MSM16-2 processing log
Ship navigation data

a) Original data

The original navigation data was extracted from the DSHIP data base on board of R/V "Maria S. Merian" in 1 second interval.

These data sets contain:

> GPS position from Seapath 200 INS
> Speed from Seapath 200 INS
> Heading from Seapath 200 INS
> Depth from deep water sounder (Simrad EA600)

b) Processing

I. Processing steps:

> 1. Extraction of source data from DSHIP data base
> 2. Manual validation of erroneous positions by reviewing speed, time and distance jumps
> 3. Removing of invalid positions
> 4. Conversion of data to daily files of 1 and 10 second resolution

II. Processed data:

Result of the processing is the verified navigation in 1 second and in 10 second interval, held in ASCII table files (tab delimited) with the following format:
> Column 1: Latitude [decimal degree]
> Column 2: Longitude [decimal degree]
> Column 3: Date [Format: DD.MM.YYYY HH:MM:SS]
> Column 4: Flag
> Column 5: Speed [knots]
> Column 6: Heading [degree]
> Column 7: Depth [metres]

The flag string consists of four digits with the following meaning:
> Digit 1:
> > [0]: No position available
> > [1]: Position based on sensor Seapath 200 INS
> > [2]: Position based on sensor Leica DGPS
> Digit 2:
> > [0]: Position is not pitch corrected
> > [1]: Position is pitch corrected
> Digit 3:
> > [0]: Position is not roll corrected
> > [1]: Position is roll corrected
> Digit 4:
> > [0]: Centering is based on heading from GPS data (less accurate)
> > [1]: Centering is based on heading from Motion-Reference-Unit

III. Statistic

Data volume 1-second-interval data:	138 MB
First data set:	24.09.2010 15:00:00
Last data set:	07.10.2010 09:00:00
Total number of 1s positions after processing:	1101344
Number of positions missing (DSHIP error values)	256 (<0.0003%)

c) Cruise plot

MSM 16/2
24.09. - 07.10.2010
Tromsø - Tromsø

Håkon Mosby Mud Volcano
25.09.-06.10.

Håkon Mosby Mud Volcano

Distance sailed: 903 km (487 nm)