Vidal Gormaz Data Quality Control Report
Cruises: PR_14_/03
SR_01_/05
PR_14_/04
SR_01_/06

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Introduction

The data referenced in this report were collected from the research vessel Vidal Gormaz (call sign: CCVG) standard bridge logs from each of four separate cruises for WOCE. The original hard copy data were digitized and then converted to a standard format. The data were then preprocessed using an automated data checking program. A visual inspection was then completed by a data quality analyst 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). This report summarizes the flags for the Vidal Gormaz data, including flags added by both the pre-processor and the analyst.

Statistical Information:

The data from the Vidal Gormaz were expected to include observations every 6 hours from 4 cruises. The start and end dates, the number of observations, and the number and percentage of non-Z flags for each cruise is given in table 1. Time (TIME), latitude (LAT), longitude (LON), platform heading (PL_HD), platform speed (PL_SPD), wind direction (WND), wind speed (SPD), atmospheric pressure (P), dry air temperature (T), sea temperature (TS), dew point temperature(TD), and wet-bulb temperature (TW) were quality controlled. A total of 2496 values were reviewed and checked and a total of 116 flags were added to the 4 cruises resulting in 4.65% of the data being flagged. Table 2 details the flag distribution, including percentages flagged for each variable sorted by flag type.

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

CTC	Dates	Number of Records	Number of Values	Number of Flags	Percent Flagged
PR_14_/03	10/07/93 - 10/17/93	43	516	22	4.26
SR_01_/05	11/13/93 - 11/23/93	32	384	20	5.21
PR_14_/04	10/06/94 - 10/25/94	60	720	54	7.50
SR_01_/06	11/09/94 - 12/07/94	73	876	20	2.28

Summary:

These data were in good condition as there were only a few problems. Two of the cruises each had a period where no data was returned. The first occurred on the PR_14_/04 cruise from 10/15 at 1200 to 10/18 at 600 and the second on the SR_01_/06 cruise from 11/15 at 1800 to 11/18 at 1800. Also on the PR_14_/04 cruise, PL_CRS, PL_SPD, PL_WSPD, and PL_WDIR are missing many observations. There was no explanation offered for the missing data. The temperature on the PR_14_/03 cruise from 10/12 at 0000 to 10/13 at 600 was a

Table 2: Frequency of Flags Assigned for Each Variable

Variable	Failed T $ Tw $ Td Check	Suspect /Caution	>4 s.d. from Climoto logical Mean	Inter- esting Data	Land Error	Spike	Erro- neous Data	Totals	Percen of Vari- ables Flagge
TIME									0.00
LAT		2			2			4	1.92
LON		1			2		1	4	1.92
PL_WDIR									0.00
PL_WSPD						1		1	0.48
DIR									0.00
SPD		2		2				4	1.92
P			2	2				4	1.92
T	3	9	5					17	7.21
TS			40					40	12.98
TD	17	1				1		23	8.65
TW	19	3				1		19	10.10
Totals:	39	18	47	4	4	3	1	116	4.65
Percentage of flags used	1.56	0.72	1.88	0.16	0.16	0.12	0.04	4.65	

constant 9.0 degrees. These values of T were flagged as “K”, suspect data. Additionally on the PR_14_/04 cruise, the temperature was equal to the wet bulb but both were greater than the dew point from 10/14 at 1200 to 10/15 at 0000. The dew point temperatures are 2 degrees less than the dry air and wet-bulb

temperature at these points. This is a highly questionable situation, but there is no disputing data. Thus, the values for TW for this period were flagged as “K”.

There were also several interesting features of the data. The atmospheric pressure falls to 989mb on 10/14/93 at 1800 and to 981mb on 11/29/94 at 600. These were the 2 low atmospheric pressure extremes for all of the cruises, so the analyst flagged them as “I”, interesting feature. Similarly, the 2 high wind speeds, 18 m/s on 10/15/93 at 0000 and 20 m/s on 10/13/93, were flagged as “I”.

Final Note:

As can be seen by the summary, these data are in good shape. The analyst foresees no problems and fully recommends using this data set.

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.