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REPUBLIQUE DU SENEGAL
INSTITUT SENEGALAIS DE RECHERCHES AGRICOLES

CAMPAGNE CAPRICORNE-ECHOLES
du 10 septembre au 15 octobre 1977
Résultats des mesures physiques

par

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OCEANOGRAPHIQUES DE DAKAR-THIAROYE

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CAMPAGNE ECHOLES
RESULTATS D'OBSERVATIONS-BATHYTHERMOGRAMMES

Au cours de la campagne **CAPRICORNE-ECHOLES**, qui s'est déroulée du 10 septembre au 5 octobre 1977, diverses observations, dont les **résultats sont présentés** ici, ont été effectuées.

- La zone couverte s'étend du Cap Timiris ($19^{\circ}20N$) au Cap Roxo ($12^{\circ}20N$). (fig. 1).

- Les stations couvrent le plateau continental dans son ensemble, et deux zones concentrées au large de la ligne des 200 m (fig. 2-3-4).

- Les isothermes sont données pour la surface (fig. 5-6-7), et pour les profondeurs 3 mètres (fig. 8-9) et 20 mètres (fig. 10-11).

- Les bathythermogrammes ont été réalisés à l'aide de l'appareil T.S.K. N° 2231 (0 à 125 m), appartenant au C.R.O. d'Abidjan (fig. 18).

- Les cartes d'immersion de la thermocline sont tracées à partir des 149 bathythermogrammes obtenus.

La 2e méthode (WYRTKI) a été retenue. (fig. 12-13-14).

- Les salinités ont été mesurées au salinomètre à induction BISSET et BERMAN. (fig. 15-16-17).

CAP. ECHOLES

BATHYTHERMOGRAMMES EFFECTUES A L*AIDE DU BATHYTHERMOGRAPHE N° 2231

- NORD-PREMIERE: PARTIE -

DATE	HEURE	POSITION		FOND	N° BT	TEMP. SURFACE	PROF. THERMO- CLINE	SALIN.
		LAT. N.	LONG.W.					
14.9.77	10.10	16.03	17.32	2 000	2	27.8	38	36.01
"	14.30	16.36	17.23	2 000	4	28.6	32	36.00
"	16.00	16.48	17.18	2 000	5	28.2	32	36.00
"	17.30	17.05	17.14	2 000	6	27.8	35	36.03
15.9.77	10.15	18.04	16.42	300	7	27.2	27	36.12
"	10.45	18.07	16.41	300	8	27.2	25	36.12
"	13.15	18.13	16.31	250	9	27.2	24	36.14
"	16.45	18.13	16.47	2 000	10	27.7	26	36.17
"	17.30	18.08	16.41	2 000	11	27.9	25	36.16
"	20.00	18.00	16.30	2 000	12	27.2	22	36.13
16.9.77	9.30	18.00	16.36	2 000	13	27.2	28	36.27
"	11.50	17.59	16.49	2 000	14	27.6	26	36.18
"	14.45	17.45	16.50	1 000	15	27.5	23	36.04
"	17.15	17.45	16.37	320	16	28.0	18	36.20
"	18.20	17.53	16.36	500	17	27.8	18	36.17
"	19.40	17.58	16.37	500	18	27.6	20	36.16
17.9.77	9.15	17.55	16.47	2 000	19	27.2	24	36.06
"	11.15	17.56	16.56	2 000	20	27.4	24	36.05
"	14.00	18.06	16.56	2 000	21	27.4	30	36.07
"	16.15	18.19	16.52	1 200	22	27.1	25	36.16
"	17.45	18.29	16.46	2 000	23	25.5	25	36.09
"	19.10	18.40	16.41	1 000	24	24.2	20	36.11
"	21.35	18.40	16.24	40	25	23.8	10	36.09

. NORD - PREMIERE PARTIE (suite) -

DATE	HEURE	POSITION		FOND	N° BT	TEMP. SURFACE	PROF. THERMO- CLINE	SALIN.
		LAT. N.	LONG. W.					
18.9.77	0.00	18.50	16.23	26	26	24.3	10	36.06
"	2.15	18.50	16.46	250	27	24.1	20	36.12
"	3.35	19.00	16.43	115	28	23.5	16	36.08
"	4.50	19.00	16.34	555	29	23.4	13	36.05
"	8.00	19.07	16.39	126	30	22.3	26	36.06
"	9.00	19.09	16.45	250	31	23.5	22	36.10
"	10.15	19.02	16.55	300	32	23.9	32	36.14
"	11.15	18.57	17.03	2000	33	25.2	35	36.12
"	12.50	18.50	17.08	3300	34	25.8	26	36.13
"	14.00	18.45	17.16	300	35	26.0	30	36.13
"	15.00	18.40	17.06	1000	36	25.9	37	36.12
"	18.00	18.34	16.47	1000	37	25.8	34	36.10
"	19.30	18.30	16.34	190	38	26.3	17	36.08
"	21.00	18.30	16.23	45	39	24.3	6	36.07
19.9.77	2.10	18.20	16.22	50	40	24.9	8	36.09
"	3.25	18.20	16.31	250	41	26.4	23	36.13
"	4.35	18.10	16.32	250	42	26.4	25	36.16
"	5.40	18.10	16.20	53	43	24.8	11	36.09
"	10.50	18.10	16.43	500	44	27.2	24	36.17
"	12.00	18.10	16.53	500	45	27.7	25	36.05
"	13.15	18.10	17.03	1000	46	27.5	21	36.09
"	14.30	18.10	17.13	1000	47	27.6	30	36.12
"	17.15	18.06	16.58	1000	48	28.3	23	36.08
"	18.30	18.04	16.48	1000	49	28.2	25	36.08
"	19.40	18.02	16.36	1000	50	27.6	25	36.21

- NORD - PREMIERE PARTIE (suite) -

DATE	HEURE	POSITION		FOND	N° BT	TEMP.	PROF.	SALIN.
		LAT. N.	LONG. W.			SURFACE	THERMO- CLINE,	
18.9.77	21.50	17.59	16.21	78	5a	27.3	8	36.16
20.9.77	00.45	17.50	16.12	35	52	26.7	12	36.19
"	2.30	17.43	16.21	84	53	26.9	19	36.16
"	4.15	17.41	16.33	205	54	27.3	15	36.19
"	5.20	17.45	16.38	1 500	55	27.1	20	36.10
"	6.15	17.45	16.50	1 000	56	27.4	25	36.01
"	7.20	17.45	17.01	1 000	57	27.3	28	36.06
"	8.30	17.45	17.10	1 000	58	27.4	24	36.03
"	10.00	17.45	17.20	1 000	59	26.9	25	36.19
"	11.45	17.55	17.21	1 000	60	27.8	20	36.17
"	13.12	17.55	17.07	250	61	28.1	26	36.10
"	14.25	17.55	16.59	500	62	28.6	26	36.03
"	17.00	18.00	16.46	500	63	28.6	21	36.06
"	19.15	18.00	16.29	1 000	64	27.7	25	36.16
"	21.00	18.05	16.34	1 000	65	27.6	25	36.19
"	22.45	17.55	16.41	1 000	66	27.6	25	36.08
21.9.77	1.30	17.55	16.49	1 000	67	27.4	24	36.07
"	3.25	18.05	16.55	250	68	27.6	28	36.03
"	5.00	17.55	17.00	500	69	27.4	24	36.05
"	7.00	18.07	17.85	500	70	27.1	27	36.06
"	8.00	18.16	17.05	500	71	27.3	26	36.09
"	9.20	18.15	16.53	500	72	27.3	30	36.05
"	10.50	18.15	16.41	500	73	27.0	25	36.19
"	12.00	18.15	16.33	500	74	26.8	25	36.14
"	17.10	18.05	17.05	500	75	27.7	32	36.03

- NORD - PREMIERE PARTIE (suite)

DATE	HEURE	POSITION		FOND	N° BT	TEMP. SURFACE	PROF. THERMO- CLINE	SALIN.
		LAT. N.	LONG. W.					
21.9.77	20.00	17.41	17.10	500	76	27.5	25	36.07
"	23.10	17.09	17.14	500	77	27.7	31	36.07
22.9.77	2.10	16.37	17.19	2000	78	27.6	32	36.08
"	5.15	16.08	17.18	500	79	27.7	33	36.02
"	9.12	15.37	17.29	500	80	27.8	22	35.84
"	12.00	15.11	17.33	500	81	28.6	15	35.77

- NORD - DEUXIEME PARTIE -

DATE	HEURE	POSITION		FOND	N° BT	TEMP. SURFACE	PROF. THERMO- CLINE	SALIN.
		LAT. N.	LONG. W.					
2.10.77	10.40	14.51	17.25	100	82	28.4	17	35.77
"	12.00	14.54	17.12	50	83	28.7	8	35.77
"	14.00	15.09	17.15	220	84	29.0	12	35.86
"	16.35	15.10	17.02	70	85	28.8	16	35.74
"	17.10	15.16	16.54	23	86	30.4	5	35.73
"	19.00	15.24	16.56	50	87	28.3	18	35.78
"	20.30	15.26	17.06	173	88	28.4	20	35.85
"	21.20	15.33	17.01	126	89	27.3	15	35.85
"	22.05	15.40	17.01	140	90	28.3	15	35.83
"	23.00	15.40	16.52	566	91	28.6	20	35.53
"	23.55	15.40	16.49	25	92	28.5	17	34.60
3.10.77	7.00	15.55	16.59	98	93	28.2	16	35.22
"	8.10	15.55	16.50	84	94	28.1	17	35.09
"	9.25	15.44	16.39	33	95	28.4	12	34.08
"	11.00	15.47	16.36	16	96	28.5	7	25.64
4.10.77	05.45	14.48	17.38	220	97	28.4	23	35.39

- SUD -

DATE	HEURE	POSITION		FOND	N° BT	TEMP. SURFACE	PROF. THERMO- CLINE	SALIN.
		LAT. N.	LONG. W.					
25.9.77	13.20	12.28	17.58	3 000	98	28.9	19	35.59
"	19.50	12.37	18.03	3 000	99	28.6	17	35.39
"	23.00	12.41	18.08	3 000	100	28.4	17	35.37
26.9.77	01.00	12.38	18.20	3 000	101	28.5	25	35.54
"	03.25	12.19	18.20	1 000	102	28.6	15	35.30
"	06.30	12.19	18.00	1 000	103	28.3	17	35.56
"	11.00	12.46	18.08	1 000	104	29.2	13	35.36
"	13.05	12.31	18.08	1 000	105	29.3	14	35.35
"	18.30	12.10	17.54	1 000	106	28.5	20	35.75
27.9.77	09.20	15.54	17.48	1 000	107	28.4	20	35.73
"	18.30	12.17	17.42	500	108	29.2	20	35.65
"	20.45	12.20	17.22	200	109	28.6	17	35.47
"	22.00	12.20	17.13	25	110	28.3	10	33.00
"	23.00	12.20	17.05	19	111	28.7	5	31.10
28.9.77	03.40	12.35	17.16	25	112	28.1	16	34.34
"	04.50	12.35	17.27	50	113	28.2	8	35.12
"	05.30	12.35	17.38	300	114	28.4	13	35.56
"	13.20	12.49	17.10	25	225	29.7	8	34.38
"	14.25	12.49	17.20	37	116	30.4	14	34.94
"	15.30	12.49	17.30	40	117	30.0	14	35.62
"	16.35	12.50	17.41	500	118	30.2	12	35.73
"	18.15	12.50	17.48	1 000	119	29.4	15	35.87
29.9.77	07.15	13.05	17.37	100	120	28.6	16	35.73
"	08.15	13.05	17.27	55	121	28.2	12	35.61
"	09.45	13.05	17.10	39	122	28.3	12	34.99
"	12.00	13.06	17.03	20	123	28.8	C.H.	34.68

- SUD - (suite)

DATE	HEURE	POSITION		FOND	N° BT	TEMP. SURFACE	PROF. THERMO- CLINE	SALIN.
		LAT. N.	LONG. W.					
28.9.77	16.10	13.20	17.12	40	124	28.4	14	35.04
"	17.15	13.20	17.22	58	125	28.4	7	35.03
"	18.30	13.20	17.32	240	126	28.8	17	35.29
"	23.30	13.18	17.02	18	127	28.5	C.H.	34.73
30.9.77	06.00	13.35	17.28	250	128	28.6	12	35.80
"	08.10	13.35	17.17	80	129	28.6	19	35.52
"	09.15	13.35	17.07	34	130	28.0	12	35.00
"	10.20	13.35	16.56	16	131	28.8	C.H.	34.95
"	14.00	13.50	17.05	30	132	30.2	17	35.06
"	15.10	13.51	17.15	50	133	31.2	15	35.71
"	16.15	13.50	17.26	300	134	30.4	9	35.35
1.10.77	07.45	13.58	17.36	1 200	135	28.5	16	35.41
"	09.35	13.58	17.27	200	136	28.9	11	35.40
"	11.35	13.59	17.19	60	137	29.0	12	35.53
"	16.00	13.58	17.10	35	138	29.0	13	35.26
"	17.45	13.58	17.02	20	139	29.4	8	35.28
"	19.30	13.58	16.56	10	140	29.4	C.H.	35.48
"	22.55	14.16	17.11	30	141	29.3	16	35.36
"	23.55	14.14	17.22	58	142	28.6	7	35.26
02.10.77	01.05	14.17	17.31	350	143	28.9	10	35.20
"	01.40	14.23	17.32	250	144	29.2	10	35.24
"	02.00	14.00	17.00	200	145	29.1	11	35.20
"	03.40	14.30	17.25	70	146	28.9	10	35.27
"	04.50	14.30	17.15	34	147	28.9	15	35.48
"	06.50	14.37	17.17	25	148	28.9	10	35.34
"	7.50	14.37	17.27	33	149			

C.H. : Couche homogène (de moins de un degré).



Fig. 1

ZONES COUVERTES
 par CAP, ECHOLES

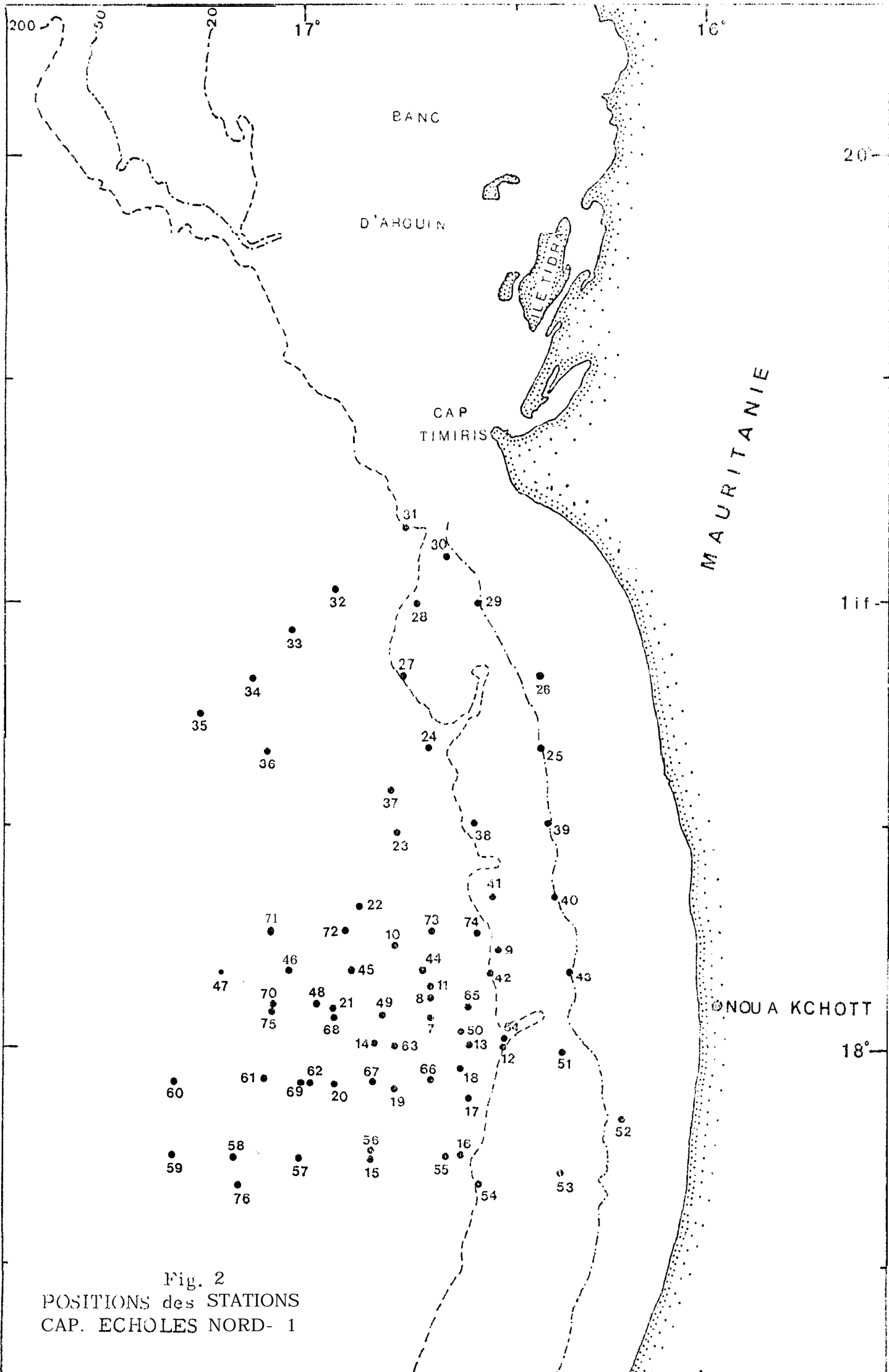


Fig. 2
 POSITIONS des STATIONS
 CAP. ECHOLES NORD- 1

18°

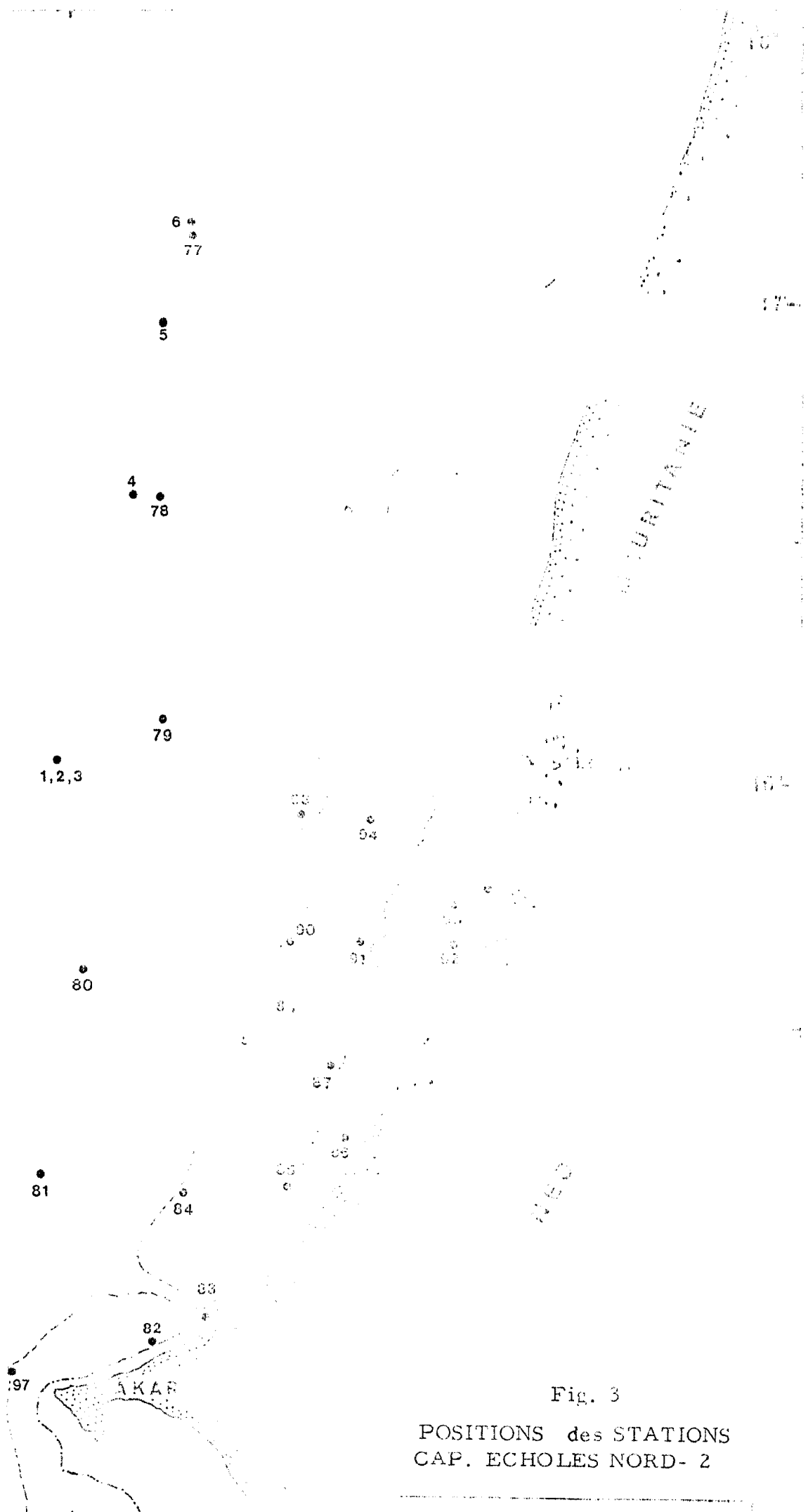


Fig. 3

POSITIONS des STATIONS
CAP. ECHOLES NORD- 2

N
E
G
A
T
I
V
E

145

146

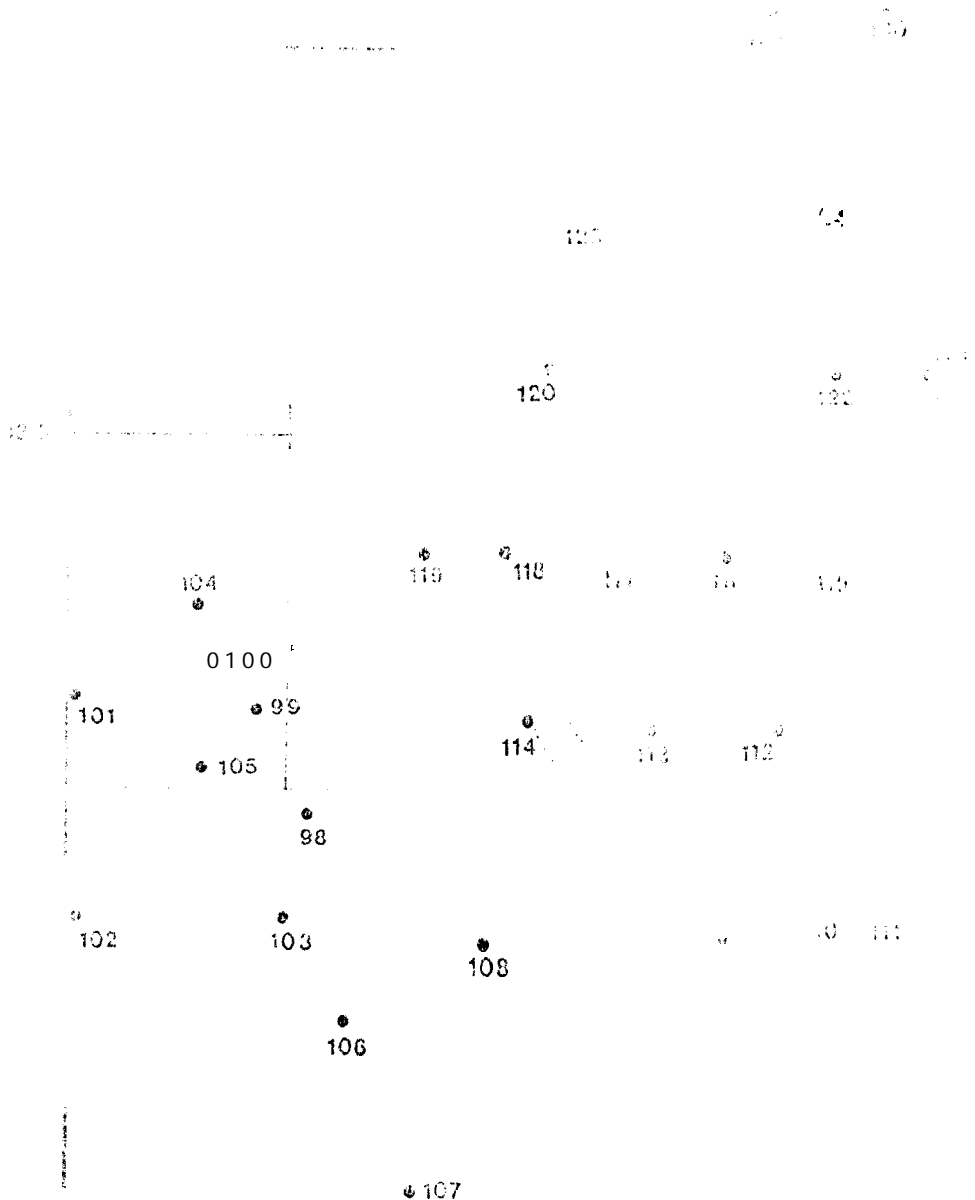
147

148

149

Fig. 4

POSITIONS des STATIONS
CAP. ECHOLES - SUD



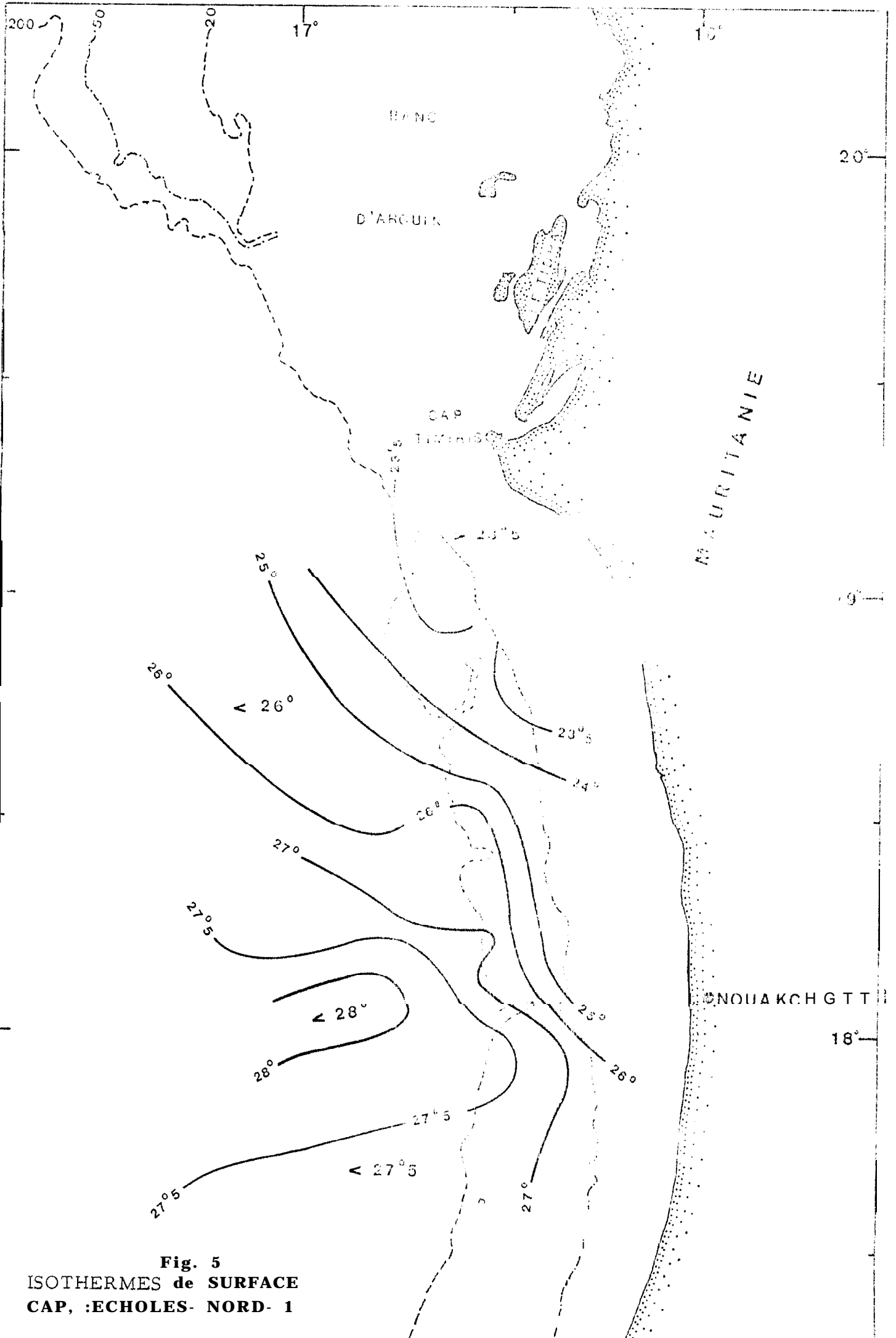


Fig. 5
ISOTHERMES de SURFACE
CAP, :ECHOLES- NORD- 1

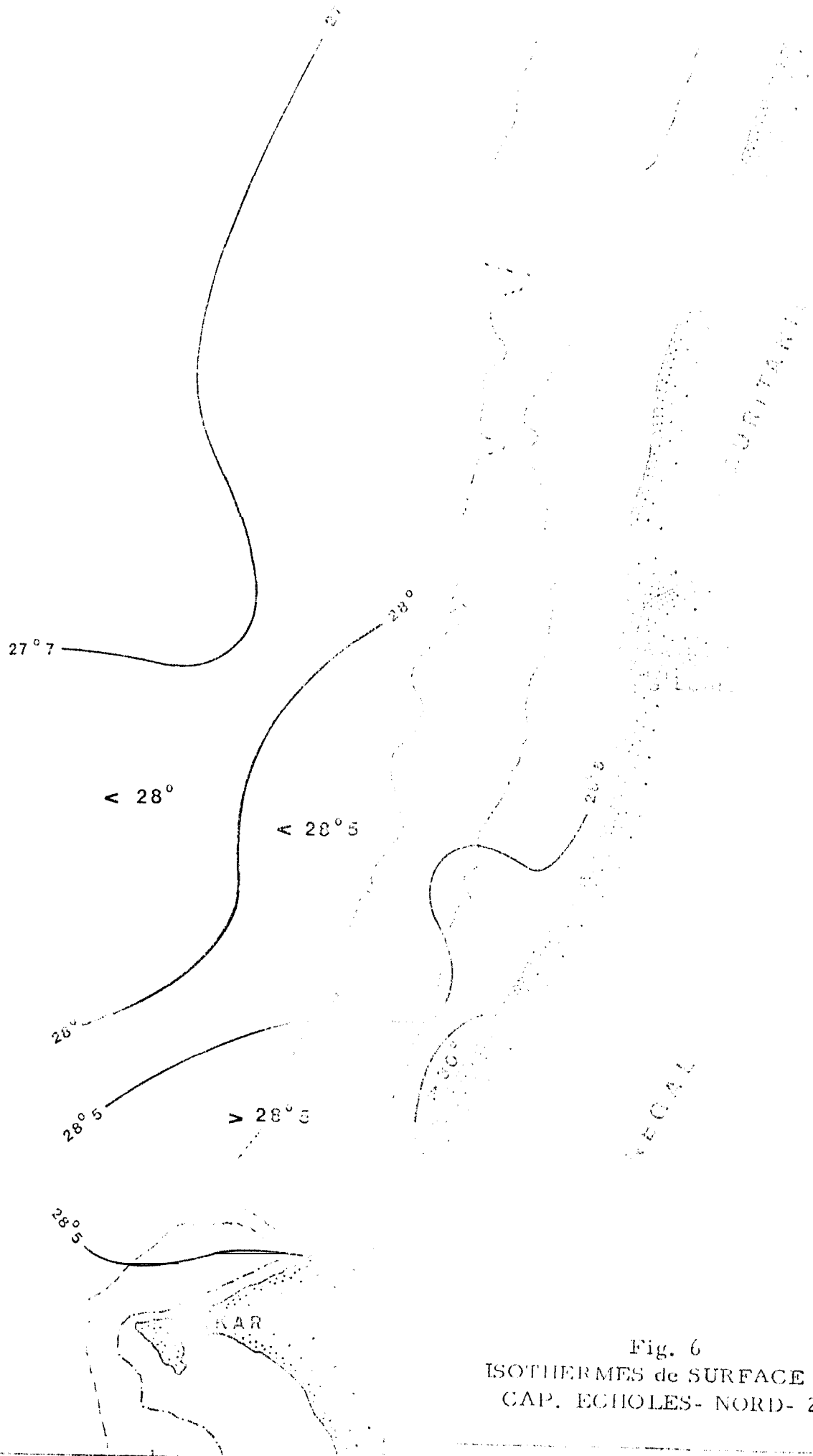


Fig. 6
ISOTHERMES de SURFACE
CAP. ECHOLES- NORD- 2

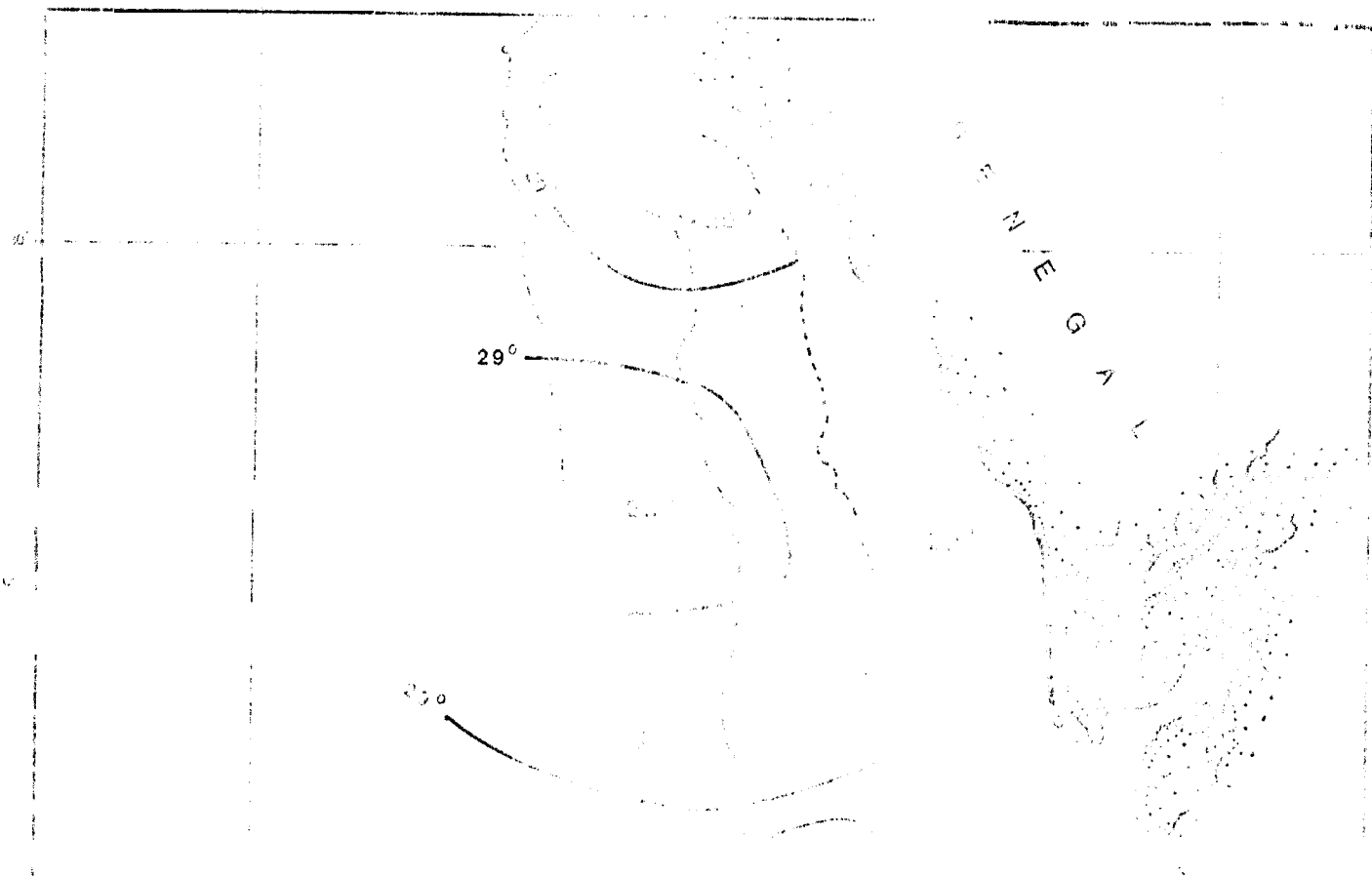
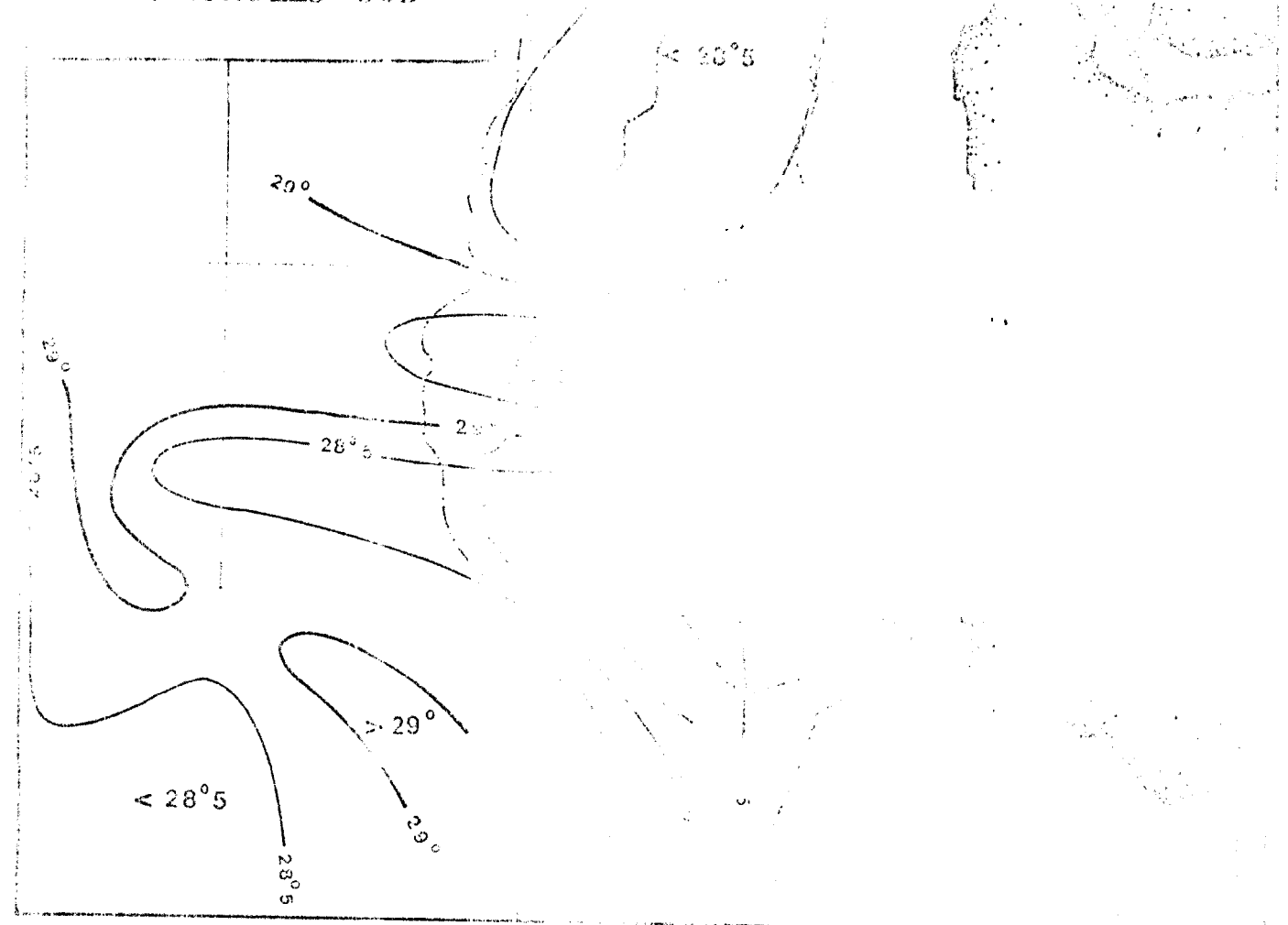


Fig. 7
ISOTHERMES de SURFACE
CAP. ECHOLES - SUD



15

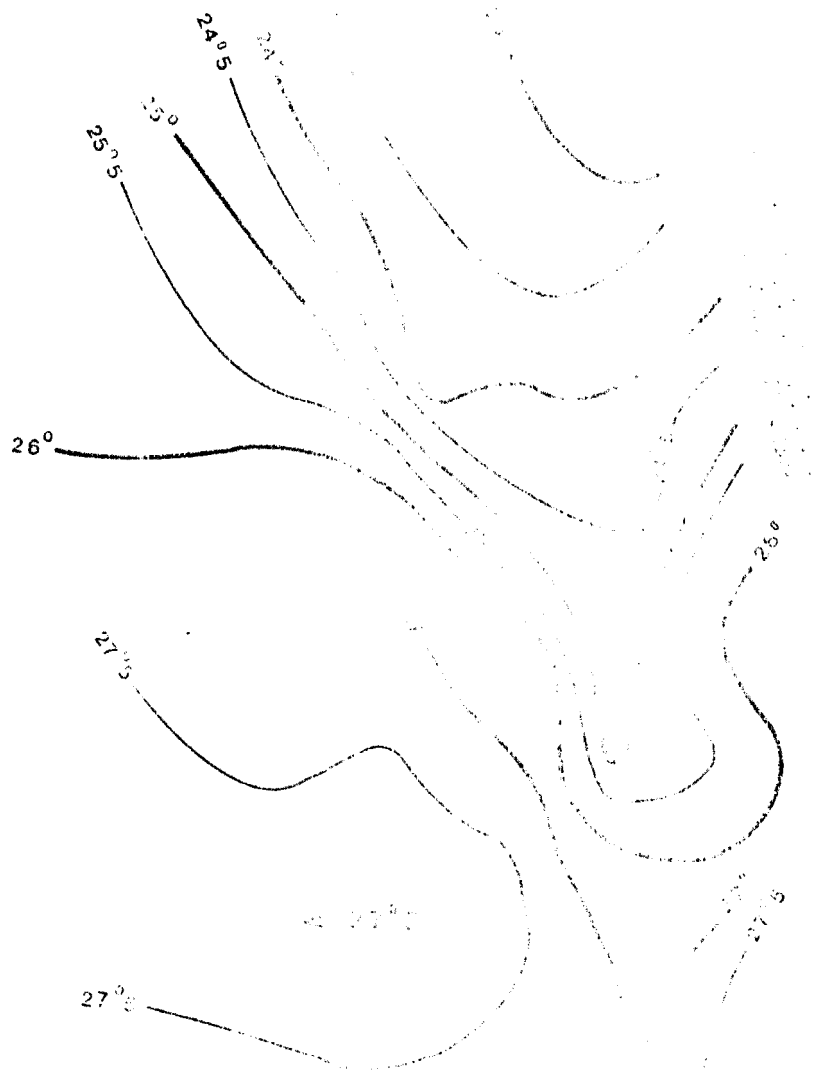


Fig. 8
ISOTHERMES à 3 mètres
CAP. ECHOLES - NORD - 1

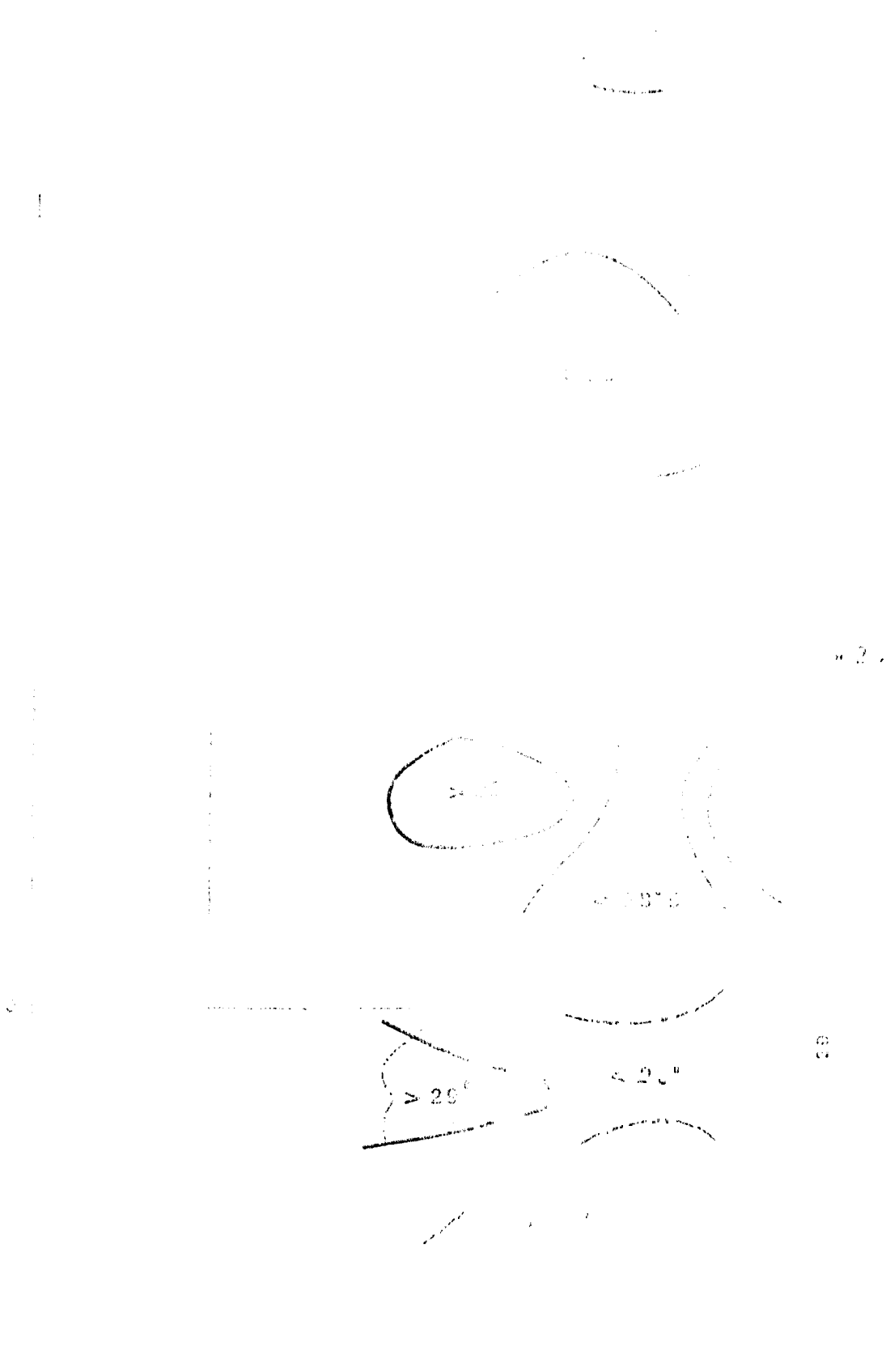


Fig. 9
ISOTHERMES à 300m
CAP. ECHOLES - SUD

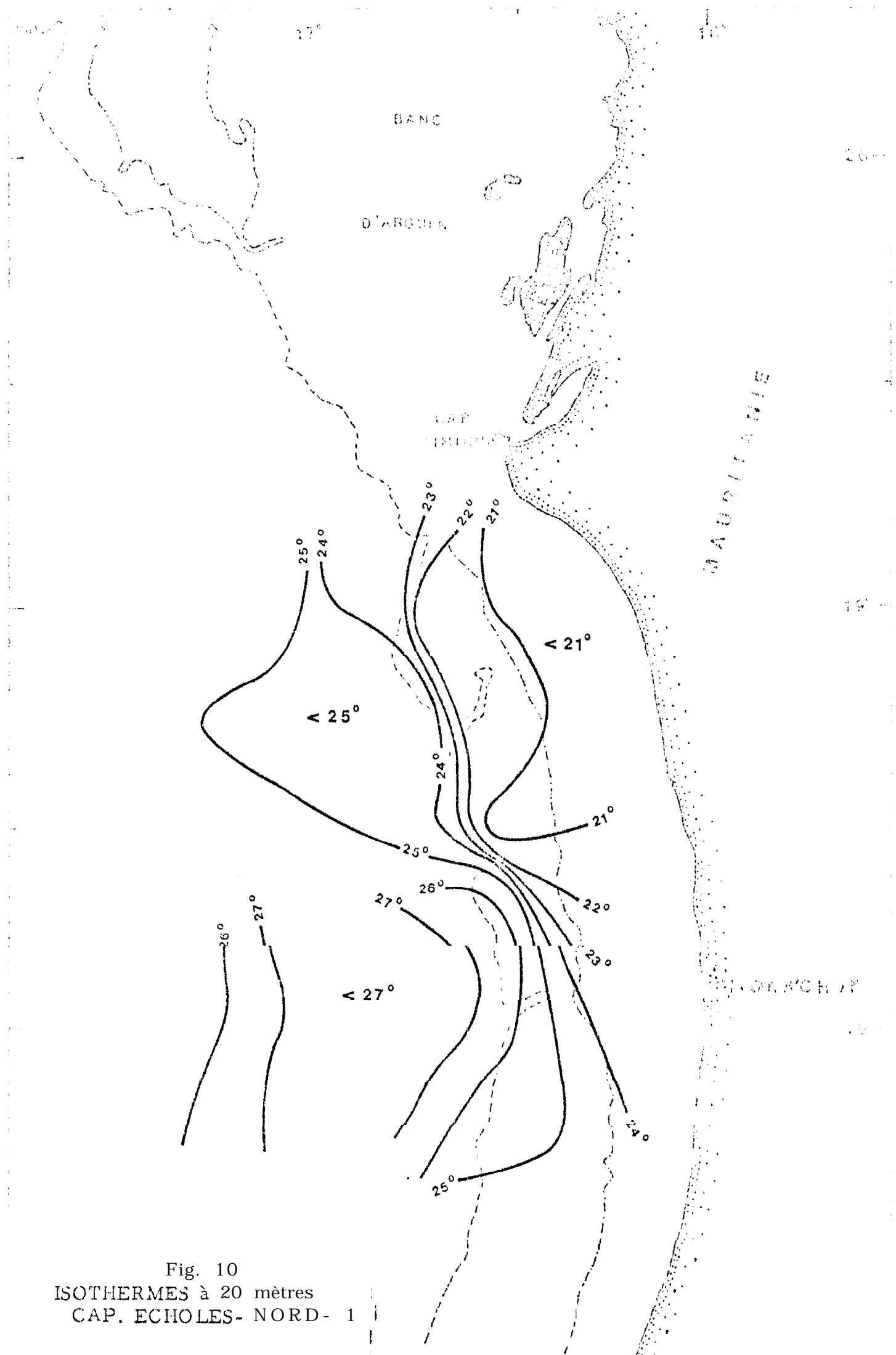


Fig. 10
 ISOTHERMES à 20 mètres
 CAP. ECHOLES- NORD- 1

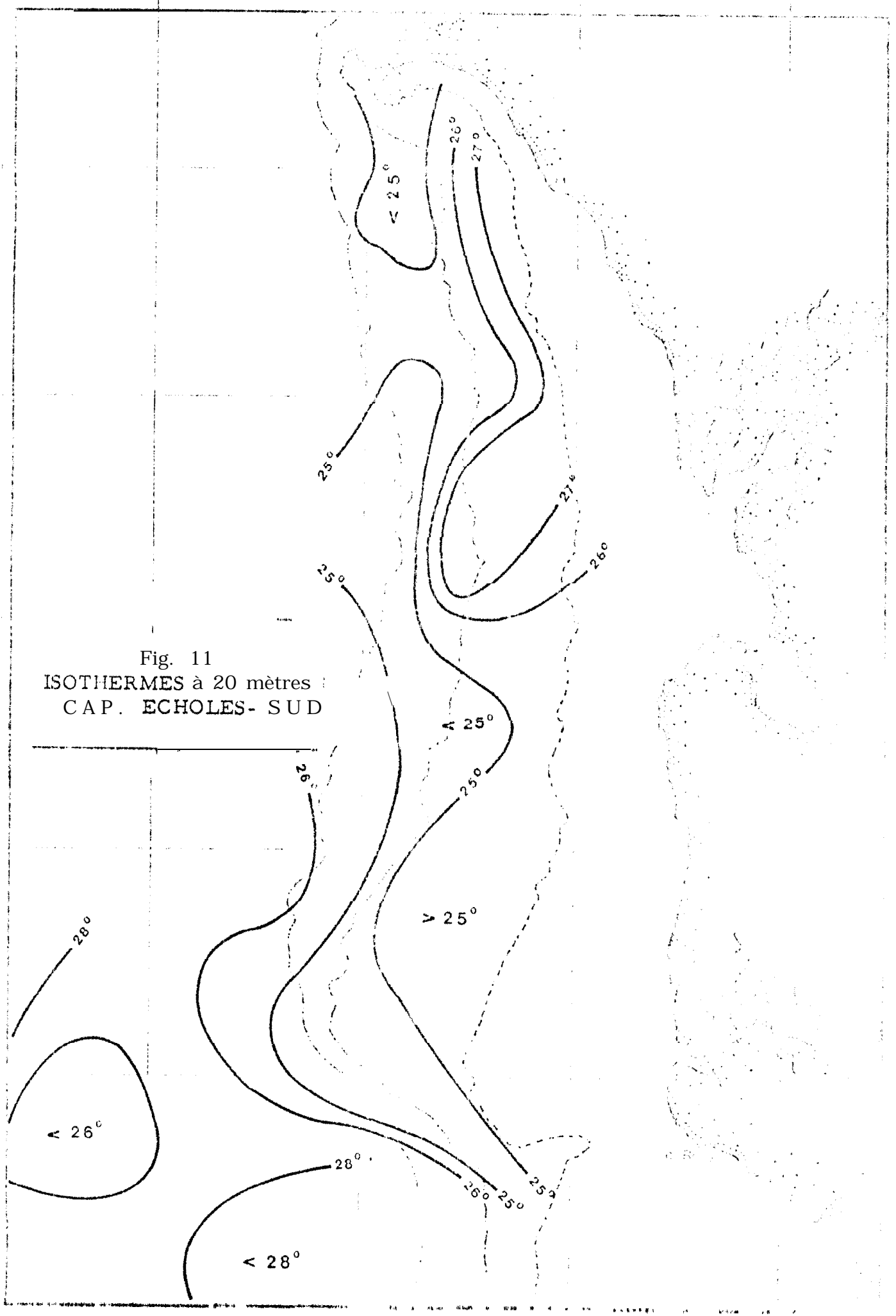
18°0

17°0

11 0

13 0

Fig. 11
ISOTHERMES à 20 mètres
CAP. ECHOLES- SUD



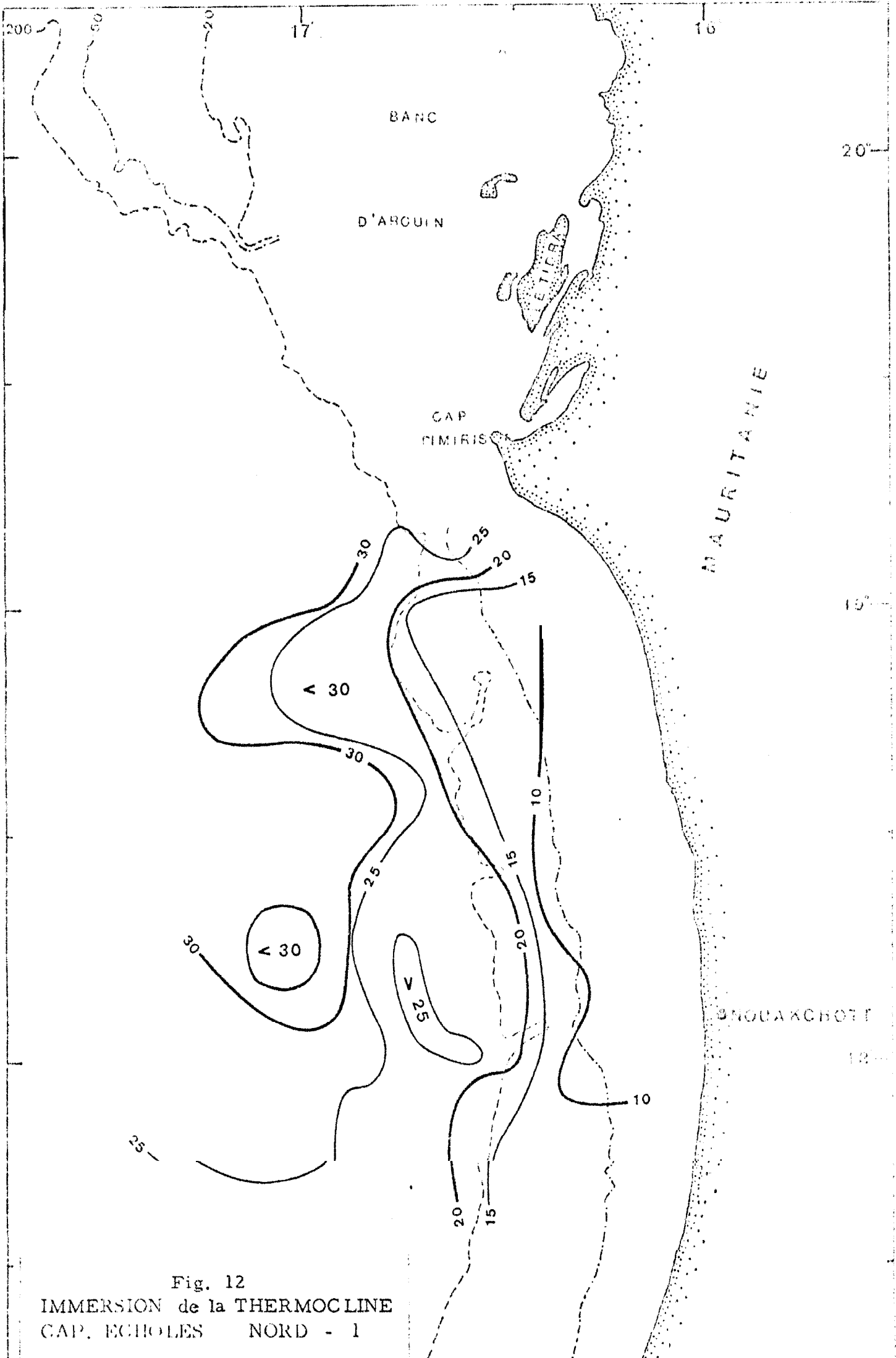


Fig. 12
 IMMERSION de la THERMOCLINE
 CAP. ECHOLES NORD - 1

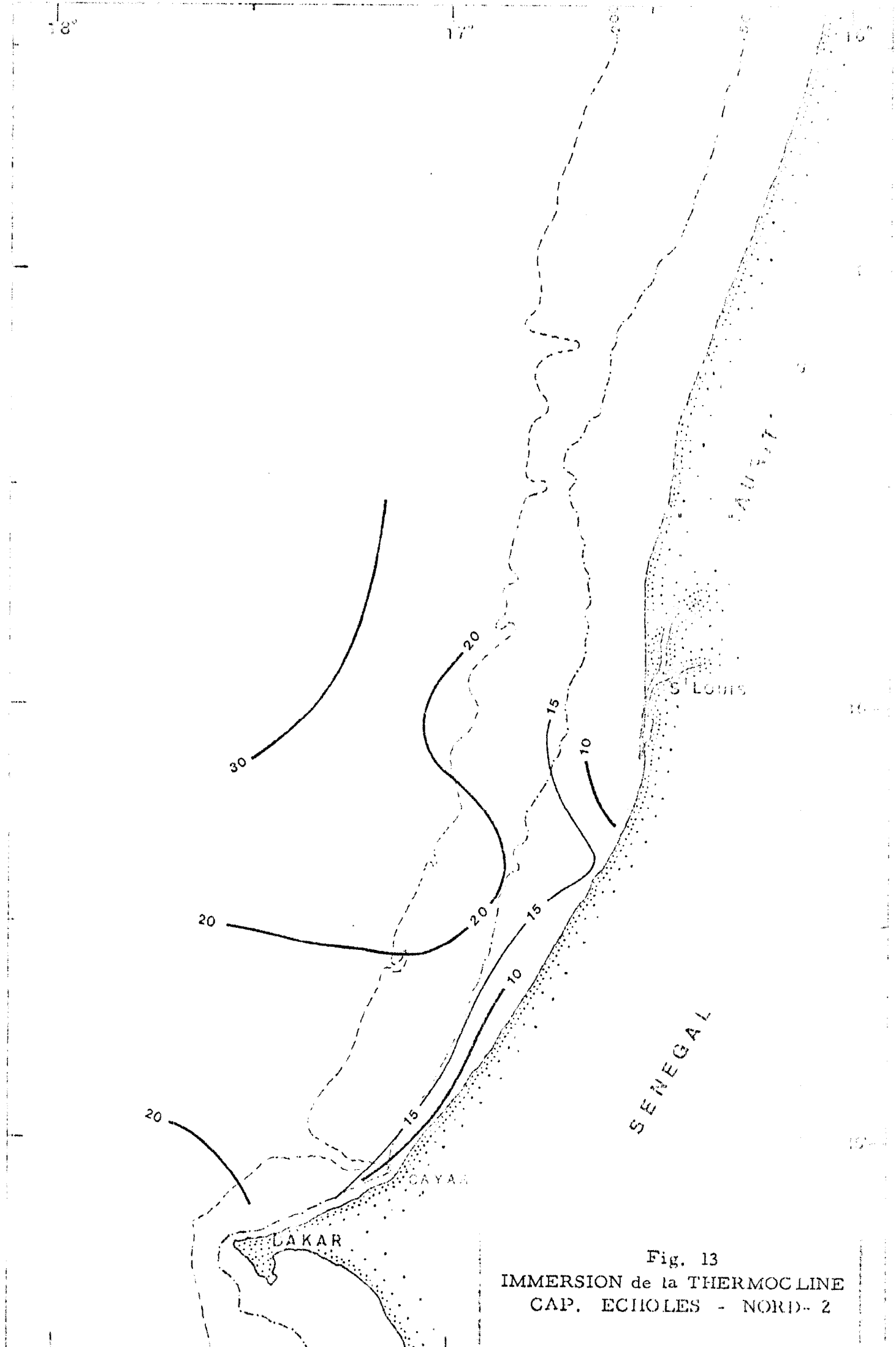
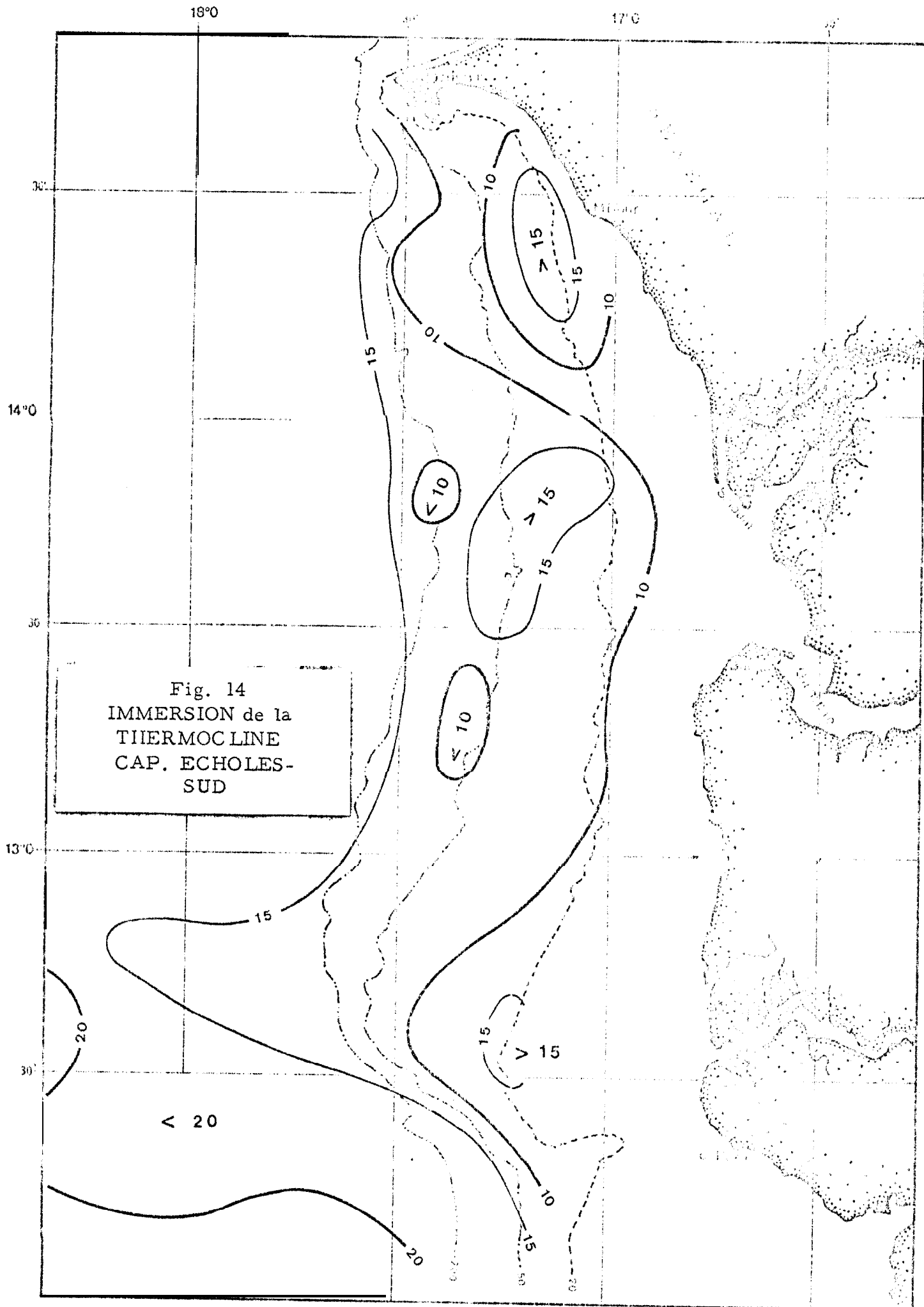


Fig. 13
 IMMERSION de la THERMOC LINE
 CAP. ECHILES - NORD- 2



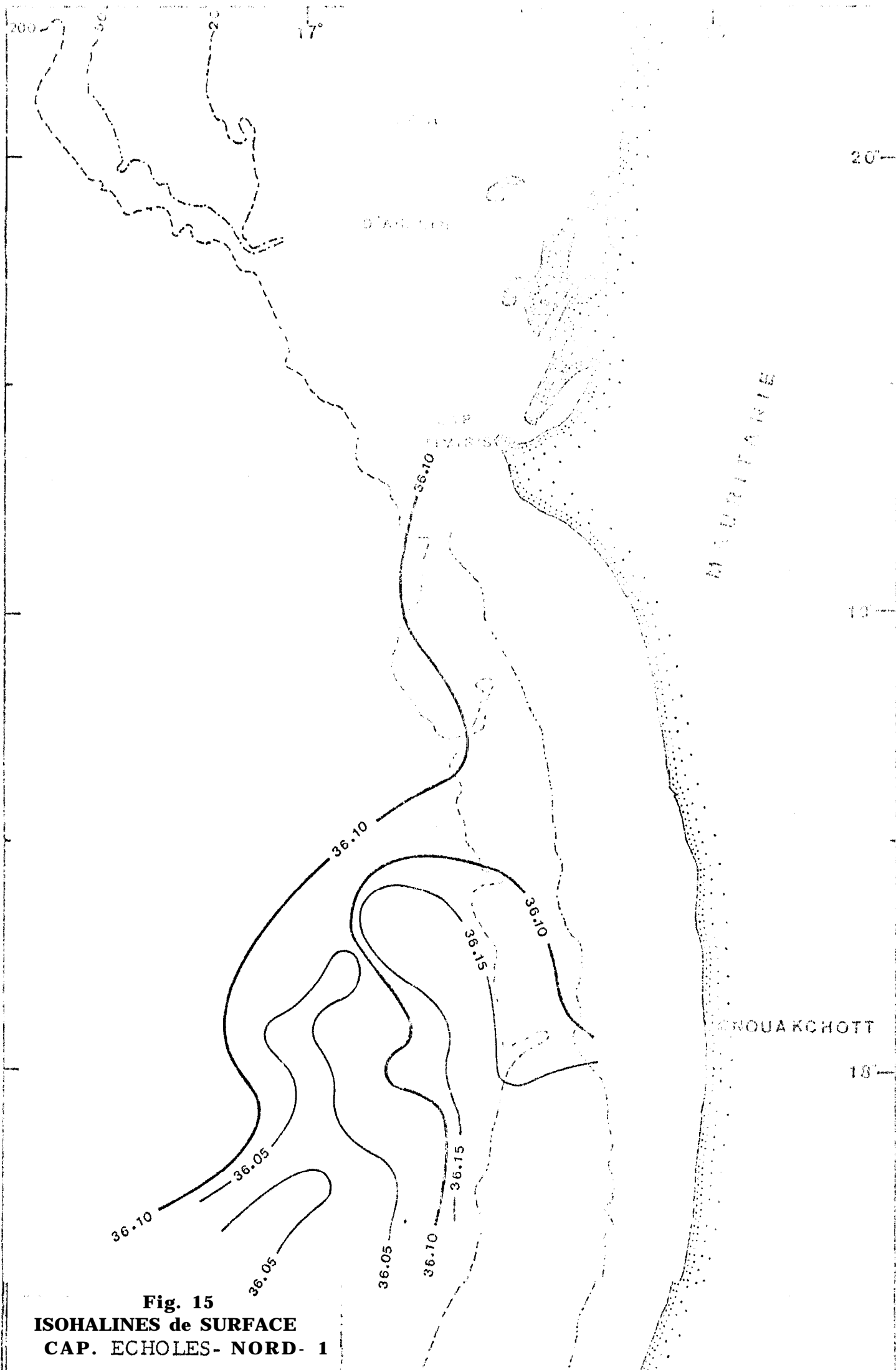


Fig. 15
ISOHALINES de SURFACE
CAP. ECHOLES- NORD- 1

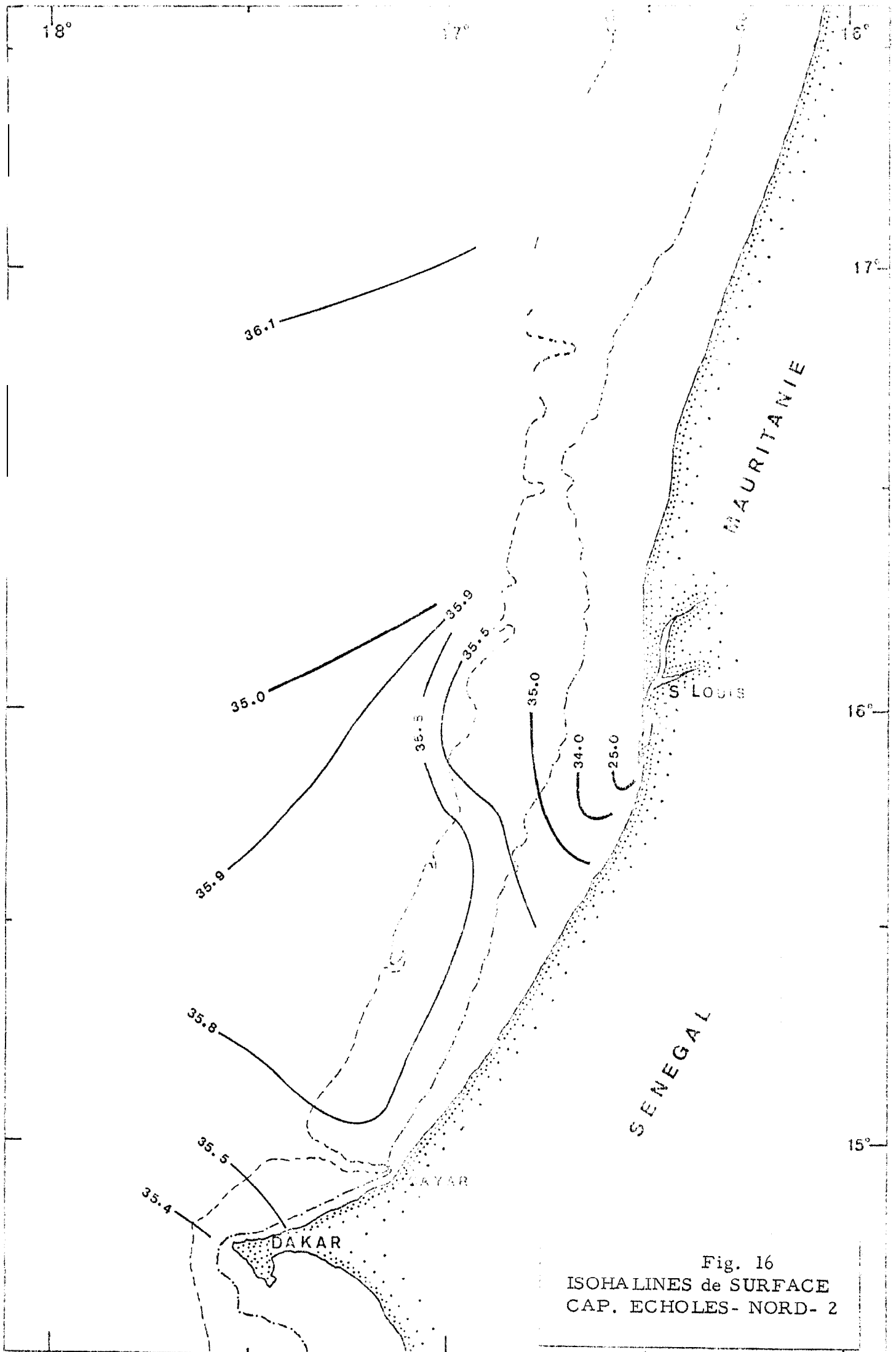


Fig. 16
 ISOHALINES de SURFACE
 CAP. ECHOLES- NORD- 2

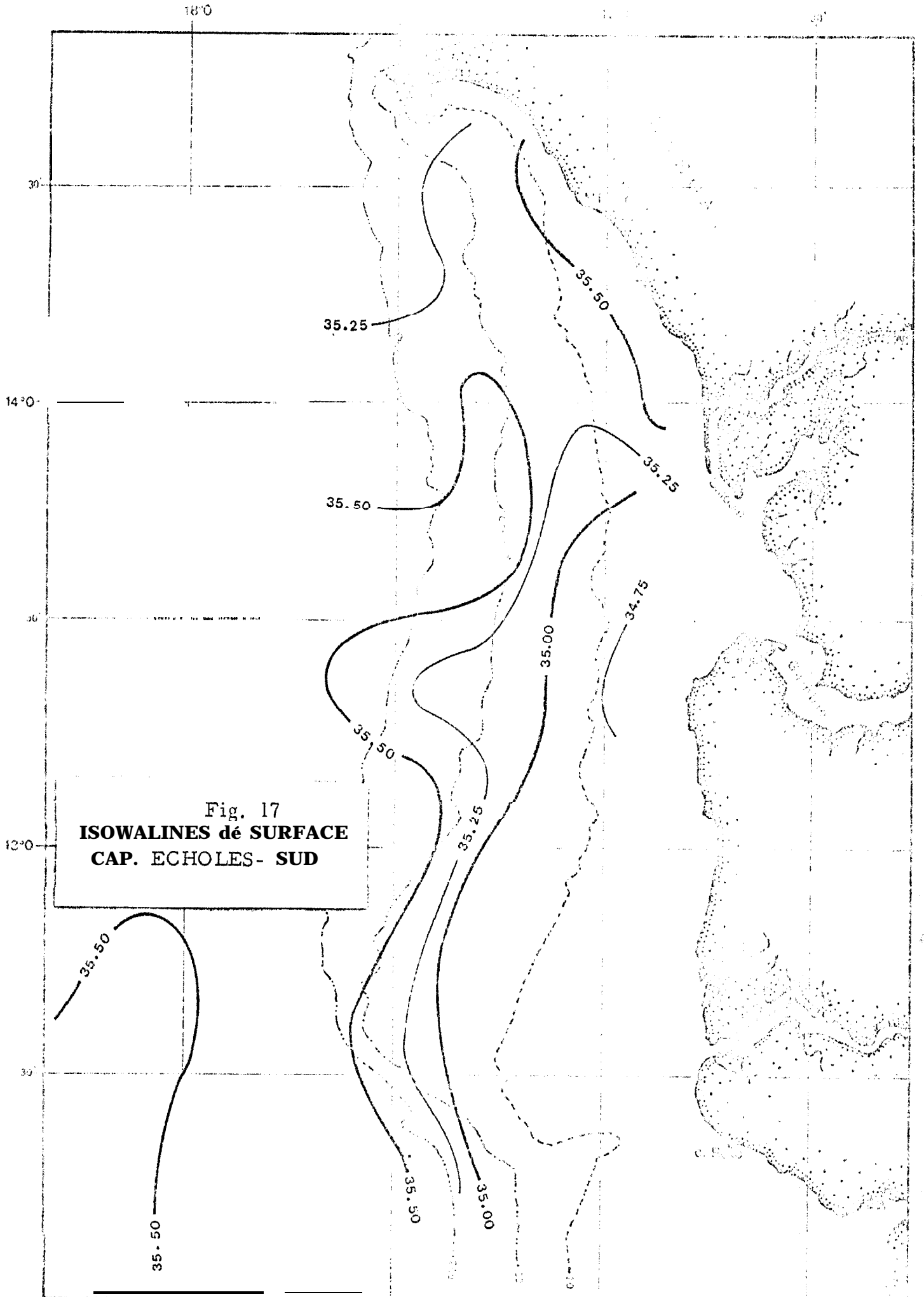
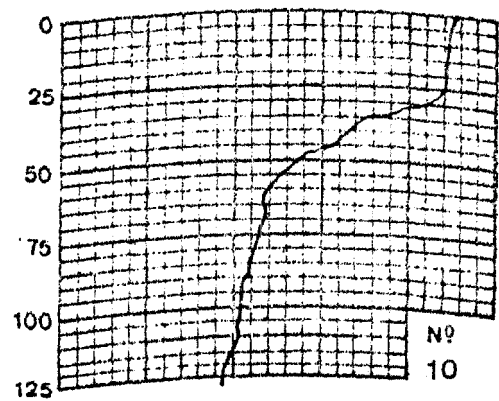
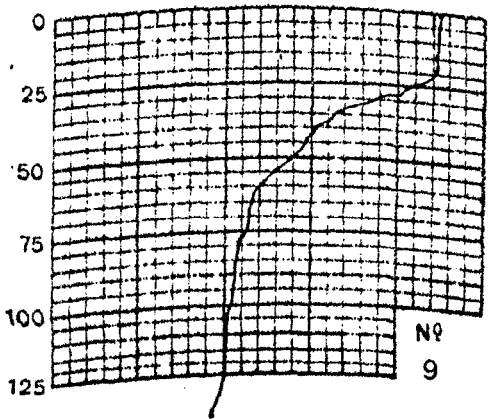
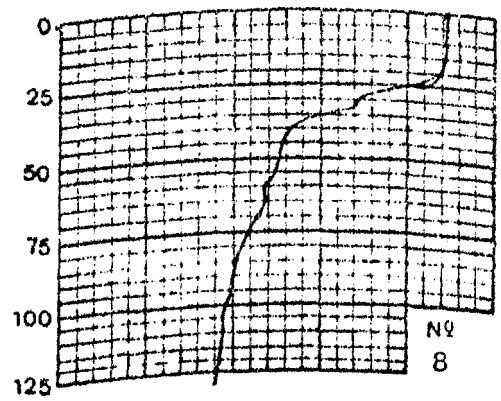
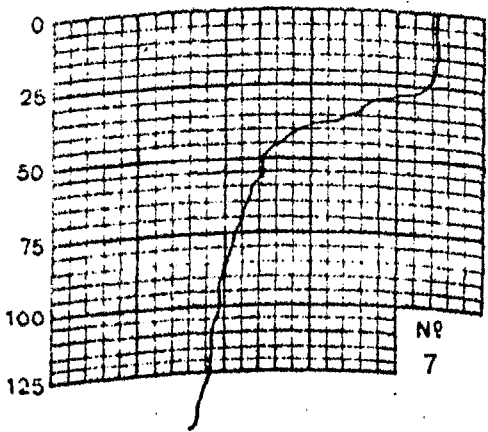
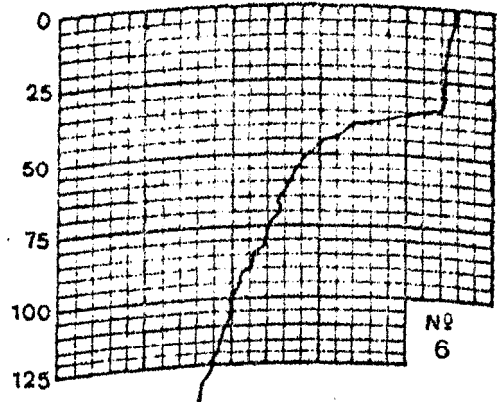
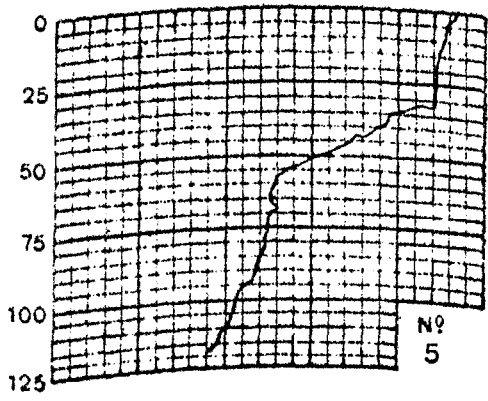
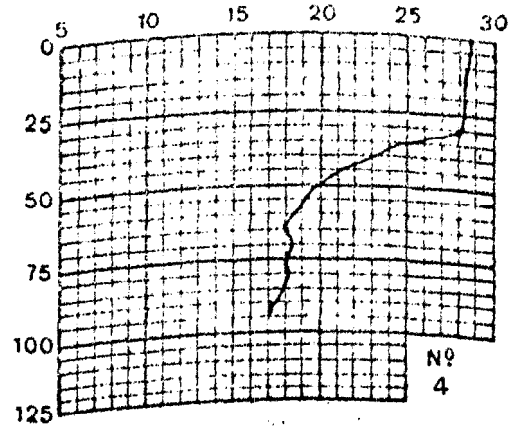
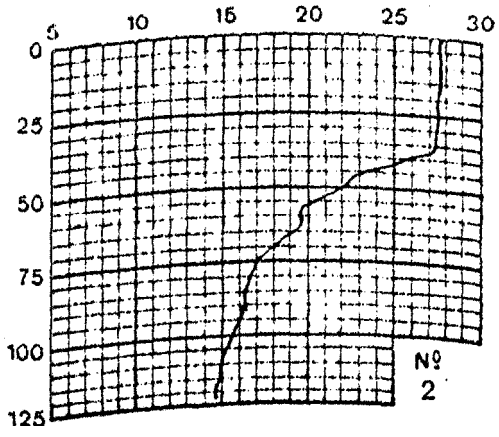
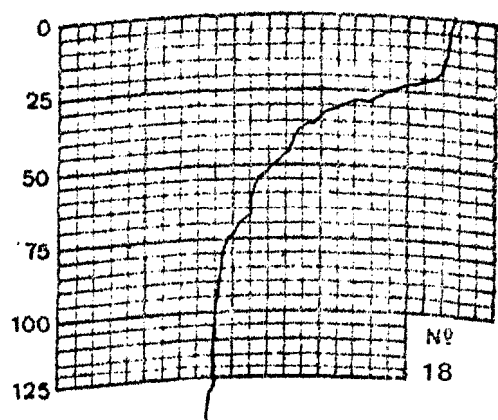
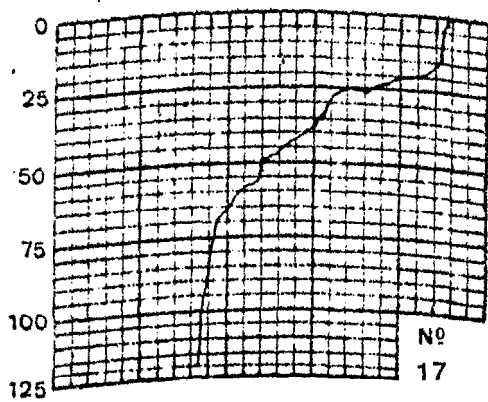
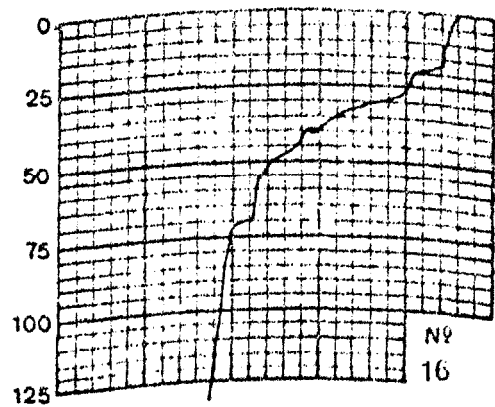
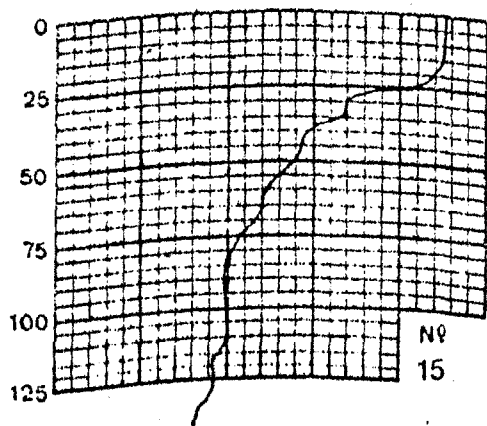
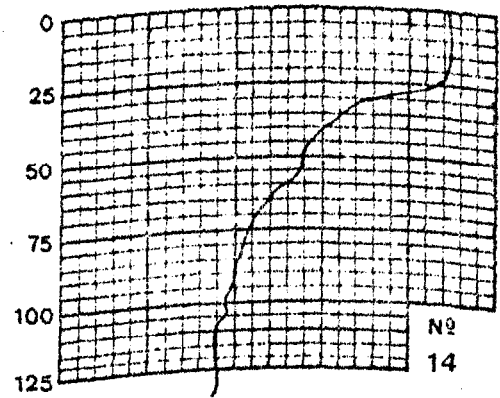
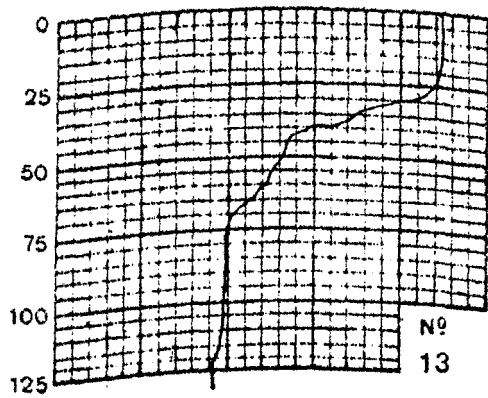
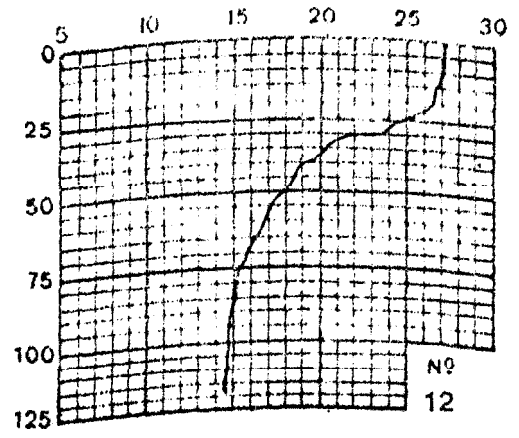
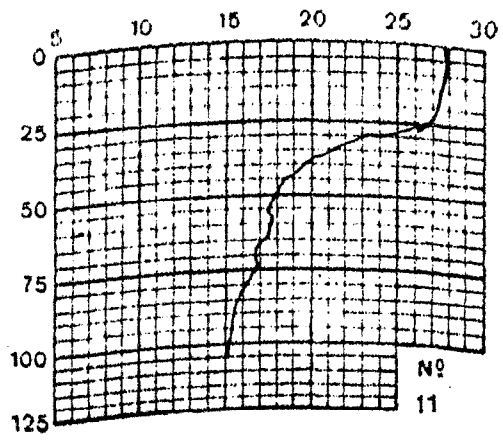
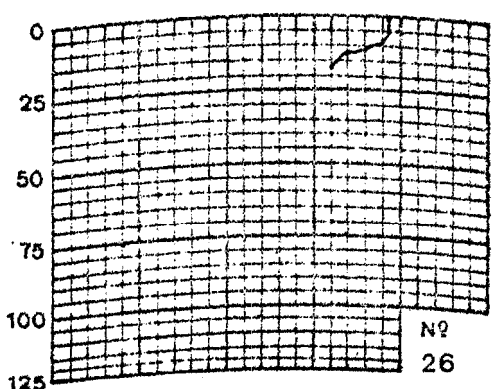
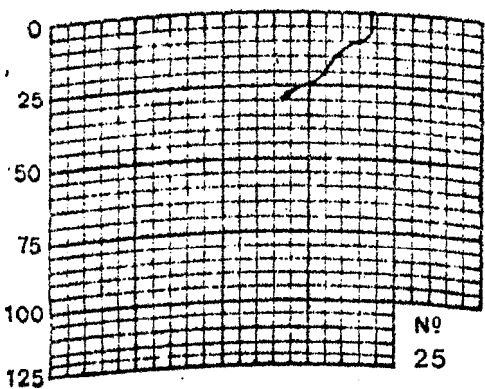
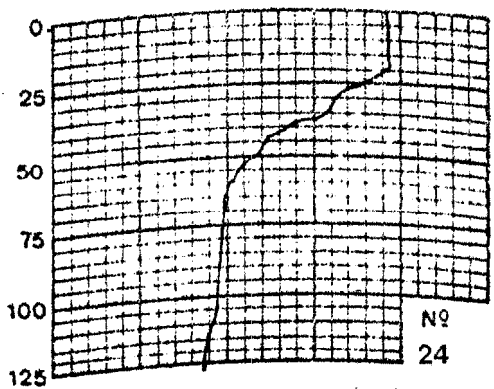
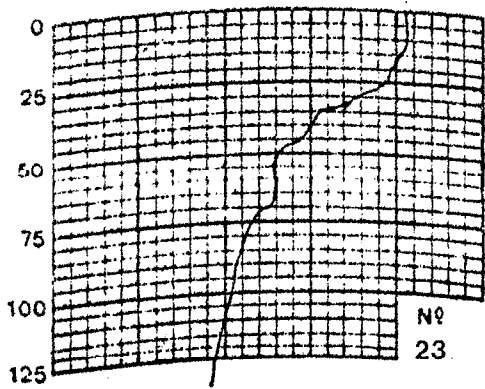
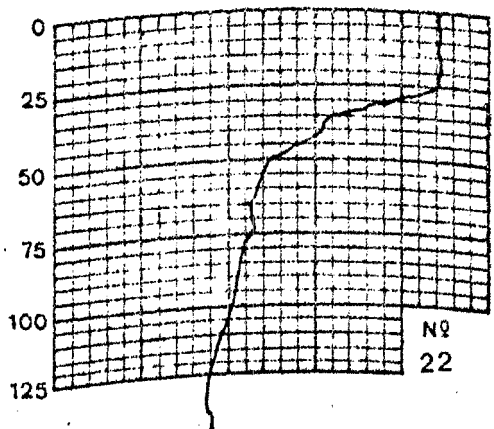
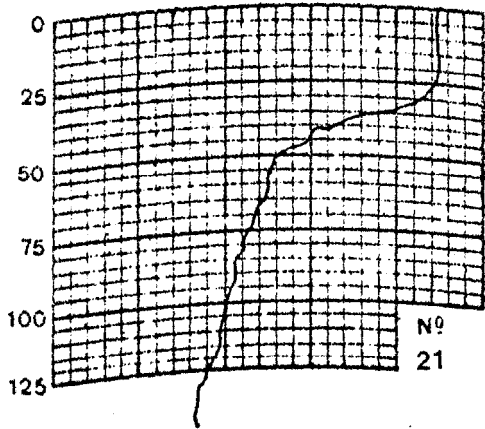
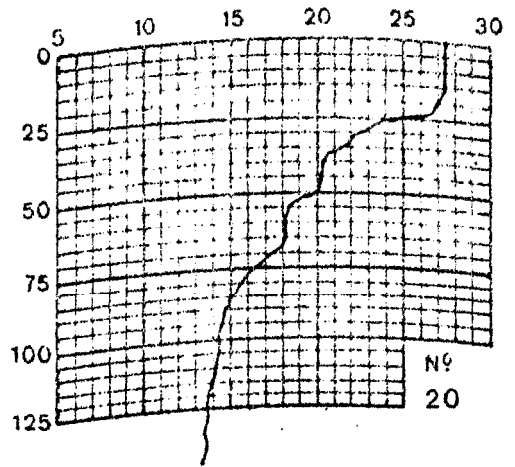
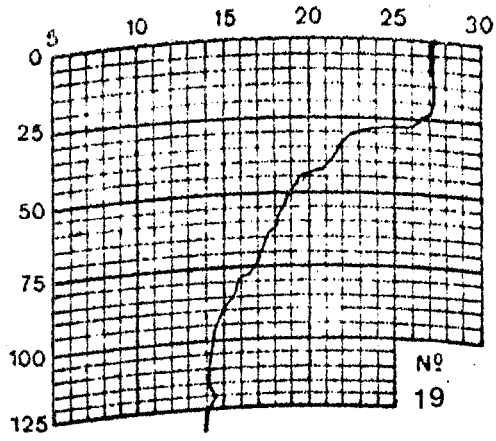
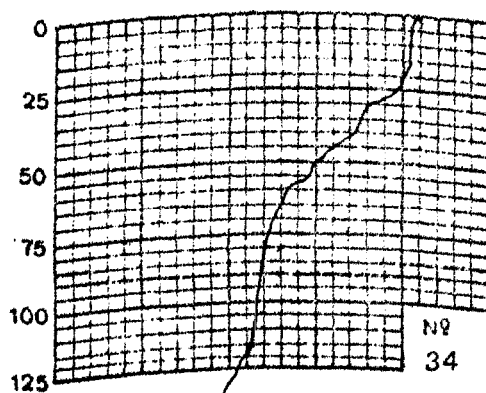
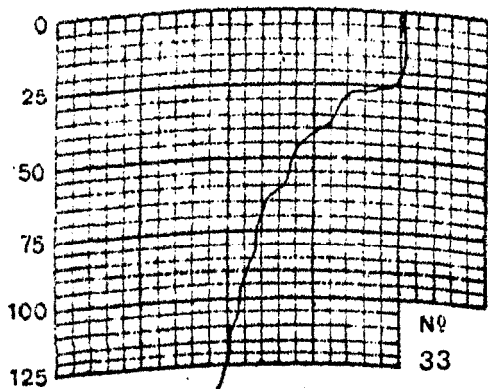
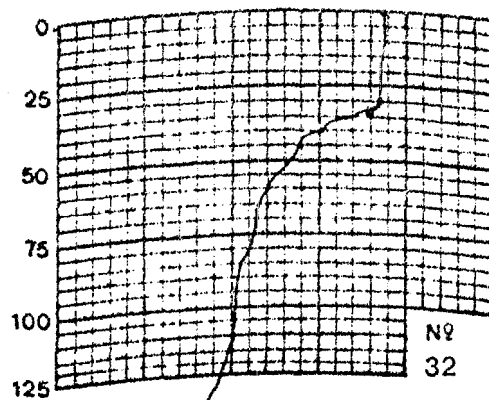
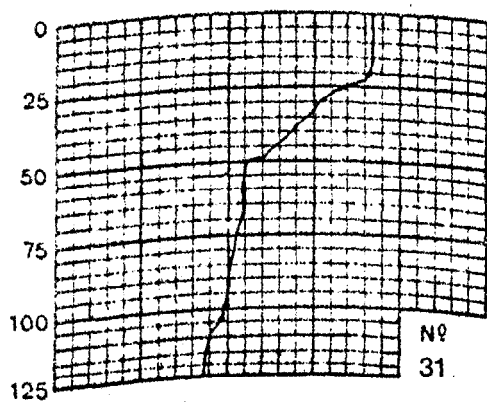
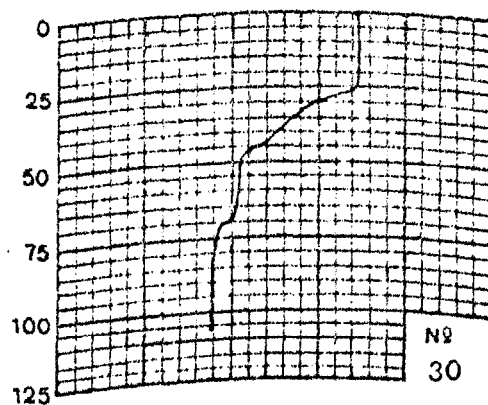
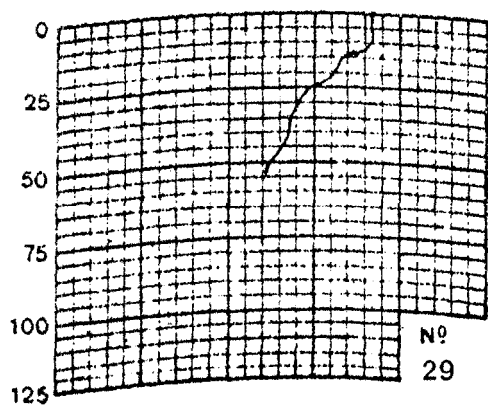
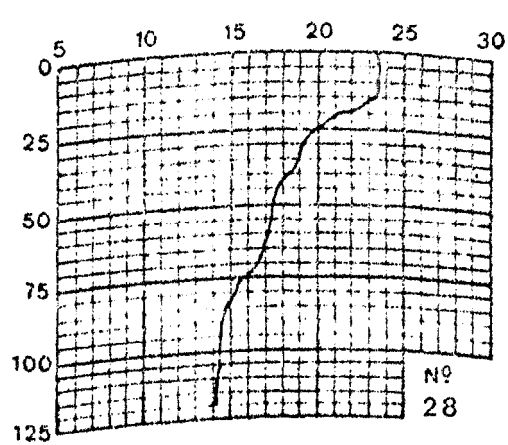
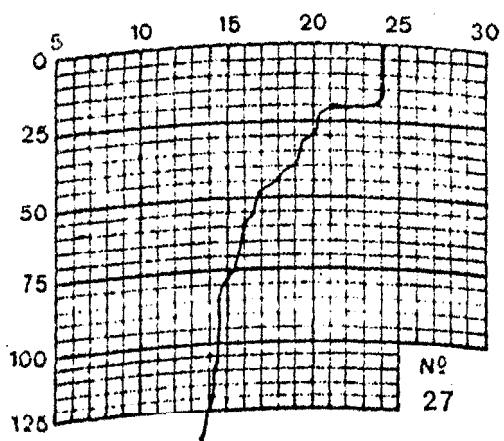


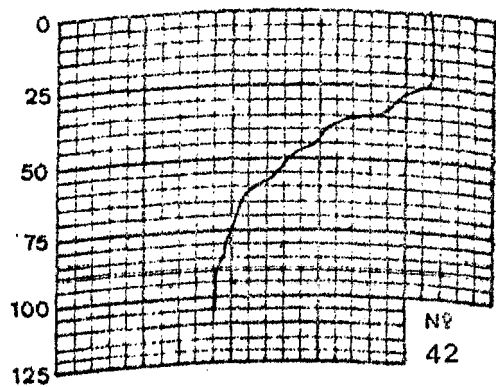
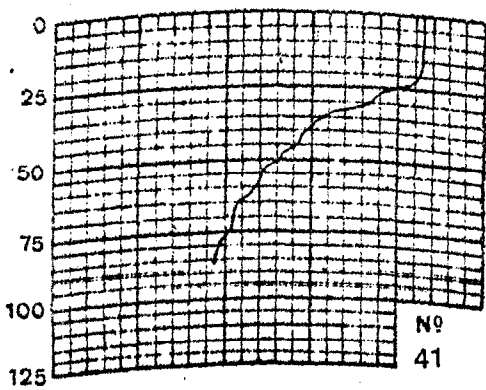
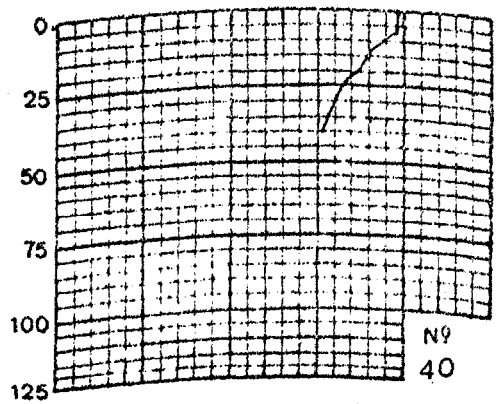
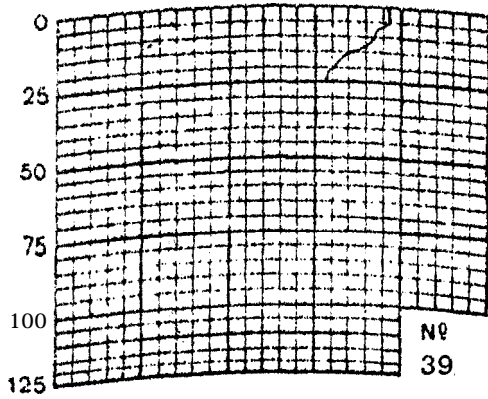
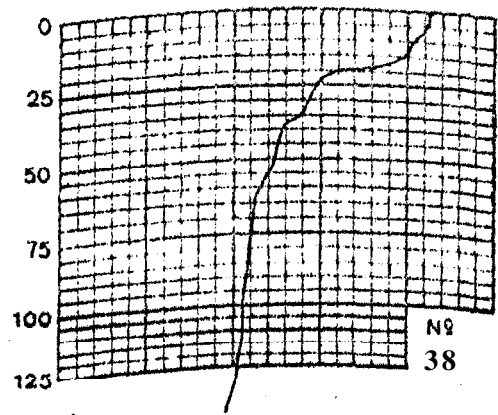
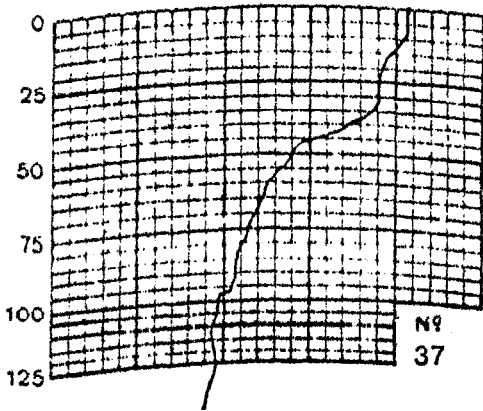
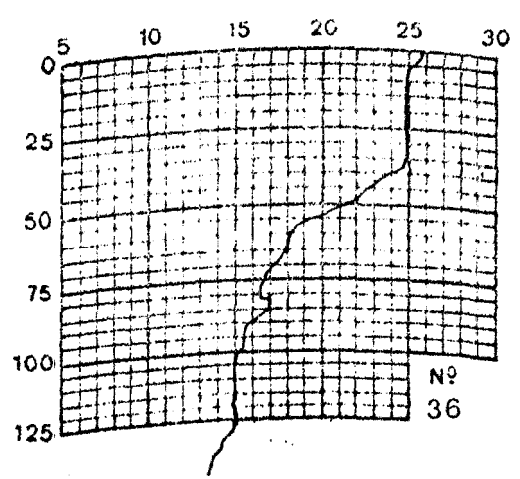
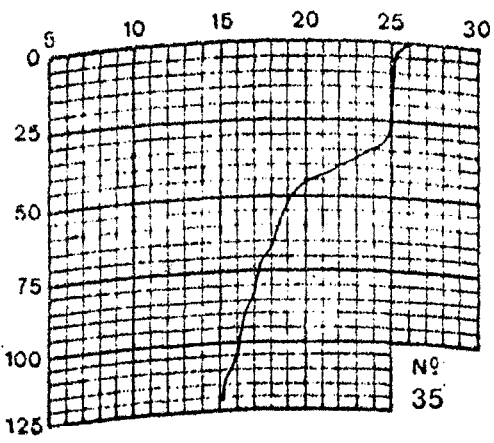
Fig. 17
ISOWALINES de SURFACE
CAP. ECHOLES- SUD

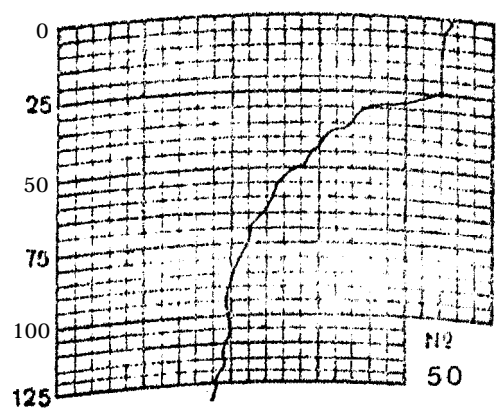
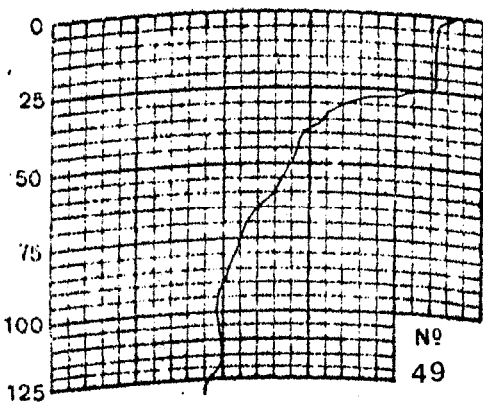
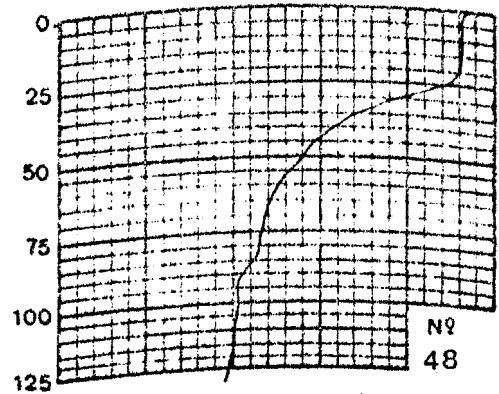
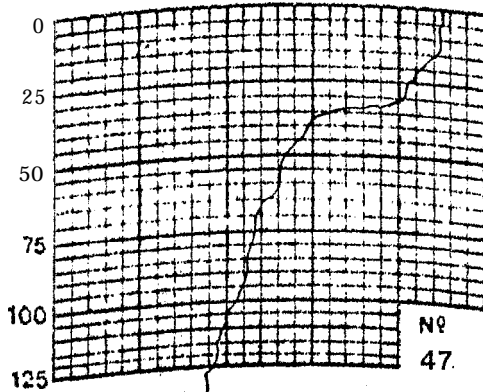
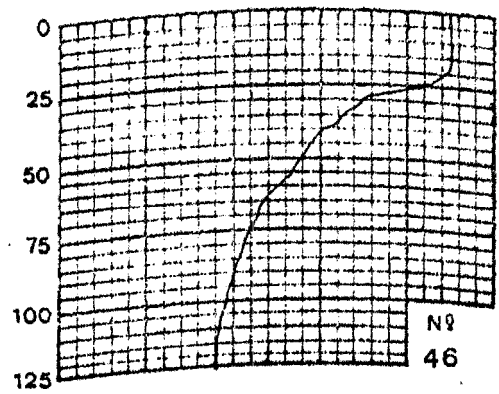
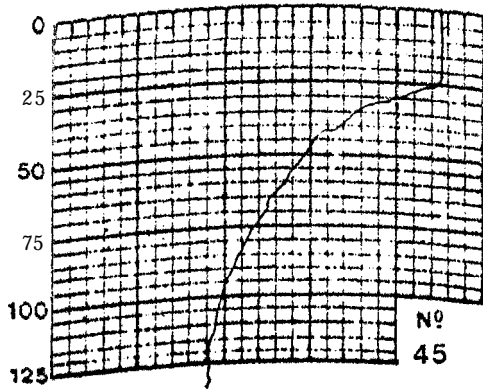
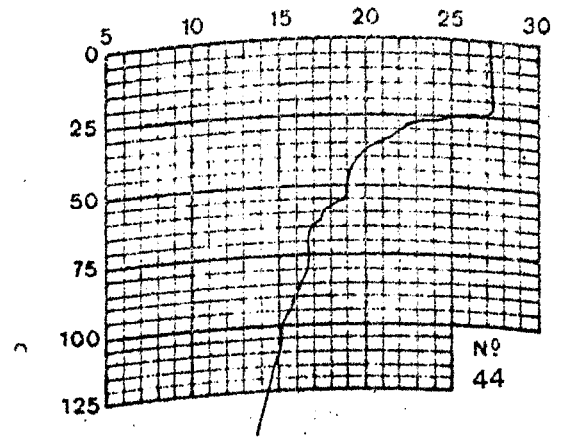
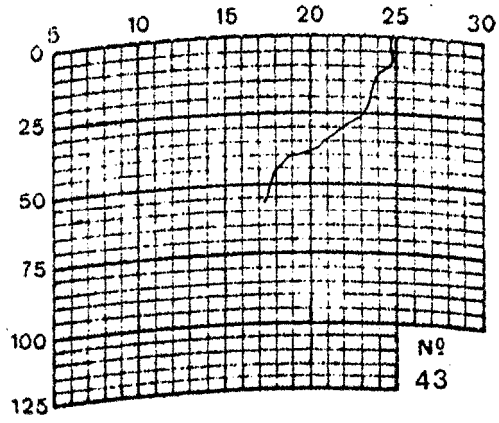


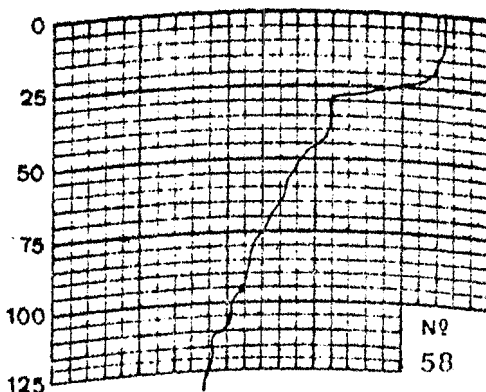
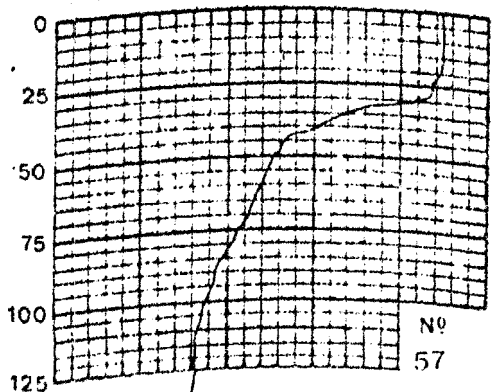
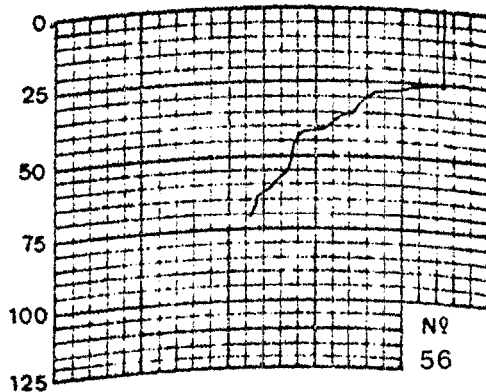
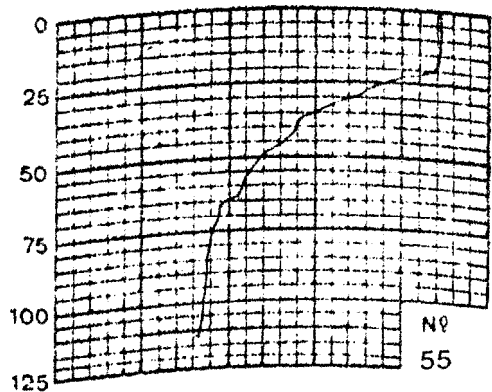
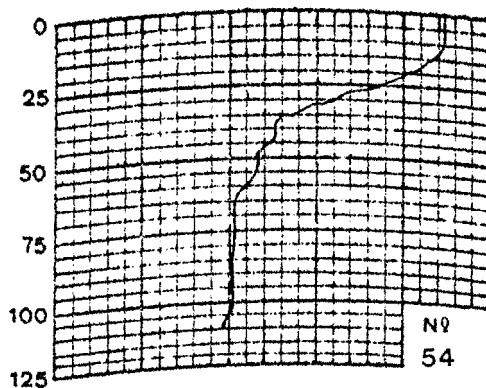
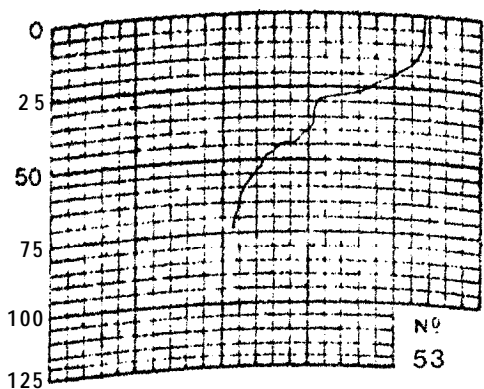
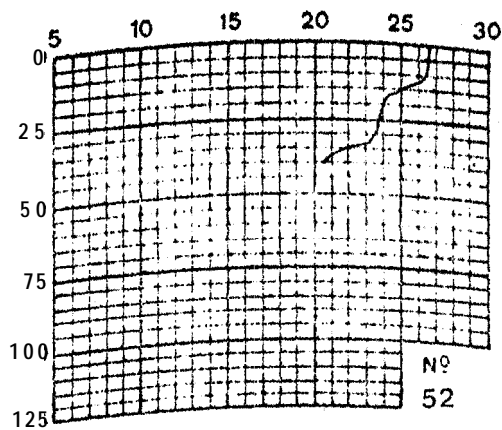
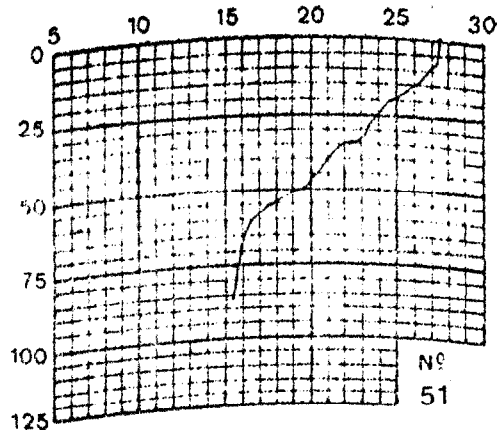


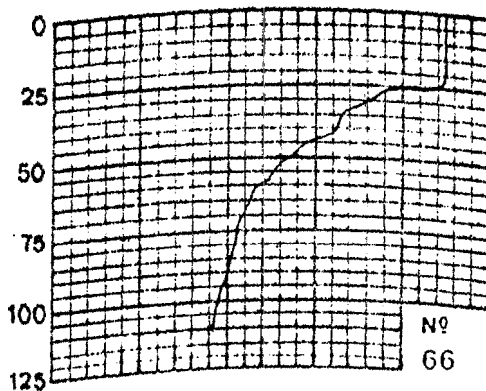
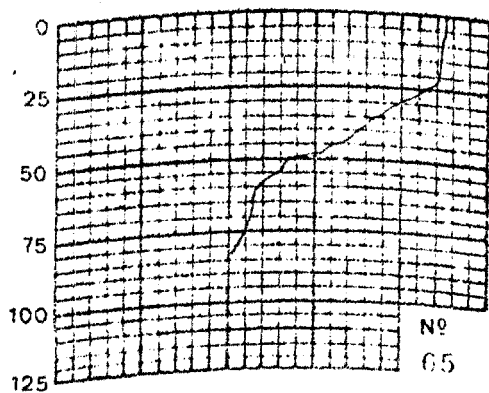
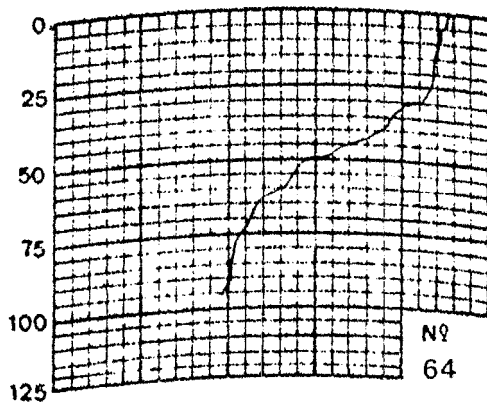
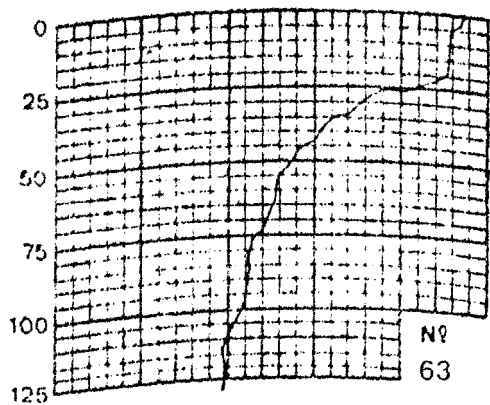
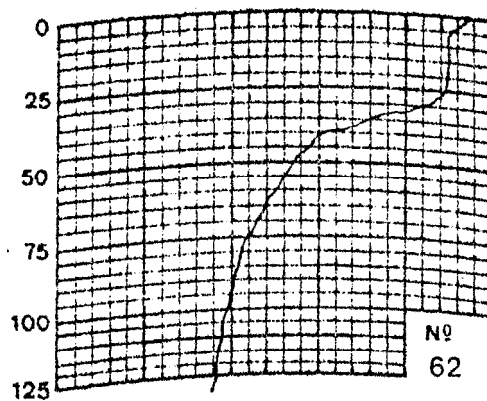
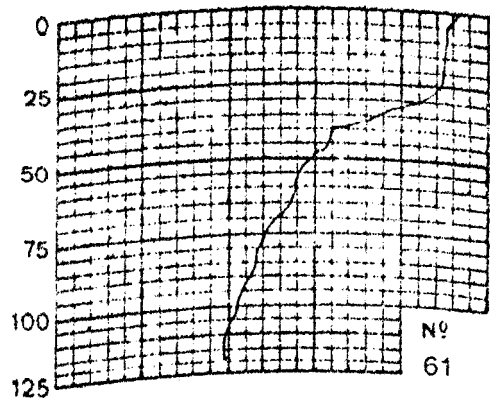
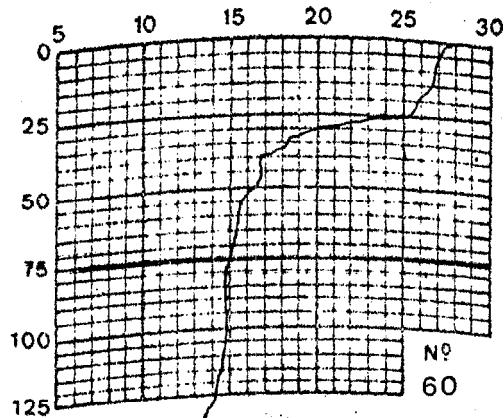
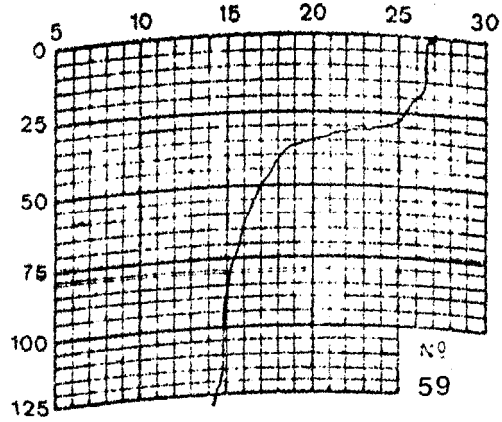


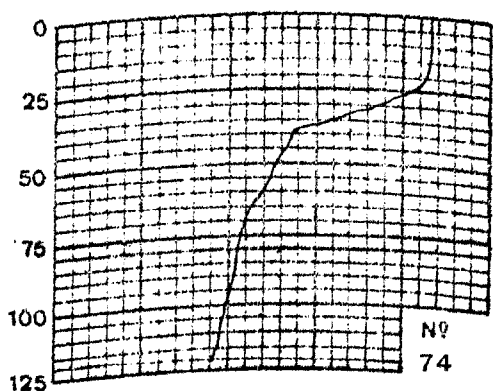
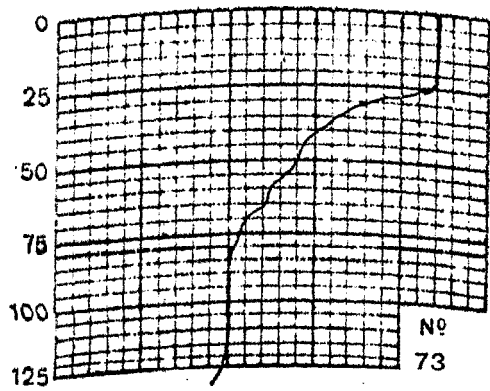
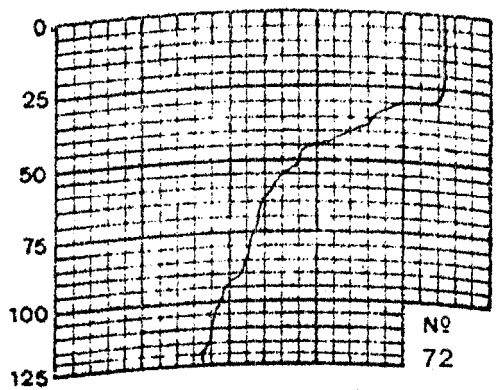
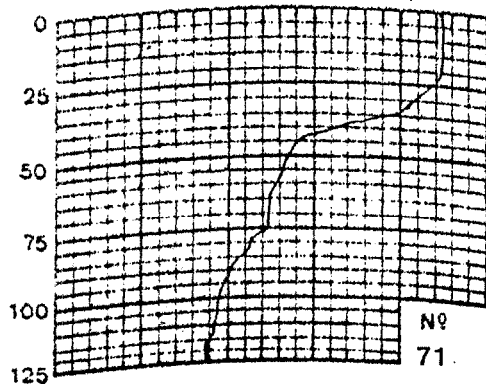
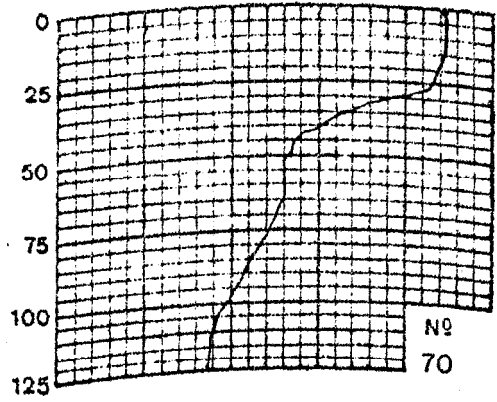
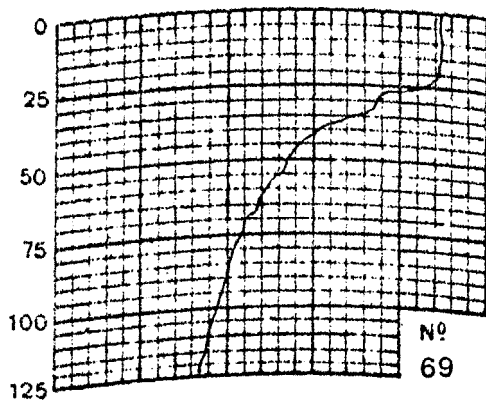
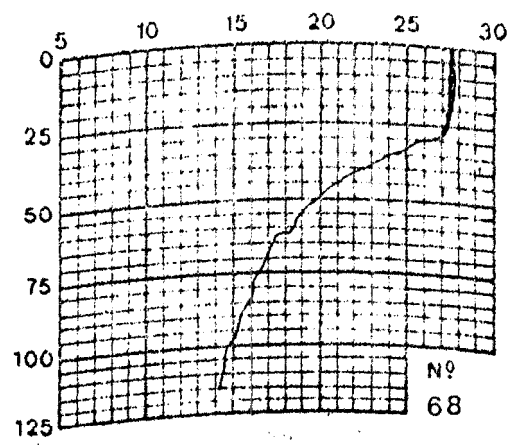
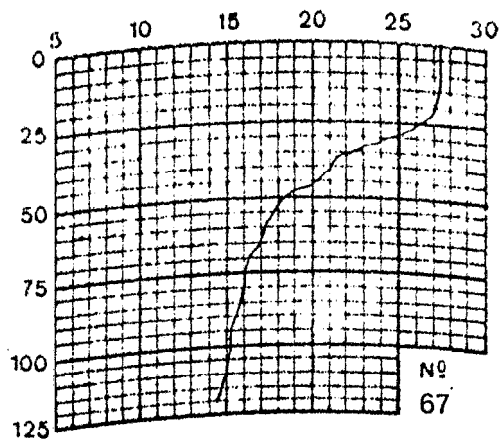


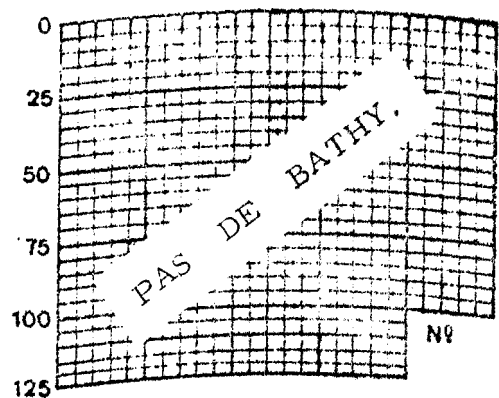
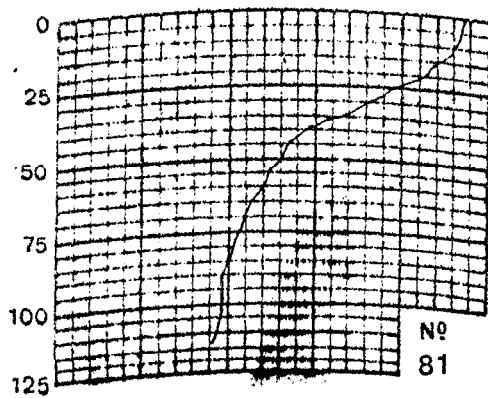
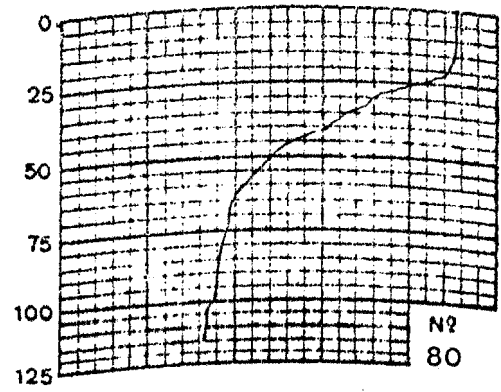
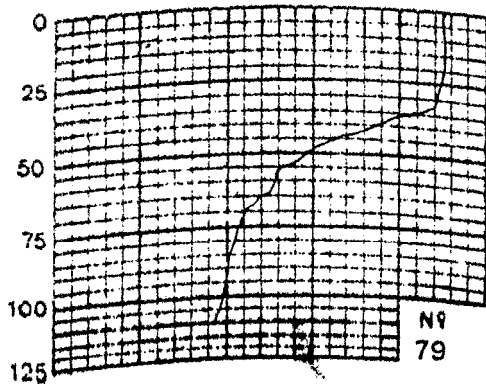
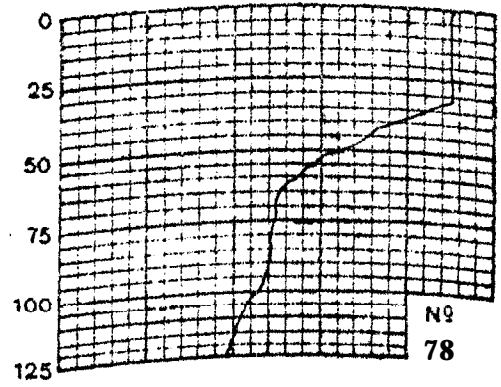
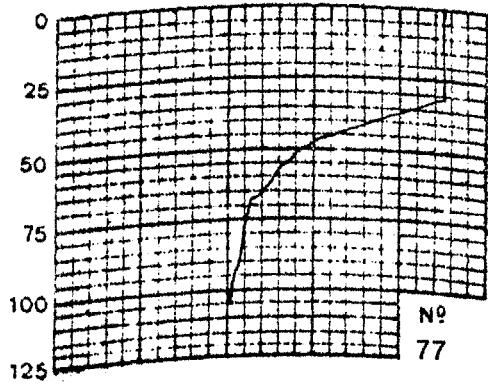
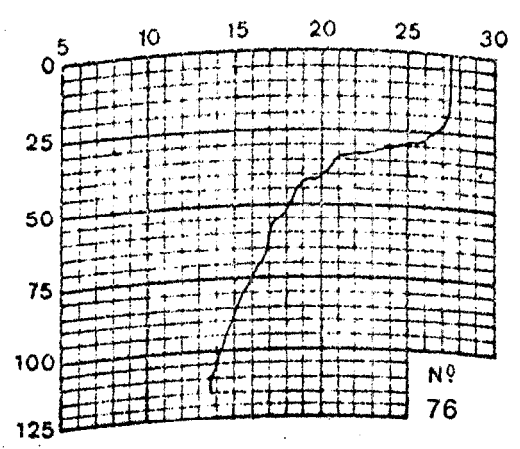
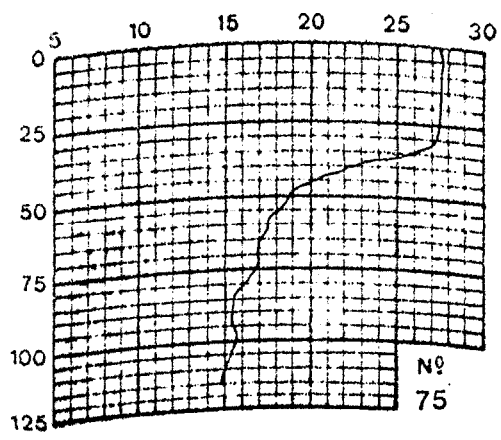


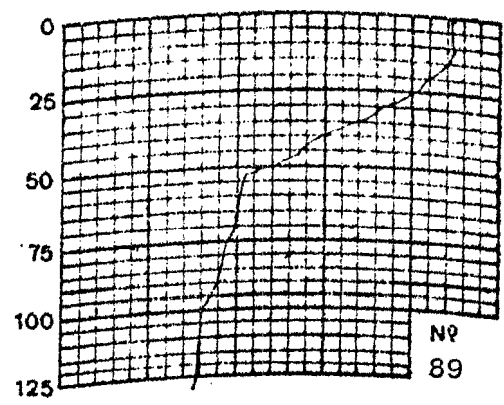
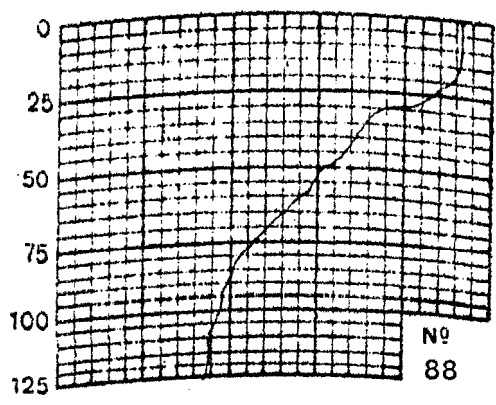
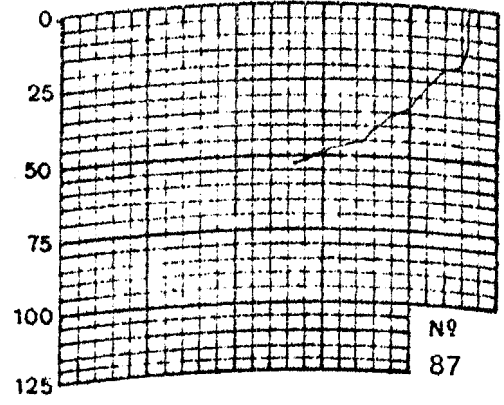
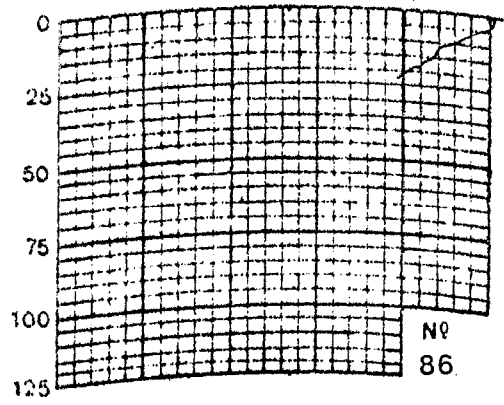
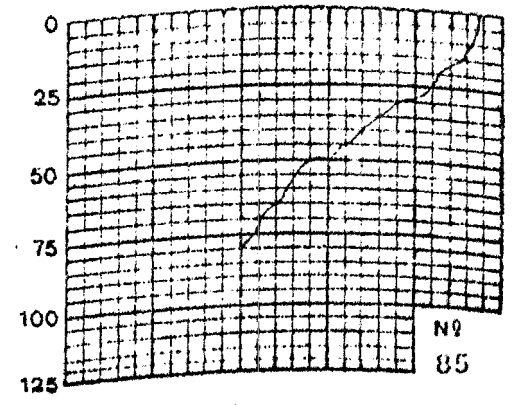
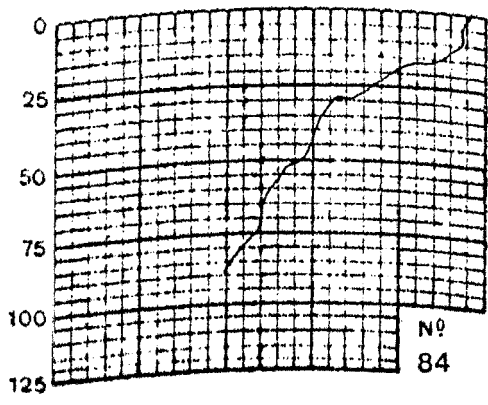
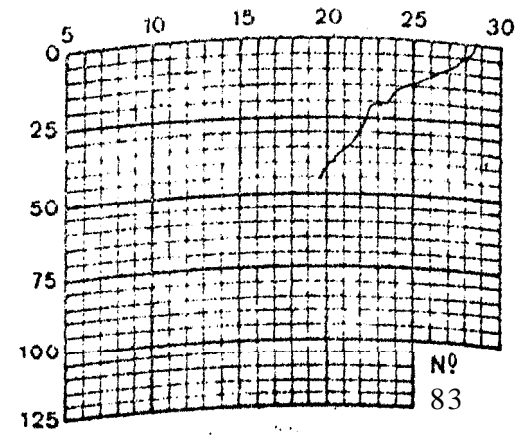
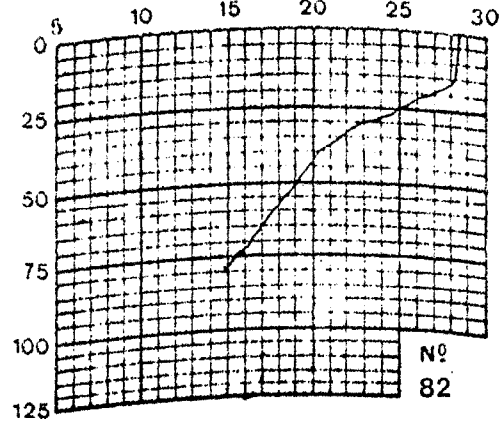


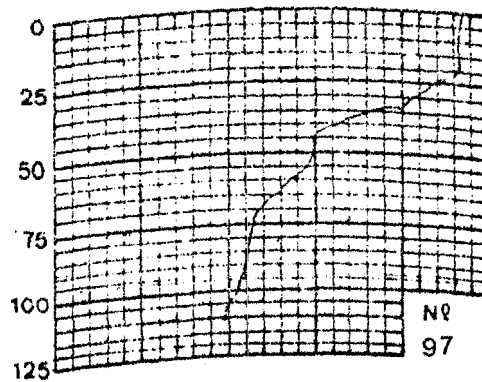
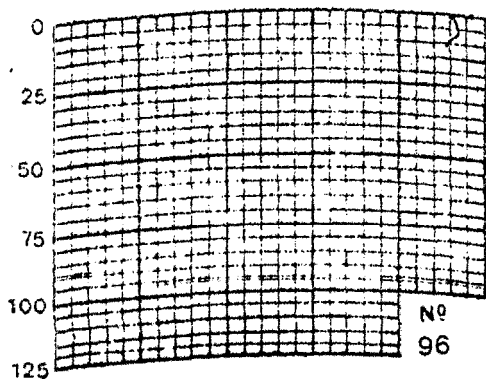
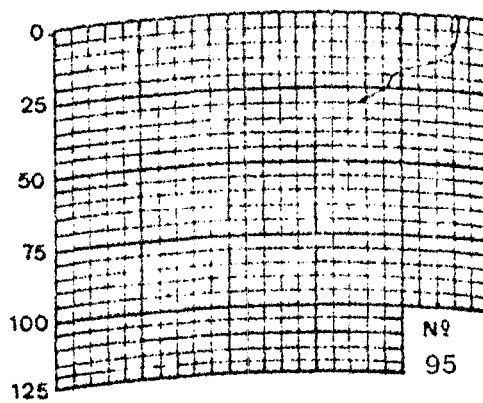
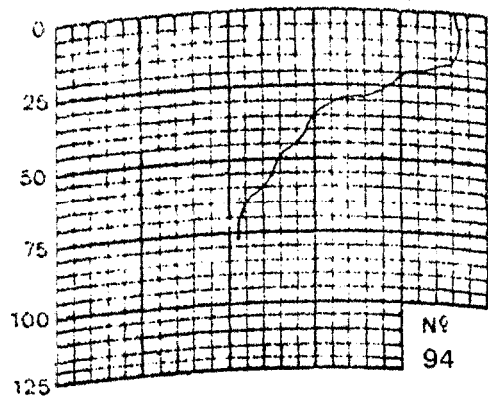
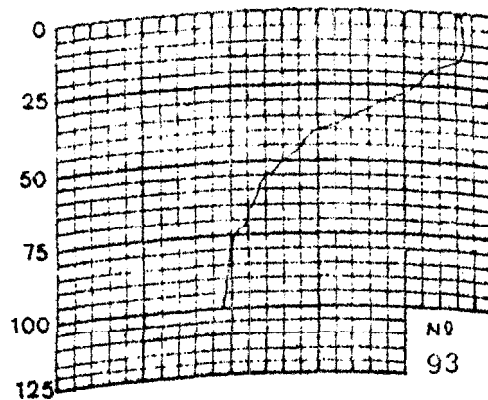
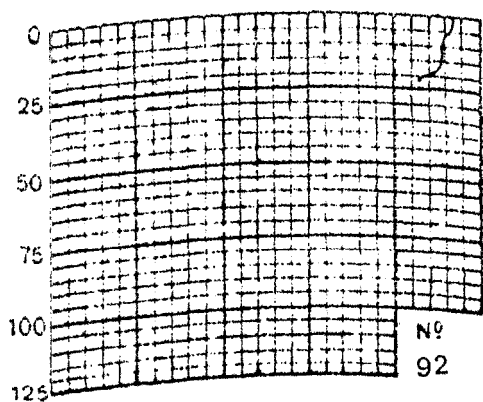
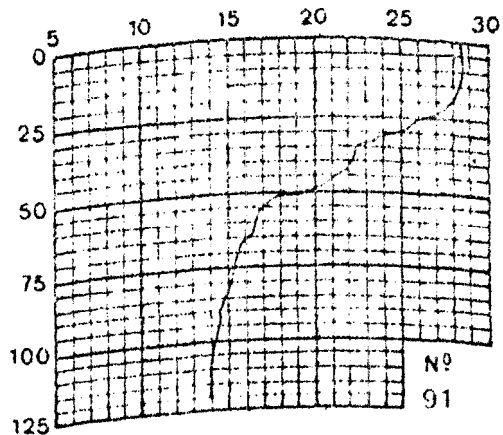
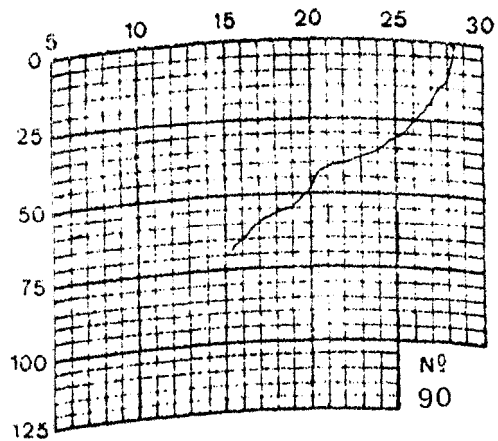


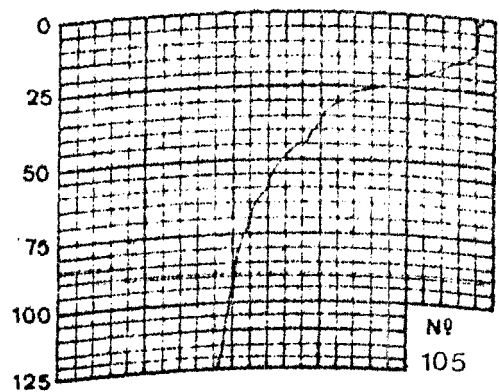
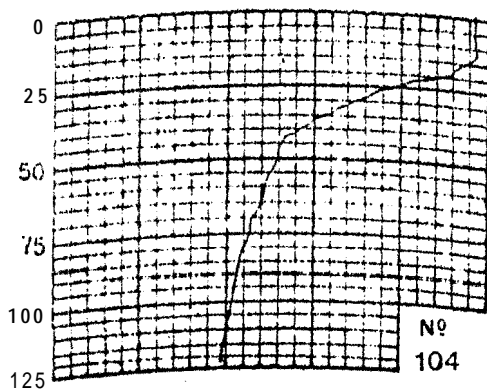
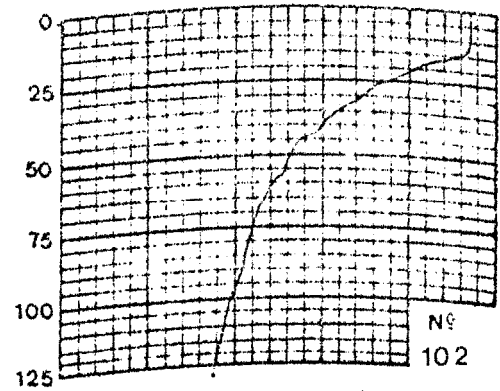
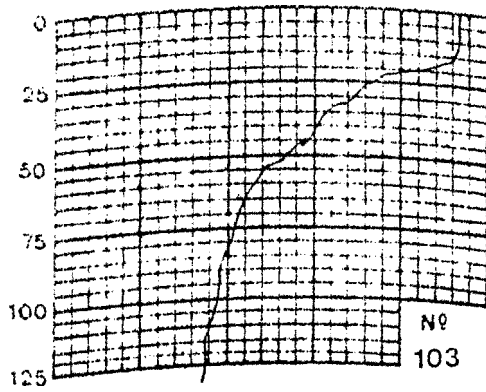
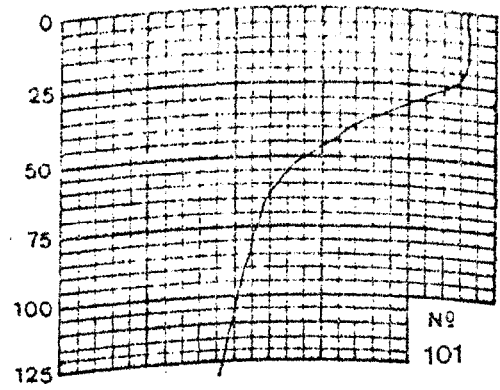
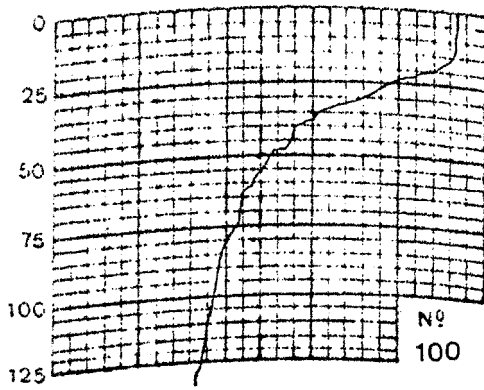
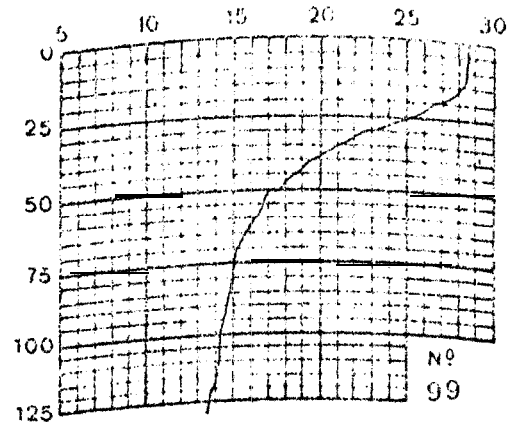
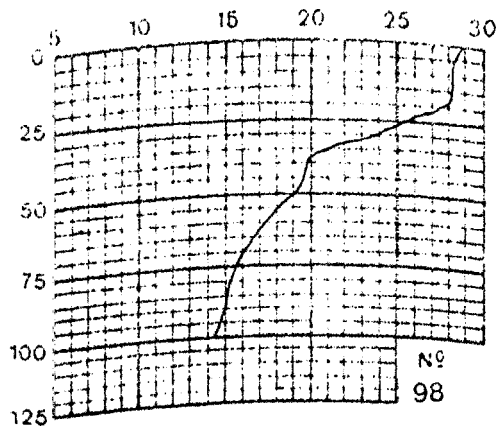


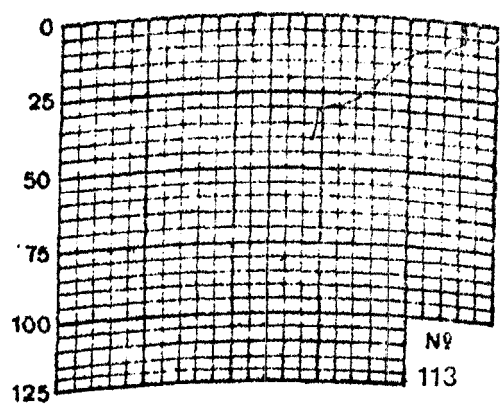
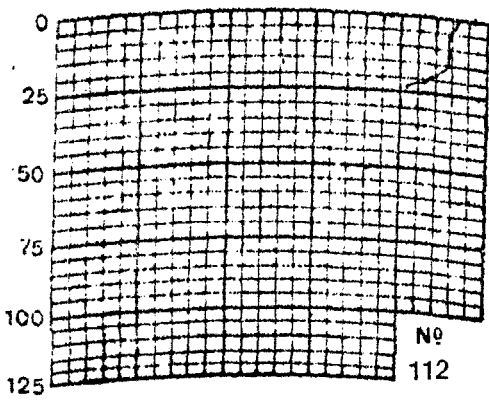
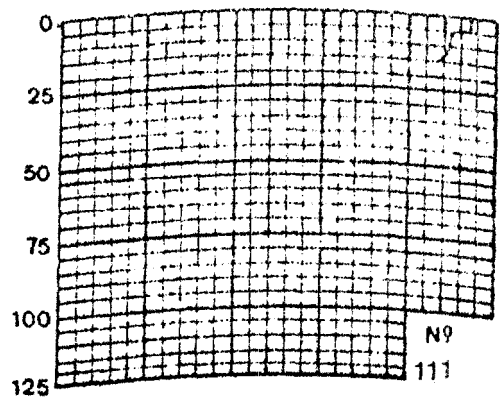
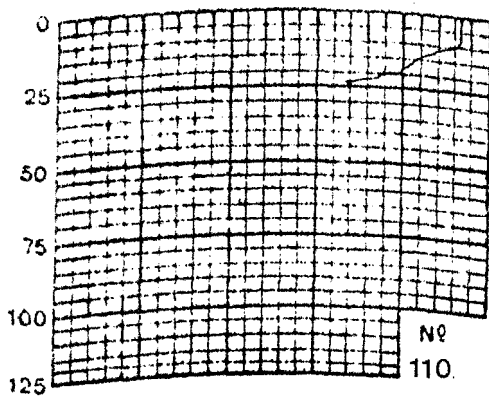
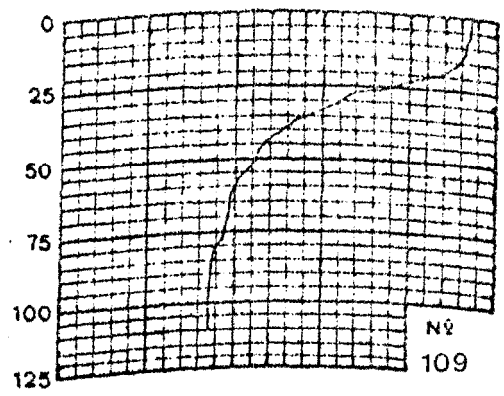
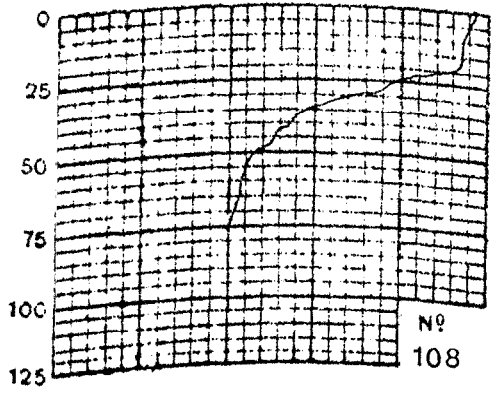
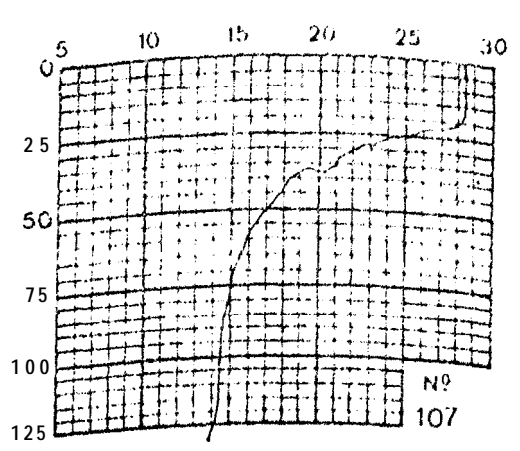
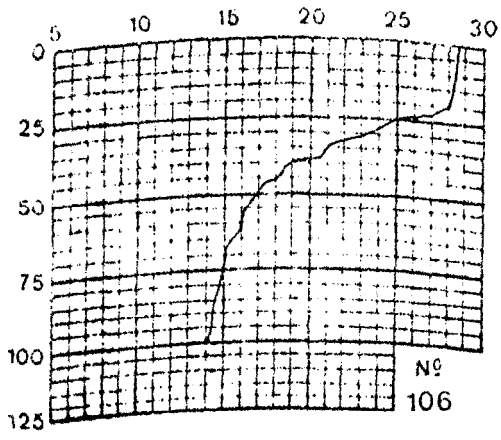


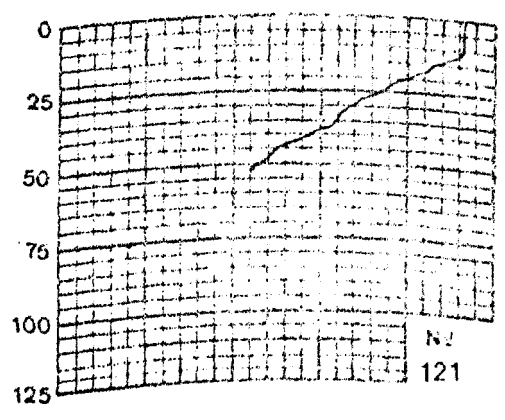
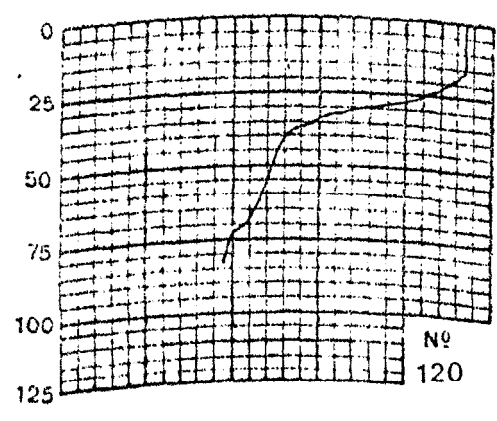
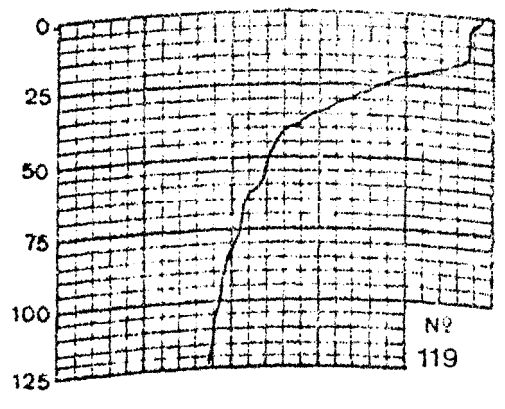
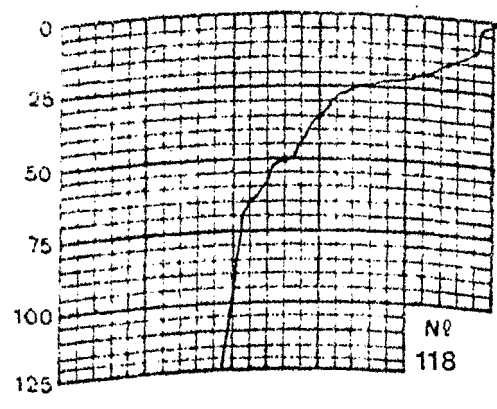
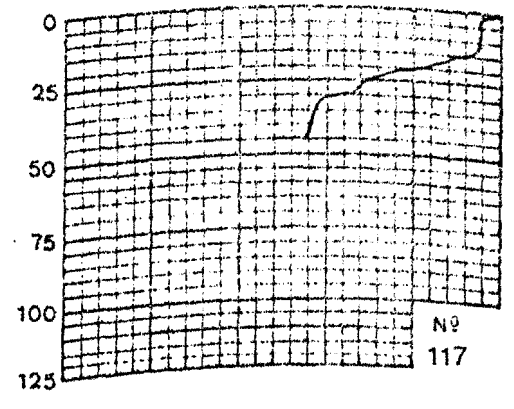
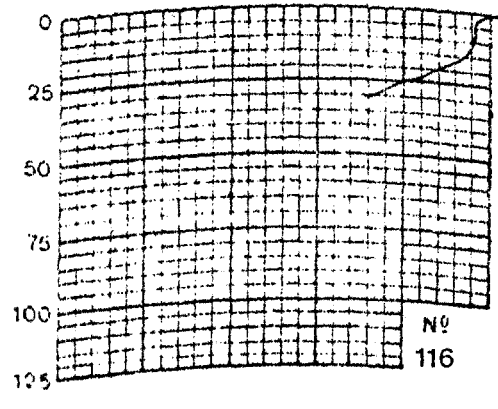
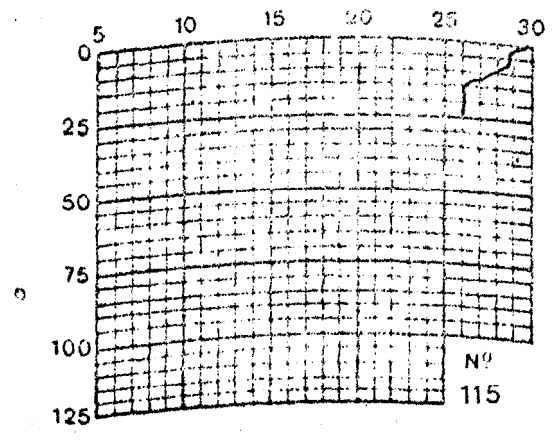
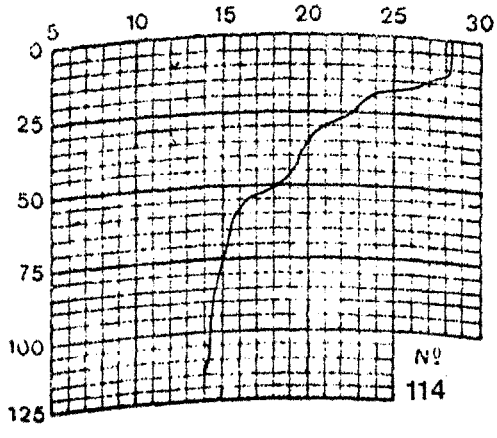


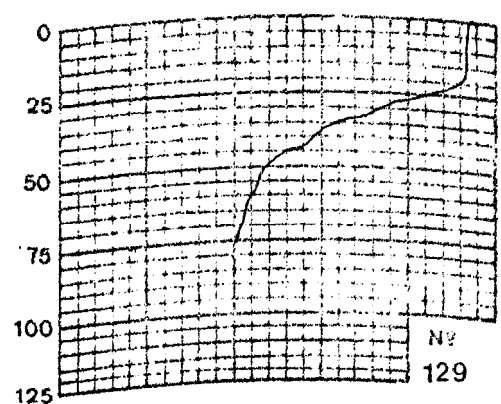
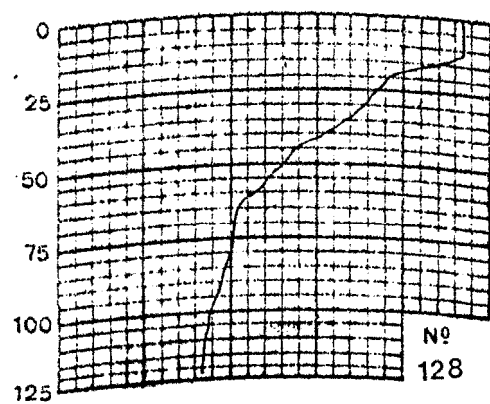
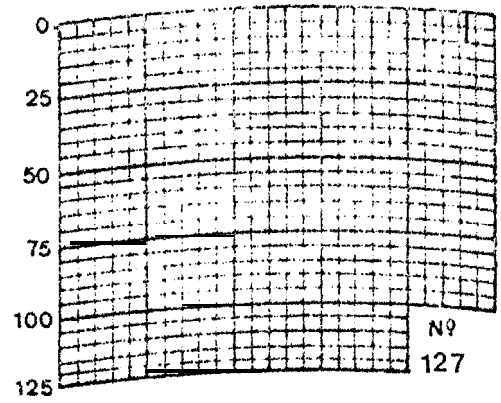
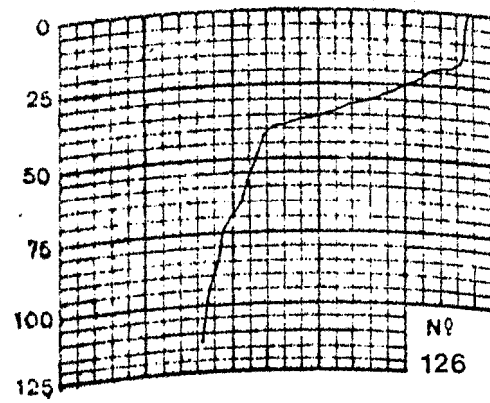
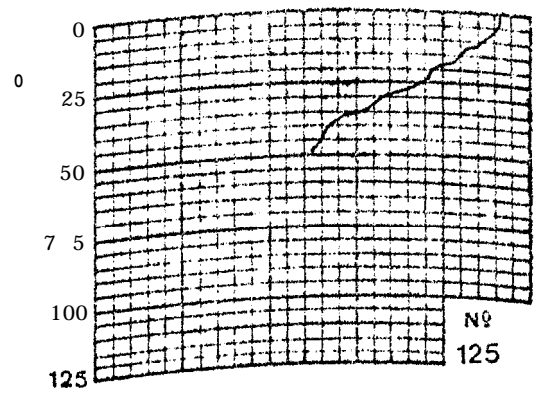
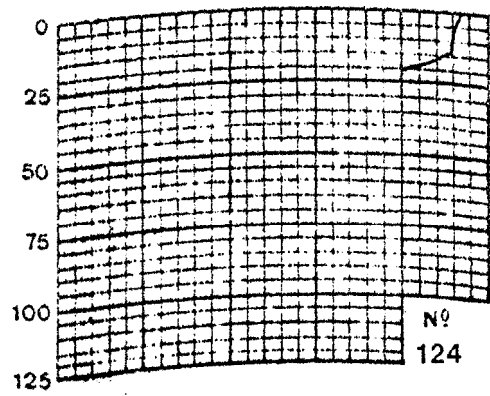
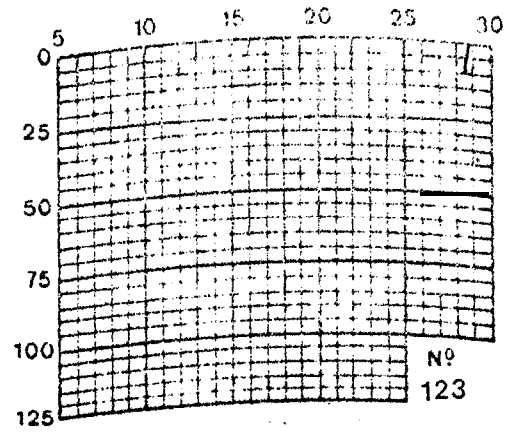
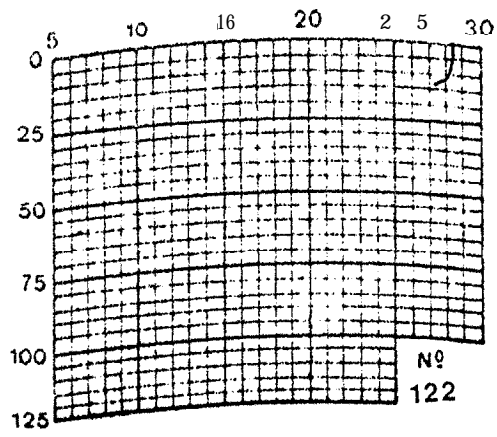


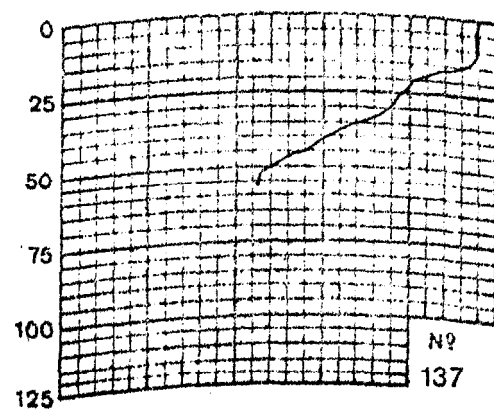
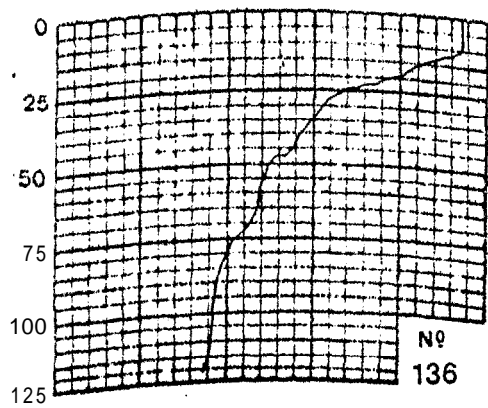
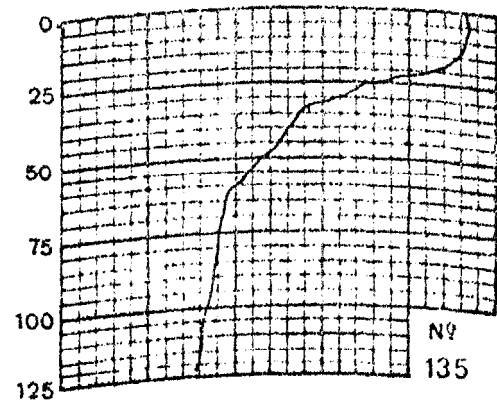
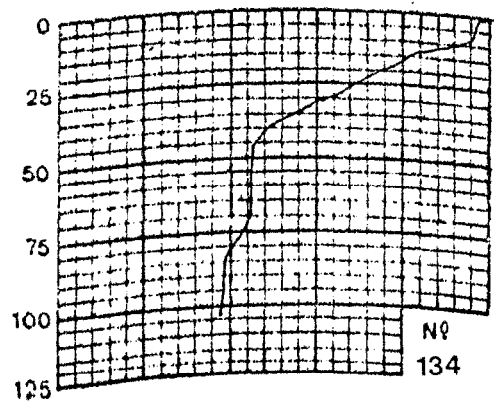
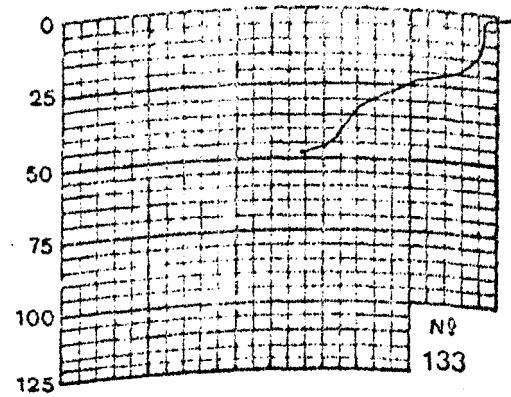
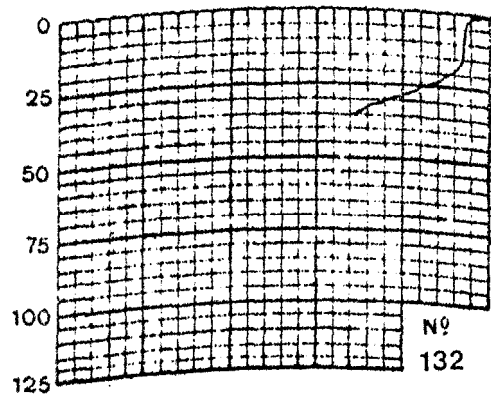
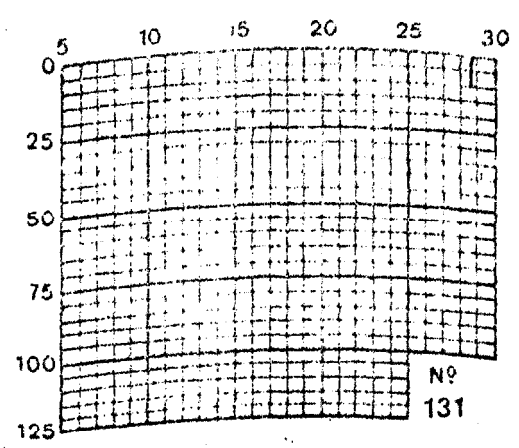
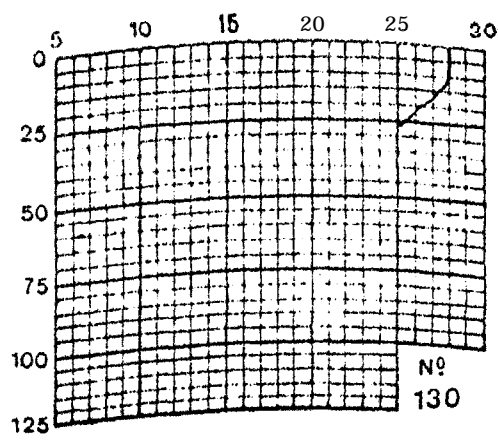


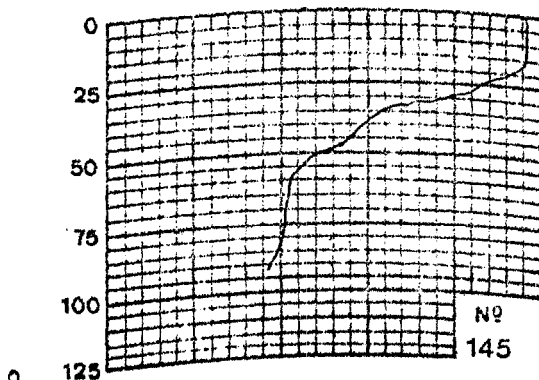
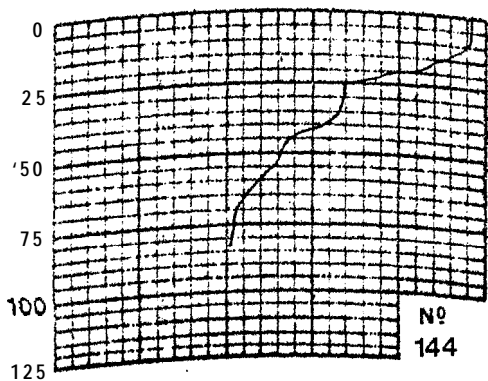
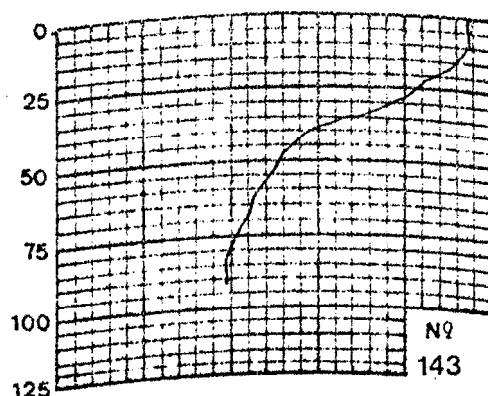
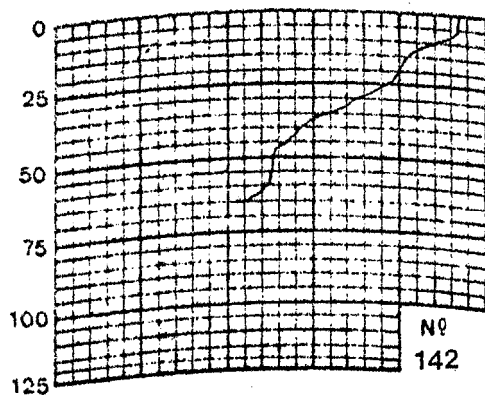
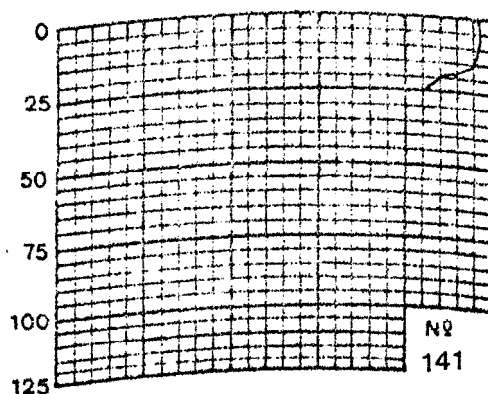
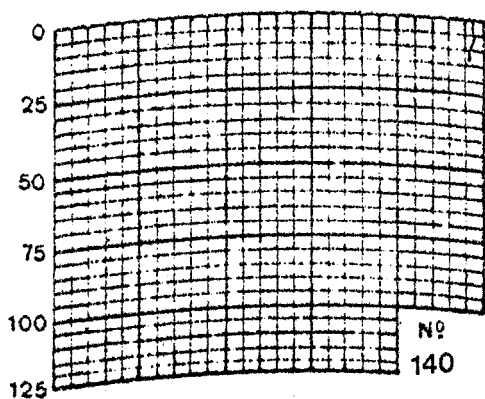
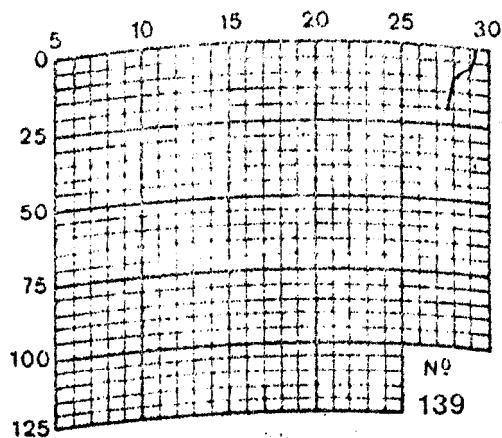
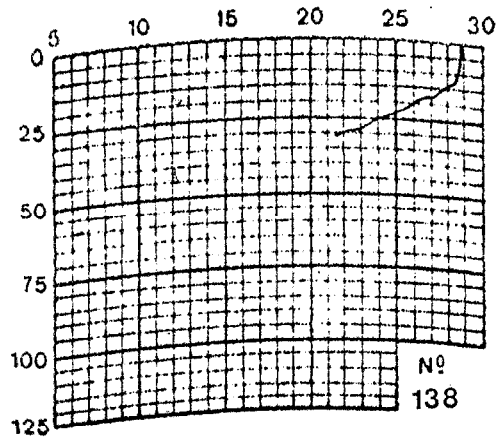


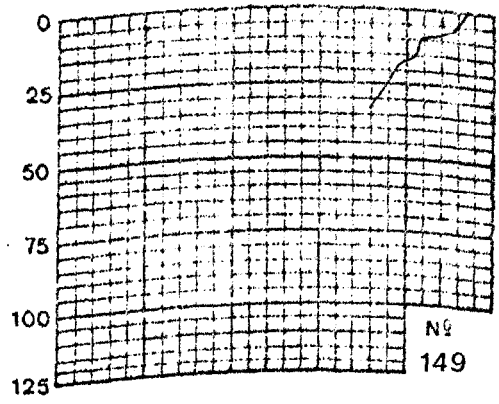
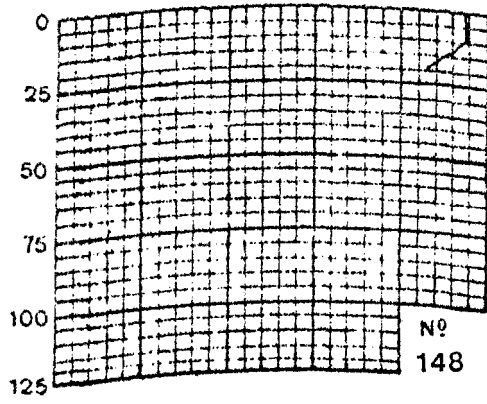
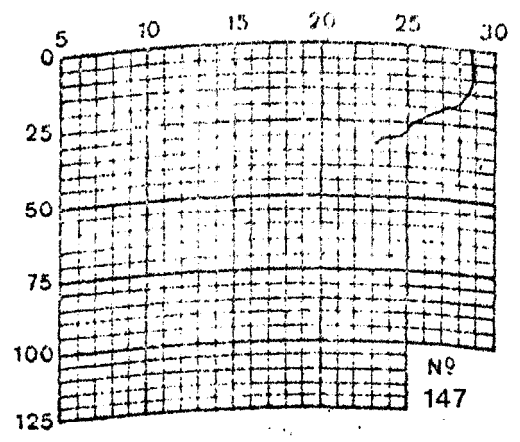
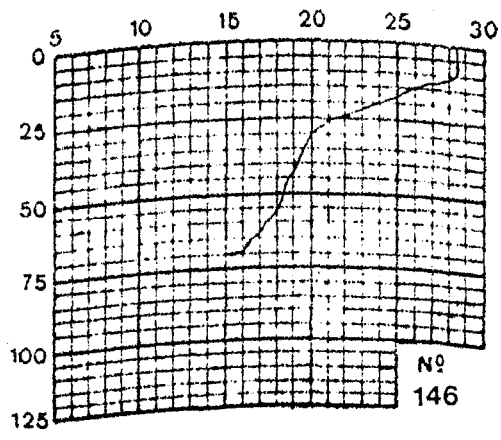












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