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 delimitied) 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

Håkon Mosby Mud Volcano
25.09.-06.10.

MSM 16/2
24.09. - 07.10.2010
Tromsø - Tromsø

Distance sailed: 903 km (487 nm)