U. S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE
NATIONAL METEOROLOGICAL CENTER

OFFICE NOTE 289

BATHYTHERMOGRAPH 36-DAYS ROTATING FILE

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Bathythermograph 36-Days Rotating File

This Office Note describes the archiving system for the bathythermograph (BATHY) guaranteed fixed format 36-days rotating file, NMC.WD21.BATHY.ROTATING. This is a direct-access data set comprized of 3601 records with DCB=(RECFM=F, LRECL=420, BLKSIZE=420). Record number 1 is used for internal bookkeeping. Records number 2 through 3601 contain the BATHY data.

Each record is blocked/packed without format control. The maximum record size is 420 bytes. Currently we process approximately 100 BATHY reports daily. Any given day is available for at least 36-days, after which it is over-written. The file is updated regularly each day with observations at 12Z.

Attachment I shows the standard format of a 420 byte record. The format is identical to the one created between Mr. J.J. Kundrat (WD21, NMC) and NODC for archiving IGOSS radio message of BATHY reports.

Details of the programs which process the raw BATHY observations into this guaranteed fixed format may be obtained from V. M. Gerald, WD21, MPB.

RECORD DESCRIPTION

FIELD NAME	LOCATION Position	Units	LENGTH Number	Units	EXPLANATON/REMARKS
Beginning of Record Indicator	1	bytes	4	bytes	Beginning of observation indicator from the bathy message (JJXX).
GTS Station	5	"	4	"	Call sign of GTS staton or U.S. radio station which transmitted bathy report.
Transmission Time					The time the bathy report was transmitted by the GTS station.
Day	9	"	2	"	1-31, right justified, zero filled
Hour	11	"	2	"	0-23, right justified, zero filled GMT
Minutes	13	"	2	"	0-59, right justified, zero filled
Time Received					The time the bathy report was received at the GTS station.
Hour	15	"	2	"	0-23, right justified, zero filled GMT
Minutes	17	"	2	"	0-59, right justified, zero filled
GTS Station	19	"	4	"	Call sign of the GTS station creating the file to be sent to the archiving center.
Date Created					The date the file was created to be sent to the archiving center.
Year	23	"	2	"	0-99, right justified, zero filled
Month	25	"	2	"	1-12, right justified, zero filled GMT
Day	27	"	2	"	1-31, right justified, zero filled

FIELD NAME	LOCATION Position	Units	LENGTH Number	Units	EXPLANATION/REMARKS
Date/Time					The date and time the observation was taken.
Year	29	bytes	2	bytes	0-99, right justified, zero filled
Month	31	"	2	"	1-12, right justified, zero filled
Day	33	"	2	"	1-31, right justified, zero filled GMT
Hour	35	"	2	"	0-23, right justified, zero filled
Minutes	37	"	2	"	0-59, right justified, zero filled
Country	39	"	2	"	IOC Country Code. Blank or 99 for unknown (call sign not identified at time of message received).
Ship Call Sign	41	"	8	"	WMO ship call sign, right justified, blank filled.
Data Type*	49	"	1	"	The type of data (2=ship taken BT, 3=aircraft taken BT, 4=fixed buoy, 5=drifting buoy, 6=BT taken from a platform of unknown type).
Position					Location that the observation was taken at.
Quadrant	50	"	1	"	1=NE, 3=SE, 5=SW, 7=NW
Latitude					
Degrees	51	"	2	"	0-90, right justified, zero filled
Minutes	53	"	2	"	0-59, right justified, zero filled
Longitude					
Degrees	55	"	3	"	0-180, right justified, zero filled
Minutes	58	"	2	"	0-59, right justified, zero filled
Wind					
Indicator	60	"	1	"	Blank = no data 0 = Meters/second with certified instruments 1 = Knots with certified instruments. 2 = Meters/second with uncertified instruments. 3 = Knots with uncertified instruments.

*Bathythermograph (BT)

FIELD NAME	LOCATION Position	Units	LENGTH Number	Units	EXPLANATION/REMARKS
Direction	61	bytes	2	bytes	True wind direction, in tens of degrees, right justified and zero filled. Use 00 for calm, 36 for 355 to 004 degrees and blank for no data.
Speed	63	"	2	"	True wind speed, in whole meters/second or whole knots, right justified, zero filled. Use 00 for calm and blank for no data.
Air Temperature Indicator	65	"	1	"	FM63 and FM64 governed code. blank = no data, 2 = data present.
Sign	66	"	1	"	0 = Positive (+), 1 = Negative (-), blank = no data
Temperature	67	"	3	"	°C to tenths, right justified, zero filled.
Depth to Bottom	70	"	4	"	To whole meters, right justified, zero filled.
Hit Bottom Indicator	74	"	1	"	Indicates if the probe hit is bottom depth. (blank = undetermined, 1 = didn't hit bottom, 2 = did hit bottom).
Number of Significant Depths*	75	"	3	"	The number of significant or inflection points taken (88888 group).
Number of Predetermined Depths*	78	"	3	"	The number of standard, fixed or predetermined depths taken (77777 group).

* The number of significant depths and the number of predetermied depths must not add up to more than 39. The maximum record length is 420. Each observation will be a physical record (block).

FIELD NAME	LOCATION Position	Units	LENGTH Number	Units	EXPLANATION/REMARKS
Surface Current Indicator	81	bytes	1	bytes	Blank = no data; 2 = GEK (Geomagnetic Elektrokinetograph); 3 = Ship's set and drift determined by fixes 3-6 hours apart; 4 = Ship's set and drift determined by fixes more than 6 hours apart, but less than 12 hours apart.
Direction	82	"	2	"	Surface current direction in tens of degrees, right justified, zero filled.
Speed	84	"	2	"	Surface speed in 0.1 knots, right justified, zero filled.
Alignment Byte	86	"	1	"	Alignment byte (blank) to even out record length.
First Depth	87	"	4	"	To whole meters, right justified, zero filled.
First Temperature					
Sign	91	"	1	"	0 = Postive (+), 1 = Negative (-), blank = no data
Temperature	92	"	3	"	°C to tenths, right justified, zero filled.
Depth	95	"	4	"	To whole meters, right justified, zero filled.
Temperature					
Sign	99	"	1	"	0 = Postive (+), 1 = Negative (-), blank = no data.
Temperature	100	"	3	"	°C to tenths, right justified, zero filled.

NOTE: The depth and temperature fields are repeated as required. All significant or inflection points proceed any predetermined depths when both are present. The number of significant depths and the number of predetermined depths will determine the total number of data points. If the number of significant depths is zero, the predetermined depths start in byte 87. (Example: 3 significant points followed by 4 predetermined depths).