

EW9202.README
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Files:

Daily files:

The logged and reduced data are organized as sets of daily files.

A filename is composed of 3 parts:

- (1) cruise id "ew9202" or NULL
- (2) data id "vk.n"
- (3) dayofyear "068"

example:

ew9202vk.n068

Note: The cruise id is NULL for the daily data files for ew9202.

Cruise files:

ew9202.n Lamont MGG navigation file "brownbook" format
ew9202.t Lamont MGG topo file "brownbook" format
ew9202.g Lamont MGG gravity file "brownbook" format

Directories:

LOGGER - contains the data files logged during the cruise with some minor editing or cleaning. These are referred to as the ".d" files.

SCCS - the directory holds the reduced files in the "sccs" format. The Source Code Control System (SCCS) that is used for

program

source files is also used for maintaining the data files. The SCCS facility serves as a backup and history mechanism for the data reduction process.

shells - shell scripts that drive the data reduction

Reduction Log File ("RED.LOG")

Records the processing done by a run of a program on a data set.

fields:

data type	dayofyr	date_time	infile(s)	outfile(s)	
prog	sccs_id	parameters	results	comment	

"data_type"	character string identifying the data
"ddd"	three digit string for day of year of the data
"date_time"	date and time of processing
"infile(s)"	string of one or more input files
"outfile(s)"	string of one or more output filenames
"prog sccs_id"	name of the program that processed the data
"parameters"	identifies how the processing was performed

"results" describes the results of processing
"comment" a comment

Time tagging and Time Calibration:

During the logging process each record is tagged with the CPU's time.
This tag appears at the beginning of the record as

yy+ddd:hh:mm:ss:mmm

where "yy" is the year, "ddd" is the day of year, "hh" is the hour,
"mm" is the minute, "ss" is the second and "mmm" is the millisecond
of the CPU time.

One of the logging processes logs the True Time clock and a correction
for the offset and drift of the CPU clock is made by comparing it
with the stable True Time readings.

The following data sets use this corrected CPU time as their "official"
time: magnetics, Furuno, Hydrosweep center beam, KSS-30 gravity,
BGM-3 gravity counts.

These data sets include their own internal times: GPS and Transit sat.

The ":" following the "ddd" (day of year) field is changed to a ';' to
indicate that the time calibration has been done. Although some data
sets, as mentioned above, do not really use the CPU time tag, all
are still run thru the time calibration step.

The time calibration step produces the ".r" files from the ".d" files.

Flag field:

The third column is used as a flag field to indicate a bad or rejected
record.

"+" = initial field
"-" = rejected record

Transit Sat Fix (sf):

sf1 = Transit Sat fix receiver #1
sf2 = Transit Sat fix receiver #2

GPS Sat Fix (gp):

gp1 = GPS T-Set receiver #1

gp2 = GPS T-Set receiver #2

gp1.d - GPS logged data (before time calibration)

same as gp1.r below except for ":" following ddd instead of ";"

gp1.r - GPS records after time calibration (sample below is broken)

yy+ddd;hh:mm:ss:mmm MM/DD/YY HH:MM:SS -10.0

yr	day	time	DATE	TIME	TIME OFFSET
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N	33	50.526	W 118 20.425	32.0	
	LAT		LON	ALT	

10.5 172.8 1 11 45.3 9 44.8 13 44.1 7 43.1

SPD	CSE	TIME	PRN	C/N	PRN	C/N	PRN	C/N	PRN	C/N	
			STEP	1	01	2	02	3	03	4	04

10	8	12	0.8	2.1	1.0						
N	E	V	N	E	V						
	STD	STD	STD	DOP	DOP	DOP					

PRN = Pseudo-Random Number

C/NO = Carrier Signal-To-Noise Ratio

DOPs = Dilution of precision (north, east, vertical)

STD = Standard Deviation (north, east, vertical)

gp1.i - interpolated positions at 00,30 sec of each min

yy+ddd:hh:mm:ss.mmm	N 12 12.1234	W 123 12.1234	gp1
yy day time	lat	lon	id

gp1.s - smoothed postions at 00,30 sec of each min

yy+ddd:hh:mm:ss.mmm	N 12 12.1234	W 123 12.1234	gp1
yy day time	lat	lon	id

Furuno Speed and Heading (fu):

fu.d - speed & heading logged data (before time calibration)

same as fu.r below except for ":" following ddd instead of ";"

fu.r - speed & heading data after time calibration

yy+ddd;hh:mm:ss.mmm - 12.1 123.1 123.1
yr day time trk spd cse gyro

trk: "-" = water track, "+" = bottom track

fu.s - smooth speed and heading data

yy+ddd:hh:mm:ss.mmm - 12.1 123.1 20
yr day time trk spd cse number_pts
in minute

Fix File (x):

x. - fix file

yy+ddd:hh:mm:ss.mmm N 12 12.1234 W 123 12.1234 id
yr day time lat lon id_string

id strings: "gp1" = GPS #1, "gp2" = GPS #2

One Minute Navigation (n):

n. - 1 minute navigation from the "x." file and "fu.s" file

yy+ddd:hh:mm:ss.mmm N 12 12.1234 E 123 12.1234 id 123.1 12.1
yr day time lat lon id set drift

id strings: "gp1" = GPS #1
"gp2" = GPS #2
"dr" = Dead Reckoned position

Hydrosweep center beam bathymetry (hb):

hb.d - center beam logged data (before time calibration)

same as hb.r below except for ":" following ddd instead of ";"

hb.r - center beam data after time calibration

yy+ddd;hh:mm:ss.mmm hh:mm:ss.mmm S 3445
yr day time 2nd_time mode depth_in_meters

mode: "S" for survey, "C" for calibration
note: 2nd time is ignored

hb.i - interpolated center beam depth at 00 sec of each minute

yy+ddd:hh:mm:ss.mmm 3445
yr day time depth_in_meters

hb.n - interpolated center beam merged with navigation

yy+ddd:hh:mm:ss:mmm N 12 12.1234 E 123.1234 2222.0
yr day time lat lon depth_in_meters

KSS-30 Gravity (vk):

vk.d - logged data (before time calibration)

same as vc.r below except for ":" following ddd instead of ";"

vk.r - data after time calibration

yy+ddd;hh:mm:ss.mmm 90 365 2358 27C 3 -1018.25 0.0014 0.0046
yr day time yr day time sea grav velocity

velocity

(grv clock) state

note: grv clock not used

vk.s - smooth KSS-30 values at 00 secs of each minute. time adjusted
for filter lag. (mean of values +-30 secs)

yy+ddd;hh:mm:ss.mmm 0468.18
yr day time grav

vk.n - "vk.s" merged with nav with EOTVOS correction and FAA

Note: "vk30.n" is merged data using 1930 theoretical formula

yy+ddd:hh:mm:ss.mmm N 10 20.1234 W 120 23.1234 1980 77.1
yr day time lat lon theo FAA

0317.5	64.1	1.5	-980164.0	-1.7	9.7	-1.6	9.8	
	raw_grav	eotvos	drift	dc		raw_vel	smo_vel	
			shift		N	E	N	E