

POL ADCP data series at the northern North Sea site

Principal Investigator

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

Data Originator

Phil Knight – POL.

Four 150 kHz broadband ADCPs from the Proudman Oceanographic Laboratory were deployed in September 1998 during the cruise Valdivia VA174 at the beginning of the northern North Sea (NNS) experiment and recovered during the last NNS cruise Challenger CH140 in November 1998. Two of these were deployed at the main mooring site A (Rig A and Rig B) and two at the secondary sites S and V respectively.

In addition, two fast sample 1.2 MHz workhorse ADCPs, not included in this report, were deployed at the main mooring site for short periods during the cruise VA174 (Rig Ca) and CH140 (Rig Cb) respectively. The 10 minute average time series and the 2 second fast sample time series derived from these instruments are located on Disk 2 of the PROVESS CD-ROM in the originator's file format (sub-directory: /ADCP/AVERAGE and /ADCP/RDI_BIN).

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
524923	LA	59 19.5 N	001 06.0 E	1998/09/08	113.0	101.5
524935	LA	59 20.0 N	001 25.1 E	1998/09/07	107.0	10.5
524947	LA	59 19.7 N	001 00.2 E	1998/09/08	110.0	14.5
524959	LA	59 34.6 N	000 59.6 E	1998/09/09	116.0	24.0

where Data Type LA = Currents -subsurface Eulerian

Parameter	Unit	Parameter code	Comments			
			524923	524935	524947	524959
Bin depth (*)	m	DBINAA01	none	none	none	none
E-W current velocity	cm/s	LCEWAP01	see text	see text	see text	see text
N-S current velocity	cm/s	LCNSAP01	see text	see text	see text	see text
Error velocity	cm/s	LERRAP01	see text	see text	see text	see text
Vertical current velocity	cm/s	LRZAAP01	caution	caution	caution	caution

(*) Bin depth was calculated by subtracting the instrument bin height from the sea floor depth as given in the table above.

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. 524923

Time Series Inventory Number : 10174

Start Time : 08 Sep 1998 1222 GMT
End Time : 01 Nov 1998 1517 GMT

Latitude : 59deg 19.5min N
Longitude : 001deg 06.0min E

Nominal Cycle Interval : 300.0 secs

Minimum Depth : 101.50m
Maximum Depth : 111.50m
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 : Moored acoustic doppler current meter
Instrument Mounting : Sea floor - fixed
Originator Laboratory : Proudman Oceanographic Lab., Bidston, UK
Originator's Identifier : bb0253.791

The following **cautions** apply to this series:

- 1) Users are advised that data collected in the upper 10-20% of the depth range covered by the ADCP should be treated with great care. These data are generally noisier than those collected from nearer the transducer.
 - 2) Pitch and roll sensors suggested that the frame moved, starting on 15 September 1998 12:35. However no indication of this could be found from the ADCP data.
 - 3) Vertical velocities were generally small and most of the variability was due to the error velocity. Systematic flagging of spikes was deemed impossible and only the most obvious spikes were flagged.
-
-

The following additional documents apply to this series:

[63428](#); General Data Screening carried out by BODC
[68541](#); RDI Acoustic Doppler Current Profiler
Data Activity Document: [77568](#)
Project Document : [77554](#)

INFORMATION FOR BODC SERIES REF. NO. 524935

Time Series Inventory Number : 10185

Start Time : 07 Sep 1998 1145 GMT
End Time : 02 Nov 1998 1005 GMT

Latitude : 59deg 20.0min N
Longitude : 001deg 25.1min E

Nominal Cycle Interval : 600.0 secs

Minimum Depth : 10.50m
Maximum Depth : 94.50m
Sea Floor Depth : 107.00m

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 : Moored acoustic doppler current meter
Instrument Mounting : Sea floor - fixed
Originator Laboratory : Proudman Oceanographic Lab., Bidston, UK
Originator's Identifier : bb1148.804

The following **cautions** apply to this series:

- 1) Users are advised that data collected in the upper 10-20% of the depth range covered by the ADCP should be treated with great care. These data are generally noisier than those collected from nearer the transducer.
 - 2) Vertical velocities were generally small and most of the variability was due to the error velocity. Systematic flagging of spikes was deemed impossible and only the most obvious spikes were flagged.
 - 3) The ADCP record becomes increasingly noisier from bin 16 onwards (34.5 m upwards). The last two bins (14.5 and 10.5 m) were particularly noisy making systematic flagging of spikes difficult. Users are therefore advised that the quality of the data from the top 7 bins (34.5 to 10.5 m) is significantly lower than that of data from the deeper bins. In particular, data from the last two bins should be used with caution.
-
-

The following additional documents apply to this series:

[63428](#); General Data Screening carried out by BODC
[68541](#); RDI Acoustic Doppler Current Profiler
Data Activity Document: [77568](#)
Project Document : [77554](#)

INFORMATION FOR BODC SERIES REF. NO. 524947

Time Series Inventory Number : 10173

Start Time : 08 Sep 1998 0914 GMT
End Time : 02 Nov 1998 1434 GMT

Latitude : 59deg 19.7min N
Longitude : 001deg 00.2min E

Nominal Cycle Interval : 600.0 secs

Minimum Depth : 14.50m
Maximum Depth : 98.50m
Sea Floor Depth : 110.00m

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 : Moored acoustic doppler current meter
Instrument Mounting : Sea floor - fixed
Originator Laboratory : Proudman Oceanographic Lab., Bidston, UK
Originator's Identifier : bb1149.790

The following **cautions** apply to this series:

- 1) Users are advised that data collected in the upper 10-20% of the depth range covered by the ADCP should be treated with great care. These data are generally noisier than those collected from nearer the transducer.
 - 2) Vertical velocities were generally small and most of the variability was due to the error velocity. Systematic flagging of spikes was deemed impossible and only the most obvious spikes were flagged.
 - 3) The bottom pressure record indicated that the frame moved on 4 October 22:00 when pressure dropped by 0.48 db. No further movement was observed thereafter. This movement resulted in two successive bad current records at 21:55 and 22:05 which were flagged suspect ('M'). However the continuity of the time series in current speed and direction appeared not to have been affected and the rig position at recovery indicated that the frame displacement was small (of the order of a few 100 m and <500 m).
-
-

The following additional documents apply to this series:

[63428](#); General Data Screening carried out by BODC
[68541](#); RDI Acoustic Doppler Current Profiler
Data Activity Document: [77568](#)
Project Document : [77554](#)

INFORMATION FOR BODC SERIES REF. NO. 524959

Time Series Inventory Number : 10186

Start Time : 09 Sep 1998 1635 GMT
End Time : 03 Nov 1998 1005 GMT

Latitude : 59deg 34.6min N
Longitude : 000deg 59.6min E

Nominal Cycle Interval : 600.0 secs

Minimum Depth : 24.00m
Maximum Depth : 108.00m
Sea Floor Depth : 116.00m

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 : Moored acoustic doppler current meter
Instrument Mounting : Sea floor - fixed
Originator Laboratory : Proudman Oceanographic Lab., Bidston, UK
Originator's Identifier : rd0394.805

The following **cautions** apply to this series:

- 1) Users are advised that data collected in the upper 10-20% of the depth range covered by the ADCP should be treated with great care. These data are generally noisier than those collected from nearer the transducer.
 - 2) Vertical velocities were generally small and most of the variability was due to the error velocity. Systematic flagging of spikes was deemed impossible and only the most obvious spikes were flagged.
 - 3) The deepest bin (bin 1, 108 m) comports a number of irregularities in current velocities particularly pronounced for the East-West current component. These were generally associated with high error velocities and were therefore flagged as suspect. Users are generally advised to consider records from this bin with caution.
-
-

The following additional documents apply to this series:

[63428](#); General Data Screening carried out by BODC
[68541](#); RDI Acoustic Doppler Current Profiler
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) or as parameters ADATAA01 and AHMSAA01.

Parameter : ADATAA01 (TIME)
Description : Date in format yyyyymmdd
Method : Computation
Units : Years Months Days (yyyyymmdd)

Parameter : AHMSAA01 (TIME)
Description : Time in format hh24miss
Method : Computation
Units : Hours Minutes Seconds

Parameter : LCEWAP01 (CURR)
Description : E-W current velocity (ADCP)
Method : Moored acoustic doppler current meter
Units : cms/sec

Parameter : LCNSAP01 (CURR)
Description : N-S current velocity (ADCP)
Method : Moored acoustic doppler current meter
Units : cms/sec

Parameter : LERRAP01 (CURR)
Description : Error velocity (ADCP)
Method : Moored acoustic doppler current meter
Units : cms/sec

Parameter : LRZAAP01 (CURR)
Description : Vertical current velocity (ADCP)
Method : Moored acoustic doppler current meter
Units : cms/sec