

## **SS 3/2006**

10:00 28-Mar-2006 - 08:00 10-Apr-2006

*(Local times)*

*Data processing completed by*  
**Bernadette Heaney, April 2006**

### **1. Summary**

These notes relate to the production of quality controlled (QC-ed), position, meteorological and thermosalinograph data from RV Southern Surveyor voyage 3/2006.

### **2. Voyage details**

“PULSE: role of mixed-layer dynamics in Southern Ocean plankton production and carbon transports, including air-sea exchange of carbon dioxide and particulate carbon fluxes to the ocean interior”

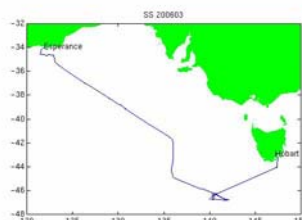
#### **2.1 Principal Investigator**

Dr Thomas W Trull, CSIRO Marine and Atmospheric Research (CMAR)-University of Tasmania -Antarctic Climate and Ecosystems Cooperative Research Centre (ACECRC), Hobart

Dr Bronte Tilbrook, Dr Edward Butler and Brian Griffiths, CMAR, ACECRC, Hobart

## Processing Notes

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### 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.

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) and rain gauge type 50202, serial number 236.

A combined underway file for the entire voyage, consisting of 10 second values of position, depth, meteorological and thermosalinograph variables was remade on 24 Apr 2006 - by reading data from hourly files returned from the voyage. (Time range 28-Mar-2006 00:35:50 - 09-Apr-2006 22:36:50).

## Processing Notes

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The meteorological data consists of air temperature, humidity, light, atmospheric pressure, wind speed and direction and maximum wind gust and rain. The rain values increase to 50 mm then restart at 0. Spikes introduced by the uwyLogger program were removed.

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, Pamela Brodie will have details of the offsets. Data for 02-apr-2006 09:45 - 02-Apr-2006 16:42:20 and 04-Apr-2006 01:54:00 - 04-Apr-2006 05:05:40 were rejected as the water flow to the instrument was off.

The gps data was recorded from the Seapath MRU unit. There were no problems with the data.

Depth data was repicked using SonarData's echoview software. This data was incorporated back into the netcdf file in May 2006.

## 4. Other

The navigation, meteorological, thermosalinograph and depth data will be entered into the data warehouse. Position, meteorological, thermosalinograph and depth 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](http://www.csiro.marine.au/datacentre/ext_docs/DataQualityControlFlags.pdf)

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