

SS 10/2005

10:00 18-Nov-2005 Fremantle - 13:00 30-November-2005 Fremantle (Leg 1)

08:00 01-Dec-2005 Fremantle - 13:00 14-December-2005 Dampier (Leg 2)

(Local times)

Data processing completed by
Bernadette Heaney, February 2006

1. Summary

These notes relate to the production of quality controlled (QC-ed), position, depth, meteorological and thermosalinograph data from RV Southern Surveyor voyage 10/2005.

2. Voyage details

“Mapping benthic ecosystems on the deep continental shelf and slope in Australia’s “South West Region” to understand evolution and biogeography and support implementation of the SW Regional Marine Plan and Commonwealth Marine Protected Areas”

2.1 Principal Investigator

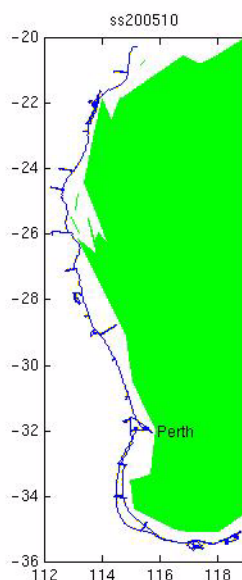
Drs Alan Williams, Nic Bax and Rudy Kloser,

CSIRO Marine and Atmospheric Research, Hobart

Dr Gary Poore,

Museum of Victoria, Melbourne

Processing Notes



3. Processing Notes

3.1 Background Information

Position data was acquired using the Seapath 200 position and motion reference unit (which also is differentially corrected by data from the FUGRO DGPS receiver).

Digital depth data was acquired with the Simrad EA500 sounder. Echograms were also recorded using SonarData's Echolog software. Echograms of EK500 data were also recorded.

Thermosalinograph data was acquired with a Seabird TSG (S#1777) and remote temperature SBE 3T (S#2621).

The "Met" station consists of 2 relative humidity and temperature sensors, port (X2030106) and starboard (X20303107). A barometer (465595), wind sensor (type 05103) and licor light sensor (UWQ3708).

Processing Notes

A combined underway file for the entire voyage, consisting of 10 second values of position, depth, meteorological and thermosalinograph variables was remade on 21 Dec 2005 - by reading data from hourly files returned from the voyage. (Time range 17-Nov-2005 02:31:30 - 13-Dec-2005 17:49:00).

The water depth was “repicked” using echoview software. The depth data was interpolated to 10 second values. The new depths were read back into the netcdf file.

The meteorological data consists of air temperature, humidity, light, atmospheric pressure, wind speed and direction and maximum wind gust. The atmospheric pressure data had some anomalous spikes which were rejected. The wind speed and direction were recalculated using uncorrected wind speed and direction, ships speed and course over ground and gyro heading. The wind speed and direction flags have been set as good, manually adjusted, no error (48).

The thermosalinograph (TSG) data consists of water temperature and water salinity. The thermosalinograph salinity data can be calibrated against CTD data (Sea Bird conductivity, temperature and depth sensor) by running the water from the thermosalinograph through the CTD in the wetlab. Data from the CTD is recorded for about 30 minutes; data from the TSG is continuously logged while at sea. The CTD conductivity data was calibrated with values derived from bottle data on ss 7/2005. The TSG data was then compared to the processed CTD data. This process was undertaken twice on the voyage, resulting in varying results, so no offset or scale were used on the salinity data. The salinity flag was set to, good, none, unprocessed (12). All the salinity data was despiked - spiking was particularly bad for 05-Dec-2005 06:38 - 06-Dec-2005 09:34.

The gps data from the Seapath MRU unit gave no problems.

4. Other

Processing Notes

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

5. References

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

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