about 23 m above sea level. The wind data were corrected for ship velocity and heading but were not corrected in terms of the location of sensors relative to sea level.

Data were supplied to BODC as two ASCII files containing navigation and depth in one file and navigation and wind data in the other. The sampling interval in the two files was 4.5 minutes with a time-stamp offset of 3 minutes between the two. The data spanned between 13/10/1998 19:10 and 26/10/1998 10:01.

BODC post-cruise processing and screening

Reformatting:

The data were converted to a binary format and merged into one single file for the whole cruise (the 'Binary Merge File' or BMF) with time as the primary linking key. The sampling frequency of the binary merge file was set to 1 minute with a time channel spanning from 13/10/1998 19:10:00 to 26/10/1998 10:01:00.

Screening:

Each data channel was inspected on a graphics workstation. If present, spikes and periods of dubious data were flagged. Data values were not edited or deleted but flagging was achieved by modification of the associated quality control flag.

Data processing, correction and calibration procedures:

- Navigation: a program was run which locates null values in the latitude and longitude channels and fills the gaps by linear interpolation.
- Relative and absolute wind speeds were converted from metre per second to knots by multiplying the original values by 1.9438 (=3600/1852).

Comments on data quality

- Water depth: the signal from the echo-sounder became very noisy and unreliable for depths greater than 300-310 m. While this was not a problem during the major part of the cruise and when the ship was on station at PROVESS northern North Sea site, the data collected while on passage above the Norwegian Trench were not valid and were flagged suspect.
- Navigation: because the two underway data files were merged to the nearest minute, a number of small irregularities were noted when checking for abnormal ship speeds. These were small and were only observed when the ship was on passage to and from the area of study.