Marion Dufresne AWS Data Quality Control Report

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Addendum:

Member's of the WOCE Hydrographic Project Office (WHPO) and WOCEMET met at the 13th Data Products Committee (DPC) meeting in College Station, TX to discuss reconciliation of the WOCE cruise line designators. This was done in anticipation of the future release of version 3 of the WOCE global data set, and resulted in changes to several WOCE cruise line designations.

On December 21, 2000, WOCEMET changed the WOCE designator for the cruise I__06_/00 to the updated form, I__06S/01.

Introduction:

This report summarizes the quality of surface meteorological data collected by the research vessel *Marion Dufresne* (identifier: FNGB) automated weather system (AWS) on one WOCE cruise beginning 20 February 1992 and ending on 28 March 1992. The data were provided to the Florida State University Data Assembly Center (DAC) in electronic format by A. Poisson and were converted to standard DAC netCDF format. The data were then processed using an automated screening program, which adds quality control flags to the data, highlighting potential problems. Finally, the Data Quality Evaluator (DQE) reviewed the data and current flags, whereby flags were added, removed, or modified according to the judgement of the DQE and other DAC personnel. Details of the WOCE quality control procedures can be found in Smith et al. (1996). The data quality control report summarizes the flags for the *Marion Dufresne* AWS surface meteorological data, including those added by both the preprocessor and the DQE.

Statistical Information:

The *Marion Dufesne* AWS data are expected to include observations taken hourly. Values for the following variables were collected:

Time	(TIME)
Latitude	(LAT)
Longitude	(LON)
Earth Relative Wind Direction	(DIR)
Earth Relative Wind Speed	(SPD)
Atmospheric Pressure	(P)
Temperature	(T)
Wet Bulb Temperature	(TW)
Sea Temperature	(TS)

Details of the cruise are listed in Table 1 and include cruise dates, number of records, number of values, number of flags, and total percentage of data flagged. A total of 7,857 values are evaluated with 321 flags added both by the preprocessor and the DQE resulting in a total of 4.09% of the values being flagged.

Table 1: Statistical Cruise Information

CTC	Dates	Number of Records	Number of Values	Number of Flags	Number Flagged
I__06_/00	02/20/96-03/28/96	873	7,857	321	4.09

Summary:

The AWS data from the *Marion Dufresne* are of good quality. There was a considerable amount of missing data, possibly due to the frequent and extreme conditions the vessel was subjected to on its voyage. Several G and B flags were assessed to the data by the preprocessor. Given the supporting meteorological conditions, these data were determined to be valid and suggested that the vessel passed through frequent and severe storms. No additional flags were added by the DQE to this dataset after the preprocessor, nor were any removed or modified. Worthy of mention are the bounds flags given to the sea temperature data. The values are realistic but the flags are left on to indicate sea temperatures that fall below freezing. The distribution of these flags assessed by the preprocessor is detailed in Table 2.

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

Variable	B	D	G	Total Number of Flags	Percentage of Variable Flagged
TIME				0	0.00
LAT				0	0.00
LON				0	0.00
DIR	1			1	0.11
SPD	1		142	143	16.38
P				0	0.00
T		2	39	41	4.70
TW		2		2	0.23
TS	95		39	134	15.35
Total Number of Flags	97	4	220	321	
Percentage of All Flagged	1.23	0.05	2.80	4.09	

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 32301