

Surface current meter (S4 ECM) data series at the northern North Sea site

Principal Investigator

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Data Originator

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S4 Electromagnetic Current Meters (ECM) were deployed during the northern North Sea experiments at the main mooring site A. Two were deployed on Rig E at the beginning of the experiment during cruise Valdivia VA174 in September 1998 and recovered at the end of the experiment during cruise Challenger CH140. Two other S4 ECM were deployed and recovered in September 1998 during cruise VA174 on a short-term rig (Rig Fa). They were re-deployed for a short-period again in October 1998 during cruise CH140 (Rig Fb).

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
524751	LA	59 19.2 N	001 00.0 E	1998/09/09	113.0	10.0
524763	LA	59 19.2 N	001 00.0 E	1998/09/09	113.0	4.0
524775	LA	59 19.1 N	001 06.0 E	1998/09/09	114.0	4.0
524787	LA	59 19.1 N	001 06.0 E	1998/10/24	112.0	10.0
524799	LA	59 19.1 N	001 06.0 E	1998/09/09	114.0	10.0
524806	LA	59 19.1 N	001 06.0 E	1998/10/24	112.0	4.0

where Data Type LA = Currents -subsurface Eulerian

Parameter	Unit	Parameter code	Comments					
			524751	524763	524775	524787	524799	524806
Current direction	deg. T	LCDAEL01	none	none	none	caution	none	caution
E-W current velocity	cm/sec	LCEWEL01	none	none	none	caution	none	caution
N-S current velocity	cm/sec	LCNSEL01	none	none	none	caution	none	caution
Current speed	cm/sec	LCSAEL01	none	none	none	caution	none	caution

BODC Data Documentation
PROVESS 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. 524751

Moored Current Meter Inventory Number : 10177

Start Time : 09 Sep 1998 1005 GMT Latitude : 59deg 19.2min N
End Time : 01 Nov 1998 1405 GMT Longitude : 001deg 00.0min E

Nominal Cycle Interval : 60.0 minutes Sensor Depth : 10.00m
Sea Floor Depth : 113.00m

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

Project : Provens

Data Category : Currents -subsurface Eulerian
Instrument Type : Electromagnetic current meter
Instrument Mounting : Subsurface mooring - surface buoyancy
Originator Laboratory : Proudman Oceanographic Lab., Bidston, UK
Originator's Identifier : s41119.794

Additional information stored with the data:

The recorder of this instrument was set to burst mode sampling with a sampling rate of 1 second for 10 minutes every hour. This data series only contains the 10-minute average of the burst data (vector average of 1200 half seconds).

Data processing was carried out at the Proudman Oceanographic Laboratory, Merseyside, UK.

The time channel has been adjusted to take into account the averaging period, by adding half the sampling interval to the recorded scan time. The current data have been corrected for a magnetic deviation of 4.7 degrees.

The following additional documents apply to this series:

[63428](#); General Data Screening carried out by BODC
[40555](#); InterOcean Spherical Solid State Sensor Current Meter, Model S4/S4D
Data Activity Document: [77568](#)
Project Document : [77554](#)

INFORMATION FOR BODC SERIES REF. NO. 524763

Moored Current Meter Inventory Number : 10176

Start Time : 09 Sep 1998 1005 GMT
End Time : 01 Nov 1998 1405 GMT

Latitude : 59deg 19.2min N
Longitude : 001deg 00.0min E

Nominal Cycle Interval : 60.0 minutes

Sensor Depth : 4.00m
Sea Floor Depth : 113.00m

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

Project : Provess

Data Category : Currents -subsurface Eulerian
Instrument Type : Electromagnetic current meter
Instrument Mounting : Subsurface mooring - surface buoyancy
Originator Laboratory : Proudman Oceanographic Lab., Bidston, UK
Originator's Identifier : s41264.794

Additional information stored with the data:

The recorder of this instrument was set to burst mode sampling with a sampling rate of 1 second for 10 minutes every hour. This data series only contains the 10-minute average of the burst data (vector average of 1200 half seconds).

Data processing was carried out at the Proudman Oceanographic Laboratory, Merseyside, UK.

The time channel has been adjusted to take into account the averaging period, by adding half the sampling interval to the recorded scan time. The current data have been corrected for a magnetic deviation of 4.7 degrees.

The following additional documents apply to this series:

[63428](#); General Data Screening carried out by BODC
[40555](#); InterOcean Spherical Solid State Sensor Current Meter, Model S4/S4D
Data Activity Document: [77568](#)
Project Document : [77554](#)

INFORMATION FOR BODC SERIES REF. NO. 524775

Moored Current Meter Inventory Number : 10178

Start Time : 09 Sep 1998 1226 GMT
End Time : 15 Sep 1998 0838 GMT

Latitude : 59deg 19.1min N
Longitude : 001deg 06.0min E

Nominal Cycle Interval : 1.0 second

Sensor Depth : 4.00m
Sea Floor Depth : 114.00m

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

Project : Provess

Data Category : Currents -subsurface Eulerian
Instrument Type : Electromagnetic current meter
Instrument Mounting : Subsurface mooring - surface and subsurface legs
Originator Laboratory : Proudman Oceanographic Lab., Bidston, UK
Originator's Identifier : s42005.795

Additional information stored with the data:

The recorder of this instrument was set to continuous mode with a vector averaging period of 2 half seconds.

Data processing was carried out at the Proudman Oceanographic Laboratory, Merseyside, UK.

The time channel has been adjusted to take into account the averaging period, by adding half the sampling interval to the recorded scan time. The current data have been corrected for a magnetic deviation of 4.7 degrees.

The following additional documents apply to this series:

[63428](#); General Data Screening carried out by BODC
[40555](#); InterOcean Spherical Solid State Sensor Current Meter, Model S4/S4D
Data Activity Document: [77568](#)
Project Document : [77554](#)

INFORMATION FOR BODC SERIES REF. NO. 524799

Moored Current Meter Inventory Number : 10179

Start Time : 09 Sep 1998 1226 GMT
End Time : 15 Sep 1998 0838 GMT

Latitude : 59deg 19.1min N
Longitude : 001deg 06.0min E

Nominal Cycle Interval : 1.0 second

Sensor Depth : 10.00m
Sea Floor Depth : 114.00m

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

Project : Provess

Data Category : Currents -subsurface Eulerian
Instrument Type : Electromagnetic current meter
Instrument Mounting : Subsurface mooring - surface and subsurface legs
Originator Laboratory : Proudman Oceanographic Lab., Bidston, UK
Originator's Identifier : s42006.795

Additional information stored with the data:

The recorder of this instrument was set to continuous mode with a vector averaging period of 2 half seconds.

Data processing was carried out at the Proudman Oceanographic Laboratory, Merseyside, UK.

The time channel has been adjusted to take into account the averaging period, by adding half the sampling interval to the recorded scan time. The current data have been corrected for a magnetic deviation of 4.7 degrees.

The following additional documents apply to this series:

[63428](#); General Data Screening carried out by BODC
[40555](#); InterOcean Spherical Solid State Sensor Current Meter, Model S4/S4D
Data Activity Document: [77568](#)
Project Document : [77554](#)

INFORMATION FOR BODC SERIES REF. NO. 524806

Moored Current Meter Inventory Number : 10180

Start Time : 24 Oct 1998 0953 GMT

Latitude : 59deg 19.1min N

End Time : 27 Oct 1998 2242 GMT

Longitude : 001deg 06.0min E

Nominal Cycle Interval : 1.0 second

Sensor Depth : 4.00m

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 : Sensor fixed, measurements made at fixed depths

Project : Provess

Data Category : Currents -subsurface Eulerian

Instrument Type : Electromagnetic current meter

Instrument Mounting : Subsurface mooring - surface and subsurface legs

Originator Laboratory : Proudman Oceanographic Lab., Bidston, UK

Originator's Identifier : s42006.809

The following **caution** applies to this series:

The mooring holding the two S4 current meters s42006 and s42005 cut loose on 27 October 1998 between 22:40 and 22:50. As a result the dataserie contains only 3 days of good data. The series was truncated to remove the bad records after 27/10/98 22:42.

Additional information stored with the data:

The recorder of this instrument was set to continuous mode with a vector averaging period of 2 half seconds.

Data processing was carried out at the Proudman Oceanographic Laboratory, Merseyside, UK.

The time channel has been adjusted to take into account the averaging period, by adding half the sampling interval to the recorded scan time. The current data have been corrected for a magnetic deviation of 4.7 degrees.

The following additional documents apply to this series:

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

[40555](#); InterOcean Spherical Solid State Sensor Current Meter, Model S4/S4D

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

Parameter : LCEWEL01 (CURR)
Description : E-W current velocity (Eulerian method)
Method : In-situ current measurement
Units : cms/sec

Parameter : LCNSEL01 (CURR)
Description : N-S current velocity (Eulerian method)
Method : In-situ current measurement
Units : cms/sec

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