README file for S.Atl-91 CTD files.

WOCE/WHP and NODC designation: AR21
WOCE ExpoCode: 3175MB91
Cruise Dates: June 1 - July, 1991
NOAA AOML designation: South Atlantic-91
Ship: MALCOLM BALDRIGE

Chief scientist/Contact person: Rik Wanninkhof, Wanninkhof@aoml.noaa.gov
CTD data reduction: Doug Wilson, Wilson@aoml.noaa.gov
Address: NOAA/AOML
4301 Rickenbacker Causeway
Miami FL 33149

FILE STRUCTURE:

The cast_0xx.cal files, where xx is the cast number, are space delimited text files with the following column headings:

Pres_dB: pressure (1_dB averaged)
T: temperature (_C)
Cond: conductivity
Sal: salinity (practical salinity scale)
o2_V: voltage output of O2 sensor
O2_temp: temperature measured by thermistor on O2 probe
O2_ml/l: O2 concentration (ml/l) factory calibration

The location&time.csv file is a comma-delimited file that contains the time and geographic information for each cast.

It has the following column headings:

Station: XX
Cast: OYY
DEC_LAT: decimal latitude
DEC_LON: decimal longitude
YRJD: decimal year and year day in format YYDDD.DD
DATE: month/day/year
Time (GMT): time when CTD (or hydrocast) was at bottom, hr:min

DESCRIPTION:

From July 11 to September 2, 1991, the National Oceanic and Atmospheric Administration's (NOAA) Carbon Dioxide (CO2) and Radiatively Important Trace Species (RITS) programs participated in an oceanographic research cruise conducted aboard the NOAA ship MALCOLM BALDRIGE. The appended files with designation, cast_0xx.cal, contain the 1 dB averaged CTD and O2 data from the cruise. The data was obtained primarily in support of the Ocean-Atmosphere Carbon Exchange Study (OACES) and the cruise was not performed to WOCE standards, neither in protocol or sampling density. During Leg 1 of this cruise (Fortaleza, Brazil to Montevideo Uruguay), 33 CTD hydrographic casts and 17 Go-Flo(tm) productivity casts were conducted. Approximately half the CTD cast went down to within 30 m from the bottom, the others were down to about 1000 m. A catastrophic software failure prevented recovery of the CTD data for cast 33. CTD casts were not done on all stations and some stations had several CTD casts.

All CTD operations were conducted using the same Neil Brown(tm) Instrument Systems Mark III CTD equipped with standard temperature and conductivity sensors, a Beckman(tm) polarographic dissolved oxygen sensor, and an auxiliary Seabird(tm) temperature sensor. A 24-bottle sampling rosette was used for collecting calibration bottle salinities and chemical tracers. Laboratory

calibrations were performed for temperature and conductivity before and after the cruise. The calibrations were used in conjunction with Niskin(tm) bottle data, to calibrate the CTD data. No adjustments or calibrations were performed to the polarographic dissolved oxygen sensor. Pressure and temperature data listed in this report are based on the post-cruise calibration. Temperature accuracy is estimated to be .005°C, and pressure accuracy to be 5 decibars.