Haakon Moseby Automated Weather Station Data Quality Control Report

Cruises: AR_16_/14

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January 31, 1997

Report WOCEMET 97-4

Version 1.0

Introduction:

The data referenced in this report were collected from the Haakon Moseby (call sign: LJIT; data provider: Nansen Environm/Remote Sens Cntr/J Johannssen) automated weather station for 1 WOCE cruise. The data were received in electronic format and converted into 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 Haakon Moseby AWS data, including those added by both the preprocessor and the analyst.

Statistical Information:

The data set from the Haakon Moseby was expected to include values for 1 WOCE cruise at a 10 minute time resolution. The start and end dates for this cruise, as well as the number of records, values, flags, and percentage flagged are outlined in Table 1.

Cruise	Dates	Number of Records	Number of Values	Number of Flags	Percentage Flagged
AR_16_/14	11/16/93 - 11/29/93	1871	20581	5473	26.59

Time (TIME), latitude (LAT), longitude (LON), platform course (PL_CRS), platform speed (PL_SPD), earth relative wind direction (DIR), earth relative wind speed (SPD), sea temperature (TS), atmospheric pressure (P), air temperature (T), and relative humidity (RH) were analyzed. A total of 20581 values were checked, with 5473 flags added resulting in 26.59 percent of the data being flagged. Table 2 outlines the flag distribution for each variable.

Table 2: Distribution of Flags by Variable and Flag Type

Variable	F	J	K	L	S	Total Number of Flags	Percentage of Variable Flagged
TIME						0	0.00
LAT	35			529		564	30.14
LON	35			529		564	30.14
PL_CRS						0	0.00
PL_SPD		1871				1871	100.00
DIR			1871			1871	100.00
SPD						0	0.00
TS					1	1	0.05
P						0	0.00
T						0	0.00
RH		602				602	32.18
Total Amount of Flags	70	2473	1871	1058	1	5473	26.59
Percent-age of Flags used	0.29	10.17	7.69	4.35	0.00	26.59	

Summary:

The most obvious problem with this data set is the 529 “L” flags and 35 “F” flags applied to LAT and LON by the prescreener. The values flagged with an “L” flag are located well inland, precluding any possibility that they were passing up a river or through a strait, such as what is normally the case when “L” flags are applied. The “F” flags were applied where the LAT and LON shifted position. Therefore, these were left by the DQE as cautionary flags.

The next major problem with this data is that all the PL_SPD values are erroneous. The same value is held for many of the records, and rarely changes at any time. These data in no way resemble realistic PL_SPD data. Therefore they were all flagged with the “J” flag. Do not use these values.

All of the values for DIR are suspect. The DIR pattern closely resembles PL_CRS for the entire cruise. Thus, 1871 “K” flags have been added to DIR.

The last major problem is with the RH data. The same values for RH are continuously held for many consecutive days. This is very unlikely for RH data, so these data have been flagged with “J” flags when this situation occurs.

Final Note:

These data are in fair shape at best. The serious problems with the data have been outlined in the section above. Problems with LAT and LON make reliable use of these data unlikely. Use caution with this entire 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.