CSIRO

Processing Notes

SS 6/2006

12:00 28-May-2006 Geraldton - 13:20 22-June-2006 Port Hedland

(Local times)

Data processing completed by
Bernadette Heaney, July 2006

1. Summary

These notes relate to the production of quality controlled (QC-ed), position, meterological, thermosalinograph and depth data from RV Southern Surveyor voyage 6/2006.

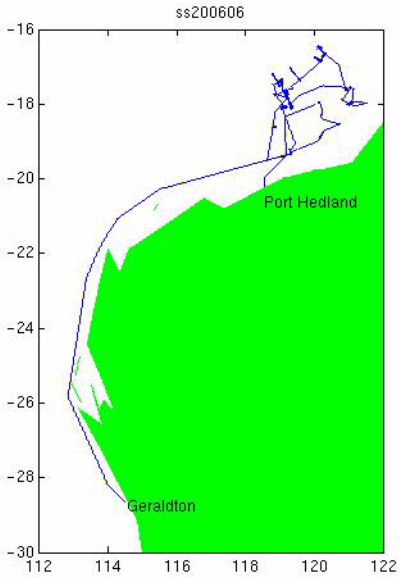
2. Voyage details

"Central North West Shelf Seepage: identifying potential natural hydrocarbon seeps and petroleum prospectivity, Offshore Canning and Roebuck Basins"

2.1 Principal Investigator

Dr John Kennard, Petroleum and Marine Division

Geoscience Australia, Canberra



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. Digital depth data can be repicked using SonarData's Echoview software.

On this voyage the TOPAS interferred considerably with the EA500 depth algorithm (about 75% of the time). Initially, it was thought that the interference was caused by TOPAS being set to internal trigger mode. The yellow line in the next figures are the depth picked by the EA500. The first example shows the depth varying between 10 metres. Example 2 is considered good depth picking.

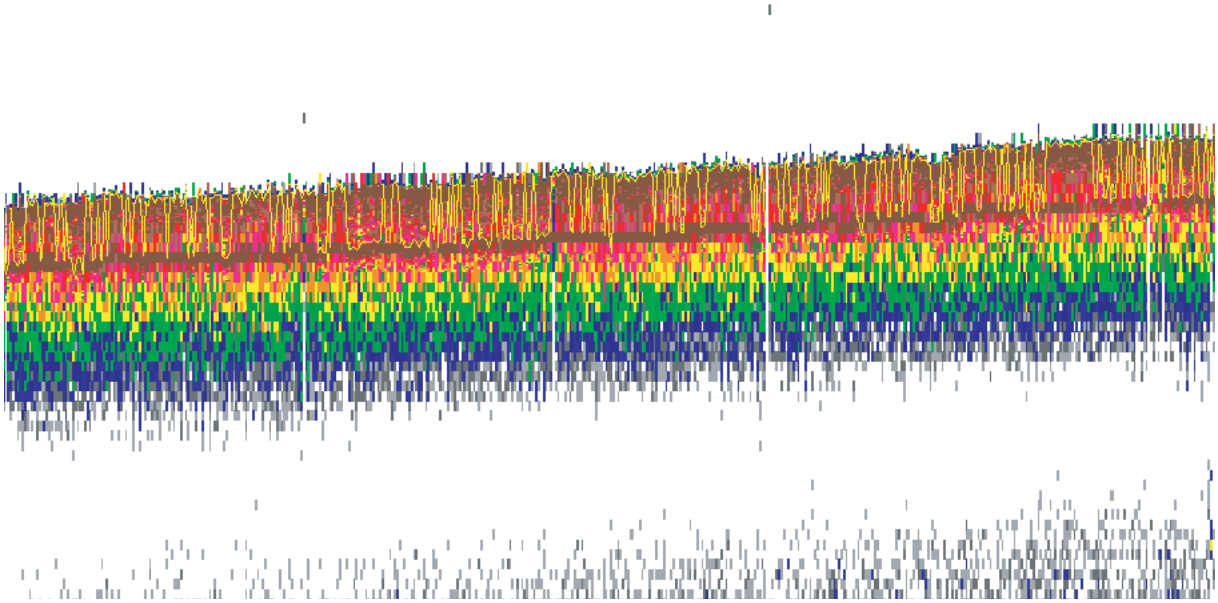


Figure 2: Interference from Topas

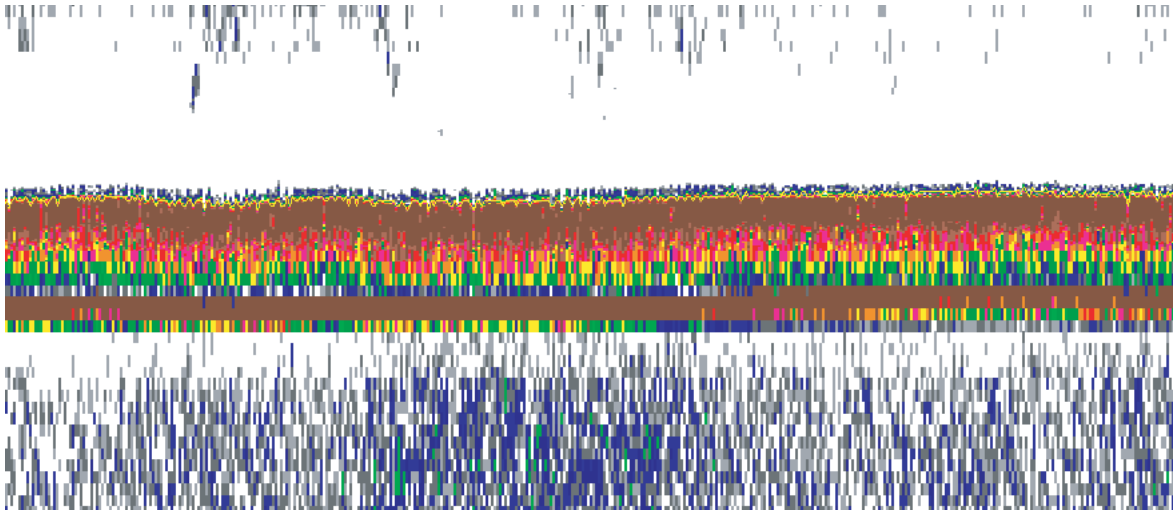


Figure 3:Topas is on but no interference.

Processing Notes

The interference may then have been caused by the TOPAS having a higher signal strength than the EA500 or the method of triggering. Further investigations will be pursued.

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, meterological and thermosalinograph variables was remade on 30-May-2006 - by reading data from hourly files returned from the voyage. (Time range 29-May-2006 05:10:10 - 22-Jun-2006 06:04:40).

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. The rain guage was removed on 01:13 04-Jun-2006 so all data after that time has been flagged as bad, none, userdefined.

The light data (PAR) was flagged as suspect. The data recorded anomalous night time readings, probably due to a problem with the sensor.

Stephen Thomas’s Electronic Report notes ... “ adjusted barometer by +0.1hPa as per Fremantle Bureau of met advice dated 15/11/05 .. “

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 TSG data was then compared to the processed CTD data. This process was undertaken by Hiski Kippo during the voyage. Data was flagged as bad 02:00

07-Jun-2006 - 07:16 07-Jun-2006 because of a blockage caused by shellfish. A spike in the data caused by a bad instrument reading was removed, 02:25 18-Jun-2006.

The gps data was recorded from the Seapath MRU unit.

4. Other

The navigation, meteorological, thermosalinograph and depth data will be entered into the data wharehouse. Position, meteorological and thermosalinograph data extracted from the under-way 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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