

SS 2/2003

18:00 14 March 2003 Auckland - 10:00 3 April 2003 Nuku'alofa (Local times)

Data processing completed by
Bernadette Heaney, November 2003

1. Summary

These notes relate to the production of quality controlled (QC-ed), position, depth and meteorological data from RV Southern Surveyor voyage 2/2003.

Position data was acquired using an Ashtech OEM 2 sensor. Depth data was acquired with the Simrad EA500. The Divisional Data Librarian can assist with information regarding all sensors.

2. Voyage details

“Submarine hydrothermal plume activity and petrology of the Eastern Lau Spreading Centre and neighbouring Tofua Arc, Tonga”

2.1 Principal Investigator

Professor Richard J Arculus,
Australian National University

Processing Notes

3. Processing Notes

3.1 Background Information

Position - GPS -Ashtec OEM sensor - full resolution NMEA strings are recorded in hourly files.

Depth - Simrad EA 500 sounder and EK 500 sounder - full resolution data recorded in hourly files (switched between instruments during voyage). Echolog software produces EK files of datagrams from the sounders. Echograms from the EA500 were used exclusively to “line pick” the bottom.

A combined underway file for the entire voyage, consisting of 10 second values of position, depth, and other underway variables was remade on 14 November 2003 - by reading data from hourly files returned from the voyage.

Echoview software was used to view the echograms, copy and repick the bottom and quality assess the data. This data was interpolated to 10 second values and read back into the netcdf underway file.

The navigation data was filtered allowing a maximum speed of 14 knots and a second difference on .001.

The entire raw meteorological data was not recorded. Where there were gaps in the raw data, the 10 second data was derived from the 1 minute averages in the .met files returned from the ship. This process introduced errors in the atmospheric data which was then filtered. The met-data consists of air temperature, light, atmospheric pressure, wind speed and direction and maximum wind gust.

Processing Notes

4. Other

The 10 second navigation, depth and meteorological data will be entered into the data warehouse. Position, depth and meteorological data extracted from the underway file is available online.

The Thermosalinograph data will not be processed.

5. References

Pender, L., 2000: Data Quality Control Flags. http://www.csiro.marine.au/datacentre/ext_docs/DataQualityControlFlags.pdf

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