Aurora Australis Data Logging System Data Quality Control Report

Cruise:
SR_03_/06
PR_12_/07

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Introduction:

The data referenced in this report were collected from the research vessel Aurora Australis (Call sign: UNAA; Data Provider: Antarctic CRC, Australia; PI: S. Rintoul) Data Logging System for 2 WOCE hydrographic sections. These data were received in electronic format and converted to the standard FSU format. Then they were preprocessed using an automated data checking program. Next a visual inspection was completed by a Data Quality Evaluator who reviewed, modified and added appropriate quality control (QC) flags to the data. Details of the WOCE QC can be found in Smith et al (1996). The data quality control report summarizes the flags for the Aurora Australis Data Logging System data, including those added by both the preprocessor and the analyst.

Statistical Information:

This data set was expected to include observations taken every 15 minutes from the Aurora Australis Data Logging System. The details of the cruise, including start and end date, number of values, records, and flags, and percentage flagged are outlined in Table 1.

Table 1: Statistical Cruise Information

CTC	Dates	Number of Records	Number of Values	Number of Flags	Percentage Flagged
SR_03_/06 PR_12_/07	08/22/96-09/21/96	2976	38688	2249	5.81

Time (TIME), latitude (LAT), longitude (LON), platform heading (PL_HD), platform speed (PL_SPD), earth relative wind direction (DIR), earth relative wind speed (SPD), sea temperature (TS), atmospheric pressure (P), port air temperature (T), starboard air temperature (T2), port relative humidity (RH), and starboard relative humidity (RH2) were analyzed. A total of 38688 values were checked, with 2249 flags being added resulting in 5.81 percent of the data being flagged. The distribution of flags for each variable sorted by flag type is detailed in table 2.

Summary:

These data are in excellent condition. There were no major problems with this data set. A total of 2245 "G", data greater than 4 standard deviations from climatological mean, flags were added to this data set by the prescreener. These flags highlight extreme weather conditions along the Antarctic coast. The data are correct.

In addition to these flags, 2 "I", interesting feature, flags were added to P data and 1 "I" flag was added to each T and T2 to point out the very low pressures and temperatures that this ship encountered on its cruise. The lowest observed pressure was 952mb on 9/12 at 3:07.

No other problems were observed by the DQE.

Table 2: Number of Flags and Percentage Flagged for Each Variable

Variable	G	I	Number of Flags Added	Percentage of Data Flagged
TIME			0	0.00
LAT			0	0.00
LON			0	0.00
PL_HD			0	0.00
PL_SPD			0	0.00
DIR			0	0.00
SPD	351		351	11.79
TS	693		693	53.19
P	283	2	285	9.58
T	440	1	441	14.82
T2	452	1	453	15.22
RH	14		14	0.47
RH2	12		12	0.40
Total Number of Flags	2,245	4	2249	5.81
Percent of Flags Used	5.80	0.01	5.81	

G: Value greater than 4 standard deviations from climatology
I: Interesting feature

Final Note:

These data are in outstanding condition. The analyst foresees no problems in using this data.

References:

Smith, S.R., C. Harvey, and D.M. Legler, 1996: Handbook of Quality Control Procedures and Methods for Surface Meteorology Data. WOCE Report No. 141/96, Report WOCEMET 96-1, Center for Ocean Atmospheric Prediction Studies, Florida State University, Tallahassee, FL 32310.