Gauss Bridge Data Quality Control Report

Jennifer Lovell and Shawn R. Smith

World Ocean Circulation Experiment

WOCE Surface Meteorology Data Center

Center for Ocean Atmospheric Prediction Studies

Florida State University

October 24, 2000

Report WOCEMET 00-08

Version 1.0

Introduction:

This report summarizes the quality of surface meteorological data collected by the research vessel *Gauss* (identifier: DBBX) during one WOCE cruise beginning 04 May 1996 and ending 09 June 1996. The data were provided to the Florida State University Data Assembly Center (DAC) in electronic format by P. Koltermann and were converted to standard DAC netCDF format. The data were then processed using an automated screening program, which added 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 judgment 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 *Gauss* meteorological data, including those added by both the preprocessor and the DQE.

Data Variables:

The *Gauss* data are expected to include observations taken once every hour on this WOCE cruise. 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)
Air Temperature	(T)
Sea Temperature	(TS)
Wet Bulb Temperature	(TW)
Dew Point Temperature	(TD)

Statistical Information:

Details of the cruise are listed in Table 1 and include the cruise date, number of records, number of values, number of flags, and total percentage of data flagged. A total of 8,710 values were evaluated with 4 flags added by both the preprocessor and the DQE resulting in a total of 0.05% of the values being flagged.

Table 1: Statistical Cruise Information

Cruise Identifier	Cruise Dates	Number of Records	Number of Values	Number of Flags	Percent Flagged
AR_19_/04	05/04/96 – 06/09/96	871	8710	4	0.05

Summary:

The 1996 IMET data from the *Gauss* proves to be of excellent quality with a total of 0.05% of the reported values being flagged for potential problems. The distribution of flags for the remaining variables is detailed in Table 2.

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

Variable	G	S	Total Number of Flags	Percentage of Variable Flagged
LAT **LON** **DIR** **SPD** **P** **T** **TS** **TW** **TD**	3	1	4	0.46
Total Number Of Flags	3	1	4	
Percent Of All Values Flagged	0.03	0.01	0.05	

G-flags:

Temperature was assessed three G-flags by the preprocessor. The DQE felt these values were realistic as they were approximately 5 degrees Celsius lower than the given data trend. The G-flags were left in place to highlight values that are greater than four standard deviations from the climatological mean (da Silva et al. 1994).

Spikes:

Temperature had one isolated spike. Spikes typically arise with bridge data when hand recorded values are written down incorrectly. This individual point was assigned the S-flag.

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 32306-2840

da Silva, A.M., C.C. Young and S. Levitus, 1994: *Atlas of Surface Marine Data 1994, Volume 1: Algorithms and Procedures*. NOAA Atlas Series.