

README for Surface Seawater Monitoring (Thermosalinograph)

[Period]

12:00 25 September 2011 - 23:59 25 October 2011 (MR11-07 Leg-1)

00:00 29 October 2011 - 03:00 December 2011 (MR11-07 Leg-2)

Remarks.

During the following period, some parameters were not measured.

No data of latitude/longitude, and ship speed: 22:04 - 22:07, 11 October 2011
23:00, 21 October 2011

No data of Chlorophyll-a (Primary/Secondary): 16:38 - 16:41, 14 October 2011

[Data Format]

“TSG_MR11-07.csv” contains the following data.

LANdate:	Date in UTC (yyyy/mm/dd)
LANtime:	Time in UTC (hh:mm:ss)
Latitude:	Latitude (WGS84)
Longitude:	Longitude (WGS84)
Speed:	Ship's speed (knot)
FLOW:	Flow rate (l/min)
T(SBE38):	Temperature at the ship bottom (°C)
T(SBE45):	Temperature in the lab (°C)
COND:	Conductivity measured by SBE45 (Siemens/m)
SAL:	Salinity calculated from SBE45
Optode-DO:	Dissolved Oxygen measured by OPTODE3835 (µmol/L)
Chlorophylla(Pri):	Chlorophyll-a measured by Tunner C3 Primary sensor
Chlorophylla(Sec):	Chlorophyll-a measured by Tunner C3 Secondary sensor

[Instruments]

Temperature and Conductivity sensor

Model:	SBE-45, SEA-BIRD ELECTRONICS, INC.
Serial number:	4563325-0362
Measurement range:	Temperature -5 to +35 °C Conductivity 0 to 7 S m ⁻¹
Initial accuracy:	Temperature 0.002 °C Conductivity 0.0003 S m ⁻¹
Typical stability (per month):	Temperature 0.0002 °C Conductivity 0.0003 S m ⁻¹
Resolution:	Temperatures 0.0001 °C Conductivity 0.00001 S m ⁻¹

Thermometer at the ship bottom (intake)

Model:	SBE 38, SEA-BIRD ELECTRONICS, INC.
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Serial number: 3857820-0540
Measurement range: -5 to +35 °C
Initial accuracy: ±0.001 °C
Typical stability (per 6 month): 0.001 °C
Resolution: 0.00025 °C

Dissolved oxygen sensor

Model: OPTODE 3835, AANDERAA Instruments.
Serial number: 1519
Measuring range: 0 - 500 $\mu\text{mol dm}^{-3}$
Resolution: <1 $\mu\text{mol dm}^{-3}$
Accuracy: <8 $\mu\text{mol dm}^{-3}$ or 5% whichever is greater
Settling time: <25 s

Fluorometer

Model: C3, TURNER DESIGNS
Serial number: 2300123

[Data calibration/correction]

To validate data, surface water were sampled during the cruise and compared with TSG data. Sampled water were analyzed by the Guideline 8400B AUTOSAL (Salinity), Winkler method (Dissolved oxygen), and Turner 10-AU (fluorescence).