

NIOZ ADCP data series at the southern North Sea site

Principal Investigator

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Data Originator

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NIOZ ADCP was deployed on NIOZ bottom frame, moored at the main mooring site A during the southern North Sea experiment from March to April 1999. The rig, which also held a wave-and-tide recorder and the NIOZ Fast Thermistor String, was deployed and recovered by NIOZ during the cruise Pelagia PE136.

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
553294	LA	52 18.1 N	004 18.0 E	1999/04/01	19.0	4.2

LA = Currents -subsurface Eulerian

Parameter	Unit	Parameter code	Comments
Bin height	m	HBINAA01	none
E-W current velocity	cm/s	LCEWAP01	none
N-S current velocity	cm/s	LCNSAP01	none
Vertical current velocity	cm/s	LRZAAP01	none
Error velocity	cm/s	LERRAP01	none

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

Flag	Description
	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. 553294

Time Series Inventory Number : 10682

Start Time : 01 Apr 1999 1609 GMT
End Time : 08 Apr 1999 1605 GMT

Latitude : 52deg 18.1min N
Longitude : 004deg 18.0min E

Nominal Cycle Interval : 20.0 secs

Minimum Depth : 4.20m
Maximum Depth : 17.20m
Sea Floor Depth : 19.00m

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 : Netherlands Institute for Sea Research
Originator's Identifier : ADCP/PVS99

Additional information stored with the data:

This ADCP was fixed on NIOZ bottom frame in conjunction with the NIOZ Fast Thermistor String and the Wave/Tide Recorder during the southern North Sea experiment. It was a four beam, 20 degrees, 1200 kHz Broad band ADCP. It sampled at the same rate as the thermistor string (20 sec.) in 0.5 m bins.

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Data processing carried out at the Netherlands Institute for Sea Research (NIOZ):
Quality check was performed on the raw data and outliers were removed. The height of the bin was added to the data and checks were performed on the time stamps.

Additional data processing carried out at BODC:

All current velocities were converted from mm/s to cm/s.
The horizontal components of the current, which had been expressed in a rotated coordinate system with cross-shore and along-shore components, were converted back to a North-South, East-West coordinate system. This was done by reversing the along-shore component and applying a rotation of 26 degrees anticlockwise. The conversion includes a correction for a magnetic deviation of -3.6 degrees relative to True North.

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Users should be aware that the ADCP record contained a number of erroneous data which had been mostly removed by the data originator. These bad data occurred for short periods of time and in a limited number of bins. They were particularly frequent for the 10.8 m bin which corresponded to the depth of the top end of the NIOZ Fast Thermistor String (NFTS) and its datalogger. The contamination of the ADCP data by the NFTS mounted in the centre of the bottom lander (1-m horizontal offset from the central vertical axis of the ADCP) has been discussed in Van Haren et al (2001). It is attributed to the varying amount of scattering material in the water, the swinging of the string due to current variations and the ensonification of the thermistor string.

INFORMATION FOR BODC SERIES REF. NO. 553294 (continued)

Reference:

Van Haren H, Groenewegen R, Laan M, Koster B (2001) A fast and accurate thermistor string. J Atmos Ocean Tech 18 (2):256-265.

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: [78072](#)

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