

## Subsurface current data

### 1 File Name

xxyyynn.A

where, xx: Hydrographic Code [listed in Table1]  
yy: Year (last 2 digits)  
nn: Consecutive number (Month; Before winter of 2010)

### 2 Format of File

Subsurface current data consist of ASCII records of fixed lengths (126 bytes). Each record is separated by two characters like as in DOS, which characters are one "control M" (carriage return, ASCII code 0Dh) and one "control J" (line feed, ASCII code 0Ah). For a missing value, the character '-'(ASCII code 2Dh) is put in place of the measured value. The column of the element that was not observed is filled with blanks.

Subsurface current data consist of cruise information record (HEADER) and subsurface current data records (DATA) obtained during the cruise. The character '@' on the "REC\_IND" of DATA represents the end record of the station data group.

#### HEADER (Cruise Information)

Element	Start Position	Field Type	Description of Field
FORMAT CODE	1	A4	Format code of the file: 'Ax.x'
CRUISE NO	6	I4	Cruise number identified with the year and the month.
PERIOD	11	2(2I2,1X)	Date of beginning and end of the subsurface current observations.
AREA	21	A98	Observation area.
NO OF STN	119	I4	Number of stations.
SHIP CODE	124	A2	Hydrographic Code (listed in Table 1.).
REC_IND	126	A1	'@'

#### DATA

Element	Start Position	Field Type	Description of Field
STATION NO	1	A3,I3	Station number given by the subsurface current code suffixed with three digits consecutive numbers.
DATE/TIME	8	2(2I2,1X)	Month, day and time of an observation in JST.
LATITUDE	18	I2,1X,I2,I1,A1	Degrees, minutes and tenths of minutes (if given) of latitude, N or S.
LONGITUDE	26	I3,1X,I2,I1,A1	Degrees, minutes and tenths of minutes (if given) of longitude, E or W.
W-DEPTH	35	I4	Water depth to the bottom in meters.
NO OF LAYER	40	I2	Number of observation layers.

Element	Start Position	Field Type	Description of Field
DEPTH(1)	43	I4	Depth of the 1st(4th) layer in meters.
DIR/SPEED(1)	48	I3,1X,I2	True direction(in degrees) toward which current is flowing and speed given in tenths of knots of the subsurface current for the 1st (4th) layer determined with Acoustic Doppler Current Meter (ACM). When the speed is less than 0.05knots, direction is given as 0.
DEPTH(2)	55	I4	Same as above but for the 2nd (5th) layer.
DIR/SPEED(2)	60	I3,1X,I2	idem
DEPTH(3)	67	I4	Same as above but for the 3rd (6th) layer.
DIR/SPEED(3)	72	I3,1X,I2	idem
REF	79	A2	Method to determine the ship velocity, which is used to calculate the absolute current velocity. (LC: Loran-C, GP: GPS, BM: Bottom track by ACM.)
SURF-TEMP	82	F5.2 or F4.1,1X	Surface temperature in ITS-90.
SURF-SAL	88	F6.3	Surface salinity in PSS-78.
HYD-NO	95	I4	Corresponding station number of hydrographic data.
SSF-NO	99	A2,I3	Corresponding station number of subsurface temperature data.
INTERVAL	105	I4	Time of averaging interval in seconds.
SHIP-DIR	110	I3	Direction of the ship in degrees.
SHIP-SPD	114	I3	Speed of the ship in tenths of knots.
HEAD	118	I3	Heading of the ship from gyro in degrees.
PING NO	122	I4	Number of pings over the averaging period.
REC_IND	126	A1	'@' or '='

Table 1: Ship codes.

Ship Name	Hydrographic	Subsurface current	BT
Kofu Maru	KH/KO	AH/AO	TH/TO
Ryofu Maru	RF	AF	TF
Keifu Maru I	KE	AE	TE
Keifu Maru II	KS	AS	TS
Shumpu Maru	SH	AH	TH
Chofu Maru	NC	AC	TC
Seifu Maru	SM	AM	TM



DATA (Station Information)

2nd(5th)Layer	SPEED		
	(blank)		
	DIR		60
	(blank)		
	DEPTH		55
	(blank)		
1st(4th)Layer	SPEED		
	(blank)		50
	DIR		
	(blank)		
	DEPTH		45
	(blank)		
	NO OF LAYER		40
	(blank)		
	W-DEPTH		
	(blank)		35
LONGITUDE	E/W		
	1/10 Min. Min.		30
	Deg.		
	(blank)		25
LATITUDE	N/S		
	1/10 Min. Min.		20
	Deg.		
	(blank)		
DATE/TIME (JST)	Minute		15
	Hour		
	(blank)		
	Day		10
	Month		
	(blank)		
	STATION NO		5

	REC_IND		
	PING NO		125
	(blank)		
	HEAD		120
	(blank)		
	SHIP-SPD		115
	(blank)		
	SHIP-DIR		110
	(blank)		
	INTERVAL		
	(blank)		105
	SSF-NO		
	(blank)		100
	HYD-NO		
	(blank)		95
	SURF-SAL		
	(blank)		90
	(blank)		
	SURF-TEMP		85
	(blank)		
	REF		80
	(blank)		
3rd(6th)Layer	SPEED		
	(blank)		75
	DIR		
	(blank)		
	DEPTH		70
	(blank)		
	SPEED(cont.)		65