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#####
#
# NBP calibration data file for sensors
#
# NOTE:
# 1. In order for these calibrations to take affect, uwint must
# be restarted.
#
# 2. Please enter serial numbers for all sensors
#
# 3. Remember, when you check this file back into RCS, use the
# -u option. It MUST remain in /usr/local/packages/rvdas/config
#
# Revised August 10, 2000 K. Gavahan
# - Initial revision.
#
# Revised...
#
#####
#
# Ship - LMG or NBP
#
SHIP NBP
#
#####
#
# Science specific information
#
VESSEL: NBP
TITLE: NBP1104A
NUMBER: NBP1104A
START_DATE: 09/04/2011
END_DATE: 09/13/2011
CHIEF_SCIENTIST: Scott Walker
PARTICIPATING SCIENTISTS:
#
#-----
# Data specific information
#
# Base file name for data files
BASE_FILE: NBP1104A
#
# NAVIGATION LOGGERS - loggers and data directory
NAV_LOGGERS: l_gyr,l_pcode,l_seap
DATA_LOC_NAV: /data/logger/nav
#
# UNDERWAY LOGGERS - loggers and data directory
UW_LOGGERS: l_met,l_sim,l_tsq,l_bathy
DATA_LOC_UWAY: /data/logger/uw
#
NETWORK: science
#
#
LOGGER_LOC: /usr/local/packages/rvdas/bin
#

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#
#####
#
# Geophysical information
#
# The value for YEAR can be obtained by running /usr/local/bin/decimal_year.
# It should be updated everytime the gravity offset is updated.
#
# Gravity offset information
#
CRUISE_ID: NBP1104A
#GRAV_OFFSET: 972326.93 on 0401.
#GRAV_OFFSET: 972327.68 on 0402.
#GRAV_OFFSET: 972304.02 on 0501
#GRAV_OFFSET: 972305.39 on 0501b
#GRAV_OFFSET: 972308.37 on 0506
#GRAV_OFFSET: 972310.34 on 0601
#GRAV_OFFSET: 972311.94
#GRAV_OFFSET: 972309.88 on 0602
#GRAV_OFFSET: 972311.96
#GRAV_OFFSET: 972312.25 on 0603
#GRAV_OFFSET: 972311.95
#GRAV_OFFSET: 972318.07
#GRAV_OFFSET: 972319.71
#GRAV_OFFSET: 972320.26
#GRAV_OFFSET: 972320.07
#GRAV_OFFSET: 972319.42
#GRAV_OFFSET: 972316.86
#GRAV_OFFSET: 972318.65
#GRAV_OFFSET: 972316.67
#GRAV_OFFSET: 972302.95 on 0710
#GRAV_OFFSET: 972302.90
#GRAV_OFFSET: 972309.39 on 0801
#GRAV_OFFSET: 972304.41 on 0803
#GRAV_OFFSET: 972306.75
#GRAV_OFFSET: 972305.39
#GRAV_OFFSET: 981320.86
#GRAV_OFFSET: 972304.81
#GRAV_OFFSET: 972304.31 on 0905A
#GRAV_OFFSET: 972299.85 on 1001
#GRAV_OFFSET: 972299.80
#GRAV_OFFSET: 972299.71
#GRAV_OFFSET: 972300.17
#GRAV_OFFSET: 972300.25
GRAV_OFFSET: 972302.99
YEAR: 2011.66

#
#####
#
# Gravity QC
#
# LOCATION      : where the final data file is located
# GAP           : minimum allowable time gap      (in seconds)
# FIELD         : field where value can be found (starting at 1 after timestamp)

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# NAME      : name of the field
# MIN       : minimum allowable value          (XXX means ignore)
# MAX       : maximum allowable value          (XXX means ignore)
# ROC       : maximum allowable rate of change (XXX means ignore)
# DELIMITER : the delimiter for the body of data items (SPACE, COMMA, . . .)
#
#TAG  LOCATION  GAP FIELD NAME MIN MAX  ROC DELIMITER
GRQC /data/current_cruise/geopdata/GRV/ 30 1 GRAVITY 4000 12000 100 SPACE
#####
#
# NBP PSP and PIR coefficients
#  PSP serial number: 32850F3      Cal: 14 Apr 2011
#  PIR serial number: 32845F3      Cal: 14 Apr 2011
#
#  PSP and PIR assumed to be cal number * 10^-6
#
#  Calculations make in the programs....
#    PIR = mV / ( coeff V/wm^-2 * 10^3mV/V)
#    PSP = mV / ( coeff v/wm^-2 * 10^3mV/V)
#
#  For example, program will calculate
#    PIR coefficient = 1/ (3.92x10^-6 * 10^3) = 255.1
#    PSP coefficient = 1/(8.05x10^-6 * 10^3) = 124.22
#
PSP1 7.87
PIR1 4.11
#####
#
# NBP met
#
# PAR serial number: 6357  Cal Date: 8 Jul 2010
# PAR Calibration Factor = 6.3779 V/uE/cm^2sec
# PAR Probe Dark offset = 0.7 mV
#
# old PAR      1/6.30 (Dry V/uE/cm^2sec) 0.0021 (Probe Dark in Volts)
#
# PAR      1/6.06 (Dry V/uE/cm^2sec) 0.0004 (Probe Dark in Volts)
# PAR      1/6.10 (Dry V/uE/cm^2sec) 0.0004 (Probe Dark in Volts)
# PAR      1/6.10 (Dry V/uE/cm^2sec) 0.0004 (Probe Dark in Volts)
# PAR      1/6.27 (Dry V/uE/cm^2sec) 0.0001 (Probe Dark in Volts)
# PAR      1/5.44 (Dry V/uE/cm^2sec) 0.00201 (Probe Dark in Volts)
# PAR      1/5.8644 (Dry V/uE/cm^2sec) -0.0001 (Probe Dark in Volts)
# PAR      1/5.6234 (Dry V/uE/cm^2sec) 0.0002 (Probe Dark in Volts)
# PAR      1/6.0159 (Dry V/uE/cm^2sec) 0.0002 (Probe Dark in Volts)
# PAR      1/6.0159 (Dry V/uE/cm^2sec) 0.0001 (Probe Dark in Volts)
# PAR      1/6.3779 (Dry V/uE/cm^2sec) 0.0007 (Probe Dark in Volts)
#
PAR 0.1568 0.0007
#
#####
#
# Transmissometer HydroDAS
#  Serial number CST-439DR
#  Date Calibrated March 18, 2010
#

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# % transmission = (vsig - vd) / (vref - vd)
#
#   vd = 0.061
#   vref = 4.772
#
#   = (vsig - 0.061) / (4.772 - 0.061)
#
#   Vdark   Vref
# TRAN  0.060   4.683 changed 19nov09 to below
# TRAN  0.061   4.767 changed 15mar2010 to below; yeah, Vdark didn't change.
# TRAN  0.058   4.691
TRAN  0.058   4.702
#
#
#####
#
# Fluorometer
# Serial number AFLD-011
# Date Calibrated 10/06/2010
#
# Chlorophyll concentration in mg/l(mg/m**3) =
#   (Vmeasured - CWO) * SF (scale factor)
#
#   CWO = Vblank = dark counts
#
#   Dark Ccounts = 0.177
#   SF = 9.8116
#
#   = (Vmeasured - 0.177) * 9.8116
#
#   Dark_Counts SF
FLUR  0.0701  11.0782
#
#####
#
# Flow meters
#
FLO1  0.026
FLO2  0.024
FLO3  0.06
FLO4  0.055
#
#####
#
# Engineering
#
# RPM pitch rudder
SENG  25.  10.  3400.  2500.  20.
PENG  25.  10.  3400.  2500.  20.
# Roll and Pitch Pot
POPI  4.0  4.0
# Seawater flow meter
# swfl *c1  +c2
SWFL  48.0  0
#

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#####
#
# NBP winches
#
# Scale conversion information for the science
# winches on the NBP. Sheave measurements made
# on 01/01/00. Wire Pull tests done on dates
# indicated
#
# stbd winch    sheave diam= 28.125"  .714m
# 9/16" wire    wire diam  = 0.5625"  .014m
#      total circumference= 90.124"  2.289m
#      magnets      = 24
#      Payout Scale factor= 3.755    .095
#      Tension Scale Factor= 200
#      operation limit= 20,718 lb
#
# port winch    sheave diam= 28.125    .714m
# .680" wire    wire diam  = 0.680    .017m
#      total circumference= 90.493"  2.297m
#      magnets      = 24
#      Payout Scale factor= 3.77     0.096m
#      Tension Scale Factor= 180
#      operation limit= 20,150 lb
#
# baltic winch  sheave diam= 12.125    .308m
# .322" wire    wire diam  = 0.322    .008m
#      total circumference= 39.103"  0.993m
#      magnets      = 10
#      Payout Scale factor= 3.910    0.099m
#      Tension Scale Factor= 200
#      operation limit= 5,980 lb
#
# Load pin in waterfall winches is sending out an A/D
# value of 2 even under 0 tension
# Also, payout pos/neg is opposite other winches
# uwf winch     sheave diam= 12.125    .308m
#      wire diam  = 0.322    .00818m
#      total circumference= 39.103"  0.993m
#      magnets      = 10
#      Payout Scale factor= 3.910    0.0993m
#      Tension Scale Factor= 60
#      operation limit= 5,980 lb
#
# lwf winch     sheave diam= 12.125    0.308m
#      wire diam  = 0.3125  0.00794m
#      total circumference= 39.074"  0.993m
#      magnets      = 10
#      Payout Scale factor= 3.907    0.0993m
#      Tension Scale Factor= 60
#      operation limit= 6,565 lb
#
# wnc1 and WNC2 are old.
#
#winch    payout tension speed

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#name fields are in format A:B where y=Ax+B
#
# new winch strings
# meters out = mout * a
# speed = speed * c
# tension = (tension * b) - e
#      a      b      c      d      e
SWNC  0.1    200    1.67   20718  -800
PWNC  0.1    180    1.67   20150   0
BWNC  0.1    62.5   1.67   5980   437.5
WWNC  0.1    60    -1.67   5980   0
# tension = (tension + uwncc6) * uwncc2;
UWNC  0.1    65    1.67   5980   0 -6
# old winch strings
LWF  -0.1    60    -1.67   6565   0
UWF  -0.1    60    -1.67   5980   0
WNC1  0.1    200   1.67   NAN   0
WNC2 -0.1    60    -1.67   NAN   0
#
#
#####
#####
#####
####  These TSG coefficients are no longer used.  They are for the
####  old TSG no longer installed.  They will shortly be removed.
#####
##
***** Calibration factors for SBE 21 S/N 3198 *****
***** Calibration Date of 20 May 06 *****
# c:urrently in use
# Temperature calibration factors
%TEMPERATURE%
g 0.00422473160
h 0.000629770835
i 0.0000205272425
j 0.00000154706370
fo 1000.000
*

# conductivity calibration factors
%CONDUCTIVITY%
g -4.27061383
h 0.504384737
i -0.000453257393
j 0.0000472934991
p -0.000000095700
t 0.0000032500
*

***** Remote Temperature Probe SN #1267 *****
***** Calibration Date of 12-Apr-06 *****
# external temperature calibration factors
%EXTERNAL TEMPERATURE%
g 0.00476625066

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h 0.000664522185
i 0.0000284261863
j 0.00000262601374
fo 1000.000
*

#####