

STABLE data series at the northern North Sea site

Principal Investigator

John Howarth, Proudman Oceanographic Laboratory (POL), Merseyside, UK.

Data Originator

Phil Knight – POL.

The STABLE II lander was deployed at the main PROVCESS mooring site A (Rig D) in the northern North Sea during Valdivia VA174 and recovered during the last cruise of the NNS experiment. STABLE was fitted with a range of sensors and two data loggers. The mean data logger stored a cycle of averaged data once a minute from rotor current meters, a pressure sensor and a temperature sensor. These data are part of the Conventional Time-series Data Set and are documented here. The second data logger operated in burst mode, collecting approximately 9600 scans at a frequency of 8 Hz once an hour from electromagnetic current meters, a pressure sensor and an STD-12 Plus Conductivity/Temperature sensor. These data are part of the Burst Recorded Data Set and have been documented in the document [moorings.pdf](#).

This report contains the qualifying documentation and header information associated with the following data series extracted from the BODC database:

Series Reference	Data Type	Latitude deg min	Longitude deg min	Start Date yyyy/mm/dd	Sea Floor Depth m	Sensor Depth m
541883	LA	59 19.9 N	001 00.1 E	1998/09/08	112.0	110.0

where Data Type LA = Currents -subsurface Eulerian

Parameter	Unit	Parameter code	Comments
Platform heading	deg. T	HEADCM01	none
Current direction	deg. T	LCDAEL01	none
Speed (Rotor 1)	cm/sec	LCSAEL01	none
Speed (Rotor 2)	cm/sec	LCSAEL02	none
Speed (Rotor 3)	cm/sec	LCSAEL03	none
Speed (Rotor 4)	cm/sec	LCSAEL04	none
Pressure	db	PRES01	none
Temperature	deg. C	TEMP01	none
Pitch angle	degrees	PTCHEI01	none
Roll angle	degrees	ROLLEI01	none

BODC Data Documentation
PROVSS Project MAS3-CT97-015

The following single character qualifying flags may be associated with one or more individual parameters within a data cycle:

<u>Flag</u>	<u>Description</u>
	Unqualified
<	Below detection limit
>	In excess of quoted value
B	Beginning of CTD Down/Up Cast
D	Thermometric depth
E	End of CTD Down/Up Cast
K	Uncertain/suspect value
L	Improbable value - originator's quality control
M	Improbable value - BODC quality control
N	Null value
O	Improbable value - user quality control
P	Trace/calm
Q	Indeterminate
R	Replacement value
S	Estimated value
T	Interpolated value
U	Uncalibrated
W	Control value
X	Excessive difference

INFORMATION FOR BODC SERIES REF. NO. 541883

Moored Current Meter Inventory Number : 10499

Start Time : 08 Sep 1998 0659 GMT
End Time : 01 Nov 1998 1138 GMT

Latitude : 59deg 19.9min N
Longitude : 001deg 00.1min E

Nominal Cycle Interval : 60.0 secs

Minimum Depth : 110.00m
Maximum Depth : 111.80m
Sea Floor Depth : 112.00m

Positional Uncertainty : 0.1 to 0.5 n.miles
Sea Floor Datum : Instantaneous
Sensor Depth Datum : Sea floor reference
Disposition of Sensors : Scattered at fixed depths

Project : Provess

Data Category : Currents -subsurface Eulerian
Instrument Type : Savonius rotor current meter
Instrument Mounting : Sea floor - fixed
Originator Laboratory : Proudman Oceanographic Lab., Bidston, UK
Originator's Identifier : stable/va174

Additional information stored with the data:

Additional processing carried out at BODC included:

- conversion of current direction from degree relative to magnetic North to degree True by correcting for (adding) the local magnetic deviation of 4.7 degrees.
- conversion of current speed from m/s to cm/s.
- conversion of pressure from bars to dbars.

STABLE was recovered 200 m off position. Changes in the rig attitude and orientation as given by the instrument's compass and roll sensor indicate that the lander moved on 4/10/98 at 21:58 (probably as a result of trawling). The heading of STABLE changed from 333 to 35 deg. N and the roll angle from ca. -0.1 to +0.8 degrees between 21:58 and 21:59. The move had no apparent effect on the pressure, temperature, pitch angle and current direction but an isolated spike was observed in the current speed records of each of the four current meters. This spike was flagged as suspect. The rest of the record as well as the overall quality of current measurements did not seem affected by the move.

The following additional documents apply to this series:

[68616](#); Sediment Transport and Boundary Layer Equipment Mark II (STABLE2)

[63428](#); General Data Screening carried out by BODC

Data Activity Document: [77568](#)

Project Document : [77554](#)

PARAMETERS

Parameter : AADYAA01 (TIME)
Description : Day number
Method : Computation
Units : Days (1760/01/01 = day 0)

Parameter : AAFDZZ01 (TIME)
Description : Day fraction (GMT)
Method : Computation
Units : Days

Parameters AADY/AAFD are usually supplied as date and time (GMT).

Parameter : HEADCM01 (NAV)
Description : Platform Heading (Orientation)
Method : measured by compass
Units : Degrees True

Parameter : LCDAEL01 (CURR)
Description : Current direction (Eulerian method)
Method : In-situ current measurement
Units : Degrees True

Parameter : LCSAEL01 (CURR)
Description : Current speed (Eulerian method)
Method : In-situ current measurement
Units : cms/sec

Parameter : LCSAEL02 (CURR)
Description : Current speed (Eulerian method) (Channel 2)
Method : In-situ current measurement
Units : cms/sec

Parameter : LCSAEL03 (CURR)
Description : Current speed (Eulerian method) (Channel 3)
Method : In-situ current measurement
Units : cms/sec

Parameter : LCSAEL04 (CURR)
Description : Current speed (Eulerian method) (Channel 4)
Method : In-situ current measurement
Units : cms/sec

Parameter : PRES01 (HYDR)
Description : Sea pressure (fixed)
Method : Fixed pressure sensor (e.g. SFPG)
Units : Decibars

Parameter : PTCHEI01 (NAV)
Description : Pitch Angle
Method : Electromechanical Inclinator
Units : Degrees

PARAMETERS (continued)

Parameter : ROLLEI01 (NAV)
Description : Roll Angle
Method : Electromechanical Inclinator
Units : Degrees

Parameter : TEMPPR01 (HYDR)
Description : Sea temperature (unspecified)
Method : Unspecified temperature probe
Units : Degrees Centigrade