Melville COADS Data Quality Control Report

Cruises: A__16S/00
A__16C/00

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Introduction:

The data referenced in this report were collected from the research vessel Melville for 2 different WOCE cruises. The data were extracted from the COADS data set and converted to a 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 Melville COADS data, including those added by both the preprocessor and the analyst.

Statisitcal Information:

The data set from the Melville was expected to include observations taken every 6 hours from 2 cruises. The start and end dates, the number of records and values and the number and percentage of flags added is given in table 1.

Table 1: List of dates and number of records for each cruise.

CTC	Dates	Number of Records	Number of Values	Number of Flags	Percentage Flagged
A__16S/00	01/23/89 - 03/14/89	167	1670	52	3.11
A__16C/00	03/14/89 - 04/23/89	149	1490	32	2.15

Time (TIME), latitude (LAT), longitude (LON), earth relative wind direction (DIR), earth relative wind speed (SPD), atmospheric pressure (P), atmospheric temperature (T), sea temperature (TS), dew point temperature (TD), and wet-bulb temperature (TW) were quality controlled. A total of 3160 values were checked with 84 flags added resulting in 2.66 of the data being flagged. The distribution of flags for each variable sorted by flag type is detailed in table 2.

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

Variable	Data out of Bounds	Unreal Move-ment	Data >4 s.d. From Climatology	Inter-esting Data	Time not Sequen-tial	Total Number of Flags	Percentage of Data Flagged
TIME					10	10	3.16
LAT		11				11	3.48
LON		11				11	3.48
DIR	34					34	10.76
SPD				3		3	0.95
P				3		3	0.95
T			1			1	0.32
TS			11			11	3.48
TD						0	0.00
TW						0	0.00
Total	34	22	12	6	10	84	2.66
Percent-age of Flags added	1.08	0.70	0.38	0.19	0.32	2.66	

Summary:

There were no major problems with this data set. The only minor problem worth noting is the 34 "B", data out of bounds, flags added to DIR. These flags were added by the pre-processer to DIR values of 361 degrees, a COADS code for variable winds. These points are valid values; however, the "B" flags were retained to highlight the variable winds.

Three "I", interesting feature, flags were added to each SPD and P due to extreme low pressure events. Each event involved either wind speeds at or above 16m/s or atmospheric pressure below 980mb. One "I" flag was added for each SPD and P for 2/8 at 1800, 2/13 at 000, and 2/19 at 1200.

No other problems exist with this data set.

Final Note:

As can be seen in the summary, these data are in excellent condition. The analyst forsees no difficulty 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.