Data for Natural Condition Survey Report

for

The Study

on

Maintenance Dredging

in Access Channel of Banjarmasin Port

in

The Republic of Indonesia

[Vol. 1/9 1. Yearlong Survey]
1.1 Tide
1.2 Wind
1.3 Wave

March 1990

Japan International Cooperation Agency

Contents

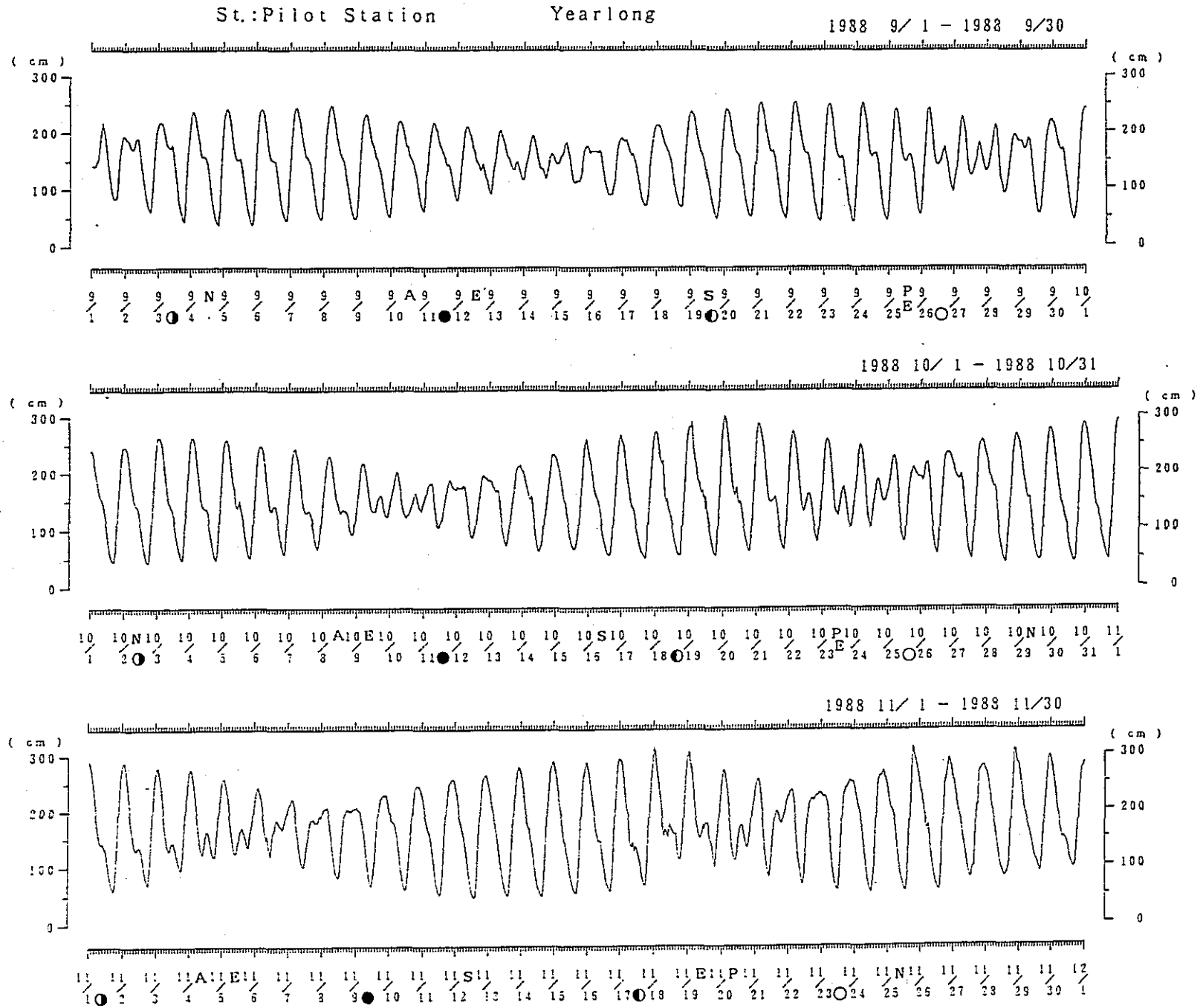


Fig. 1. 1-1 (1) Tidal Curves

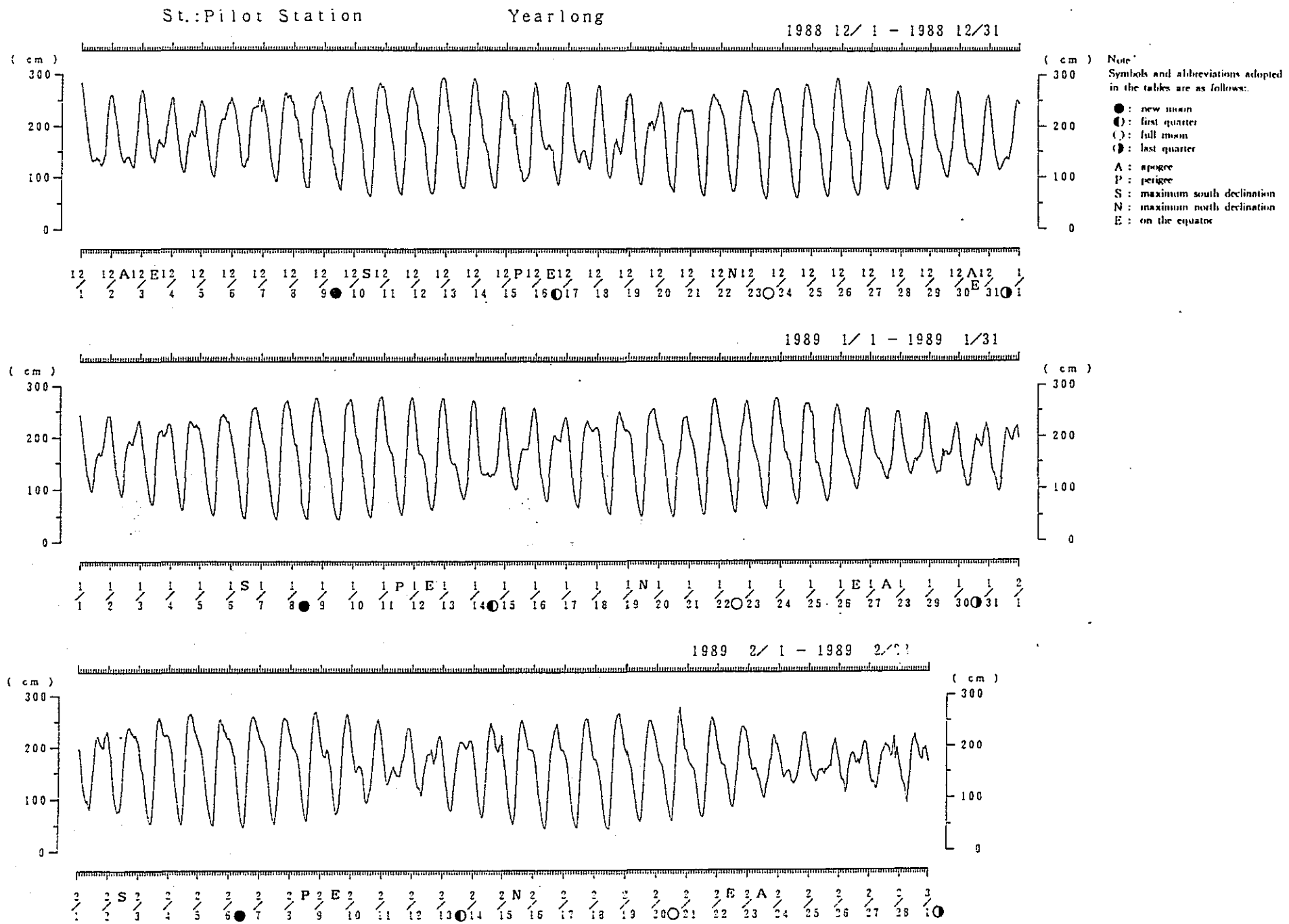
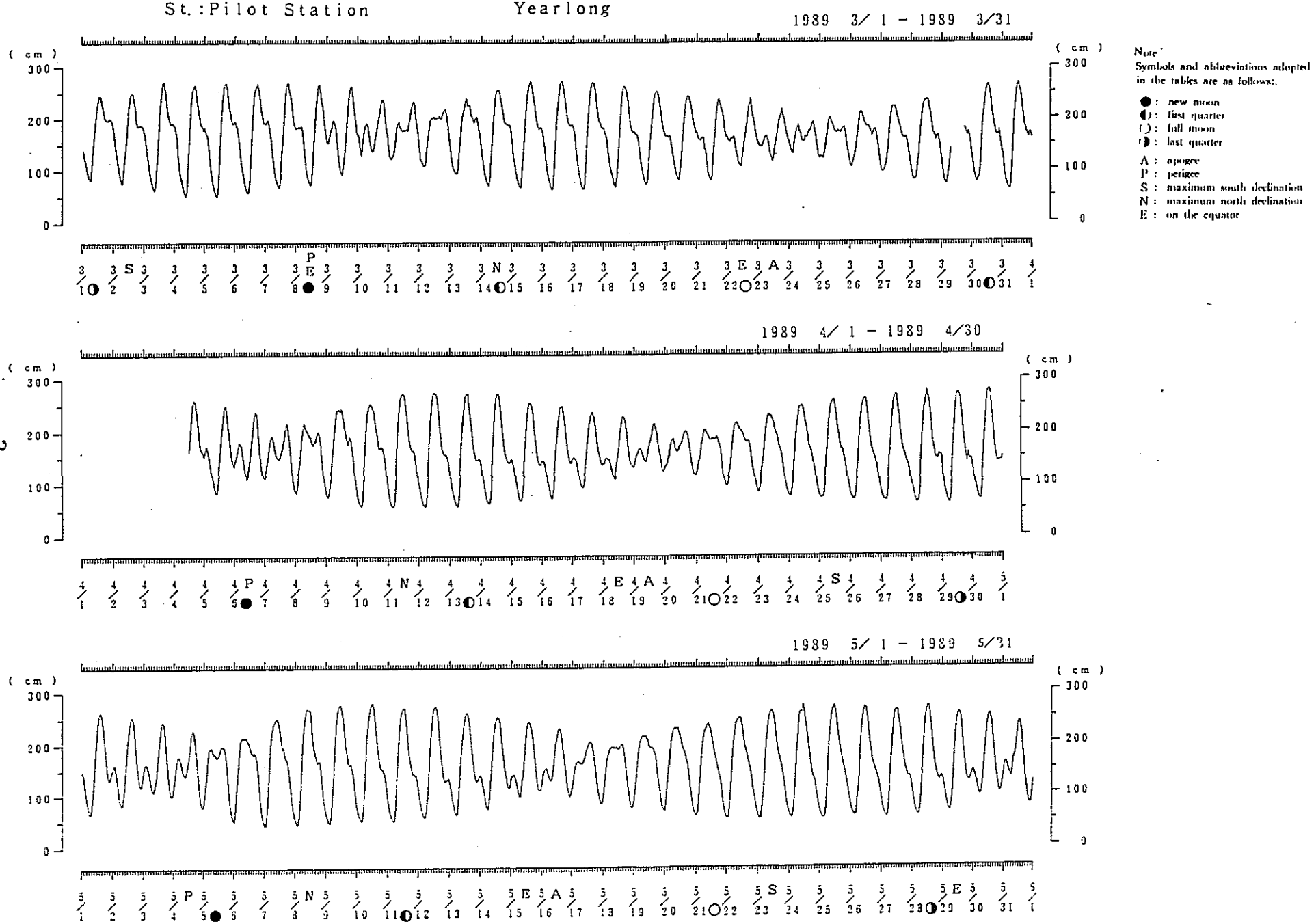


Fig. 1. 1-1 (2) Tidal Curves

St.:Pilot Station Yearlong



Note:
Symbols and abbreviations adopted in the tables are as follows:

- ● : new moon
- ◐ : first quarter
- ○ : full moon
- ◑ : last quarter
- A : apogee
- P : perigee
- S : maximum south declination
- N : maximum north declination
- E : on the equator

Fig. 1. 1-1 (3) Tidal Curves

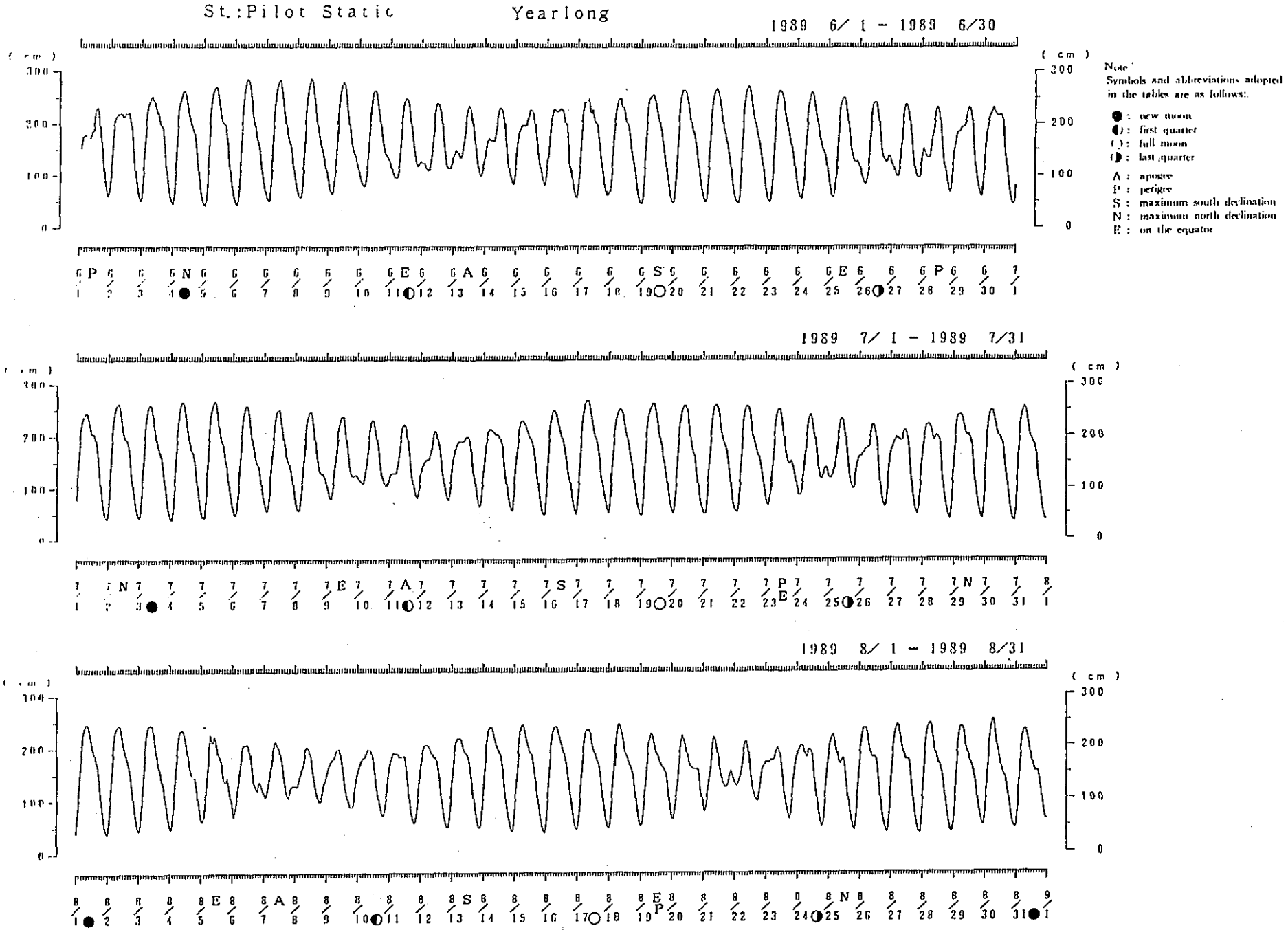


Fig. 1. 1-1 (4) Tidal Curves

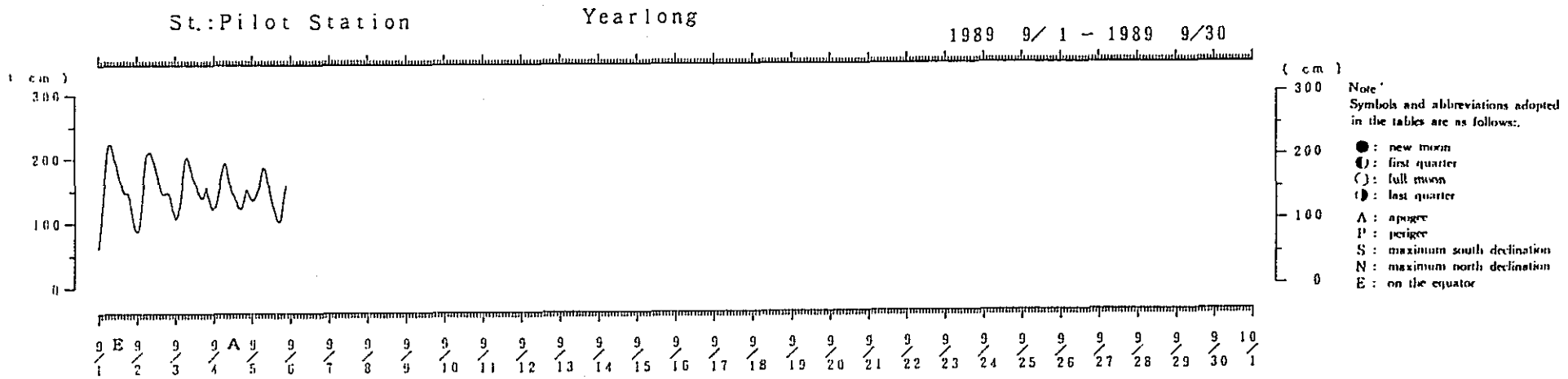


Fig. 1. 1−1 (5) Tidal Curves

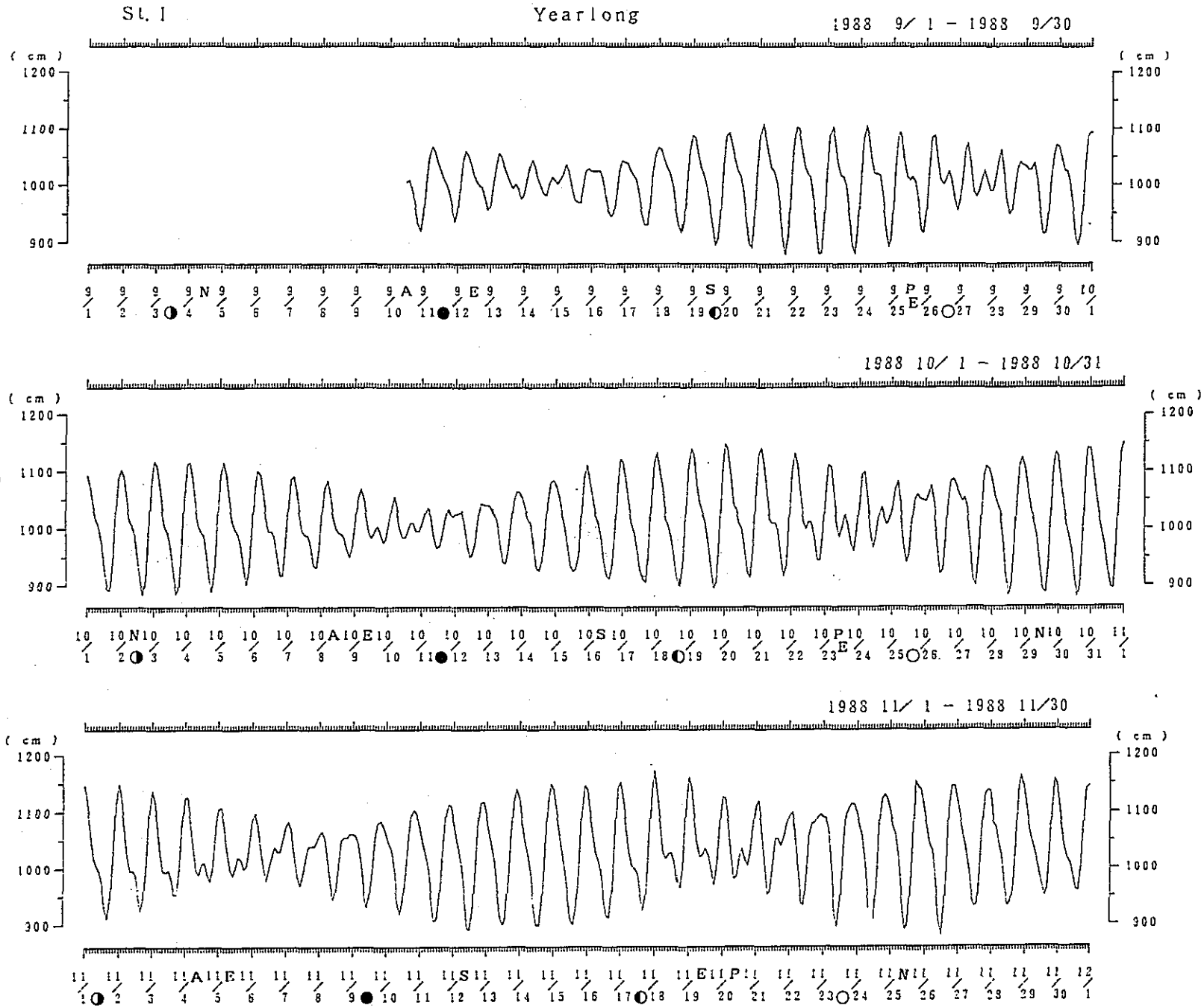


Fig. 1. 1-2 (1) Tidal Curves

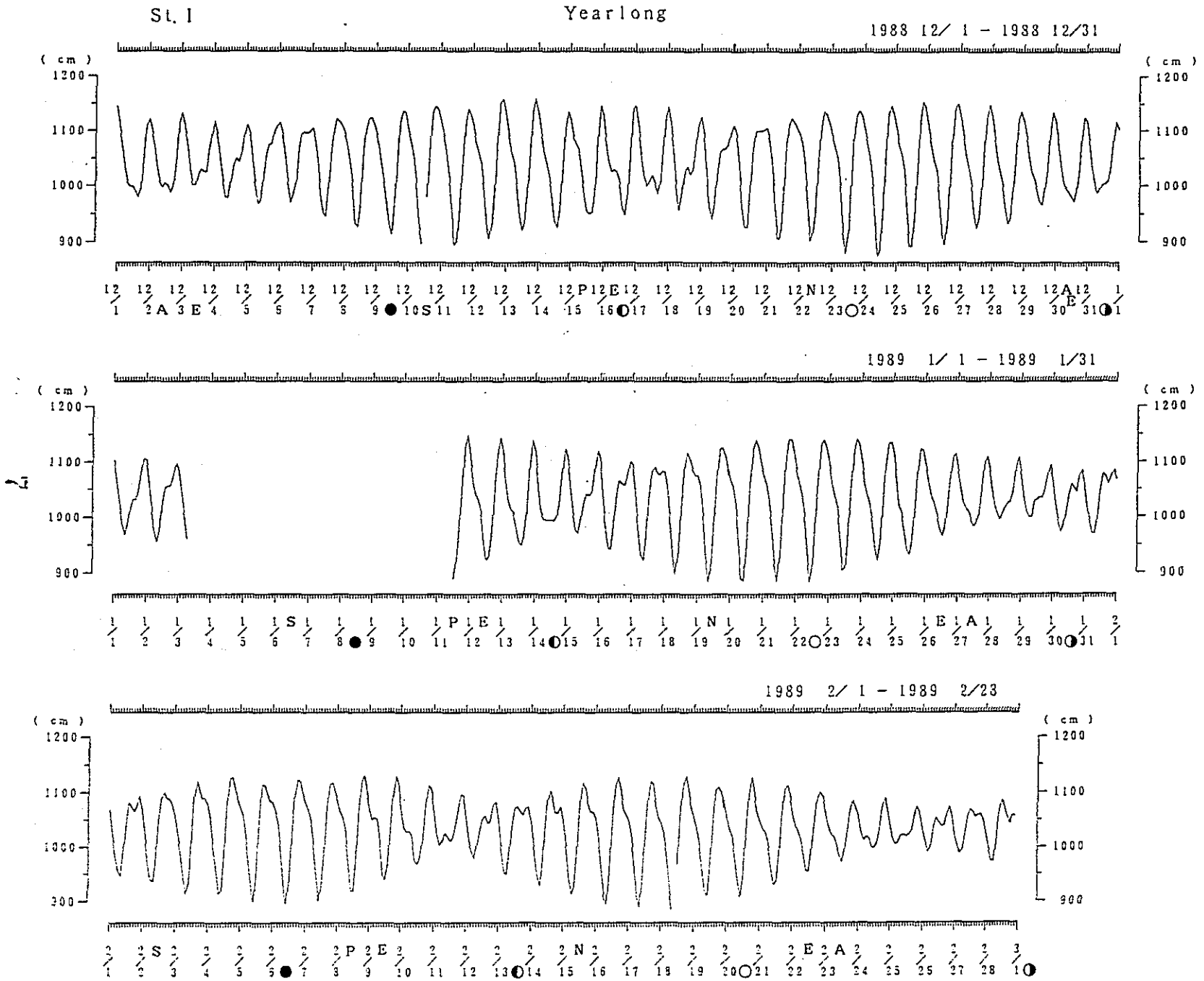


Fig. 1. 1-2 (2) Tidal Curves

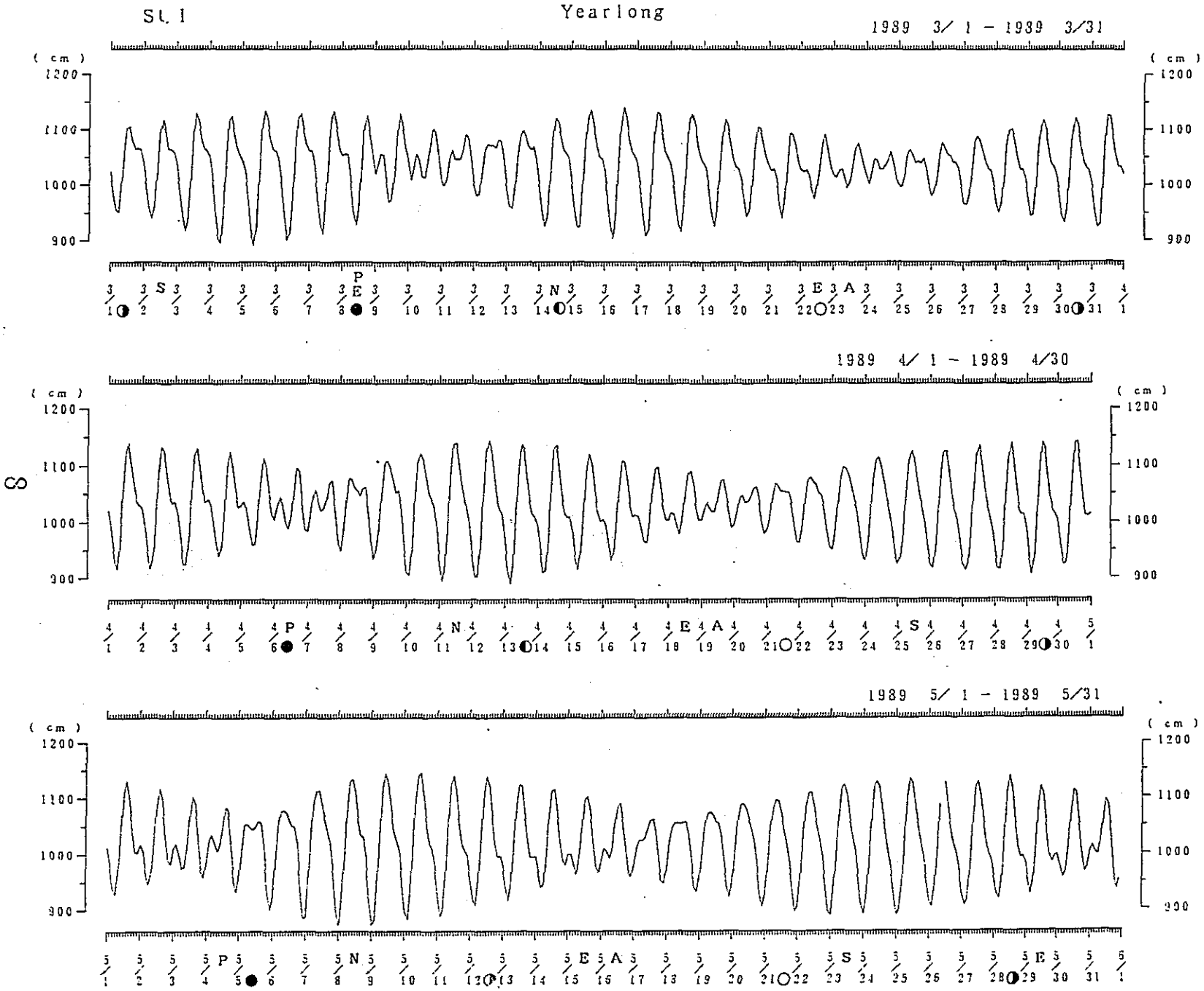


Fig. 1. 1-2 (3) Tidal Curves

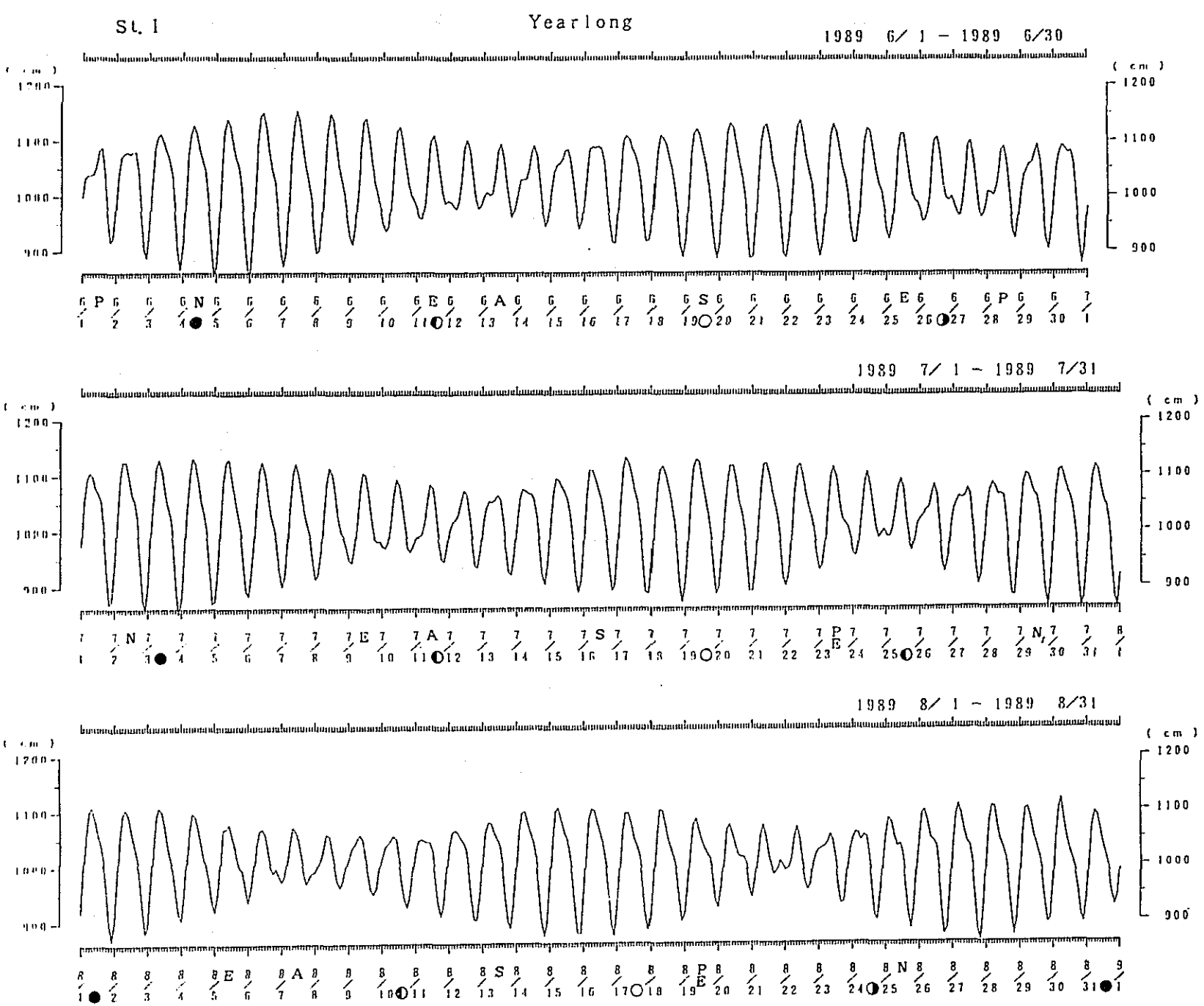


Fig. 1. 1-2 (4) Tidal Curves

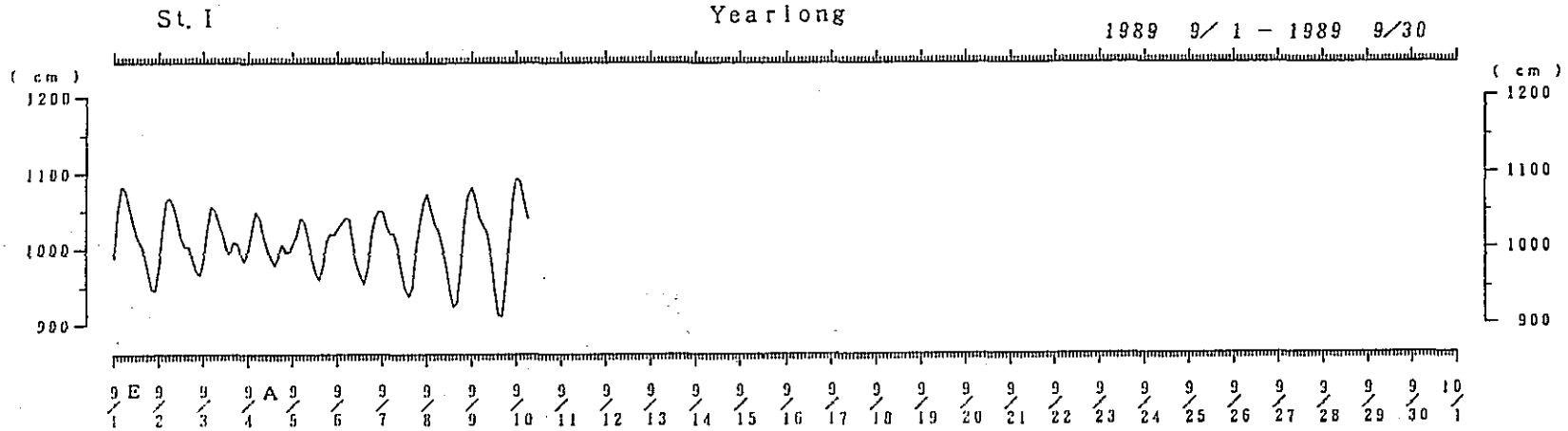
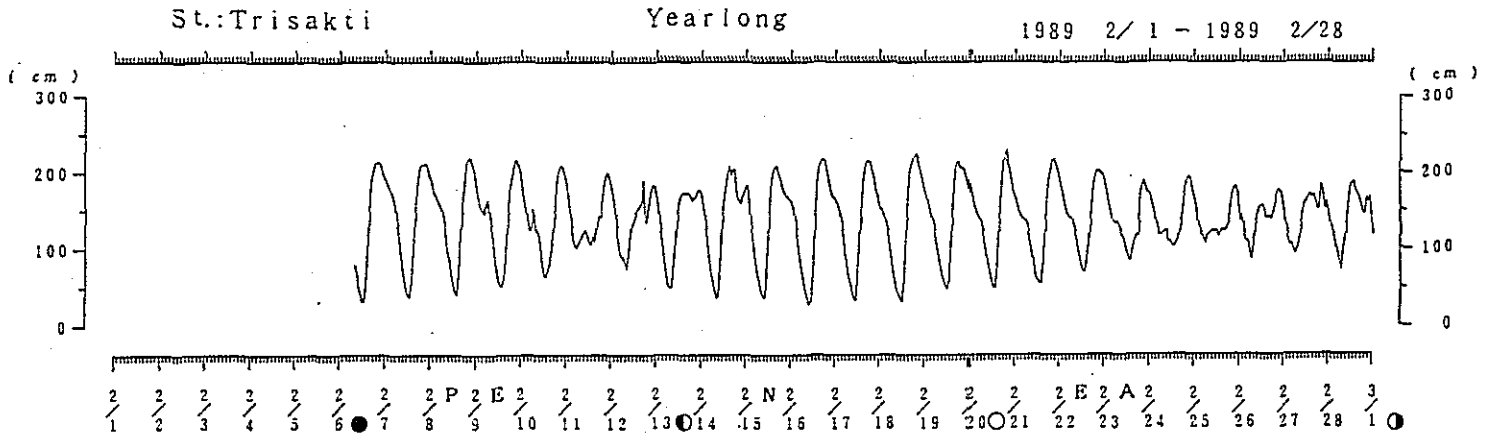


Fig. 1. 1-2 (5) Tidal Curves



Note:
Symbols and abbreviations adopted in the tables are as follows:

- ● : new moon
- ◐ : first quarter
- ○ : full moon
- ◑ : last quarter
- A : apogee
- P : perigee
- S : maximum south declination
- N : maximum north declination
- E : on the equator

Fig. 1. 1–3 (i) : Tidal Curves

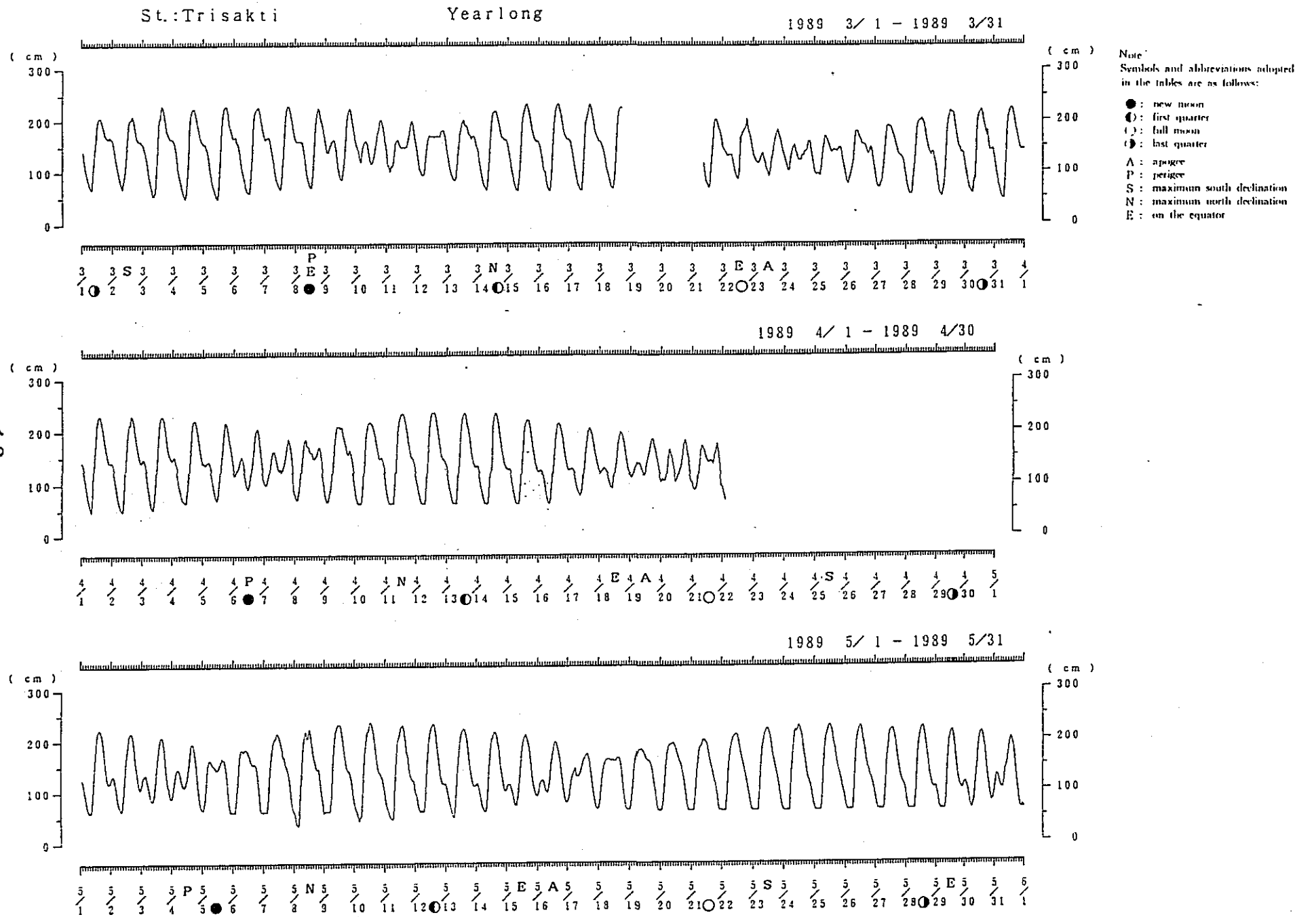


Fig. I. 1-3 (2) Tidal Curves

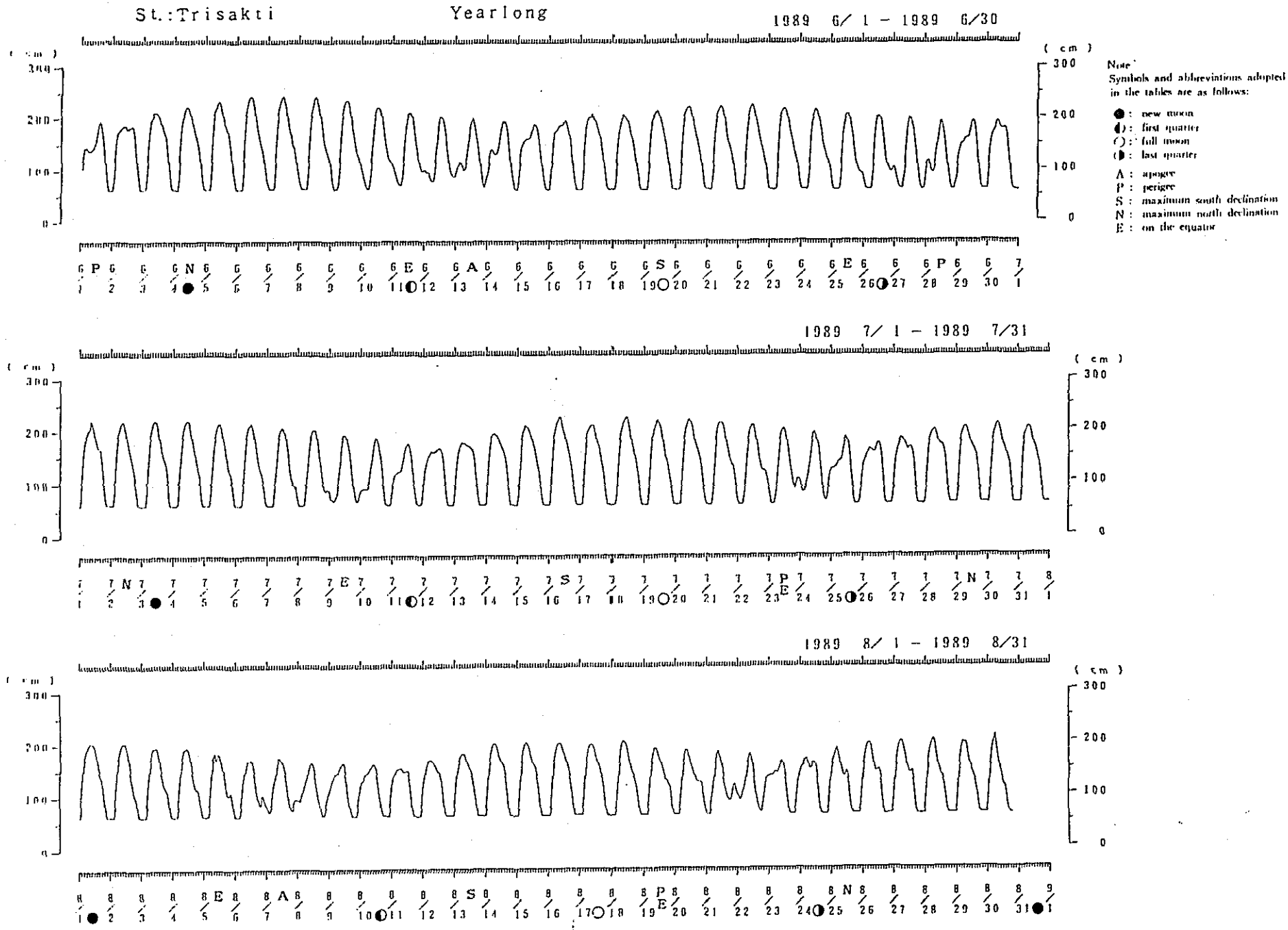


Fig. 1. 1–3 (3) Tidal Curves

Table 1. 1. -1 (1) Tidal Level

Month : Sep. 1988
St. : PILOT STATION
Lat. : 3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	142	142	142	148	154	172	196	218	206	194	168	146	124	106	91	84	84	86	104	142	166	182	194	192	149.3
2	188	186	184	176	172	170	176	188	190	186	166	146	122	102	84	74	66	62	74	110	148	178	204	213	148.5
3	218	219	216	204	192	180	176	174	172	178	166	144	126	102	78	64	54	46	44	70	118	158	190	214	146.0
4	232	238	233	224	204	186	168	157	159	158	156	146	128	106	84	66	54	46	40	38	66	116	166	202	140.5
5	228	240	242	236	220	202	178	162	154	152	152	155	144	126	102	82	64	54	44	38	42	76	126	174	141.4
6	212	234	240	241	234	216	198	174	162	153	152	150	150	134	114	92	72	60	52	46	46	66	106	150	143.9
7	190	220	238	244	244	232	216	196	182	170	158	158	152	146	132	112	94	74	62	54	48	48	76	122	148.7
8	166	204	228	242	248	246	234	216	194	178	166	160	154	150	135	116	98	80	66	57	50	48	54	86	149.0
9	124	164	198	220	228	232	228	212	198	182	178	170	156	154	140	134	122	104	86	72	58	52	52	72	147.3
10	104	138	172	200	216	220	220	214	202	188	176	174	162	156	150	144	132	122	104	86	74	64	62	78	148.3
11	123	134	166	186	208	218	216	208	202	186	176	172	165	160	150	142	144	138	124	108	100	86	80	82	153.1
12	106	132	158	178	202	210	210	200	196	184	171	168	152	146	143	133	137	145	135	121	115	101	93	91	151.1
13	110	133	150	168	186	201	204	195	188	178	165	158	155	148	141	135	135	147	150	142	132	123	116	116	153.2
14	135	147	157	167	184	193	192	182	172	159	148	137	136	135	124	118	128	138	155	163	161	156	148	145	153.3
15	143	151	160	160	167	180	182	173	158	140	123	112	111	114	113	113	119	127	155	169	174	176	172	163	148.1
16	168	168	166	168	166	165	169	162	144	128	112	100	90	90	90	92	102	116	149	170	183	187	190	186	144.2
17	183	187	180	173	166	159	163	154	146	131	117	101	86	77	72	70	76	90	127	159	182	198	210	213	142.5
18	212	211	205	192	182	177	172	166	160	149	133	113	98	88	79	71	68	71	94	135	170	198	223	235	150.1
19	237	233	227	208	191	182	167	163	157	146	132	118	102	85	73	63	53	47	57	80	123	171	202	225	143.4
20	241	240	236	224	204	192	178	167	163	161	151	139	119	100	83	67	58	52	51	64	102	147	143	225	146.1
21	246	252	252	241	223	200	190	176	167	166	167	157	141	122	103	83	69	60	52	47	63	103	151	193	151.0
22	230	248	254	251	237	222	200	182	171	164	163	163	158	141	118	97	77	64	53	46	43	62	107	154	150.2
23	195	227	245	249	244	228	204	183	166	159	153	153	157	152	135	114	90	70	66	47	42	44	76	117	146.5
24	163	200	234	248	252	239	220	193	173	161	157	161	162	164	155	143	116	91	70	58	49	44	51	83	149.5
25	125	165	207	237	241	237	218	195	171	155	148	148	151	159	160	155	140	127	102	81	64	55	58	83	149.3
26	120	153	190	223	240	242	222	198	169	152	143	142	146	149	156	166	173	161	145	124	110	98	93	110	159.4
27	124	142	171	196	220	227	216	195	161	137	125	122	124	131	143	150	168	180	176	161	151	137	130	132	159.1
28	136	147	163	181	200	211	207	184	155	119	107	91	92	97	110	128	150	176	191	194	191	188	182	182	157.6
29	182	176	170	170	177	188	183	165	138	115	90	70	58	56	64	86	111	141	178	201	211	220	221	216	149.5
30	215	204	186	177	170	166	170	166	141	119	98	78	61	51	45	51	69	97	138	178	210	233	242	242	146.1

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1. −1 (2) Tidal Level

Month : Oct. 1988
St. : PILOT STATION
Lat. : -3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	239	234	210	190	177	164	157	152	147	133	115	93	72	59	50	47	46	66	106	150	191	225	245	247	146.5
2	246	239	224	200	178	166	150	143	142	137	124	108	85	69	58	48	44	45	72	115	168	211	246	263	145.0
3	265	261	250	227	201	182	165	150	144	138	133	124	107	91	76	64	54	48	52	80	127	176	218	253	149.4
4	264	263	257	240	213	185	166	150	141	138	137	136	128	109	93	78	65	54	48	58	92	137	185	226	148.5
5	252	260	259	249	230	206	183	171	144	138	142	151	136	125	110	91	77	61	53	52	75	115	159	198	151.5
6	231	246	249	246	235	215	188	166	150	135	132	140	142	141	130	114	93	77	66	58	63	96	133	173	150.8
7	202	229	242	244	235	224	202	177	156	141	132	130	131	134	128	120	107	88	76	67	74	93	118	153	150.1
8	183	206	226	231	226	213	192	176	156	147	135	129	133	135	134	132	128	116	103	95	92	97	121	143	152.0
9	168	192	213	218	216	202	185	167	153	137	132	131	131	140	153	157	160	155	137	128	123	123	134	147	158.4
10	160	174	188	202	201	187	175	148	133	126	121	125	127	132	142	150	164	163	152	144	136	132	143	150	153.1
11	158	164	177	180	182	175	153	132	114	107	104	115	116	132	147	163	175	188	184	176	173	171	169	174	155.4
12	173	172	172	177	175	167	145	122	104	90	86	90	100	113	133	154	173	192	196	192	190	187	185	186	153.1
13	184	176	170	165	168	167	149	124	104	87	77	73	81	95	114	136	160	183	204	210	210	214	205	201	152.4
14	192	180	172	161	152	158	145	123	103	84	68	62	69	75	94	119	131	160	183	207	231	233	230	227	148.3
15	218	206	190	177	161	149	146	127	108	89	78	71	66	68	72	89	114	152	194	225	250	260	246	229	153.5
16	218	200	180	165	157	152	144	132	115	94	82	71	61	57	56	60	82	118	161	204	237	258	269	258	147.1
17	250	227	206	184	168	152	140	136	126	108	95	83	70	60	58	52	50	73	119	167	215	249	269	273	147.1
18	272	253	228	215	220	165	148	153	138	128	117	105	91	77	67	58	55	57	100	138	191	233	264	282	156.5
19	280	291	245	224	212	188	179	163	168	156	155	132	114	99	83	72	61	55	56	104	167	219	266	286	165.6
20	301	294	269	240	210	181	167	158	172	153	143	150	138	119	105	86	75	65	62	77	118	177	232	267	165.0
21	287	287	276	263	239	206	178	156	148	147	148	151	156	148	131	110	92	78	67	64	87	133	188	232	165.5
22	261	274	268	257	236	207	176	150	134	130	138	148	160	161	151	137	115	99	86	77	93	122	157	193	163.8
23	232	253	258	254	238	211	180	152	131	127	122	138	153	168	172	161	143	126	108	101	107	125	150	178	166.2
24	204	236	249	246	234	206	171	140	119	108	102	116	140	162	181	187	181	168	155	147	149	152	164	172	170.4
25	188	205	227	229	219	197	164	128	103	87	78	80	107	140	174	196	202	208	202	197	194	190	191	190	170.7
26	184	190	208	216	216	193	161	125	96	77	63	57	74	107	143	178	211	228	235	232	233	226	217	209	170.0
27	196	189	186	188	195	184	157	128	109	77	62	52	47	68	105	148	189	233	248	252	257	251	237	229	166.1
28	219	194	190	179	171	173	160	133	106	83	66	53	45	40	58	92	136	182	221	247	262	268	261	251	157.9
29	234	211	188	177	159	152	154	135	111	95	76	61	52	45	45	52	88	143	192	237	259	276	277	270	153.7
30	258	235	204	180	164	146	141	133	119	108	96	75	63	54	46	41	47	96	152	210	253	278	286	284	152.9
31	273	258	234	214	195	163	144	136	132	119	108	90	77	66	57	49	45	76	126	180	234	270	288	292	159.4

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1. −1 (3) Tidal Level

Month : Nov. 1988
St. : PILOT STATION
Lat. : -3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	283	266	248	212	184	166	149	143	143	141	134	124	105	87	77	66	61	68	109	153	203	253	277	289	164.2
2	289	270	248	225	197	173	154	138	132	133	137	138	129	111	93	81	74	71	96	138	183	230	262	277	165.8
3	281	270	252	229	208	178	158	142	131	133	142	145	143	135	123	108	99	96	106	133	171	212	245	270	171.3
4	277	274	259	240	215	187	163	140	128	124	132	153	164	164	157	143	129	121	120	136	163	196	226	249	177.5
5	259	260	245	234	215	187	166	144	130	126	130	143	152	167	172	165	156	147	137	140	162	181	203	225	176.9
6	240	246	238	226	209	185	165	148	156	135	122	141	163	165	184	186	180	176	172	169	179	187	198	213	182.6
7	215	224	223	214	198	170	147	126	113	103	102	115	135	152	174	185	186	188	182	181	182	193	190	199	170.7
8	206	206	209	201	182	164	136	116	95	87	83	88	118	144	174	195	205	204	202	201	203	207	206	209	168.4
9	205	203	200	190	178	155	130	105	88	72	68	78	105	134	166	195	212	225	229	232	230	231	217	200	168.7
10	196	183	182	178	167	150	127	100	81	68	62	65	87	116	144	183	211	240	246	247	247	242	233	224	165.8
11	205	190	180	168	160	145	126	105	83	68	57	52	58	80	116	163	200	235	252	254	258	259	254	242	162.9
12	226	201	185	177	165	153	132	109	90	74	60	53	48	51	77	124	168	211	246	260	265	267	256	244	160.1
13	233	215	197	188	172	158	140	120	100	81	69	59	54	50	57	92	136	187	224	251	273	281	276	265	161.6
14	248	222	202	188	174	167	149	139	116	96	79	67	59	53	49	60	100	148	202	248	278	283	291	284	162.6
15	269	246	216	203	190	168	147	142	122	109	90	79	68	61	56	56	78	123	178	237	263	278	290	280	164.5
16	267	245	227	209	188	165	156	145	146	145	117	100	83	71	67	60	58	82	138	198	245	280	295	294	165.9
17	289	268	236	209	199	190	143	136	144	129	138	131	120	105	86	74	68	70	108	168	224	269	286	315	171.0
18	306	275	255	228	208	174	155	168	162	153	177	170	166	160	158	159	119	114	117	134	178	232	270	301	189.1
19	307	288	274	245	211	187	167	154	151	158	168	178	179	180	149	144	136	112	100	138	166	203	237	260	187.2
20	276	271	251	231	199	170	143	122	113	113	130	153	169	176	174	156	145	135	139	156	182	205	225	246	178.3
21	255	260	252	230	190	156	125	104	88	84	103	139	170	191	200	198	190	183	178	191	198	214	224	228	181.3
22	237	239	233	214	182	147	116	95	79	69	76	110	156	194	216	220	223	219	225	228	230	234	232	230	183.5
23	225	227	225	213	188	158	116	93	77	66	60	60	97	145	198	229	240	243	247	252	256	252	253	239	181.6
24	226	211	203	192	178	157	125	99	80	68	60	56	69	103	161	217	254	264	262	269	273	261	254	242	178.5
25	222	207	201	194	183	159	131	108	88	76	66	59	58	78	128	188	236	294	314	300	291	280	261	240	181.8
26	232	213	196	181	168	174	151	122	102	86	75	65	59	59	89	153	198	248	263	278	295	287	275	257	176.1
27	250	225	205	195	185	177	156	137	122	102	89	80	81	97	100	144	208	210	269	274	277	281	280	272	184.0
28	266	255	238	208	198	181	166	148	134	110	97	90	82	83	87	94	107	172	223	256	308	309	287	284	182.6
29	263	246	219	201	193	183	168	162	149	139	125	114	110	100	90	93	116	147	198	239	271	294	298	292	183.8
30	276	256	233	203	192	173	161	149	151	147	143	135	117	107	101	96	100	127	165	203	248	274	279	285	180.0

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1. −1 (4) Tidal Level

Month : Dec. 1988
St. : PILOT STATION
Lat. : -3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	269	250	227	205	182	162	149	138	131	134	134	139	134	135	127	123	128	138	144	182	222	242	259	261	175.6
2	256	242	224	211	198	173	152	141	135	128	133	139	140	139	131	124	119	122	149	178	202	246	264	271	175.7
3	266	254	229	218	193	165	146	138	139	129	138	151	166	175	167	165	158	160	172	199	205	227	242	255	185.7
4	256	232	218	194	175	148	130	120	112	109	114	145	162	177	185	192	187	180	179	193	210	228	241	250	180.7
5	244	237	213	187	163	143	124	109	102	100	114	146	171	192	208	215	215	214	223	233	245	244	256	249	189.5
6	241	233	219	191	184	150	132	121	120	122	137	133	169	203	221	234	237	236	240	237	256	253	229	251	197.9
7	237	227	212	193	169	142	121	109	99	92	93	114	151	189	225	246	264	265	254	259	260	248	248	240	194.0
8	219	217	209	183	167	175	132	103	90	80	81	81	123	173	234	235	255	256	259	265	267	252	241	234	188.8
9	227	207	200	176	157	156	126	125	111	96	95	80	75	98	137	183	222	252	263	270	275	274	251	241	179.0
10	225	214	202	190	173	162	127	104	88	76	68	64	64	93	147	210	250	272	281	285	274	278	271	260	182.4
11	237	226	217	200	175	161	135	113	99	84	73	68	66	93	123	175	216	247	265	272	276	266	255	248	178.8
12	239	210	199	192	186	172	164	135	111	95	82	72	68	71	79	127	161	219	263	287	294	293	289	271	178.3
13	250	231	218	190	183	178	169	147	124	106	92	83	79	78	84	108	143	187	232	269	288	293	288	278	179.1
14	246	234	222	212	178	166	166	151	150	123	115	99	86	80	79	82	121	160	191	240	270	269	268	261	173.7
15	261	221	212	214	204	185	205	165	142	127	112	113	94	91	95	98	102	110	153	211	255	286	281	266	175.1
16	247	217	195	175	163	156	154	156	164	161	153	154	124	109	101	86	85	110	137	191	239	274	286	285	171.8
17	271	244	214	177	162	148	139	131	128	146	150	153	152	140	130	118	116	130	152	186	228	255	276	281	176.1
18	274	253	227	191	165	139	112	103	98	108	133	160	167	176	162	156	145	155	172	194	219	256	258	263	178.6
19	257	238	211	170	138	119	101	86	85	93	113	153	176	195	208	200	211	208	191	203	215	221	239	247	178.3
20	244	231	207	173	140	114	97	85	80	73	71	108	159	193	221	230	237	234	227	232	229	231	229	233	178.3
21	230	214	196	179	152	117	96	81	70	65	63	90	151	200	236	246	257	263	255	252	251	242	242	232	182.5
22	226	219	201	184	159	127	107	90	74	72	75	85	121	168	216	240	258	271	268	269	259	246	241	230	183.6
23	207	209	191	183	169	145	118	96	81	70	62	58	70	128	194	235	251	268	270	275	272	268	254	240	179.8
24	223	210	195	183	175	152	128	105	87	76	68	60	59	77	150	194	238	268	283	281	276	268	254	241	177.1
25	223	202	191	189	178	165	144	118	100	81	73	64	62	71	106	167	220	261	279	294	293	283	264	241	177.9
26	223	204	190	180	171	170	151	127	96	88	77	69	64	66	79	124	179	225	253	275	288	284	276	268	172.0
27	246	226	207	185	178	168	160	146	125	107	92	81	76	79	99	117	158	205	237	262	271	278	280	262	176.9
28	239	225	200	176	166	158	144	141	132	112	97	85	77	76	84	105	141	180	230	255	275	272	271	254	170.6
29	244	227	202	181	170	157	150	148	136	126	117	110	104	99	106	128	150	158	194	225	257	270	265	257	174.2
30	240	218	189	161	149	136	129	125	128	124	117	117	113	108	103	114	138	162	185	220	241	255	262	251	166.0
31	229	211	186	165	143	132	120	114	116	120	127	133	138	141	135	137	151	162	185	218	239	251	250	243	168.6

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Stand... Level at Tide Gauge.

Table 1. 1. -1 (5) Tidal Level

Month : Jan. 1989
St. : PILOT STATION
Lat. : -3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	223	204	182	159	138	122	110	98	96	110	126	146	159	166	172	165	166	178	191	210	227	241	242	240	169.6
2	221	199	177	154	133	117	103	91	86	97	121	154	177	187	194	191	187	186	200	208	219	230	233	221	170.3
3	207	184	163	137	116	101	86	76	72	74	105	141	176	203	211	214	213	202	203	208	211	225	227	221	165.7
4	207	188	162	139	117	95	81	67	62	62	84	131	171	205	224	231	229	225	219	220	225	218	219	210	166.3
5	196	181	162	136	104	92	77	64	55	51	57	89	143	189	222	239	240	245	239	238	230	231	213	206	162.5
6	189	179	159	139	119	100	80	64	54	47	46	72	120	170	209	234	252	257	257	257	248	235	220	206	163.0
7	192	186	175	155	134	113	91	73	62	51	45	43	71	125	179	224	250	265	268	272	261	253	236	218	164.3
8	202	187	185	167	149	125	75	68	58	49	45	45	84	140	194	236	257	274	278	273	263	247	227	206	168.1
9	193	186	173	163	145	120	95	77	64	54	47	44	45	62	107	152	202	252	266	265	273	275	265	247	157.2
10	226	202	197	184	171	167	144	118	93	76	65	55	50	47	74	119	166	213	249	269	277	281	271	254	165.3
11	230	208	186	182	172	170	160	141	109	88	73	63	55	52	66	100	138	181	230	258	273	279	273	255	164.3
12	230	202	177	168	167	165	157	150	129	101	84	73	65	62	70	93	117	149	199	245	265	277	277	261	161.8
13	240	212	182	161	151	149	146	149	142	127	107	96	90	81	83	92	108	128	168	215	258	271	270	262	162.0
14	228	197	167	146	130	126	128	125	128	131	125	123	126	129	125	131	136	150	178	217	241	257	258	252	164.8
15	222	193	163	145	124	111	105	99	101	122	141	156	171	179	176	177	176	177	191	213	230	256	256	244	172.0
16	225	189	152	129	109	95	82	77	77	98	137	169	187	204	204	197	196	194	191	210	220	230	238	236	168.6
17	216	190	156	127	102	87	75	68	65	83	122	162	193	218	225	232	227	219	217	211	214	217	220	218	169.3
18	214	197	167	133	107	89	73	63	56	53	82	129	168	183	219	237	250	244	234	229	218	213	212	210	165.8
19	207	201	175	149	118	95	75	64	54	48	52	90	139	169	217	241	245	249	254	255	242	227	217	208	166.3
20	195	193	185	165	140	115	90	74	62	53	47	53	101	132	150	163	180	210	235	237	238	239	223	210	153.8
21	199	194	185	174	152	130	104	86	73	61	53	54	84	136	163	185	219	256	276	276	271	257	243	228	169.1
22	211	198	189	183	163	158	132	109	91	74	63	56	57	90	143	179	210	223	233	261	272	266	250	237	168.7
23	217	193	182	171	164	154	145	124	101	84	72	66	63	89	129	173	215	247	269	276	277	272	258	231	173.8
24	217	206	179	169	170	156	153	141	115	96	86	80	70	76	106	146	177	224	257	266	262	266	261	246	171.9
25	249	240	174	148	149	148	137	125	114	100	88	78	75	81	93	133	169	208	242	254	263	260	247	228	166.8
26	217	198	183	170	161	155	147	139	128	121	106	99	98	115	121	141	170	196	227	249	255	254	250	232	172.2
27	208	194	179	167	162	156	156	150	145	136	130	122	118	119	134	135	153	174	207	231	248	250	245	231	172.9
28	213	195	183	164	149	149	133	128	125	132	145	157	157	151	159	159	164	171	195	218	246	245	237	217	174.7
29	184	170	154	144	137	126	132	130	131	147	176	161	172	172	164	165	168	171	191	207	219	227	221	206	169.8
30	181	157	140	130	112	104	104	105	119	134	155	168	188	204	190	194	185	180	185	208	215	227	214	204	166.8
31	175	153	134	129	125	108	96	95	100	117	146	166	198	216	215	208	202	195	192	206	214	217	220	198	167.7

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1. −1 (6) Tidal Level

Month : Feb. 1989
St. : PILOT STATION
Lat. : −3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	193	166	132	114	104	94	100	87	81	107	143	164	202	218	222	218	207	204	199	200	221	226	233	217	168.8
2	192	182	141	114	99	88	76	78	77	95	120	170	204	223	234	239	235	228	227	220	225	216	212	201	170.7
3	176	159	150	128	108	89	74	63	55	54	80	124	174	225	250	259	253	244	228	224	221	226	223	219	166.9
4	206	195	172	146	126	105	87	71	61	53	54	101	149	198	237	261	265	266	261	248	234	227	221	214	173.3
5	204	198	181	157	139	118	97	80	67	57	51	51	102	157	208	253	256	245	246	233	230	220	216	219	166.0
6	211	205	192	182	158	131	107	84	67	55	47	50	86	125	173	220	247	259	262	257	253	238	231	219	169.1
7	214	209	205	197	180	155	128	103	82	66	58	53	75	112	153	198	225	252	259	255	254	245	230	226	172.3
8	210	200	197	192	187	176	158	132	106	85	70	61	59	91	130	178	223	256	269	272	262	251	228	209	175.1
9	197	184	182	181	197	190	168	159	123	101	83	70	77	86	115	148	191	226	245	266	265	251	241	214	173.3
10	189	173	153	152	159	165	161	159	145	118	96	93	97	110	122	144	170	202	233	247	256	242	230	212	167.8
11	185	163	142	127	131	140	148	154	162	154	148	143	145	143	158	173	175	195	220	236	238	236	220	199	172.3
12	177	149	131	122	122	117	107	124	148	162	171	186	187	187	196	184	168	176	184	207	222	222	211	188	168.7
13	166	137	116	96	81	78	79	101	131	156	179	195	206	212	210	208	204	197	200	204	213	214	209	191	166.0
14	167	147	122	101	85	72	65	71	101	132	164	209	235	248	238	233	227	203	196	191	200	206	223	193	167.9
15	170	149	124	99	82	70	61	52	63	104	151	198	231	247	254	242	233	220	211	195	197	195	194	189	163.8
16	174	155	130	106	88	70	57	47	43	53	98	147	186	199	214	230	236	246	227	211	197	195	194	188	153.8
17	179	165	143	120	98	78	65	53	46	45	84	130	170	214	242	254	256	254	242	222	204	184	176	177	158.4
18	172	164	152	132	112	88	70	57	48	43	44	75	125	175	221	248	262	267	266	246	237	221	201	193	159.1
19	188	175	165	158	136	118	96	80	68	60	56	66	117	159	194	219	239	253	253	243	235	225	216	202	163.4
20	187	174	167	163	151	135	116	99	83	70	60	57	91	120	180	228	268	277	249	238	221	196	194	185	162.9
21	171	166	164	159	157	142	127	107	88	75	67	65	76	107	142	181	217	240	258	254	245	236	219	203	161.1
22	188	175	166	165	164	159	142	129	111	95	86	84	94	123	148	177	206	226	238	240	234	233	219	210	167.2
23	181	175	155	154	158	157	149	140	137	122	111	101	103	123	133	144	175	176	212	224	218	206	207	191	160.5
24	181	166	150	139	143	149	153	154	148	134	131	127	134	138	150	165	180	205	224	228	227	211	196	184	167.4
25	159	147	142	139	131	134	149	154	152	157	149	146	155	154	157	162	161	183	202	207	216	202	181	172	163.0
26	147	135	135	131	111	121	153	166	180	187	189	182	169	167	175	165	175	182	204	211	209	203	182	160	168.3
27	139	129	133	127	117	123	136	159	175	190	192	199	207	201	200	194	180	184	204	221	176	199	181	162	172.0
28	154	135	130	122	103	91	117	135	157	188	212	218	225	210	206	199	184	175	174	197	193	200	188	170	170.1

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table I. 1. -1 (7) Tidal Level

Month : Mar. 1989
St. : PILOT STATION
Lat. : -3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	141	128	116	99	89	83	85	119	155	182	216	235	246	245	230	221	203	199	197	197	202	199	195	179	173.4
2	158	139	125	111	96	83	75	94	120	145	182	222	247	250	248	234	221	195	185	188	188	186	183	173	168.7
3	160	140	119	100	86	75	65	62	76	120	168	222	247	271	273	253	235	212	202	194	189	192	189	186	168.2
4	174	159	126	104	88	75	63	56	52	62	114	176	229	254	261	266	258	234	216	200	188	186	177	184	162.6
5	172	167	146	123	100	84	70	60	54	52	71	122	174	226	261	268	269	261	234	218	207	191	191	196	163.2
6	187	182	165	139	116	101	89	74	65	58	60	90	137	187	235	256	260	269	255	241	216	206	192	190	165.4
7	194	198	188	171	156	130	105	87	78	72	67	76	127	163	210	252	267	272	254	242	221	196	188	180	170.6
8	183	184	182	187	178	152	129	104	88	78	72	78	108	148	196	232	265	266	250	232	221	193	173	153	168.8
9	152	164	177	183	197	191	179	151	125	108	96	92	117	137	174	211	241	260	263	241	219	203	177	169	176.1
10	164	137	129	158	175	188	192	186	162	146	136	138	150	167	184	200	213	230	238	236	212	180	165	141	176.1
11	125	121	127	129	151	179	191	195	184	179	175	179	176	180	176	192	206	224	233	232	206	187	173	144	177.7
12	119	118	109	108	115	148	174	194	203	200	205	200	202	201	206	200	201	212	216	219	204	182	159	139	176.4
13	120	106	99	95	93	102	142	169	203	217	230	240	225	225	226	206	201	192	199	204	195	181	165	142	174.0
14	124	107	92	82	74	70	90	134	177	213	243	255	256	251	238	226	210	193	190	189	186	188	176	155	171.6
15	128	111	95	82	73	67	68	103	148	196	236	255	266	272	263	245	229	210	196	185	179	182	180	168	172.4
16	150	130	109	92	79	69	63	65	96	148	202	237	263	271	273	259	244	220	203	190	188	185	188	184	171.2
17	168	145	125	108	91	79	68	63	67	102	158	204	246	265	270	267	257	238	214	196	190	181	181	179	169.3
18	168	162	141	119	102	93	83	71	67	87	121	167	214	247	263	261	256	242	227	203	185	176	172	172	166.6
19	167	167	157	138	118	103	88	77	72	75	102	145	184	215	241	250	253	248	237	215	196	182	172	165	165.3
20	165	164	162	149	134	118	105	92	82	79	98	121	160	195	221	241	242	237	227	213	194	184	172	169	163.5
21	159	157	155	161	162	139	134	111	91	84	78	88	137	163	201	227	237	229	217	210	197	174	164	161	159.8
22	155	152	159	158	163	157	136	126	112	107	105	123	144	163	186	213	227	238	213	201	185	167	155	149	162.3
23	144	143	145	154	162	165	158	148	132	125	115	128	150	162	180	196	206	217	203	197	184	169	160	150	162.2
24	142	132	130	152	165	177	187	173	169	155	154	154	164	162	171	174	176	190	192	172	159	142	127	121	160.0
25	126	124	121	141	159	178	197	201	192	186	176	171	170	175	173	170	175	179	182	170	150	137	122	107	161.8
26	104	113	122	132	152	179	205	211	209	201	192	185	182	184	178	173	164	172	178	173	155	142	123	104	163.9
27	96	96	102	110	125	150	183	213	223	221	223	214	204	193	184	172	163	160	159	163	153	136	121	102	161.1
28	90	80	80	85	109	130	167	198	222	230	235	235	232	219	208	190	171	165	156	164	165	154	141	118	164.3
29	97	80	74	71	86	102	140	-	-	-	-	-	-	-	-	-	-	180	175	164	172	165	149	130	127.5
30	115	95	81	75	82	85	105	155	200	234	253	261	265	255	240	215	195	182	170	165	165	175	147	135	168.8
31	125	95	79	72	69	62	70	105	155	208	237	260	268	255	249	230	211	190	177	169	161	170	170	160	164.3

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1. -1 (8) Tidal Level

Month : Apr. 1989
St. : PILOT STATION
Lat. : -3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	162	190	227	255	261	257	240	217	190	169	165	160	153	203.5
5	163	173	165	152	136	120	110	94	84	82	101	131	158	192	223	246	251	241	217	198	175	150	139	133	159.8
6	144	152	164	181	176	173	153	137	121	111	121	134	153	178	204	227	238	234	207	173	147	124	115	112	161.6
7	121	135	149	170	186	193	185	172	157	153	147	149	157	167	181	196	214	217	198	170	138	109	92	85	160.0
8	82	105	129	150	183	207	218	208	204	197	191	190	180	174	180	183	197	201	191	172	141	115	94	80	165.5
9	74	81	102	117	148	191	213	239	241	243	238	245	228	214	200	185	176	191	185	169	151	118	98	80	172.0
10	68	61	57	66	103	150	199	234	248	254	251	245	239	220	202	187	169	167	173	169	159	137	113	90	165.0
11	75	64	58	55	63	100	160	212	245	265	272	271	268	251	230	211	186	170	165	164	158	141	120	103	167.0
12	85	73	64	58	57	67	114	171	217	252	269	274	273	266	244	220	195	170	161	156	156	151	140	122	164.8
13	101	86	74	64	58	57	71	117	172	218	248	269	272	273	251	230	206	178	162	152	144	145	147	142	159.9
14	124	108	92	79	68	63	62	78	128	183	226	260	273	272	260	235	211	184	161	149	140	139	139	148	157.6
15	142	125	108	93	78	69	67	71	101	151	187	224	247	255	254	246	224	197	178	157	142	134	135	144	155.4
16	142	139	125	107	93	81	71	73	90	124	162	199	224	244	248	247	231	214	187	169	153	141	138	144	156.1
17	150	147	143	134	117	106	95	92	99	123	151	180	208	228	236	234	225	208	187	166	152	139	134	136	157.9
18	138	148	147	145	143	130	121	111	108	132	149	168	198	213	228	226	220	203	182	159	142	135	132	129	158.6
19	138	153	156	165	166	163	153	145	141	141	158	174	184	200	213	214	206	195	173	155	143	126	121	128	163.0
20	133	136	153	174	180	185	176	165	159	163	170	174	179	191	199	200	193	181	166	144	129	119	114	115	162.4
21	127	140	147	172	187	202	204	195	193	186	181	184	187	183	184	190	184	176	166	143	118	107	97	95	164.5
22	104	121	133	161	188	208	214	216	209	204	202	198	194	184	178	180	180	171	153	131	115	101	89	82	163.2
23	88	106	126	151	184	205	224	231	228	228	221	216	203	195	190	176	165	158	144	126	105	92	81	76	163.3
24	74	84	104	124	164	201	226	244	246	249	245	235	220	207	189	171	167	160	145	130	115	96	83	74	164.7
25	71	71	75	99	131	170	208	235	250	256	259	249	234	213	197	175	165	163	154	142	127	110	93	79	163.6
26	73	68	67	73	99	138	183	216	243	253	259	260	247	225	205	181	166	159	149	142	131	117	100	84	159.9
27	75	68	66	65	70	99	144	183	225	248	263	268	265	244	222	195	175	162	157	147	139	131	116	100	159.5
28	93	82	69	61	63	70	102	162	201	240	255	276	264	256	237	216	177	164	147	146	145	154	152	150	161.8
29	115	90	79	70	63	60	77	126	173	215	250	266	272	265	248	229	203	180	160	138	158	144	143	143	161.1
30	126	107	91	81	70	67	68	98	146	196	238	270	276	276	263	232	201	173	153	140	139	141	142	149	160.1

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1. −1 (9) Tidal Level

Month : May 1989
St. : PILOT STATION
Lat. : -3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	144	124	109	90	76	67	67	83	116	162	204	239	260	264	261	244	215	188	161	140	133	136	147	155	157.7
2	162	153	138	116	99	88	81	89	114	146	183	213	243	255	255	245	222	189	162	135	120	119	132	151	158.8
3	162	165	157	146	133	117	109	110	122	140	170	194	218	241	245	239	217	185	150	125	106	100	103	120	157.3
4	140	161	176	179	173	161	149	143	140	147	160	176	198	221	229	225	210	181	142	114	93	81	78	84	156.7
5	107	138	172	191	194	196	187	184	182	176	178	182	189	198	197	196	186	164	131	102	79	63	54	50	154.0
6	67	108	142	184	210	215	215	213	216	214	207	202	190	185	182	186	183	171	144	116	86	67	54	45	158.4
7	43	61	107	154	198	226	240	245	251	252	243	232	218	192	197	177	173	167	150	121	95	76	64	54	164.0
8	47	45	62	104	160	213	238	258	270	269	267	265	230	203	188	177	165	169	169	146	119	93	76	64	166.5
9	55	49	46	60	101	161	211	247	267	276	278	271	254	230	201	185	167	160	164	152	140	114	92	77	164.9
10	66	57	52	52	75	120	177	223	253	272	279	261	270	249	218	193	172	157	154	151	147	132	108	88	164.4
11	75	65	58	52	51	76	131	181	223	254	267	272	271	255	231	201	179	161	145	143	142	141	130	109	158.9
12	90	76	66	59	58	69	111	157	203	236	262	273	274	266	244	214	186	162	142	128	130	131	136	126	158.3
13	112	93	81	68	63	66	97	138	180	216	243	257	262	260	248	226	195	171	151	135	128	131	136	142	158.3
14	134	119	106	89	78	74	90	124	163	201	230	246	254	252	247	226	198	175	151	134	119	115	121	137	157.6
15	142	141	133	123	108	98	98	123	145	176	208	234	243	243	236	224	204	178	152	129	112	109	110	126	158.1
16	144	150	154	151	139	131	130	135	152	178	201	216	231	231	224	208	186	162	140	119	106	97	103	114	158.4
17	134	154	162	166	168	164	163	164	169	179	188	195	202	207	201	190	172	148	125	106	90	84	86	102	155.0
18	127	153	174	184	191	194	195	194	192	195	190	191	196	199	200	192	168	144	121	103	86	76	76	91	159.7
19	114	140	171	192	205	213	216	216	216	212	207	196	193	193	191	184	173	149	128	106	89	77	71	70	163.4
20	95	130	163	198	216	227	231	228	231	225	216	207	196	188	183	168	159	139	116	96	79	67	61	59	161.6
21	69	105	139	175	208	223	227	234	239	234	230	215	200	185	174	163	153	142	127	104	83	69	61	55	158.9
22	55	75	116	154	196	216	238	246	249	251	247	234	215	196	183	171	161	149	134	111	94	77	66	58	162.2
23	53	55	80	117	164	202	228	250	259	264	258	250	233	209	191	179	165	156	142	125	107	87	73	63	162.9
24	57	55	65	90	134	180	220	258	261	261	275	263	246	223	200	184	162	145	134	128	107	92	77	66	161.8
25	60	54	54	64	102	154	198	231	254	268	273	265	251	226	208	188	173	161	152	140	124	108	90	76	161.4
26	67	62	59	61	88	125	174	217	246	260	271	266	252	225	203	185	166	159	147	143	133	122	107	88	159.4
27	73	64	58	55	62	93	147	183	222	250	263	264	263	246	225	202	183	167	151	143	135	135	127	108	159.1
28	93	75	66	60	60	76	110	159	200	240	262	271	271	257	235	208	182	155	143	133	127	130	137	128	157.4
29	115	98	84	72	66	71	96	133	179	217	243	255	258	252	234	202	176	151	132	126	126	132	142	146	154.4
30	143	133	121	105	96	98	111	136	167	200	232	249	255	252	237	214	179	151	131	112	102	106	124	140	158.1
31	160	162	157	148	140	132	143	171	174	187	211	236	241	232	218	186	155	127	102	86	80	80	95	125	156.2

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1. −1 (10) Tidal Level

Month : Jun. 1989
St. : PILOT STATION
Lat. : -3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	152	170	177	179	176	175	175	173	179	187	189	216	228	231	219	188	154	124	96	79	67	60	70	103	157.0
2	143	180	201	209	213	216	217	218	216	212	213	218	217	220	211	197	162	130	105	84	69	58	50	56	167.3
3	94	142	183	217	234	240	248	253	248	241	230	220	218	207	196	192	166	137	110	86	70	58	49	45	170.1
4	57	103	155	198	232	244	253	262	263	255	243	221	211	203	191	183	176	152	121	95	77	62	51	44	168.8
5	41	54	113	169	214	244	258	267	271	266	251	237	218	206	200	200	181	168	136	110	88	72	60	52	169.8
6	45	43	61	121	177	223	254	271	283	285	277	263	241	215	201	188	171	163	153	130	106	87	75	64	170.7
7	56	51	50	83	137	187	232	257	273	281	285	273	257	230	210	194	180	166	163	146	123	103	86	74	170.7
8	65	59	57	69	112	158	208	244	264	281	286	280	261	245	221	198	176	163	155	146	134	119	103	89	170.5
9	75	69	64	69	93	130	174	215	245	265	275	279	272	252	227	205	185	165	148	142	137	125	117	103	168.0
10	91	84	79	78	89	115	152	193	227	251	263	265	261	244	223	203	178	165	150	140	138	132	129	120	165.4
11	110	103	96	94	96	110	138	174	208	234	246	248	245	236	215	192	170	146	133	122	118	123	128	126	158.8
12	125	125	116	112	109	112	132	160	189	216	236	239	236	224	210	176	155	136	120	115	114	115	125	137	155.6
13	141	150	145	143	134	136	146	164	183	212	226	234	230	215	195	176	152	132	116	101	97	105	119	135	157.8
14	152	167	172	169	168	167	166	174	193	208	223	230	227	220	203	173	145	123	107	95	86	81	96	131	161.5
15	160	183	187	194	196	196	194	196	205	211	225	224	221	211	189	164	139	123	111	98	86	80	96	128	167.4
16	137	174	202	212	227	225	223	222	222	227	228	223	214	196	199	166	124	107	93	78	66	58	56	77	164.8
17	117	163	202	228	240	241	241	247	223	217	226	211	201	197	177	160	137	117	96	80	66	61	67	67	165.9
18	94	147	185	216	229	244	247	248	231	231	220	204	198	189	174	151	134	121	102	81	65	53	46	44	160.6
19	60	105	155	195	229	245	251	253	255	247	237	224	208	194	182	165	147	129	110	90	72	60	50	46	162.9
20	50	84	133	175	211	244	257	264	264	262	248	235	218	204	188	180	165	151	128	107	88	72	60	51	168.3
21	46	58	97	150	191	222	246	257	263	266	260	245	231	203	187	181	166	157	135	116	94	76	64	53	165.2
22	47	46	58	107	160	198	234	256	266	271	267	253	234	216	199	187	174	165	151	134	113	91	74	61	165.1
23	52	47	50	84	125	170	214	240	255	263	263	257	248	227	210	192	181	164	158	145	126	107	87	73	164.1
24	62	56	54	71	100	149	189	226	240	254	261	258	243	221	206	186	172	165	151	147	139	123	107	89	161.2
25	74	62	58	65	89	116	163	199	229	243	249	250	241	222	201	172	151	140	130	127	126	128	120	112	152.8
26	99	92	84	82	90	108	142	177	211	232	240	242	237	219	197	170	145	134	129	125	128	137	138	127	153.5
27	121	111	105	98	96	107	132	162	194	221	235	237	228	216	190	166	133	115	102	96	95	97	123	139	146.6
28	151	144	138	133	133	137	157	177	184	210	229	230	220	202	174	146	123	108	88	78	66	67	99	137	147.1
29	156	167	184	184	185	191	194	194	198	209	221	230	228	212	185	147	121	100	85	70	61	59	82	120	157.6
30	159	187	202	213	218	223	231	222	217	214	213	217	215	208	180	145	121	99	79	64	51	45	45	79	160.3

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1. -1 (11) Tidal Level

Month : Jul. 1989
St. : PILOT STATION
Lat. : -3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	131	174	209	229	235	242	244	242	232	221	208	203	206	199	186	166	136	108	86	69	56	45	40	47	163.1
2	89	142	184	219	241	253	260	262	253	240	222	206	196	194	185	173	149	123	104	83	66	55	47	42	166.2
3	48	91	147	188	222	242	254	259	259	243	231	210	190	181	172	163	154	135	117	98	77	61	49	41	159.7
4	37	55	102	153	194	227	249	260	266	263	250	231	213	194	180	173	168	158	137	112	91	73	59	49	162.3
5	43	44	79	129	171	207	239	254	262	266	263	246	223	212	189	184	169	153	145	123	101	82	68	58	162.9
6	49	47	59	99	141	176	208	234	249	258	258	248	229	208	188	174	160	148	144	139	121	101	84	70	158.0
7	61	54	60	87	123	159	189	216	236	247	249	251	234	214	193	177	161	153	148	138	124	111	91	76	156.3
8	63	56	57	79	104	137	170	200	226	239	246	246	236	218	196	170	150	136	130	128	129	124	116	103	152.5
9	93	83	80	88	107	144	160	185	213	223	232	238	236	216	191	171	150	133	124	123	123	126	125	120	153.5
10	116	114	110	109	119	135	154	181	210	225	231	228	215	199	182	159	139	126	120	111	106	107	109	118	151.0
11	127	128	128	128	129	143	158	178	201	215	222	221	208	188	168	143	123	109	96	85	81	90	107	129	146.0
12	141	148	153	156	156	156	166	175	193	203	210	208	192	180	158	136	122	107	92	82	77	91	115	144	148.4
13	161	173	183	188	191	190	190	191	192	197	199	199	191	177	156	131	118	100	83	70	63	71	100	136	152.1
14	165	187	201	210	213	212	209	207	204	203	203	200	191	182	157	132	118	102	84	69	59	56	79	121	156.8
15	159	186	212	223	228	229	226	222	213	207	200	193	187	176	162	137	118	99	81	66	54	47	49	92	156.9
16	141	188	218	233	247	250	244	238	229	218	208	196	185	172	158	142	124	112	94	77	64	54	48	68	162.8
17	115	163	205	233	252	261	267	267	260	245	233	219	205	192	181	167	148	124	109	93	78	66	56	51	174.6
18	78	134	174	211	230	241	247	251	250	242	230	214	202	189	174	161	145	126	110	92	76	63	53	46	164.1
19	47	88	139	184	217	238	250	256	262	263	255	239	221	204	188	178	156	149	133	114	93	76	64	55	169.5
20	50	66	110	159	198	221	236	252	258	258	251	248	218	199	179	168	161	142	121	108	87	71	61	52	161.4
21	48	50	82	128	174	209	236	255	257	259	253	243	220	206	190	184	178	168	149	128	105	84	68	60	163.9
22	54	53	70	108	155	196	232	251	256	257	254	243	223	204	188	179	169	162	159	146	129	109	90	77	165.2
23	69	66	82	105	136	173	210	235	244	251	251	236	220	195	172	160	150	146	152	147	140	129	115	100	161.8
24	86	85	89	107	126	159	187	217	231	241	240	225	208	186	165	144	130	119	117	126	138	140	135	124	155.2
25	119	119	124	134	145	165	183	205	225	232	230	216	201	170	148	124	110	99	97	107	134	148	158	161	156.4
26	161	166	168	174	175	178	179	195	211	222	220	208	187	153	124	98	81	69	62	69	100	133	160	172	152.7
27	179	189	192	197	195	193	190	191	200	209	211	204	185	160	126	98	78	62	52	47	61	100	139	170	151.2
28	192	205	217	220	222	218	211	201	190	198	201	197	191	168	136	107	84	66	51	42	38	55	96	145	152.1
29	185	216	232	239	240	241	235	224	213	204	203	204	194	184	156	127	103	83	66	51	41	38	59	106	160.2
30	157	198	227	242	248	250	245	233	224	207	201	198	190	187	166	146	118	94	74	58	46	37	34	60	160.0
31	108	159	200	227	242	252	256	252	240	222	207	197	188	185	177	164	138	114	90	71	57	46	38	39	161.2

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1. -1 (12) Tidal Level

Month : Aug. 1989
St. : PILOT STATION
Lat. : -3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	69	115	158	193	224	237	244	247	244	235	220	206	195	188	175	169	146	128	103	83	66	52	43	38	157.4
2	51	88	131	176	210	232	240	244	244	238	225	212	196	184	176	167	157	142	122	98	79	64	51	44	157.1
3	45	75	111	154	194	224	239	244	246	245	233	221	202	183	166	159	144	137	129	112	92	76	60	49	155.8
4	45	65	92	129	169	202	225	233	235	234	228	213	196	178	165	154	149	146	145	130	112	94	78	65	153.4
5	61	72	98	127	160	193	226	212	211	223	216	202	187	183	173	154	140	138	137	145	128	110	100	80	153.2
6	69	83	99	124	150	172	191	205	207	205	209	203	192	176	154	137	130	122	119	137	135	127	121	114	149.2
7	107	110	125	140	159	170	195	210	213	205	203	196	181	165	145	131	117	109	105	122	128	130	129	130	151.0
8	128	129	144	150	161	165	182	196	202	200	190	177	157	145	131	119	107	98	98	102	119	133	140	150	146.8
9	162	169	173	178	178	184	191	196	198	199	182	166	145	126	115	102	95	87	87	89	107	129	145	157	148.3
10	164	173	178	181	181	188	190	197	197	195	184	169	150	131	113	98	87	77	71	75	90	120	147	165	146.7
11	176	184	189	189	188	189	183	181	182	182	184	174	155	135	112	92	76	63	57	61	77	105	138	164	143.2
12	184	199	205	205	207	204	199	192	186	180	182	175	166	147	125	102	84	70	58	51	48	62	95	134	144.2
13	165	191	211	217	218	219	216	207	197	190	186	181	171	154	139	115	95	77	63	53	47	47	75	115	147.9
14	154	190	217	232	239	239	235	224	214	205	198	193	184	170	152	128	106	86	71	58	47	41	45	78	154.4
15	118	155	205	230	241	245	241	230	215	204	195	190	184	171	156	135	115	95	77	63	51	42	38	52	152.0
16	90	134	173	207	228	239	241	241	234	224	215	205	193	184	172	158	142	120	98	80	64	52	45	44	157.6
17	68	108	147	180	207	227	232	235	233	227	209	198	190	179	172	167	154	136	114	92	73	59	50	46	154.3
18	56	92	130	170	210	233	246	241	234	221	205	188	182	174	169	163	154	145	125	106	86	69	57	50	154.4
19	56	83	112	138	174	206	219	227	222	212	200	188	181	172	168	162	161	156	153	138	113	91	76	65	153.0
20	63	82	108	129	163	191	210	223	213	205	189	180	169	165	162	159	158	158	159	158	139	117	102	85	153.6
21	76	88	107	129	150	177	200	219	217	204	189	164	149	143	132	130	123	124	134	149	155	146	141	134	149.2
22	127	127	138	144	154	170	192	210	212	201	180	156	135	120	110	101	96	98	115	136	160	164	168	172	149.4
23	171	169	173	175	174	176	187	192	198	194	179	159	138	116	95	83	72	63	74	103	135	160	177	188	148.0
24	190	197	202	202	197	185	179	187	194	195	190	173	147	121	101	82	68	56	49	57	93	133	165	185	147.8
25	200	212	222	224	210	195	184	170	166	174	177	167	149	125	103	82	66	54	45	42	62	99	145	177	143.8
26	205	225	236	237	236	224	205	190	181	179	181	177	167	145	121	97	76	61	48	40	37	54	93	137	148.0
27	174	210	228	238	243	238	223	205	191	182	174	175	176	170	138	120	92	74	59	47	39	36	62	104	149.9
28	156	194	220	238	243	245	238	220	201	188	174	166	166	155	148	132	111	87	70	56	45	38	41	69	150.0
29	115	159	196	220	236	239	236	229	208	194	186	174	170	162	151	141	128	106	86	72	60	52	50	72	151.8
30	106	149	192	221	240	251	252	232	210	195	176	163	158	149	145	141	123	108	91	74	60	52	46	48	149.3
31	79	117	156	190	216	229	233	231	220	208	192	172	168	157	151	152	153	141	125	106	86	71	62	62	153.2

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1. -1 (13) Tidal Level

Month : Sep. 1989
St. : PILOT STATION
Lat. : -3°30.1'N
Long. : 114°29.1'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	81	113	145	177	206	222	224	222	211	200	191	178	170	161	152	147	148	147	139	126	112	98	90	86	156.1
2	89	107	131	160	188	206	210	212	206	199	192	182	171	157	149	146	146	147	148	144	133	121	115	107	156.9
3	109	119	135	156	177	197	203	200	190	180	169	165	158	148	143	139	139	148	157	145	137	128	121	125	153.7
4	125	136	149	162	175	189	194	186	173	161	149	144	138	133	125	123	122	129	141	153	149	143	138	135	148.8
5	137	143	150	157	162	177	186	183	170	159	146	133	125	117	106	102	101	109	129	148	158	-	-	-	142.8
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1-2 (1) Tidal Level

Month : Sep. 1988
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	1005	-	1009	-	992	-	967	-	934	-	919	-	947	967.6
11	-	999	-	1047	-	1069	-	1060	-	1040	-	1025	-	1011	-	1001	-	985	-	959	-	936	-	954	1007.2
12	-	997	-	1042	-	1062	-	1052	-	1037	-	1019	-	1006	-	999	-	996	-	977	-	957	-	964	1009.0
13	-	997	-	1031	-	1057	-	1051	-	1031	-	1017	-	1005	-	994	-	1002	-	994	-	975	-	982	1011.3
14	-	1005	-	1029	-	1046	-	1034	-	1012	-	999	-	985	-	982	-	1001	-	1015	-	1009	-	1002	1009.9
15	-	1012	-	1021	-	1037	-	1025	-	995	-	974	-	970	-	969	-	996	-	1025	-	1029	-	1024	1006.4
16	-	1024	-	1024	-	1024	-	1011	-	982	-	955	-	946	-	951	-	986	-	1027	-	1044	-	1041	1001.3
17	-	1039	-	1027	-	1019	-	1010	-	985	-	951	-	931	-	930	-	964	-	1022	-	1057	-	1067	1000.2
18	-	1064	-	1045	-	1031	-	1021	-	1000	-	960	-	931	-	917	-	939	-	1004	-	1060	-	1089	1005.1
19	-	1084	-	1056	-	1032	-	1016	-	997	-	967	-	929	-	895	-	906	-	960	-	1037	-	1086	997.1
20	-	1094	-	1072	-	1045	-	1026	-	1015	-	988	-	939	-	897	-	890	-	941	-	1022	-	1086	1001.3
21	-	1109	-	1087	-	1055	-	1031	-	1025	-	1005	-	964	-	910	-	879	-	909	-	982	-	1061	1001.4
22	-	1104	-	1100	-	1067	-	1034	-	1020	-	1014	-	980	-	925	-	880	-	882	-	945	-	1025	998.0
23	-	1086	-	1104	-	1075	-	1036	-	1017	-	1014	-	997	-	950	-	895	-	880	-	922	-	995	997.6
24	-	1070	-	1106	-	1089	-	1044	-	1020	-	1020	-	1017	-	982	-	930	-	892	-	905	-	965	1003.3
25	-	1042	-	1094	-	1086	-	1045	-	1014	-	1009	-	1015	-	1005	-	970	-	922	-	916	-	961	1006.6
26	-	1025	-	1084	-	1089	-	1044	-	1009	-	1001	-	1011	-	1025	-	1010	-	975	-	955	-	972	1016.7
27	-	1009	-	1061	-	1075	-	1035	-	989	-	979	-	989	-	1010	-	1026	-	1009	-	989	-	990	1013.4
28	-	1011	-	1045	-	1064	-	1026	-	971	-	949	-	957	-	989	-	1030	-	1042	-	1036	-	1034	1012.8
29	-	1027	-	1029	-	1040	-	1009	-	954	-	914	-	917	-	951	-	1010	-	1055	-	1071	-	1067	1003.7
30	-	1049	-	1026	-	1024	-	1007	-	962	-	910	-	894	-	914	-	975	-	1046	-	1091	-	-	990.7

Note : - Shows no Record.

Table 1. 1-2 (2) Tidal Level

Month : Oct. 1988
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	1076	-	1040	-	1019	-	1006	-	980	-	927	-	896	-	892	-	945	-	1026	-	1089	-	1104	1000.0
2	-	1089	-	1050	-	1017	-	1005	-	989	-	947	-	904	-	884	-	914	-	1001	-	1081	-	1119	1000.0
3	-	1109	-	1069	-	1026	-	1002	-	992	-	967	-	924	-	886	-	895	-	964	-	1052	-	1113	999.9
4	-	1117	-	1085	-	1037	-	1005	-	996	-	988	-	951	-	909	-	890	-	935	-	1019	-	1092	1002.0
5	-	1116	-	1096	-	1052	-	1014	-	1000	-	992	-	974	-	934	-	901	-	925	-	997	-	1067	1005.7
6	-	1102	-	1095	-	1059	-	1019	-	995	-	996	-	985	-	952	-	917	-	919	-	972	-	1040	1004.3
7	-	1087	-	1092	-	1067	-	1024	-	996	-	990	-	988	-	970	-	936	-	931	-	965	-	1021	1005.6
8	-	1069	-	1085	-	1060	-	1027	-	1002	-	994	-	992	-	985	-	964	-	951	-	967	-	1009	1008.8
9	-	1054	-	1070	-	1051	-	1019	-	992	-	984	-	996	-	1005	-	994	-	977	-	982	-	1006	1010.8
10	-	1035	-	1056	-	1036	-	1002	-	985	-	985	-	995	-	1011	-	1011	-	996	-	996	-	1009	1009.8
11	-	1027	-	1036	-	1022	-	985	-	967	-	970	-	989	-	1015	-	1034	-	1026	-	1022	-	1027	1010.0
12	-	1027	-	1031	-	1012	-	974	-	951	-	956	-	977	-	1014	-	1044	-	1042	-	1040	-	1040	1009.0
13	-	1031	-	1025	-	1015	-	975	-	942	-	939	-	962	-	1004	-	1049	-	1065	-	1064	-	1052	1010.3
14	-	1034	-	1017	-	1010	-	970	-	931	-	926	-	946	-	986	-	1045	-	1081	-	1085	-	1076	1008.9
15	-	1054	-	1026	-	1007	-	974	-	935	-	925	-	930	-	956	-	1024	-	1089	-	1111	-	1082	1009.4
16	-	1052	-	1025	-	1011	-	986	-	944	-	916	-	912	-	934	-	997	-	1074	-	1122	-	1116	1007.4
17	-	1079	-	1040	-	1011	-	992	-	961	-	927	-	910	-	905	-	959	-	1045	-	1115	-	1134	1006.5
18	-	1101	-	1069	-	1016	-	1007	-	984	-	952	-	914	-	899	-	935	-	1020	-	1102	-	1141	1011.7
19	-	1129	-	1077	-	1044	-	1027	-	1014	-	979	-	932	-	896	-	907	-	992	-	1091	-	1149	1019.8
20	-	1140	-	1092	-	1040	-	1034	-	1009	-	1001	-	967	-	922	-	914	-	959	-	1052	-	1130	1021.7
21	-	1141	-	1113	-	1057	-	1016	-	1010	-	1011	-	996	-	952	-	916	-	935	-	1014	-	1097	1021.5
22	-	1132	-	1111	-	1060	-	1012	-	999	-	1012	-	1011	-	982	-	945	-	945	-	994	-	1062	1022.1
23	-	1111	-	1107	-	1059	-	1007	-	985	-	1002	-	1024	-	1009	-	974	-	961	-	991	-	1041	1022.6
24	-	1095	-	1099	-	1052	-	994	-	966	-	986	-	1022	-	1037	-	1020	-	1007	-	1016	-	1035	1027.4
25	-	1067	-	1082	-	1044	-	977	-	940	-	954	-	1007	-	1050	-	1060	-	1051	-	1050	-	1047	1027.4
26	-	1059	-	1076	-	1042	-	972	-	920	-	927	-	980	-	1044	-	1082	-	1087	-	1076	-	1061	1027.2
27	-	1047	-	1054	-	1034	-	972	-	909	-	900	-	946	-	1017	-	1089	-	1109	-	1104	-	1085	1022.2
28	-	1056	-	1039	-	1027	-	981	-	915	-	882	-	904	-	967	-	1052	-	1109	-	1124	-	1104	1013.3
29	-	1062	-	1030	-	1014	-	984	-	935	-	892	-	886	-	930	-	1021	-	1101	-	1132	-	1126	1009.4
30	-	1084	-	1036	-	1007	-	986	-	959	-	910	-	880	-	899	-	984	-	1084	-	1141	-	1139	1009.1
31	-	1104	-	1057	-	1019	-	994	-	970	-	930	-	896	-	895	-	962	-	1057	-	1134	-	-	1001.6

Note : - Shows no Record.

Table 1. 1-2 (3) Tidal Level

Month : Nov. 1988
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	H.S.L
1	-	1119	-	1062	-	1020	-	1006	-	997	-	971	-	932	-	912	-	949	-	1031	-	1119	-	1151	1022.4
2	-	1122	-	1075	-	1027	-	997	-	997	-	992	-	956	-	926	-	944	-	1012	-	1097	-	1139	1023.7
3	-	1122	-	1077	-	1031	-	997	-	994	-	999	-	984	-	955	-	955	-	1002	-	1075	-	1127	1026.5
4	-	1127	-	1089	-	1037	-	996	-	990	-	1010	-	1012	-	990	-	977	-	1004	-	1059	-	1106	1033.1
5	-	1110	-	1082	-	1035	-	999	-	988	-	1004	-	1022	-	1016	-	1000	-	1006	-	1044	-	1085	1032.6
6	-	1100	-	1077	-	1034	-	1001	-	979	-	1004	-	1022	-	1039	-	1031	-	1031	-	1051	-	1075	1037.0
7	-	1085	-	1070	-	1026	-	985	-	970	-	988	-	1019	-	1040	-	1041	-	1041	-	1049	-	1060	1031.2
8	-	1067	-	1054	-	1015	-	970	-	945	-	965	-	1011	-	1051	-	1057	-	1056	-	1062	-	1062	1026.3
9	-	1060	-	1046	-	1006	-	954	-	932	-	952	-	1004	-	1056	-	1081	-	1086	-	1077	-	1062	1026.3
10	-	1045	-	1034	-	999	-	944	-	920	-	940	-	985	-	1049	-	1096	-	1105	-	1096	-	1076	1024.1
11	-	1049	-	1027	-	999	-	946	-	906	-	912	-	957	-	1029	-	1092	-	1114	-	1113	-	1091	1019.6
12	-	1056	-	1034	-	1005	-	951	-	896	-	892	-	926	-	1000	-	1077	-	1117	-	1120	-	1099	1014.4
13	-	1069	-	1042	-	1012	-	964	-	914	-	900	-	911	-	972	-	1055	-	1121	-	1141	-	1124	1018.8
14	-	1082	-	1050	-	1024	-	990	-	935	-	900	-	900	-	946	-	1030	-	1119	-	1151	-	1140	1022.3
15	-	1101	-	1065	-	1030	-	996	-	951	-	910	-	901	-	930	-	1006	-	1097	-	1147	-	1140	1022.8
16	-	1100	-	1065	-	1027	-	1014	-	991	-	945	-	917	-	912	-	970	-	1070	-	1145	-	1154	1025.8
17	-	1119	-	1071	-	1030	-	1004	-	1000	-	991	-	951	-	926	-	955	-	1046	-	1134	-	1174	1033.4
18	-	1132	-	1081	-	1030	-	1019	-	1027	-	1030	-	1014	-	979	-	966	-	1007	-	1102	-	1162	1045.8
19	-	1145	-	1094	-	1049	-	1022	-	1026	-	1037	-	1024	-	997	-	970	-	1011	-	1074	-	1127	1048.0
20	-	1126	-	1085	-	1027	-	982	-	988	-	1020	-	1037	-	1016	-	1006	-	1030	-	1072	-	1113	1041.8
21	-	1121	-	1077	-	1009	-	954	-	961	-	1012	-	1054	-	1055	-	1042	-	1057	-	1080	-	1095	1043.1
22	-	1101	-	1067	-	1000	-	939	-	935	-	995	-	1059	-	1081	-	1084	-	1092	-	1097	-	1092	1045.2
23	-	1091	-	1070	-	1001	-	920	-	896	-	946	-	1027	-	1094	-	1109	-	1116	-	1115	-	1097	1040.2
24	-	1075	-	1056	-	1007	-	930	-	-	-	910	-	991	-	1084	-	1124	-	1131	-	1122	-	1102	1048.4
25	-	1076	-	1059	-	1019	-	947	-	892	-	900	-	962	-	1057	-	1154	-	1144	-	1139	-	1105	1037.8
26	-	1075	-	1045	-	1031	-	972	-	910	-	882	-	931	-	1012	-	1113	-	1146	-	1146	-	1121	1032.0
27	-	1089	-	1060	-	1036	-	996	-	947	-	932	-	936	-	1015	-	1086	-	1132	-	1139	-	1136	1042.0
28	-	1081	-	1074	-	1044	-	1021	-	967	-	934	-	939	-	964	-	1041	-	1134	-	1165	-	1141	1042.1
29	-	1102	-	1067	-	1046	-	1025	-	997	-	974	-	950	-	964	-	1024	-	1106	-	1157	-	1149	1046.8
30	-	1115	-	1070	-	1037	-	1019	-	1010	-	986	-	962	-	960	-	1004	-	1077	-	1140	-	-	1034.5

Note : - Shows no Record.

Table 1. 1-2 (4) Tidal Level

Month : Dec. 1988
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	1110	-	1067	-	1030	-	1005	-	999	-	999	-	989	-	981	-	996	-	1056	-	1109	-	1121	1038.5
2	-	1101	-	1072	-	1035	-	1006	-	997	-	1005	-	1001	-	988	-	1000	-	1051	-	1113	-	1134	1041.9
3	-	1110	-	1076	-	1030	-	1001	-	1001	-	1020	-	1031	-	1025	-	1025	-	1065	-	1089	-	1117	1049.2
4	-	1094	-	1056	-	1010	-	980	-	979	-	1011	-	1039	-	1051	-	1044	-	1062	-	1094	-	1111	1044.3
5	-	1094	-	1046	-	1000	-	969	-	974	-	1017	-	1056	-	1075	-	1077	-	1100	-	1109	-	1115	1052.7
6	-	1095	-	1050	-	1004	-	970	-	984	-	1006	-	1066	-	1094	-	1097	-	1096	-	1099	-	1105	1055.5
7	-	1086	-	1049	-	990	-	952	-	946	-	991	-	1059	-	1100	-	1122	-	1116	-	1109	-	1097	1051.4
8	-	1077	-	1042	-	1007	-	934	-	927	-	964	-	1051	-	1099	-	1121	-	1125	-	1114	-	1096	1046.4
9	-	1071	-	1037	-	999	-	965	-	926	-	914	-	975	-	1049	-	1116	-	1137	-	1134	-	1104	1035.6
10	-	1081	-	1055	-	1011	-	939	-	897	-	-	-	981	-	1076	-	1134	-	1146	-	1139	-	1115	1052.2
11	-	1092	-	1061	-	1015	-	957	-	894	-	901	-	960	-	1039	-	1114	-	1140	-	1129	-	1110	1034.3
12	-	1077	-	1059	-	1040	-	986	-	924	-	905	-	934	-	996	-	1087	-	1152	-	1159	-	1130	1037.4
13	-	1094	-	1059	-	1044	-	1004	-	947	-	920	-	935	-	982	-	1059	-	1136	-	1159	-	1132	1039.3
14	-	1097	-	1064	-	1040	-	1017	-	982	-	937	-	926	-	959	-	1029	-	1107	-	1136	-	1121	1034.6
15	-	1087	-	1077	-	1066	-	1027	-	982	-	955	-	951	-	955	-	992	-	1085	-	1147	-	1131	1037.9
16	-	1080	-	1046	-	1027	-	1031	-	1026	-	1006	-	962	-	949	-	986	-	1065	-	1140	-	1147	1038.8
17	-	1106	-	1049	-	1016	-	1000	-	1012	-	1020	-	1005	-	986	-	1004	-	1060	-	1125	-	1145	1044.0
18	-	1114	-	1055	-	991	-	957	-	986	-	1025	-	1036	-	1022	-	1031	-	1067	-	1109	-	1127	1043.3
19	-	1096	-	1027	-	967	-	941	-	967	-	1021	-	1062	-	1067	-	1067	-	1075	-	1096	-	1110	1041.3
20	-	1094	-	1034	-	962	-	927	-	926	-	994	-	1062	-	1100	-	1100	-	1100	-	1101	-	1105	1042.1
21	-	1082	-	1042	-	962	-	905	-	909	-	979	-	1070	-	1111	-	1124	-	1115	-	1105	-	1095	1041.6
22	-	1080	-	1042	-	974	-	902	-	916	-	955	-	1042	-	1107	-	1136	-	1132	-	1113	-	1091	1040.8
23	-	1072	-	1050	-	996	-	916	-	880	-	914	-	1009	-	1092	-	1131	-	1139	-	1130	-	1102	1035.9
24	-	1076	-	1051	-	1009	-	931	-	875	-	887	-	985	-	1062	-	1132	-	1147	-	1131	-	1106	1031.0
25	-	1074	-	1057	-	1029	-	966	-	892	-	892	-	945	-	1034	-	1119	-	1155	-	1145	-	1106	1034.5
26	-	1074	-	1047	-	1030	-	980	-	916	-	895	-	932	-	1002	-	1089	-	1144	-	1151	-	1129	1032.4
27	-	1090	-	1055	-	1035	-	1005	-	951	-	924	-	939	-	991	-	1070	-	1127	-	1149	-	1126	1038.5
28	-	1086	-	1047	-	1025	-	1007	-	966	-	932	-	941	-	984	-	1054	-	1120	-	1137	-	1119	1034.8
29	-	1090	-	1052	-	1026	-	1012	-	991	-	972	-	966	-	997	-	1031	-	1099	-	1135	-	1119	1040.8
30	-	1081	-	1034	-	1004	-	996	-	988	-	981	-	972	-	990	-	1029	-	1087	-	1125	-	1116	1033.6
31	-	1077	-	1032	-	1000	-	986	-	994	-	1002	-	1005	-	1009	-	1034	-	1084	-	1116	-	-	1030.8

Note : - Shows no Record.

Table 1. 1-2 (5) Tidal Level

Month : Jan. 1989
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	1067	-	1025	-	988	-	969	-	985	-	1016	-	1032	-	1031	-	1047	-	1079	-	1106	-	1104	1037.4
2	-	1065	-	1021	-	977	-	955	-	977	-	1025	-	1054	-	1056	-	1057	-	1077	-	1097	-	1089	1037.5
3	-	1049	-	1002	-	961	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1004.0
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	-	-	-	-	-	-	-	-	-	-	-	891	-	920	-	979	-	1061	-	1130	-	1149	-	1114	1034.9
12	-	1062	-	1041	-	1032	-	1009	-	954	-	922	-	930	-	969	-	1034	-	1114	-	1145	-	1120	1027.7
13	-	1069	-	1029	-	1014	-	1009	-	981	-	957	-	950	-	964	-	1012	-	1095	-	1139	-	1117	1028.0
14	-	1057	-	1012	-	997	-	996	-	995	-	996	-	994	-	1001	-	1026	-	1086	-	1124	-	1109	1032.8
15	-	1054	-	1009	-	977	-	970	-	997	-	1027	-	1041	-	1040	-	1046	-	1086	-	1120	-	1105	1039.3
16	-	1044	-	986	-	946	-	942	-	982	-	1039	-	1066	-	1061	-	1057	-	1077	-	1101	-	1094	1032.9
17	-	1042	-	980	-	934	-	922	-	967	-	1034	-	1081	-	1092	-	1082	-	1077	-	1084	-	1081	1031.3
18	-	1052	-	985	-	924	-	899	-	936	-	1016	-	1090	-	1117	-	1104	-	1087	-	1077	-	1075	1030.2
19	-	1055	-	1004	-	931	-	885	-	907	-	985	-	1074	-	1125	-	1126	-	1111	-	1086	-	1067	1029.7
20	-	1056	-	1020	-	954	-	891	-	887	-	951	-	1049	-	1124	-	1140	-	1127	-	1097	-	1074	1030.8
21	-	1059	-	1032	-	977	-	915	-	886	-	937	-	1022	-	1109	-	1142	-	1141	-	1116	-	1084	1035.0
22	-	1061	-	1042	-	1006	-	937	-	884	-	907	-	982	-	1075	-	1132	-	1141	-	1122	-	1094	1031.9
23	-	1060	-	1036	-	1017	-	959	-	904	-	910	-	972	-	1049	-	1120	-	1142	-	1132	-	1097	1033.2
24	-	1060	-	1040	-	1025	-	992	-	944	-	922	-	955	-	1016	-	1094	-	1134	-	1136	-	1117	1036.3
25	-	1075	-	1019	-	1011	-	980	-	942	-	931	-	954	-	1011	-	1082	-	1124	-	1121	-	1092	1028.5
26	-	1064	-	1040	-	1024	-	1006	-	982	-	966	-	980	-	1015	-	1066	-	1111	-	1115	-	1084	1037.8
27	-	1051	-	1025	-	1017	-	1010	-	995	-	984	-	989	-	1007	-	1049	-	1099	-	1110	-	1086	1035.2
28	-	1054	-	1022	-	1006	-	995	-	1007	-	1019	-	1025	-	1029	-	1049	-	1094	-	1110	-	1072	1040.2
29	-	1034	-	1009	-	1000	-	1001	-	1030	-	1032	-	1036	-	1035	-	1050	-	1080	-	1095	-	1064	1038.8
30	-	1024	-	989	-	974	-	985	-	1012	-	1041	-	1060	-	1054	-	1046	-	1075	-	1086	-	1059	1033.8
31	-	1014	-	995	-	970	-	970	-	1000	-	1044	-	1079	-	1074	-	1061	-	1077	-	1087	-	-	1033.7

Note : - Shows no Record.

Table 1. 1-2 (6) Tidal Level

Month : Feb. 1989
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	1022	-	981	-	957	-	946	-	991	-	1044	-	1084	-	1076	-	1067	-	1076	-	1095	-	1070	1034.1
2	-	1030	-	972	-	940	-	936	-	972	-	1044	-	1089	-	1102	-	1092	-	1089	-	1080	-	1060	1033.8
3	-	1027	-	985	-	939	-	914	-	937	-	1007	-	1091	-	1121	-	1102	-	1089	-	1091	-	1081	1032.0
4	-	1056	-	1004	-	955	-	915	-	919	-	989	-	1075	-	1126	-	1130	-	1106	-	1089	-	1075	1036.6
5	-	1059	-	1022	-	971	-	919	-	901	-	950	-	1041	-	1116	-	1114	-	1099	-	1086	-	1084	1030.2
6	-	1070	-	1042	-	989	-	924	-	896	-	939	-	1011	-	1091	-	1124	-	1122	-	1100	-	1084	1032.7
7	-	1072	-	1057	-	1012	-	947	-	902	-	929	-	990	-	1064	-	1117	-	1119	-	1102	-	1086	1033.1
8	-	1067	-	1057	-	1035	-	981	-	920	-	920	-	975	-	1057	-	1124	-	1134	-	1109	-	1072	1037.6
9	-	1052	-	1056	-	1052	-	1009	-	949	-	940	-	969	-	1031	-	1094	-	1132	-	1117	-	1076	1039.8
10	-	1037	-	1029	-	1031	-	1021	-	976	-	969	-	982	-	1019	-	1076	-	1115	-	1106	-	1069	1035.8
11	-	1025	-	1004	-	1012	-	1027	-	1021	-	1012	-	1019	-	1040	-	1069	-	1099	-	1095	-	1059	1040.2
12	-	1011	-	994	-	980	-	1006	-	1031	-	1052	-	1059	-	1045	-	1050	-	1079	-	1085	-	1052	1037.0
13	-	1001	-	955	-	951	-	989	-	1039	-	1072	-	1076	-	1069	-	1061	-	1072	-	1076	-	1047	1034.0
14	-	1000	-	954	-	930	-	959	-	1026	-	1085	-	1105	-	1090	-	1065	-	1065	-	1076	-	1051	1033.8
15	-	1002	-	941	-	914	-	927	-	994	-	1074	-	1119	-	1109	-	1082	-	1067	-	1065	-	1054	1029.0
16	-	1016	-	962	-	907	-	896	-	952	-	1044	-	1113	-	1129	-	1104	-	1071	-	1061	-	1051	1025.5
17	-	1024	-	971	-	914	-	892	-	936	-	1011	-	1086	-	1122	-	1116	-	1082	-	1055	-	1046	1021.3
18	-	1030	-	991	-	934	-	886	-	-	-	969	-	1055	-	1114	-	1131	-	1105	-	1076	-	1056	1031.5
19	-	1036	-	1011	-	965	-	917	-	911	-	962	-	1037	-	1105	-	1111	-	1102	-	1081	-	1059	1024.8
20	-	1037	-	1022	-	986	-	942	-	909	-	945	-	1019	-	1099	-	1129	-	1101	-	1066	-	1049	1025.3
21	-	1035	-	1029	-	1007	-	962	-	931	-	939	-	989	-	1055	-	1107	-	1115	-	1096	-	1064	1027.4
22	-	1041	-	1031	-	1017	-	990	-	957	-	957	-	995	-	1046	-	1091	-	1102	-	1094	-	1064	1032.1
23	-	1042	-	1025	-	1021	-	1007	-	988	-	974	-	995	-	1027	-	1069	-	1086	-	1076	-	1059	1030.8
24	-	1030	-	1014	-	1020	-	1019	-	1001	-	1001	-	1010	-	1034	-	1072	-	1092	-	1072	-	1045	1034.2
25	-	1016	-	1006	-	1011	-	1022	-	1024	-	1021	-	1024	-	1031	-	1056	-	1076	-	1066	-	1032	1032.1
26	-	1009	-	992	-	1007	-	1039	-	1055	-	1046	-	1040	-	1041	-	1059	-	1075	-	1060	-	1020	1036.9
27	-	1001	-	989	-	996	-	1029	-	1057	-	1070	-	1067	-	1057	-	1060	-	1062	-	1051	-	1027	1038.8
28	-	1000	-	976	-	975	-	1009	-	1059	-	1087	-	1077	-	1060	-	1044	-	1060	-	1059	-	-	1036.9

Note : - Shows no Record.

Table 1. 1-2 (7) Tidal Level

Month : Mar. 1989
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	988	-	956	-	952	-	1001	-	1059	-	1104	-	1106	-	1080	-	1065	-	1066	-	1064	-	1037	1039.8
2	-	995	-	959	-	941	-	965	-	1026	-	1092	-	1119	-	1099	-	1065	-	1064	-	1059	-	1041	1035.4
3	-	1000	-	951	-	919	-	936	-	1005	-	1087	-	1130	-	1115	-	1084	-	1066	-	1062	-	1051	1033.8
4	-	1015	-	957	-	905	-	897	-	954	-	1052	-	1117	-	1125	-	1096	-	1067	-	1054	-	1045	1023.7
5	-	1027	-	979	-	920	-	892	-	927	-	1007	-	1099	-	1134	-	1120	-	1084	-	1064	-	1062	1026.3
6	-	1047	-	1001	-	945	-	901	-	914	-	977	-	1064	-	1121	-	1129	-	1100	-	1074	-	1062	1027.9
7	-	1062	-	1036	-	982	-	930	-	912	-	969	-	1041	-	1120	-	1134	-	1104	-	1067	-	1054	1034.3
8	-	1056	-	1055	-	1014	-	955	-	929	-	960	-	1029	-	1105	-	1125	-	1095	-	1061	-	1022	1033.8
9	-	1037	-	1056	-	1054	-	1010	-	970	-	975	-	1020	-	1086	-	1129	-	1104	-	1069	-	1046	1046.3
10	-	1010	-	1034	-	1057	-	1046	-	1015	-	1014	-	1041	-	1071	-	1102	-	1096	-	1051	-	1009	1045.5
11	-	999	-	1012	-	1050	-	1064	-	1047	-	1047	-	1047	-	1062	-	1092	-	1086	-	1049	-	1004	1046.6
12	-	981	-	984	-	1026	-	1064	-	1074	-	1072	-	1072	-	1067	-	1082	-	1080	-	1041	-	994	1044.8
13	-	964	-	959	-	992	-	1049	-	1086	-	1100	-	1092	-	1071	-	1064	-	1070	-	1044	-	999	1040.8
14	-	955	-	927	-	947	-	1015	-	1086	-	1121	-	1114	-	1089	-	1064	-	1056	-	1049	-	1009	1036.0
15	-	957	-	925	-	926	-	991	-	1072	-	1122	-	1136	-	1107	-	1074	-	1051	-	1047	-	1026	1036.2
16	-	979	-	929	-	904	-	947	-	1035	-	1110	-	1140	-	1121	-	1081	-	1059	-	1052	-	1041	1033.2
17	-	1000	-	947	-	909	-	921	-	994	-	1080	-	1132	-	1129	-	1095	-	1062	-	1050	-	1041	1030.0
18	-	1016	-	967	-	930	-	916	-	970	-	1049	-	1116	-	1129	-	1107	-	1070	-	1049	-	1040	1029.9
19	-	1031	-	997	-	955	-	927	-	955	-	1024	-	1086	-	1119	-	1109	-	1076	-	1047	-	1034	1030.0
20	-	1030	-	1011	-	979	-	946	-	957	-	1004	-	1065	-	1106	-	1101	-	1077	-	1052	-	1036	1030.3
21	-	1027	-	1031	-	1010	-	966	-	942	-	981	-	1039	-	1094	-	1091	-	1071	-	1042	-	1029	1026.9
22	-	1025	-	1029	-	1019	-	991	-	976	-	1000	-	1035	-	1076	-	1092	-	1064	-	1032	-	1019	1029.8
23	-	1014	-	1026	-	1030	-	1014	-	994	-	1009	-	1036	-	1064	-	1076	-	1057	-	1036	-	1017	1031.1
24	-	1002	-	1024	-	1047	-	1044	-	1029	-	1029	-	1036	-	1044	-	1060	-	1039	-	1011	-	1000	1030.4
25	-	996	-	1019	-	1054	-	1065	-	1054	-	1041	-	1044	-	1040	-	1049	-	1030	-	1001	-	981	1031.2
26	-	988	-	1011	-	1056	-	1077	-	1066	-	1054	-	1052	-	1040	-	1042	-	1030	-	999	-	967	1031.8
27	-	966	-	982	-	1029	-	1080	-	1089	-	1079	-	1060	-	1040	-	1030	-	1027	-	1001	-	969	1029.3
28	-	952	-	969	-	1012	-	1074	-	1100	-	1102	-	1084	-	1052	-	1030	-	1031	-	1015	-	976	1033.1
29	-	946	-	950	-	989	-	1064	-	1106	-	1119	-	1101	-	1066	-	1041	-	1034	-	1022	-	991	1035.8
30	-	950	-	934	-	961	-	1034	-	1099	-	1122	-	1110	-	1072	-	1042	-	1032	-	1027	-	999	1031.8
31	-	955	-	925	-	931	-	994	-	1079	-	1127	-	1124	-	1092	-	1056	-	1035	-	1034	-	-	1032.0

Note : - Shows no Record.

Table 1. 1-2 (8) Tidal Level

Month : Apr. 1989
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	984	-	934	-	916	-	959	-	1047	-	1121	-	1140	-	1104	-	1064	-	1037	-	1031	-	1026	1030.3
2	-	995	-	949	-	917	-	936	-	1004	-	1085	-	1134	-	1127	-	1084	-	1046	-	1034	-	1037	1029.0
3	-	1019	-	970	-	926	-	926	-	980	-	1059	-	1120	-	1131	-	1096	-	1054	-	1035	-	1041	1029.8
4	-	1032	-	996	-	957	-	940	-	962	-	1026	-	1101	-	1127	-	1099	-	1056	-	1027	-	1030	1029.4
5	-	1037	-	1026	-	991	-	959	-	962	-	1006	-	1070	-	1114	-	1100	-	1056	-	1016	-	1006	1028.6
6	-	1026	-	1045	-	1032	-	1001	-	989	-	1011	-	1051	-	1097	-	1091	-	1036	-	988	-	985	1029.3
7	-	1011	-	1044	-	1056	-	1036	-	1021	-	1025	-	1041	-	1071	-	1074	-	1024	-	965	-	949	1026.4
8	-	982	-	1031	-	1079	-	1077	-	1061	-	1055	-	1046	-	1059	-	1062	-	1025	-	967	-	935	1031.6
9	-	956	-	995	-	1057	-	1105	-	1110	-	1099	-	1075	-	1051	-	1056	-	1029	-	962	-	911	1033.8
10	-	905	-	952	-	1037	-	1105	-	1122	-	1111	-	1084	-	1050	-	1039	-	1031	-	990	-	927	1029.4
11	-	895	-	917	-	995	-	1087	-	1137	-	1140	-	1110	-	1070	-	1040	-	1029	-	999	-	945	1030.3
12	-	902	-	904	-	957	-	1050	-	1125	-	1144	-	1125	-	1084	-	1042	-	1026	-	1014	-	970	1028.6
13	-	917	-	890	-	922	-	1006	-	1092	-	1137	-	1130	-	1084	-	1039	-	1016	-	1011	-	995	1019.9
14	-	957	-	910	-	915	-	970	-	1061	-	1131	-	1136	-	1095	-	1050	-	1017	-	1009	-	1009	1021.7
15	-	981	-	935	-	915	-	951	-	1026	-	1095	-	1121	-	1102	-	1055	-	1020	-	1002	-	1006	1017.4
16	-	996	-	962	-	932	-	949	-	1004	-	1089	-	1109	-	1106	-	1070	-	1030	-	1009	-	1014	1020.8
17	-	1011	-	991	-	966	-	964	-	1001	-	1056	-	1096	-	1099	-	1067	-	1029	-	1004	-	1004	1024.0
18	-	1017	-	1015	-	995	-	980	-	1006	-	1045	-	1085	-	1092	-	1066	-	1025	-	1004	-	1005	1027.9
19	-	1021	-	1035	-	1027	-	1019	-	1021	-	1045	-	1074	-	1076	-	1051	-	1019	-	991	-	996	1031.3
20	-	1014	-	1042	-	1047	-	1034	-	1036	-	1045	-	1059	-	1062	-	1042	-	1002	-	980	-	988	1029.3
21	-	1007	-	1042	-	1069	-	1064	-	1054	-	1054	-	1051	-	1051	-	1034	-	995	-	965	-	965	1029.3
22	-	994	-	1037	-	1074	-	1080	-	1072	-	1066	-	1051	-	1046	-	1026	-	986	-	955	-	950	1028.1
23	-	982	-	1030	-	1079	-	1097	-	1094	-	1084	-	1062	-	1041	-	1021	-	979	-	942	-	931	1028.5
24	-	959	-	1009	-	1075	-	1110	-	1115	-	1099	-	1070	-	1041	-	1021	-	986	-	940	-	925	1029.2
25	-	935	-	980	-	1050	-	1107	-	1126	-	1113	-	1080	-	1044	-	1026	-	1000	-	957	-	924	1028.5
26	-	917	-	951	-	1021	-	1091	-	1125	-	1124	-	1090	-	1047	-	1024	-	1004	-	966	-	927	1023.9
27	-	914	-	926	-	985	-	1062	-	1121	-	1135	-	1105	-	1060	-	1031	-	1014	-	988	-	952	1024.4
28	-	916	-	915	-	957	-	1040	-	1109	-	1139	-	1115	-	1069	-	1022	-	1014	-	1015	-	986	1024.8
29	-	931	-	906	-	932	-	1010	-	1096	-	1140	-	1129	-	1085	-	1044	-	1021	-	1014	-	1002	1025.8
30	-	959	-	924	-	926	-	988	-	1075	-	1140	-	1141	-	1092	-	1036	-	1012	-	1010	-	-	1027.5

Note : - Shows no Record.

Table 1. 1-2 (9) Tidal Level

Month : May 1989
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	985	-	941	-	929	-	966	-	1040	-	1110	-	1132	-	1101	-	1044	-	1004	-	1004	-	1020	1023.0
2	-	1007	-	971	-	946	-	966	-	1024	-	1085	-	1119	-	1101	-	1040	-	989	-	984	-	1011	1020.3
3	-	1021	-	1001	-	976	-	980	-	1017	-	1066	-	1104	-	1091	-	1032	-	972	-	960	-	990	1017.5
4	-	1026	-	1037	-	1020	-	1007	-	1020	-	1050	-	1086	-	1080	-	1022	-	954	-	932	-	961	1016.3
5	-	1015	-	1054	-	1055	-	1049	-	1045	-	1051	-	1061	-	1057	-	1012	-	940	-	902	-	922	1013.6
6	-	988	-	1055	-	1079	-	1080	-	1076	-	1064	-	1052	-	1050	-	1021	-	949	-	886	-	889	1015.8
7	-	954	-	1036	-	1095	-	1114	-	1115	-	1090	-	1062	-	1042	-	1022	-	964	-	894	-	872	1021.7
8	-	917	-	995	-	1082	-	1130	-	1135	-	1111	-	1064	-	1036	-	1031	-	995	-	924	-	874	1024.5
9	-	885	-	949	-	1045	-	1120	-	1146	-	1131	-	1085	-	1044	-	1027	-	1009	-	956	-	899	1024.7
10	-	884	-	927	-	1011	-	1096	-	1141	-	1146	-	1104	-	1051	-	1021	-	1010	-	979	-	927	1024.8
11	-	890	-	901	-	967	-	1057	-	1124	-	1140	-	1111	-	1059	-	1019	-	1007	-	997	-	960	1019.3
12	-	919	-	909	-	954	-	1035	-	1107	-	1140	-	1122	-	1069	-	1021	-	996	-	997	-	981	1020.8
13	-	944	-	917	-	946	-	1017	-	1090	-	1125	-	1122	-	1077	-	1027	-	996	-	996	-	997	1021.2
14	-	972	-	942	-	947	-	1001	-	1074	-	1114	-	1116	-	1080	-	1030	-	990	-	982	-	1001	1020.8
15	-	1001	-	981	-	965	-	997	-	1050	-	1099	-	1104	-	1077	-	1025	-	979	-	969	-	992	1019.9
16	-	1012	-	1007	-	994	-	1009	-	1050	-	1085	-	1092	-	1061	-	1012	-	970	-	961	-	982	1019.6
17	-	1014	-	1027	-	1026	-	1030	-	1045	-	1060	-	1065	-	1044	-	997	-	955	-	949	-	977	1015.8
18	-	1021	-	1047	-	1056	-	1057	-	1055	-	1057	-	1060	-	1037	-	988	-	941	-	934	-	965	1018.2
19	-	1012	-	1055	-	1074	-	1076	-	1070	-	1060	-	1055	-	1036	-	992	-	944	-	924	-	947	1020.4
20	-	1005	-	1062	-	1089	-	1091	-	1082	-	1065	-	1047	-	1024	-	982	-	931	-	907	-	929	1017.8
21	-	986	-	1049	-	1084	-	1097	-	1094	-	1071	-	1042	-	1020	-	990	-	940	-	899	-	907	1014.9
22	-	962	-	1035	-	1086	-	1109	-	1111	-	1087	-	1055	-	1029	-	1001	-	952	-	896	-	891	1017.8
23	-	934	-	1001	-	1072	-	1116	-	1124	-	1106	-	1065	-	1036	-	1009	-	965	-	914	-	894	1019.7
24	-	921	-	979	-	1057	-	1122	-	1130	-	1119	-	1076	-	1039	-	1006	-	974	-	929	-	892	1020.3
25	-	901	-	947	-	1030	-	1101	-	1136	-	1126	-	1086	-	1049	-	1021	-	996	-	955	-	916	1022.0
26	-	906	-	936	-	1006	-	1089	-	-	-	1127	-	1085	-	1046	-	1022	-	1002	-	975	-	932	1011.5
27	-	909	-	919	-	976	-	1060	-	1119	-	1129	-	1104	-	1060	-	1022	-	1002	-	989	-	960	1020.8
28	-	929	-	920	-	957	-	1037	-	1111	-	1140	-	1114	-	1060	-	1016	-	995	-	997	-	985	1021.8
29	-	951	-	930	-	950	-	1015	-	1089	-	1120	-	1107	-	1054	-	1002	-	986	-	995	-	1000	1016.6
30	-	982	-	960	-	969	-	1010	-	1074	-	1114	-	1109	-	1061	-	1002	-	969	-	977	-	1006	1019.4
31	-	1016	-	1005	-	999	-	1021	-	1055	-	1097	-	1087	-	1039	-	967	-	937	-	954	-	-	1016.1

Note : - Shows no Record.

Table 1. 1-2 (10) Tidal Level

Month : Jun. 1989
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	1034	-	1039	-	1039	-	1042	-	1056	-	1084	-	1089	-	1040	-	964	-	916	-	926	-	982	1017.6
2	-	1045	-	1071	-	1077	-	1080	-	1076	-	1080	-	1080	-	1044	-	974	-	904	-	889	-	941	1021.8
3	-	1021	-	1086	-	1107	-	1114	-	1099	-	1084	-	1069	-	1041	-	976	-	902	-	869	-	911	1023.3
4	-	992	-	1074	-	1114	-	1129	-	1115	-	1084	-	1065	-	1047	-	996	-	917	-	859	-	874	1022.2
5	-	956	-	1051	-	1116	-	1140	-	1129	-	1097	-	1071	-	1054	-	1014	-	941	-	872	-	857	1024.8
6	-	916	-	1010	-	1100	-	1146	-	1152	-	1124	-	1080	-	1049	-	1026	-	974	-	909	-	874	1030.0
7	-	900	-	976	-	1069	-	1131	-	1155	-	1135	-	1090	-	1054	-	1030	-	996	-	940	-	897	1031.1
8	-	901	-	956	-	1040	-	1114	-	1150	-	1139	-	1099	-	1056	-	1027	-	1004	-	965	-	926	1031.4
9	-	912	-	945	-	1011	-	1089	-	1136	-	1141	-	1104	-	1060	-	1022	-	1000	-	977	-	951	1029.0
10	-	936	-	946	-	995	-	1067	-	1119	-	1126	-	1099	-	1055	-	1021	-	1001	-	990	-	976	1027.6
11	-	960	-	959	-	989	-	1049	-	1099	-	1110	-	1090	-	1047	-	1007	-	986	-	991	-	989	1023.0
12	-	982	-	975	-	990	-	1035	-	1085	-	1101	-	1082	-	1035	-	994	-	977	-	984	-	1000	1020.0
13	-	1007	-	1001	-	1005	-	1034	-	1079	-	1094	-	1071	-	1027	-	985	-	961	-	976	-	1002	1020.2
14	-	1029	-	1030	-	1031	-	1047	-	1077	-	1091	-	1072	-	1019	-	971	-	946	-	959	-	1006	1023.2
15	-	1044	-	1055	-	1059	-	1065	-	1081	-	1085	-	1065	-	1017	-	974	-	940	-	955	-	996	1028.0
16	-	1047	-	1085	-	1089	-	1087	-	1090	-	1085	-	1062	-	999	-	949	-	915	-	914	-	969	1024.3
17	-	1044	-	1099	-	1109	-	1104	-	1085	-	1075	-	1055	-	1019	-	964	-	917	-	919	-	950	1028.3
18	-	1025	-	1082	-	1110	-	1105	-	1092	-	1069	-	1049	-	1014	-	967	-	910	-	890	-	922	1019.6
19	-	997	-	1072	-	1114	-	1122	-	1109	-	1084	-	1056	-	1021	-	976	-	917	-	887	-	910	1022.1
20	-	976	-	1054	-	1115	-	1132	-	1124	-	1094	-	1064	-	1035	-	1000	-	939	-	887	-	889	1025.8
21	-	947	-	1030	-	1097	-	1126	-	1131	-	1102	-	1062	-	1040	-	1011	-	956	-	896	-	889	1023.9
22	-	927	-	999	-	1076	-	1127	-	1137	-	1111	-	1072	-	1044	-	1022	-	977	-	920	-	891	1025.3
23	-	912	-	971	-	1054	-	1110	-	1130	-	1115	-	1084	-	1052	-	1029	-	999	-	950	-	914	1026.7
24	-	915	-	956	-	1032	-	1099	-	1122	-	1117	-	1079	-	1045	-	1021	-	1006	-	974	-	936	1025.2
25	-	921	-	949	-	1009	-	1076	-	1113	-	1113	-	1076	-	1027	-	1000	-	991	-	986	-	969	1019.2
26	-	952	-	957	-	994	-	1057	-	1100	-	1106	-	1074	-	1022	-	996	-	990	-	997	-	984	1019.1
27	-	967	-	962	-	989	-	1042	-	1091	-	1099	-	1069	-	1009	-	967	-	960	-	977	-	1006	1011.5
28	-	1005	-	1000	-	1014	-	1041	-	1081	-	1089	-	1056	-	997	-	937	-	921	-	957	-	1007	1008.8
29	-	1036	-	1046	-	1056	-	1059	-	1075	-	1091	-	1061	-	988	-	922	-	901	-	939	-	1006	1015.0
30	-	1055	-	1079	-	1090	-	1085	-	1076	-	1080	-	1059	-	994	-	919	-	877	-	904	-	-	1019.8

Note : - Shows no Record.

Table 1. 1-2 (11) Tidal Level

Month : Jul. 1989
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	1054	-	1095	-	1107	-	1101	-	1080	-	1069	-	1056	-	1007	-	927	-	871	-	877	-	944	1015.7
2	-	1030	-	1096	-	1126	-	1126	-	1100	-	1069	-	1054	-	1024	-	954	-	879	-	859	-	911	1019.0
3	-	995	-	1072	-	1117	-	1130	-	1106	-	1069	-	1045	-	1025	-	977	-	899	-	852	-	881	1014.0
4	-	959	-	1042	-	1104	-	1131	-	1122	-	1087	-	1051	-	1032	-	1002	-	934	-	872	-	875	1017.6
5	-	937	-	1019	-	1089	-	1125	-	1130	-	1096	-	1064	-	1032	-	1006	-	954	-	896	-	885	1019.4
6	-	922	-	989	-	1060	-	1109	-	1124	-	1104	-	1061	-	1029	-	1006	-	981	-	934	-	901	1018.3
7	-	920	-	976	-	1050	-	1104	-	1122	-	1104	-	1064	-	1031	-	1010	-	989	-	947	-	915	1019.3
8	-	922	-	966	-	1030	-	1086	-	1115	-	1104	-	1069	-	1024	-	997	-	990	-	974	-	950	1018.9
9	-	945	-	972	-	1020	-	1075	-	1105	-	1101	-	1062	-	1021	-	990	-	982	-	984	-	975	1019.3
10	-	971	-	982	-	1016	-	1064	-	1094	-	1082	-	1050	-	1005	-	971	-	964	-	976	-	989	1013.7
11	-	991	-	994	-	1017	-	1055	-	1084	-	1077	-	1037	-	986	-	951	-	946	-	972	-	1002	1009.3
12	-	1016	-	1020	-	1030	-	1054	-	1072	-	1066	-	1027	-	981	-	939	-	935	-	971	-	1014	1010.4
13	-	1041	-	1054	-	1052	-	1055	-	1064	-	1057	-	1022	-	971	-	927	-	921	-	957	-	1015	1011.3
14	-	1057	-	1075	-	1071	-	1067	-	1066	-	1057	-	1026	-	975	-	924	-	905	-	940	-	1011	1014.5
15	-	1070	-	1095	-	1091	-	1080	-	1069	-	1055	-	1029	-	977	-	922	-	890	-	912	-	989	1014.9
16	-	1064	-	1109	-	1109	-	1094	-	1075	-	1055	-	1026	-	989	-	935	-	894	-	902	-	969	1018.4
17	-	1050	-	1110	-	1132	-	1122	-	1100	-	1072	-	1049	-	1009	-	951	-	892	-	887	-	936	1025.8
18	-	1017	-	1082	-	1111	-	1116	-	1099	-	1074	-	1049	-	1016	-	964	-	901	-	872	-	910	1017.6
19	-	985	-	1065	-	1114	-	1129	-	1124	-	1089	-	1056	-	1030	-	994	-	935	-	887	-	899	1025.6
20	-	957	-	1036	-	1086	-	1117	-	1117	-	1091	-	1052	-	1032	-	1001	-	949	-	892	-	892	1018.5
21	-	937	-	1012	-	1082	-	1120	-	1122	-	1099	-	1066	-	1046	-	1022	-	972	-	916	-	901	1024.6
22	-	927	-	995	-	1070	-	1115	-	1120	-	1097	-	1065	-	1040	-	1024	-	999	-	955	-	930	1028.1
23	-	939	-	984	-	1049	-	1099	-	1115	-	1094	-	1051	-	1022	-	1012	-	1006	-	988	-	960	1026.6
24	-	955	-	979	-	1030	-	1084	-	1105	-	1081	-	1042	-	1005	-	986	-	996	-	1001	-	990	1021.2
25	-	988	-	1004	-	1035	-	1075	-	1092	-	1074	-	1026	-	980	-	965	-	982	-	1011	-	1020	1021.0
26	-	1026	-	1035	-	1040	-	1062	-	1082	-	1060	-	1002	-	944	-	924	-	951	-	1004	-	1036	1013.8
27	-	1051	-	1060	-	1056	-	1060	-	1074	-	1061	-	1009	-	940	-	902	-	919	-	982	-	1040	1012.8
28	-	1071	-	1085	-	1077	-	1062	-	1064	-	1060	-	1019	-	942	-	884	-	882	-	944	-	1025	1009.6
29	-	1081	-	1101	-	1100	-	1080	-	1064	-	1059	-	1029	-	961	-	895	-	863	-	909	-	996	1011.5
30	-	1070	-	1106	-	1110	-	1091	-	1069	-	1057	-	1037	-	994	-	914	-	863	-	877	-	952	1011.7
31	-	1039	-	1094	-	1117	-	1110	-	1077	-	1054	-	1041	-	1009	-	945	-	877	-	864	-	-	1020.6

Note : - Shows no Record.

Table 1. 1-2 (12) Tidal Level

Month : Aug. 1989
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	1002	-	1067	-	1102	-	1110	-	1092	-	1064	-	1044	-	1019	-	967	-	902	-	872	-	906	1012.3
2	-	979	-	1054	-	1096	-	1106	-	1095	-	1069	-	1042	-	1021	-	988	-	930	-	884	-	896	1013.3
3	-	959	-	1035	-	1091	-	1109	-	1102	-	1075	-	1040	-	1014	-	995	-	961	-	919	-	905	1017.1
4	-	947	-	1015	-	1074	-	1099	-	1094	-	1069	-	1039	-	1014	-	1005	-	977	-	939	-	921	1016.1
5	-	950	-	1004	-	1070	-	1072	-	1080	-	1060	-	1040	-	1011	-	1000	-	995	-	965	-	937	1015.3
6	-	959	-	999	-	1041	-	1067	-	1071	-	1061	-	1031	-	1002	-	989	-	997	-	986	-	974	1014.8
7	-	982	-	1010	-	1042	-	1074	-	1067	-	1052	-	1019	-	988	-	970	-	982	-	989	-	990	1013.8
8	-	1001	-	1017	-	1036	-	1061	-	1057	-	1030	-	1002	-	976	-	964	-	975	-	999	-	1017	1011.3
9	-	1034	-	1040	-	1051	-	1059	-	1051	-	1019	-	986	-	960	-	950	-	962	-	996	-	1019	1010.6
10	-	1037	-	1042	-	1049	-	1057	-	1051	-	1017	-	975	-	942	-	926	-	947	-	996	-	1030	1005.8
11	-	1047	-	1050	-	1047	-	1045	-	1045	-	1029	-	982	-	936	-	911	-	930	-	985	-	1035	1003.5
12	-	1062	-	1067	-	1062	-	1051	-	1044	-	1032	-	992	-	939	-	905	-	904	-	947	-	1014	1001.6
13	-	1064	-	1081	-	1080	-	1064	-	1050	-	1039	-	1006	-	951	-	902	-	889	-	930	-	1002	1004.8
14	-	1066	-	1097	-	1100	-	1080	-	1062	-	1047	-	1016	-	961	-	904	-	876	-	899	-	972	1006.7
15	-	1054	-	1100	-	1107	-	1086	-	1064	-	1050	-	1025	-	980	-	922	-	879	-	879	-	945	1007.6
16	-	1026	-	1086	-	1104	-	1100	-	1079	-	1059	-	1037	-	1005	-	951	-	894	-	876	-	921	1011.5
17	-	999	-	1065	-	1097	-	1097	-	1077	-	1052	-	1036	-	1020	-	977	-	917	-	885	-	911	1011.1
18	-	981	-	1057	-	1102	-	1101	-	1074	-	1046	-	1032	-	1016	-	990	-	941	-	900	-	914	1012.8
19	-	965	-	1027	-	1076	-	1087	-	1066	-	1046	-	1031	-	1022	-	1015	-	980	-	935	-	924	1014.5
20	-	960	-	1014	-	1066	-	1076	-	1057	-	1036	-	1021	-	1016	-	1016	-	1004	-	966	-	942	1014.5
21	-	969	-	1007	-	1055	-	1076	-	1055	-	1017	-	996	-	984	-	990	-	1009	-	1001	-	991	1012.5
22	-	996	-	1012	-	1046	-	1072	-	1051	-	1009	-	975	-	956	-	967	-	1006	-	1024	-	1030	1012.0
23	-	1032	-	1035	-	1042	-	1057	-	1045	-	1007	-	960	-	930	-	934	-	985	-	1027	-	1049	1008.6
24	-	1061	-	1060	-	1045	-	1055	-	1052	-	1019	-	961	-	910	-	901	-	951	-	1017	-	1060	1007.7
25	-	1086	-	1079	-	1052	-	1035	-	1039	-	1021	-	969	-	914	-	886	-	920	-	996	-	1057	1004.5
26	-	1095	-	1100	-	1076	-	1049	-	1044	-	1035	-	989	-	922	-	876	-	887	-	955	-	1035	1005.3
27	-	1090	-	1109	-	1094	-	1062	-	1042	-	1037	-	1007	-	941	-	881	-	866	-	926	-	1015	1005.8
28	-	1077	-	1107	-	1106	-	1072	-	1045	-	1031	-	1015	-	977	-	916	-	874	-	901	-	977	1008.2
29	-	1055	-	1100	-	1104	-	1082	-	1054	-	1037	-	1017	-	989	-	939	-	895	-	901	-	962	1011.3
30	-	1045	-	1099	-	1119	-	1081	-	1045	-	1024	-	1010	-	990	-	956	-	910	-	895	-	939	1009.4
31	-	1014	-	1071	-	1096	-	1089	-	1064	-	1037	-	1014	-	991	-	950	-	925	-	940	-	-	1017.4

Note : - Shows no Record.

Table 1. 1-2 (13) Tidal Level

Month : Sep. 1989
St. : 1
Lat. : -3°39.1'N
Long. : 114°25.4'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	1054	-	1085	-	1079	-	1057	-	1036	-	1017	-	1007	-	997	-	972	-	950	-	947	-	979	1015.0
2	-	1031	-	1066	-	1069	-	1056	-	1036	-	1014	-	1002	-	1004	-	990	-	972	-	967	-	988	1016.3
3	-	1025	-	1057	-	1052	-	1036	-	1020	-	1002	-	995	-	1009	-	1007	-	994	-	986	-	1001	1015.3
4	-	1027	-	1050	-	1040	-	1017	-	1001	-	990	-	981	-	992	-	1006	-	997	-	997	-	1007	1008.8
5	-	1020	-	1041	-	1036	-	1014	-	991	-	971	-	961	-	979	-	1010	-	1020	-	1019	-	1027	1007.4
6	-	1034	-	1041	-	1040	-	1012	-	982	-	966	-	955	-	974	-	1019	-	1041	-	1051	-	1050	1013.8
7	-	1031	-	1020	-	1021	-	1004	-	975	-	951	-	939	-	952	-	999	-	1036	-	1062	-	1074	1005.3
8	-	1054	-	1032	-	1024	-	1006	-	981	-	949	-	926	-	931	-	980	-	1039	-	1071	-	1084	1006.4
9	-	1066	-	1041	-	1030	-	1022	-	996	-	954	-	914	-	912	-	957	-	1017	-	1069	-	1095	1006.1
10	-	1090	-	1064	-	1041	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1065.0
11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note : - Shows no Record.

Table 1. 1-3 (1) Tidal Level

Month : Feb. 1989
St. : TRISAKTI
Lat. : -3°19.9'N
Long. : 114°33.3'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	-	81	70	50	39	32	32	70	114	163	193	206	213	213	213	210	200	192	134.8
7	187	180	177	170	162	143	121	100	78	62	50	42	38	60	100	147	175	200	210	212	211	212	202	194	143.0
8	188	174	168	162	157	151	138	123	100	85	66	53	44	41	72	120	167	187	214	219	220	213	203	184	143.7
9	170	157	151	146	155	165	145	129	115	89	72	58	51	55	67	98	142	178	194	209	217	212	208	194	140.7
10	172	153	136	125	125	152	128	125	120	103	80	66	65	72	83	99	128	155	193	202	210	207	198	188	136.9
11	170	145	125	109	101	106	112	116	121	126	117	109	106	117	111	128	144	142	167	186	197	201	193	183	138.8
12	165	144	118	101	91	90	83	75	95	121	135	139	149	153	157	161	190	135	143	155	177	185	183	170	138.1
13	152	130	105	85	67	53	50	49	74	110	142	162	170	174	173	174	173	170	163	168	168	177	178	172	135.0
14	156	135	114	91	72	57	45	37	41	80	131	162	184	200	209	197	205	205	171	163	160	170	175	183	139.3
15	183	140	119	100	80	66	55	45	37	40	85	135	178	198	207	209	201	194	185	176	171	169	165	163	137.5
16	155	142	124	102	81	66	52	42	33	28	32	83	143	187	208	213	217	216	206	193	181	169	168	165	133.6
17	158	148	135	117	96	79	64	53	42	35	34	73	116	157	193	207	215	215	214	205	190	175	168	153	135.1
18	153	146	137	125	110	92	74	61	48	41	35	33	60	113	165	200	213	220	225	221	210	202	190	175	135.4
19	167	161	147	140	131	112	96	82	70	60	53	48	59	106	156	188	212	215	208	206	205	196	188	179	141.0
20	167	155	145	142	135	124	110	95	80	68	58	50	49	77	128	174	206	225	230	210	205	190	172	167	140.1
21	159	148	144	140	137	133	120	107	91	87	65	59	55	58	84	123	165	192	207	218	216	210	203	190	138.0
22	177	164	152	144	141	141	133	120	110	96	83	74	70	74	99	126	154	182	195	203	204	200	198	192	143.0
23	180	165	153	137	134	136	133	127	119	116	104	95	86	85	100	109	119	117	173	182	190	183	175	173	137.1
24	163	153	141	128	118	118	122	124	124	110	109	105	102	108	111	124	137	152	180	192	196	192	177	168	139.8
25	157	134	122	118	113	107	118	120	125	123	125	120	116	125	124	124	131	134	156	172	180	182	172	136	134.8
26	144	123	110	112	106	87	96	129	141	152	155	158	153	141	139	143	138	145	156	174	178	176	170	153	140.8
27	133	113	105	106	101	93	97	108	132	150	160	162	167	172	167	170	163	151	153	184	180	151	162	147	142.8
28	132	123	118	103	97	83	73	94	111	130	165	184	186	189	176	173	167	155	145	146	167	161	168	118	140.2

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1-3 (2) Tidal Level

Month : Mar. 1989
St. : TRISAKTI
Lat. : -3°19.9'N
Long. : 114°33.3'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	141	120	107	92	83	74	68	67	100	136	164	192	204	207	207	198	187	175	170	168	166	171	167	165	147.0
2	151	135	120	109	97	86	74	68	84	97	125	163	197	203	204	211	201	187	170	163	162	161	158	156	145.1
3	146	136	122	106	90	78	68	55	55	64	109	166	202	208	231	226	213	199	182	176	170	166	166	164	145.8
4	160	148	133	110	95	83	71	61	54	50	61	109	180	209	222	225	224	217	200	187	175	164	160	155	143.9
5	157	149	140	125	107	92	78	67	60	52	49	64	120	171	210	225	229	230	220	200	189	177	168	168	143.6
6	170	159	156	140	119	105	94	85	72	63	60	60	83	131	182	214	221	225	228	218	205	190	177	164	146.7
7	167	168	170	161	146	133	113	97	85	78	73	66	73	121	160	198	223	230	229	217	204	188	173	164	151.5
8	160	161	161	160	161	149	133	114	96	84	75	70	71	96	144	187	214	226	222	207	198	189	168	153	150.0
9	139	139	147	154	160	165	163	149	128	110	97	88	85	101	123	159	196	214	225	221	204	190	173	158	153.7
10	150	141	124	120	143	155	160	162	156	138	124	117	118	128	146	162	179	183	201	203	196	178	158	143	153.5
11	113	113	101	112	113	135	158	163	164	157	150	149	150	149	150	152	164	178	194	201	193	173	159	144	151.5
12	122	105	102	95	94	98	134	157	169	173	170	171	170	170	171	172	170	170	180	182	182	170	152	137	150.7
13	121	108	96	89	85	83	90	121	148	178	188	198	203	193	191	190	175	173	166	171	171	166	154	144	150.1
14	125	110	97	84	75	68	64	79	125	167	195	215	218	220	214	203	193	180	169	167	163	164	160	150	150.2
15	135	116	102	90	78	70	64	64	93	143	187	212	221	231	234	223	211	196	182	172	164	160	161	157	152.8
16	147	133	118	102	100	78	69	63	63	87	148	193	217	228	234	233	221	207	191	177	170	166	164	164	153.0
17	159	146	131	116	101	89	77	69	63	63	95	155	196	208	220	232	229	217	203	186	172	168	161	160	150.7
18	157	150	142	126	110	99	91	81	70	66	76	110	161	198	221	226	225	-	-	-	-	-	-	-	135.8
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21	-	-	-	-	-	-	-	-	117	98	82	74	68	74	120	148	183	201	203	195	186	179	168	150	140.4
22	142	139	133	130	133	133	133	116	105	95	88	85	98	168	174	180	184	186	204	183	172	160	143	131	142.3
23	125	120	117	118	125	132	136	126	119	106	99	90	102	125	135	153	169	177	183	172	165	153	140	130	134.0
24	120	113	103	101	123	138	148	153	141	135	123	123	123	133	131	139	141	144	159	159	141	126	112	98	130.3
25	93	96	95	92	111	138	154	170	167	160	153	145	138	139	143	142	140	143	148	147	138	120	108	93	132.2
26	80	75	85	93	103	123	156	178	180	177	169	162	154	154	153	148	141	134	140	148	142	125	111	94	134.4
27	77	68	68	74	80	98	126	165	187	190	188	188	183	174	165	154	143	134	131	130	127	121	106	92	132.0
28	74	64	56	54	57	83	108	146	178	193	198	200	203	197	194	178	161	145	137	130	138	136	123	110	136.0
29	90	72	58	53	50	60	77	122	173	195	207	218	215	215	212	196	180	163	150	145	135	138	134	118	140.7
30	105	91	75	63	62	56	56	81	83	173	203	212	216	220	213	198	185	169	180	148	140	140	143	129	139.2
31	113	98	82	69	59	49	45	46	84	144	189	209	220	224	221	213	198	184	168	154	145	141	143	142	139.2

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1-3 (3) Tidal Level

Month : Apr. 1989
St. : TRISAKTI
Lat. : -3°19.9'N
Long. : 114°33.3'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	136	124	110	92	76	64	54	48	79	145	190	216	228	231	227	213	193	176	163	151	142	140	142	139	145.0
2	131	117	104	88	74	64	54	50	51	84	142	187	212	214	231	228	217	197	178	161	150	141	141	148	140.2
3	145	138	122	104	88	75	61	54	53	78	127	175	207	225	230	229	221	204	182	164	155	150	145	150	145.1
4	153	141	135	118	102	90	79	71	69	66	65	95	134	179	209	220	223	218	200	181	164	150	139	139	139.2
5	136	140	142	142	135	123	111	94	81	73	70	82	113	144	179	204	217	215	202	184	170	150	135	119	140.0
6	119	126	130	141	152	148	141	124	112	99	92	98	112	134	158	186	201	206	196	172	149	131	113	103	139.3
7	99	102	114	127	147	162	161	151	141	129	124	128	123	130	141	154	172	186	180	164	141	117	85	81	135.8
8	73	70	85	108	135	165	183	185	173	171	162	160	158	149	147	151	157	169	170	160	142	117	97	81	140.3
9	70	66	69	84	93	135	173	194	208	210	209	206	208	189	183	172	159	155	165	156	145	128	106	90	148.9
10	74	64	63	63	63	90	144	189	209	216	217	216	212	205	190	175	162	147	147	150	145	133	116	98	145.3
11	82	70	63	63	63	63	91	156	199	218	230	234	234	230	217	202	184	165	151	149	144	137	123	109	149.0
12	96	84	72	64	63	63	63	107	170	206	224	235	235	236	227	209	190	171	153	149	144	141	135	126	148.5
13	111	95	83	72	64	63	63	63	110	170	204	222	232	235	232	215	200	180	159	146	137	131	132	132	143.8
14	124	110	94	85	73	63	62	62	66	121	126	209	228	235	231	220	201	183	162	147	136	130	128	126	138.4
15	128	122	109	96	84	72	63	62	62	90	141	178	206	216	221	220	211	192	172	156	140	128	122	122	138.0
16	125	123	118	116	99	81	71	63	62	73	106	150	182	201	213	215	211	198	183	165	149	136	126	124	137.1
17	126	128	125	121	112	99	90	81	77	82	102	132	163	187	201	205	200	190	176	160	145	134	124	118	136.6
18	122	123	128	126	121	119	109	101	93	90	111	126	146	176	187	197	193	184	171	154	138	125	119	115	136.4
19	111	116	126	131	138	138	134	126	120	115	117	136	151	161	174	184	184	172	162	146	133	121	109	102	137.8
20	109	105	106	118	149	164	155	148	131	118	103	107	114	125	129	154	174	182	173	156	146	119	103	103	133.0
21	91	88	89	97	127	159	171	168	162	154	145	139	140	143	140	136	152	159	176	162	142	117	95	-	137.0
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1-3 (4) Tidal Level

Month : May 1989
St. : TRISAKTI
Lat. : -3°19.9'N
Long. : 114°33.3'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	-	-	105	92	77	66	62	62	64	96	146	187	213	222	224	221	209	188	166	145	126	119	119	125	137.9
2	132	134	124	112	95	80	71	65	68	90	127	165	191	212	218	217	210	190	163	143	123	111	107	114	135.9
3	127	133	135	126	116	104	92	85	84	93	117	148	173	193	208	210	203	184	157	132	113	108	89	89	134.1
4	99	116	136	144	146	140	128	118	112	111	116	130	148	174	194	196	191	176	152	121	98	81	71	67	131.9
5	66	83	119	152	164	162	160	153	151	148	144	145	150	156	167	165	164	153	135	106	79	62	62	62	129.5
6	62	62	87	128	167	183	184	179	183	185	182	176	170	161	156	155	156	153	140	116	90	64	62	62	136.0
7	62	62	62	90	140	170	196	204	206	216	215	208	199	187	168	169	154	148	141	124	100	80	66	62	142.9
8	56	39	35	40	98	133	190	208	220	206	208	225	217	200	180	166	155	144	146	143	122	100	82	59	140.5
9	62	62	62	62	62	87	153	194	217	227	232	234	231	218	200	180	164	149	142	141	131	119	97	82	146.2
10	70	62	54	45	52	54	110	167	199	219	220	236	237	230	215	193	172	155	142	138	133	126	113	96	143.3
11	80	69	62	54	49	47	52	114	162	200	210	225	231	231	220	203	178	168	142	131	125	122	121	100	137.3
12	93	78	66	62	62	62	62	88	145	185	209	225	230	235	228	212	185	166	147	129	116	116	115	116	138.8
13	106	94	80	69	60	52	50	74	120	165	195	213	220	224	223	215	198	174	152	135	121	112	111	114	136.5
14	117	109	96	84	70	64	61	66	101	146	184	202	211	219	217	211	195	184	154	135	120	106	102	103	135.7
15	113	115	113	105	95	83	75	73	94	122	155	186	202	209	213	202	192	176	153	130	112	97	93	92	133.3
16	101	117	120	123	119	107	100	99	105	124	154	176	189	198	196	187	177	160	138	118	100	87	79	80	131.4
17	89	108	126	133	140	146	131	130	132	138	148	159	165	172	175	169	159	142	120	100	82	69	66	66	127.7
18	77	104	130	150	158	162	163	163	162	161	162	160	160	163	166	166	157	137	113	91	76	65	64	64	132.3
19	68	90	119	150	167	176	181	182	182	180	175	170	162	161	160	156	149	135	116	96	77	64	62	62	135.0
20	63	74	111	148	174	187	192	192	194	195	189	183	173	167	158	152	138	126	109	90	73	63	63	62	136.5
21	63	63	86	123	159	182	188	190	200	201	199	194	182	168	157	146	136	124	113	98	78	64	63	63	135.0
22	62	62	62	97	142	174	188	203	208	211	213	210	198	182	167	156	145	133	121	106	89	75	63	63	138.8
23	62	62	62	62	103	150	184	199	212	219	224	220	213	200	182	168	153	142	130	118	101	85	71	62	141.0
24	62	62	62	62	62	123	169	199	221	217	222	230	225	214	196	176	162	144	128	117	111	96	81	70	142.1
25	62	62	62	62	62	84	140	181	207	217	227	230	225	216	197	182	165	150	140	131	120	106	94	79	141.7
26	67	63	63	63	63	64	107	162	196	213	222	228	224	204	194	178	161	148	139	128	123	113	102	89	138.1
27	73	64	64	64	63	63	69	120	167	186	213	219	221	222	210	196	175	158	144	130	120	113	110	98	135.9
28	81	67	63	63	63	63	63	89	141	184	209	219	225	226	216	199	178	154	134	122	111	105	105	106	132.8
29	97	85	68	63	63	63	62	71	114	160	194	208	215	218	210	196	172	150	127	111	107	101	105	113	128.0
30	115	110	98	83	69	64	72	81	112	145	181	202	212	215	210	198	176	150	127	107	90	78	81	95	128.0
31	114	129	128	120	109	102	102	117	142	146	162	182	202	199	191	179	151	126	98	77	65	63	69	63	126.5

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1. 1-3 (5) Tidal Level

Month : Jun. 1989
St. : TRISAKTI
Lat. : -3°19.9'N
Long. : 114°33.3'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	104	128	143	145	141	138	138	139	142	145	154	166	183	194	194	181	155	128	100	74	63	62	62	62	130.9
2	80	123	159	173	176	178	183	185	186	185	179	180	184	184	186	180	163	134	105	81	64	63	63	63	144.0
3	63	71	125	167	191	198	202	210	212	210	205	199	191	188	178	170	164	139	112	89	69	63	63	63	147.6
4	63	62	85	143	184	201	207	216	223	222	217	206	193	186	176	166	159	149	127	102	80	65	63	63	148.3
5	63	63	63	103	161	198	213	220	228	233	228	219	207	192	183	177	174	158	143	117	94	76	64	63	151.7
6	64	64	64	63	113	171	206	221	234	241	243	238	228	211	192	178	167	152	144	134	114	95	80	70	153.6
7	64	64	64	64	68	127	180	210	224	234	241	244	235	223	200	187	173	168	150	144	128	110	96	81	153.3
8	71	64	64	64	64	64	100	147	192	215	226	238	242	236	224	211	193	175	157	146	138	130	120	106	149.5
9	80	70	63	63	63	73	112	161	197	215	228	233	235	230	215	198	180	167	147	135	128	121	111	100	146.9
10	90	78	70	65	64	70	95	134	176	202	215	222	222	218	207	191	174	155	142	129	121	117	111	106	140.6
11	98	89	81	74	71	71	83	116	152	185	202	209	210	205	199	183	163	144	125	113	102	98	100	102	132.3
12	97	96	94	86	80	78	81	105	136	158	191	202	202	197	188	175	150	129	111	95	90	87	87	96	125.5
13	105	111	116	112	108	100	102	115	135	159	186	193	199	190	181	165	147	126	105	86	71	67	79	90	127.0
14	103	127	138	139	135	130	130	134	144	164	179	191	193	190	183	169	140	116	95	77	64	62	62	71	130.7
15	101	139	147	154	157	159	161	161	163	172	179	189	187	184	175	155	131	109	92	76	65	62	62	62	135.1
16	100	110	149	173	176	179	184	186	186	187	191	193	189	180	167	164	133	98	80	68	61	61	61	61	139.0
17	62	102	148	179	194	198	201	200	206	196	195	189	180	169	163	145	128	107	86	69	62	62	62	62	140.2
18	62	74	128	167	183	192	200	205	201	195	193	186	173	165	158	143	121	104	89	69	62	62	62	62	135.7
19	61	61	94	140	173	194	202	207	211	213	207	200	189	177	165	153	137	119	100	79	62	62	62	61	138.7
20	61	61	65	115	158	187	206	212	219	221	220	210	200	186	174	160	150	135	121	101	81	65	62	62	143.0
21	62	62	62	80	135	170	192	206	213	219	223	219	206	194	170	155	150	139	126	107	90	71	62	62	140.6
22	62	62	62	62	97	141	176	200	213	220	225	221	211	196	181	167	155	144	135	122	104	81	63	62	140.1
23	62	61	61	61	62	107	154	187	202	210	216	217	213	203	191	175	160	149	135	126	114	95	74	62	137.4
24	62	62	62	62	62	84	129	173	193	200	211	216	214	202	186	175	153	140	134	121	116	106	89	70	134.3
25	62	62	62	62	62	66	102	143	176	192	202	206	206	198	183	166	140	120	109	99	95	93	92	81	124.1
26	70	62	62	62	62	62	90	119	160	185	198	201	201	196	182	161	136	114	104	98	94	96	104	102	121.7
27	90	77	68	63	62	62	80	104	140	171	191	199	198	188	178	154	133	103	80	69	62	62	68	95	112.4
28	113	116	117	98	94	95	104	127	145	153	180	192	189	179	163	140	114	91	70	62	62	62	73	83	117.6
29	115	130	139	148	150	151	159	161	160	165	176	189	193	189	173	149	116	89	66	62	62	62	61	61	130.3
30	104	141	162	170	175	180	190	192	186	181	179	179	182	179	171	145	113	86	66	62	62	60	60	60	136.9

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table I. 1-3 (6) Tidal Level

Month : Jul. 1989
St. : TRISAKTI
Lat. : -3°19.9'N
Long. : 114°33.3'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	63	115	159	182	190	195	202	204	220	214	203	187	177	168	167	165	141	117	92	71	62	62	62	62	145.0
2	61	61	80	136	173	194	204	214	218	216	206	195	176	162	153	144	133	122	103	80	62	62	61	61	136.5
3	61	61	61	90	140	175	195	206	216	220	219	209	194	179	163	150	144	137	125	103	70	61	61	61	137.5
4	61	61	61	63	117	158	188	203	212	218	220	218	202	187	175	159	152	138	122	113	90	67	61	61	137.8
5	61	61	61	61	83	124	161	187	200	208	214	215	206	192	173	156	144	130	120	119	104	83	64	61	132.8
6	61	61	61	61	66	106	152	180	196	207	210	214	207	195	178	160	144	129	122	115	102	87	67	61	130.9
7	61	61	61	61	61	89	125	162	185	197	204	206	201	194	176	160	133	118	105	99	96	95	82	67	125.0
8	61	61	61	61	62	90	117	149	176	192	200	202	202	195	179	153	136	116	101	92	87	91	91	86	123.4
9	73	73	71	68	74	81	112	134	166	184	192	192	187	173	161	142	120	103	88	74	67	69	79	87	115.4
10	91	92	92	92	92	96	116	134	156	176	186	186	179	165	148	128	104	80	63	62	61	61	64	86	112.9
11	104	115	117	119	121	121	124	139	151	166	173	175	168	156	138	116	94	73	62	62	62	62	67	95	115.8
12	124	138	146	151	155	159	156	159	158	162	163	166	164	155	138	114	92	70	61	61	60	60	60	84	123.2
13	122	149	165	172	177	177	176	174	172	170	169	166	162	156	140	115	92	71	61	61	61	61	61	61	128.8
14	107	148	174	187	191	194	191	190	186	177	172	165	158	150	136	119	96	74	61	61	61	61	61	61	132.5
15	80	130	178	193	201	209	207	205	198	191	182	171	162	149	137	123	106	89	71	61	61	61	61	61	137.0
16	61	104	154	187	203	214	219	225	226	214	203	192	180	168	157	146	132	110	90	77	63	61	61	61	146.2
17	61	64	123	160	190	197	203	209	210	209	200	189	175	167	153	139	128	113	93	76	61	61	61	61	137.6
18	61	61	73	128	170	193	203	213	219	225	224	212	198	184	169	156	147	134	119	101	81	65	61	61	144.1
19	61	61	61	99	149	184	190	203	210	219	215	211	200	183	165	149	143	135	118	101	88	70	61	61	139.0
20	61	61	61	61	110	155	184	200	213	220	217	215	206	191	177	165	158	150	140	124	104	84	66	60	141.0
21	60	60	60	60	88	138	175	201	210	214	214	213	205	190	175	162	152	142	133	131	119	103	84	68	139.9
22	61	61	61	61	79	110	149	183	199	203	209	209	199	185	166	146	136	125	120	122	119	110	99	86	133.3
23	73	61	61	61	75	97	132	163	187	196	202	199	189	174	157	138	119	104	93	90	97	104	105	99	124.0
24	89	83	83	89	99	111	133	153	174	192	195	189	178	166	142	120	97	82	70	67	78	104	119	124	122.4
25	125	125	128	131	138	139	142	145	160	178	185	180	170	152	122	95	70	61	61	61	61	71	107	130	122.4
26	140	144	153	155	162	160	158	156	156	165	173	174	166	150	126	95	67	62	61	61	61	61	74	116	124.8
27	144	160	167	177	181	183	180	173	166	160	165	166	164	155	135	105	75	62	62	62	62	61	61	72	129.1
28	124	160	180	189	195	198	200	195	187	176	170	170	168	160	148	123	95	72	62	62	62	62	62	62	136.8
29	83	137	170	189	196	202	205	201	193	185	173	168	164	156	152	133	113	87	63	62	62	62	62	62	136.7
30	61	87	139	172	189	197	206	211	209	198	185	171	165	156	152	145	131	106	81	62	62	62	62	62	136.3
31	62	62	140	169	188	195	201	204	201	195	182	170	163	153	142	134	114	94	70	62	62	62	62	62	131.2

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table I. 1-3 (7) Tidal Level

Month : Aug. 1989
St. : TRISAKTI
Lat. : -3°19.9'N
Long. : 114°33.3'E

Unit:cm

HOUR / DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	M.S.L
1	63	115	159	182	190	195	201	204	204	203	199	190	178	163	153	144	136	125	107	87	65	62	62	62	143.7
2	62	62	62	91	135	172	189	197	202	203	203	195	183	168	153	134	126	110	103	95	77	63	63	62	129.6
3	62	62	62	69	119	148	174	189	193	194	195	189	177	164	147	132	122	117	113	109	94	75	62	62	126.3
4	62	62	62	67	107	147	173	188	192	193	194	188	176	162	146	131	122	116	113	108	93	73	62	62	125.0
5	62	62	62	69	103	137	175	183	170	174	182	179	164	153	151	137	118	105	103	103	108	92	71	62	121.9
6	62	62	62	70	96	124	143	151	169	167	168	170	164	153	138	117	102	94	85	84	103	100	.90	83	114.9
7	76	70	75	82	109	127	140	163	175	173	167	167	158	146	129	112	96	81	75	73	90	95	94	94	115.3
8	94	91	104	110	118	128	135	151	162	166	161	153	138	121	108	95	84	72	64	65	70	87	102	109	112.0
9	116	127	134	140	143	144	150	157	161	165	163	146	127	108	91	79	70	62	62	62	62	78	100	116	115.1
10	127	130	139	143	146	148	154	156	163	162	157	148	130	113	95	76	64	63	63	63	62	82	94	122	115.8
11	136	142	148	152	153	154	153	148	146	148	149	149	138	118	98	75	62	62	62	62	62	82	78	116	115.5
12	140	155	164	167	169	169	166	161	156	151	146	146	141	128	110	86	66	63	63	63	63	63	62	71	119.5
13	113	144	163	175	178	181	181	177	169	161	154	150	141	133	119	104	81	63	63	63	63	62	62	62	123.4
14	96	138	167	185	195	200	199	195	186	176	170	165	160	148	136	117	96	72	62	62	62	62	62	62	132.2
15	62	106	151	182	194	200	202	197	189	177	169	162	158	152	137	120	100	78	62	62	62	62	62	62	129.5
16	62	71	120	162	183	194	199	200	200	194	186	178	169	162	152	140	125	106	84	64	63	63	63	63	133.5
17	63	63	90	135	167	185	194	197	197	194	186	174	167	158	149	141	134	120	100	77	62	62	62	62	130.8
18	62	62	71	119	161	189	200	204	202	196	186	173	161	151	144	139	130	121	108	89	70	63	63	63	130.3
19	63	63	63	94	128	164	181	190	190	184	176	168	159	150	141	134	129	129	122	117	100	75	63	63	126.9
20	63	63	63	84	117	153	175	186	186	175	170	156	150	140	138	131	127	126	125	126	121	100	80	63	125.8
21	63	63	63	87	112	136	161	179	184	175	168	152	133	118	110	99	94	89	91	103	119	121	109	103	118.0
22	98	91	94	105	112	124	144	168	179	174	162	144	123	105	91	80	70	66	70	87	112	133	135	136	116.8
23	137	137	138	144	144	142	147	155	161	164	156	142	122	104	84	65	63	63	63	63	83	113	137	150	119.9
24	154	157	164	169	169	161	150	150	158	162	161	154	135	111	86	67	63	63	63	63	63	77	119	148	123.6
25	164	172	182	189	181	170	157	147	136	135	145	142	130	111	88	66	64	64	64	64	64	84	133	121.5
26	160	178	191	197	198	194	181	168	152	145	146	149	143	130	107	83	63	63	63	63	63	63	79	126.8
27	129	167	186	195	200	202	193	181	169	155	146	141	144	146	125	107	82	63	63	63	63	63	63	129.5
28	100	150	178	193	200	206	200	185	171	157	145	136	136	126	119	103	84	63	63	63	63	63	63	126.3
29	82	134	172	190	199	199	197	191	173	163	156	144	138	130	120	108	96	74	63	63	63	63	63	126.8
30	88	140	175	194	203	212	190	175	161	143	132	125	116	116	100	81	66	63	63	-	-	-	-	-	133.8
31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note 1 : - shows no Record.
Note 2 : Data are measured from Reading Standard Level at Tide Gauge.

Table 1.1－4(1) Total hours of Appeared Tidal levels Exceeded Various Established Levels (Pilot Station)

LEVEL	L. W. S±0.0m			L. W. S+0.5m			L. W. S+1.0m			L. W. S+1.5m			L. W. S+2.0m			L. W. S+2.5m			L. W. S+3.0m		
YEAR MONTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH
1988 9	719 100.0	420 100.0	299 100.0	695 96.7	413 98.3	282 94.3	568 79.0	326 77.6	242 80.9	384 53.4	199 47.4	185 61.9	125 17.4	37 8.8	88 29.4	5 0.7	0 0.0	5 1.7	0 0.0	0 0.0	0 0.0
1988 10	744 100.0	434 100.0	310 100.0	725 97.4	415 95.6	310 100.0	588 79.0	297 68.4	291 93.9	385 51.7	124 28.6	261 84.2	189 25.4	20 4.6	169 54.5	59 7.9	0 0.0	59 19.0	1 0.1	0 0.0	1 0.3
1988 11	720 100.0	420 100.0	300 100.0	717 99.6	417 99.3	300 100.0	600 83.3	300 71.4	300 100.0	444 61.7	150 35.7	294 98.0	263 36.5	37 8.8	226 75.3	111 15.4	8 1.9	103 34.3	7 1.0	1 0.2	6 2.0
1988 12	744 100.0	434 100.0	310 100.0	744 100.0	434 100.0	310 100.0	641 86.2	331 76.3	310 100.0	467 62.8	161 37.1	306 98.7	304 40.9	68 15.7	236 76.1	130 17.5	26 6.0	104 33.5	0 0.0	0 0.0	0 0.0
1989 1	744 100.0	434 100.0	310 100.0	730 98.1	420 96.8	310 100.0	605 81.3	295 68.0	310 100.0	448 60.2	175 40.3	273 88.1	261 35.1	76 17.5	185 59.7	68 9.1	15 3.5	53 17.1	0 0.0	0 0.0	0 0.0
1989 2	672 100.0	392 100.0	280 100.0	663 98.7	383 97.7	280 100.0	565 84.1	293 74.7	272 97.1	425 63.2	206 52.6	219 78.2	215 32.0	106 27.0	109 38.9	38 5.7	26 6.6	12 4.3	0 0.0	0 0.0	0 0.0
1989 3	734 100.0	424 100.0	310 100.0	734 100.0	424 100.0	310 100.0	627 85.4	355 83.7	272 87.7	477 65.0	294 69.3	183 59.0	196 26.7	171 40.3	25 8.1	49 6.7	49 11.6	0 0.0	0 0.0	0 0.0	0 0.0
1989 4	637 100.0	372 100.0	265 100.0	637 100.0	372 100.0	265 100.0	532 83.5	345 92.7	187 70.6	364 57.1	308 82.8	56 21.1	168 26.4	168 45.2	0 0.0	45 7.1	45 12.1	0 0.0	0 0.0	0 0.0	0 0.0
1989 5	744 100.0	434 100.0	310 100.0	737 99.1	434 100.0	303 97.7	595 80.0	415 95.6	180 58.1	401 53.9	356 82.0	45 14.5	207 27.8	203 46.8	4 1.3	66 8.9	66 15.2	0 0.0	0 0.0	0 0.0	0 0.0
1989 6	720 100.0	420 100.0	300 100.0	700 97.2	420 100.0	280 93.3	566 78.6	412 98.1	154 51.3	406 56.4	349 83.1	57 19.0	247 34.3	227 54.0	20 6.7	59 8.2	59 14.0	0 0.0	0 0.0	0 0.0	0 0.0
1989 7	744 100.0	434 100.0	310 100.0	712 95.7	434 100.0	278 89.7	579 77.8	407 93.8	172 55.5	417 56.0	336 77.4	81 26.1	229 30.8	195 44.9	34 11.0	44 5.9	43 9.9	1 0.3	0 0.0	0 0.0	0 0.0
1989 8	744 100.0	434 100.0	310 100.0	709 95.3	431 99.3	278 89.7	577 77.6	384 88.5	193 62.3	406 54.6	296 68.2	110 35.5	156 21.0	115 26.5	41 13.2	2 0.3	2 0.5	0 0.0	0 0.0	0 0.0	0 0.0
TOTAL	8666 100.0	5052 100.0	3614 100.0	8503 98.1	4997 98.9	3506 97.0	7043 81.3	4160 82.3	2883 79.8	5024 58.0	2954 58.5	2070 57.3	2560 29.5	1423 28.2	1137 31.5	676 7.8	339 6.7	337 9.3	8 0.1	1 0.0	7 0.2

Upper Layer : Total hour (h)
Lower Layer : Rate of hour in Tidal Level Exceeding Established Level (%)

Table 1.1 – 4(2) Total hours of Appeared Tidal levels Exceeded Various Established Levels (Trisakti)

LEVEL	L. W. S+0.0m			L. W. S+0.5m			L. W. S+1.0m			L. W. S+1.5m			L. W. S+2.0m			L. W. S+2.5m			L. W. S+3.0m		
YEAR MONTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH
1989 2	544	320	224	513	289	224	420	206	214	252	103	149	62	29	33	0	0	0	0	0	0
	100.0	100.0	100.0	94.3	90.3	100.0	77.2	64.4	95.5	46.3	32.2	66.5	11.4	9.1	14.7	0.0	0.0	0.0	0.0	0.0	0.0
1989 3	681	401	280	675	396	279	531	302	229	323	212	111	90	81	9	0	0	0	0	0	0
	100.0	100.0	100.0	99.1	98.8	99.6	78.0	75.3	81.8	47.4	52.9	39.6	13.2	20.2	3.2	0.0	0.0	0.0	0.0	0.0	0.0
1989 4	504	294	210	502	292	210	396	236	160	193	173	20	74	74	0	0	0	0	0	0	0
	100.0	100.0	100.0	99.6	99.3	100.0	78.6	80.3	76.2	38.3	58.8	9.5	14.7	25.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989 5	741	434	307	734	432	302	519	387	132	302	295	7	108	108	0	0	0	0	0	0	0
	100.0	100.0	100.0	99.1	99.5	98.4	70.0	89.2	43.0	40.8	68.0	2.3	14.6	24.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989 6	720	420	300	720	420	300	484	388	96	319	299	20	100	100	0	0	0	0	0	0	0
	100.0	100.0	100.0	100.0	100.0	100.0	67.2	92.4	32.0	44.3	71.2	6.7	13.9	23.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1989 7	744	434	310	744	434	310	483	386	97	320	281	39	84	82	2	0	0	0	0	0	0
	100.0	100.0	100.0	100.0	100.0	100.0	64.9	88.9	31.3	43.0	64.7	12.6	11.3	18.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0
1989 8	716	420	296	716	420	296	461	339	122	240	190	50	14	13	1	0	0	0	0	0	0
	100.0	100.0	100.0	100.0	100.0	100.0	64.4	80.7	41.2	33.5	45.2	16.9	2.0	3.1	0.3	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	4650	2723	1927	4604	2683	1921	3294	2244	1050	1949	1553	396	532	487	45	0	0	0	0	0	0
	100.0	100.0	100.0	99.0	98.5	99.7	70.8	82.4	54.5	41.9	57.0	20.6	11.4	17.9	2.3	0.0	0.0	0.0	0.0	0.0	0.0

Upper Layer : Total hour (h)
Lower Layer : Rate of hour in Tidal Level Exceeding Established Level (%)

Table 1.1-4(3) Total Hours of Appeared Tidal Levels Exceeded Various Established Levels(St.1)

LEVEL		L. W. S±0.0m			L. W. S+0.5m			L. W. S+1.0m			L. W. S+1.5m			L. W. S+2.0m			L. W. S+2.5m			L. W. S+3.0m		
YEAR	MONTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH	ALL	DAY	NIGTH
1988	9	492 100.0	288 100.0	204 100.0	472 95.9	274 95.1	198 97.1	404 82.1	230 79.9	174 85.3	278 56.5	148 51.4	130 63.7	78 15.9	24 8.3	54 26.5	4 0.8	0 0.0	4 2.0	0 0.0	0 0.0	0 0.0
1988	10	744 100.0	434 100.0	310 100.0	704 94.6	394 90.8	310 100.0	596 80.1	300 69.1	296 95.5	410 55.1	144 33.2	266 85.8	188 25.3	18 4.1	170 54.8	58 7.8	0 0.0	58 18.7	0 0.0	0 0.0	0 0.0
1988	11	718 100.0	418 100.0	300 100.0	696 96.9	396 94.7	300 100.0	598 83.3	298 71.3	300 100.0	454 63.2	162 38.8	292 97.3	272 37.9	28 6.7	244 81.3	114 15.9	8 1.9	106 35.3	6 0.8	0 0.0	6 2.0
1988	12	742 100.0	432 100.0	310 100.0	716 96.5	406 94.0	310 100.0	640 86.3	330 76.4	310 100.0	470 63.3	160 37.0	310 100.0	318 42.9	66 15.3	252 81.3	130 17.5	20 4.6	110 35.5	0 0.0	0 0.0	0 0.0
1989	1	548 100.0	318 100.0	230 100.0	524 95.6	294 92.5	230 100.0	468 85.4	238 74.8	230 100.0	336 61.3	128 40.3	208 90.4	180 32.8	40 12.6	140 60.9	54 9.9	16 5.0	38 16.5	0 0.0	0 0.0	0 0.0
1989	2	670 100.0	390 100.0	280 100.0	644 96.1	364 93.3	280 100.0	566 84.5	294 75.4	272 97.1	438 65.4	212 54.4	226 80.7	218 32.5	102 26.2	116 41.4	32 4.8	22 5.6	10 3.6	0 0.0	0 0.0	0 0.0
1989	3	744 100.0	434 100.0	310 100.0	726 97.6	416 95.9	310 100.0	632 84.9	362 83.4	270 87.1	490 65.9	302 69.6	188 60.6	204 27.4	170 39.2	34 11.0	50 6.7	50 11.5	0 0.0	0 0.0	0 0.0	0 0.0
1989	4	720 100.0	420 100.0	300 100.0	702 97.5	420 100.0	282 94.0	590 81.9	376 89.5	214 71.3	432 60.0	338 80.5	94 31.3	196 27.2	196 46.7	0 0.0	60 8.3	60 14.3	0 0.0	0 0.0	0 0.0	0 0.0
1989	5	742 100.0	432 100.0	310 100.0	698 94.1	432 100.0	266 85.8	596 80.3	418 96.8	178 57.4	410 55.3	366 84.7	44 14.2	218 29.4	216 50.0	2 0.6	76 10.2	76 17.6	0 0.0	0 0.0	0 0.0	0 0.0
1989	6	716 99.4	420 100.0	296 98.7	670 93.1	420 100.0	250 83.3	566 78.6	412 98.1	154 51.3	406 56.4	356 84.8	50 16.7	254 35.3	238 56.7	16 5.3	72 10.0	72 17.1	0 0.0	0 0.0	0 0.0	0 0.0
1989	7	742 99.7	434 100.0	308 99.4	676 90.9	428 98.6	248 80.0	574 77.2	398 91.7	176 56.8	436 58.6	348 80.2	88 28.4	258 34.7	220 50.7	38 12.3	64 8.6	60 13.8	4 1.3	0 0.0	0 0.0	0 0.0
1989	8	744 100.0	434 100.0	310 100.0	684 91.9	420 96.8	264 85.2	582 78.2	380 87.6	202 65.2	420 56.5	302 69.6	118 38.1	174 23.4	126 29.0	48 15.5	4 0.5	4 0.9	0 0.0	0 0.0	0 0.0	0 0.0
TOTAL		8322 99.9	4854 100.0	3468 99.8	7912 95.0	4664 96.1	3248 93.5	6812 81.8	4036 83.1	2776 79.9	4980 59.8	2966 61.1	2014 58.0	2558 30.7	1444 29.7	1114 32.1	718 8.6	388 8.0	330 9.5	6 0.1	0 0.0	6 0.2

Note;0m of L.W.S. at St.1 is equivalentto water depth 9.1m.

Upper Layer : Total hour (h)
Lower Layer : Rate of hour in Tidal Level Exceeding Established Level (%)

Table 1. 1-5 (1) Tidal Range at each Station and Differences of Range and Phase Lag between two stations

Mar. 1989

No.	PILOT STATION		TRISAKTI		TRISAKTI - PILOT STA			
	Date Time	Range (cm)	Date Time	Range (cm)	Dif. of Range (cm)	Ratio of Range	Phase Lag (min.) H.W	Phase Lag (min.) L.W
1	3/ 1 13:25	174	3/ 1 14:10	146	-28	0.84	45	65
2	3/ 2 13:31	191	3/ 2 14:10	162	-29	0.85	39	75
3	3/ 3 14:25	225	3/ 3 15:28	184	-41	0.82	63	43
4	3/ 4 15:55	216	3/ 4 16:30	179	-37	0.83	35	85
5	3/ 5 16:35	213	3/ 5 17:20	172	-41	0.81	45	108
6	3/ 6 17:51	204	3/ 6 18:30	165	-39	0.81	39	50
7	3/ 7 17:46	201	3/ 7 18:32	164	-37	0.82	46	80
8	3/ 8 17:20	175	3/ 8 18:40	144	-31	0.82	80	50
9	3/ 9 18:33	140	3/ 9 19:18	106	-34	0.76	45	85
10	3/10 18:30	122	3/10 19:20	104	-18	0.85	50	75
11	3/11 19:18	130	3/11 20:10	108	-22	0.83	52	95
12	3/12 19:55	128	3/12 20:40	102	-26	0.80	45	65
13	3/13 11:58	171	3/13 12:55	141	-30	0.82	57	60
14	3/14 13:08	192	3/14 13:50	157	-35	0.82	42	45
15	3/15 14:04	211	3/15 14:50	172	-39	0.82	46	70
16	3/16 14:20	213	3/16 15:15	173	-40	0.81	55	75
17	3/17 14:38	204					82	
18	3/18 15:30	193						
19	3/19 16:48	176						
20	3/20 16:35	168						113
21	3/21 16:36	135	3/21 18:20	120	-15	0.89	104	80
22	3/22 17:40	126	3/22 18:40	117	-9	0.93	60	63
23	3/23 17:52	93	3/23 18:45	84	-9	0.90	53	85
24	3/24 18:30	75	3/24 19:25	72	-3	0.96	55	63
25	3/25 7:31	100	3/25 8:18	98	-2	0.98	47	65
26	3/26 8:20	117	3/26 8:45	114	-3	0.97	25	46
27	3/27 8:42	143	3/27 9:40	138	-5	0.97	58	118
28	3/28 11:00	164	3/28 13:15	154	-10	0.94	135	60
29			3/29 12:00	159				150
30	3/30 13:00	203	3/30 14:05	177	-26	0.87	65	70
Mean		166		139	-24	0.86	56	76
							66	

Apr. 1989

No.	PILOT STATION		TRISAKTI		TRISAKTI - PILOT STA			
	Date Time	Range (cm)	Date Time	Range (cm)	Dif. of Range (cm)	Ratio of Range	Phase Lag (min.) H.W	Phase Lag (min.) L.W
1			4/ 1 13:45	183				
2			4/ 2 15:10	180				
3			4/ 3 15:15	168				
4			4/ 4 17:00	163				
5	4/ 5 16:45	141	4/ 5 17:30	127	-14	0.90	45	55
6	4/ 6 17:21	127	4/ 6 18:00	125	-2	0.98	39	0
7	4/ 7 17:41	136	4/ 7 18:20	117	-19	0.86	39	75
8	4/ 8 7:07	144	4/ 8 7:35	124	-20	0.86	28	49
9	4/ 9 11:54	190	4/ 9 12:40	150	-40	0.79	46	122
10	4/10 10:00	199	4/10 11:20	151	-48	0.76	80	135
11	4/11 11:16	216	4/11 13:05	171	-45	0.79	109	146
12	4/12 11:41	218	4/12 14:00	174	-44	0.80	139	120
13	4/13 13:43	213	4/13 14:30	174	-39	0.82	47	118
14	4/14 13:23	210	4/14 14:10	174	-36	0.83	47	116
15	4/15 14:15	185	4/15 15:10	160	-25	0.86	55	86
16	4/16 14:53	156	4/16 16:30	138	-18	0.88	97	60
17	4/17 15:28	131	4/17 16:25	107	-24	0.82	57	55
18	4/18 15:30	101	4/18 16:15	98	-3	0.97	45	20
19	4/19 16:11	95	4/19 17:05	82	-13	0.86	54	125
20	4/20 15:53	88	4/20 18:00	94	6	1.07	127	180
21	4/21 6:47	110					13	
22	4/22 7:31	135						
23	4/23 7:37	157						
24	4/24 9:34	179						
25	4/25 10:40	192						
26	4/26 11:36	197						
27	4/27 12:24	208						
28	4/28 12:04	217						
29	4/29 13:22	207						
Mean		166		143	-24	0.87	63	91
							77	

Table 1. 1-5 (2) Tidal Range at each Station and Differences of Range and Phase Lag between two stations

May. 1989

No.	PILOT STATION		TRISAKTI		TRISAKTI - PILOT STA			
	Date Time	Range (cm)	Date Time	Range (cm)	Dif. of Range (cm)	Ratio of Range	Phase Lag (min.) H.W	L.W
1	5/ 1 14:00	183	5/ 1 15:25	161	-22	0.88	85	71
2	5/ 2 14:20	146	5/ 2 15:15	135	-11	0.92	55	100
3	5/ 3 14:47	146	5/ 3 15:35	145	-1	0.99	48	110
4	5/ 4 15:00	151	5/ 4 15:35	137	-14	0.91	35	111
5	5/ 5 14:37	154	5/ 5 15:20	128	-26	0.83	43	115
6	5/ 6 6:26	174	5/ 6 7:00	123	-51	0.71	34	153
7	5/ 7 9:19	209	5/ 7 10:30	185	-24	0.89	71	91
8	5/ 8 10:30	224	5/ 8 11:32	158	-66	0.71	62	155
9	5/ 9 10:44	228	5/ 9 11:40	190	-38	0.83	56	30
10	5/10 11:24	231	5/10 12:45	192	-39	0.83	81	80
11	5/11 12:20	215	5/11 13:30	173	-42	0.80	70	90
12	5/12 13:06	211	5/12 14:20	184	-27	0.87	74	97
13	5/13 13:07	189	5/13 14:25	175	-14	0.93	78	94
14	5/14 13:18	159	5/14 14:10	148	-11	0.93	52	65
15	5/15 13:30	135	5/15 13:30	124	-11	0.92	0	120
16	5/16 13:33	134	5/16 14:20	121	-13	0.90	47	45
17	5/17 14:06	124	5/17 15:00	111	-13	0.90	54	103
18	5/18 14:31	125	5/18 15:50	104	-21	0.83	79	139
19	5/19 8:00	146	5/19 8:00	120	-26	0.82	0	15
20	5/20 8:57	172	5/20 9:30	134	-38	0.78	33	-20
21	5/21 8:57	185	5/21 9:40	141	-44	0.76	43	145
22	5/22 10:16	198	5/22 10:55	153	-45	0.77	39	157
23	5/23 10:10	210	5/23 10:58	164	-46	0.78	48	165
24	5/24 10:55	222	5/24 11:40	171	-51	0.77	45	180
25	5/25 11:00	214	5/25 11:50	168	-46	0.79	50	145
26	5/26 11:05	216	5/26 12:00	166	-50	0.77	55	50
27	5/27 11:30	204	5/27 13:45	161	-43	0.79	135	172
28	5/28 12:32	208	5/28 13:20	165	-43	0.79	48	110
29	5/29 12:55	162	5/29 14:00	154	-8	0.95	65	50
30	5/30 13:18	155	5/30 14:00	137	-18	0.88	42	60
31	5/31 12:41	166	5/31 13:25	143	-23	0.86	44	25
Mean		181		151	-30	0.84	54	98
							76	

Jun. 1989

No.	PILOT STATION		TRISAKTI		TRISAKTI - PILOT STA			
	Date Time	Range (cm)	Date Time	Range (cm)	Dif. of Range (cm)	Ratio of Range	Phase Lag (min.) H.W	L.W
1	6/ 1 13:55	171	6/ 1 14:20	133	-38	0.78	25	120
2	6/ 2 14:10	171	6/ 2 15:00	123	-48	0.72	50	-85
3	6/ 3 7:45	209	6/ 3 8:25	150	-59	0.72	40	-118
4	6/ 4 8:35	223	6/ 4 9:05	161	-62	0.72	30	-130
5	6/ 5 9:00	228	6/ 5 9:58	171	-57	0.75	58	-120
6	6/ 6 9:58	235	6/ 6 10:45	160	-75	0.68	47	-100
7	6/ 7 10:50	228	6/ 7 11:40	181	-47	0.79	50	-55
8	6/ 8 11:14	222	6/ 8 12:05	180	-42	0.81	51	-15
9	6/ 9 12:03	202	6/ 9 12:40	173	-29	0.86	37	90
10	6/10 11:50	172	6/10 13:15	153	-19	0.89	85	44
11	6/11 12:14	140	6/11 13:00	133	-7	0.95	46	55
12	6/12 12:20	125	6/12 13:15	116	-9	0.93	55	60
13	6/13 12:20	140	6/13 13:00	132	-8	0.94	40	59
14	6/14 11:55	150	6/14 12:38	132	-18	0.88	43	102
15	6/15 11:11	147	6/15 12:05	127	-20	0.86	54	72
16	6/16 11:00	172	6/16 11:55	133	-39	0.77	55	-105
17	6/17 7:48	187	6/17 8:30	145	-42	0.78	42	-54
18	6/18 7:44	207	6/18 7:30	146	-61	0.71	-14	-175
19	6/19 8:55	210	6/19 10:00	152	-58	0.72	65	-16
20	6/20 9:40	220	6/20 10:15	160	-60	0.73	35	-130
21	6/21 10:15	220	6/21 10:55	160	-60	0.73	40	-163
22	6/22 10:00	224	6/22 11:00	164	-60	0.73	60	-15
23	6/23 10:40	210	6/23 11:30	156	-54	0.74	50	-170
24	6/24 11:00	203	6/24 12:10	154	-49	0.76	70	-125
25	6/25 11:30	169	6/25 12:08	145	-24	0.86	38	-115
26	6/26 11:42	146	6/26 12:31	141	-5	0.97	49	70
27	6/27 11:40	143	6/27 12:00	137	-6	0.96	20	-5
28	6/28 11:35	167	6/28 12:15	132	-35	0.79	40	-95
29	6/29 12:10	172	6/29 12:50	133	-39	0.77	40	75
30	6/30 6:50	187	6/30 7:30	134	-53	0.72	40	-30
Mean		187		147	-39	0.80	45	-36
							4	

Table 1. 1-5 (3) : Tidal Range at each Station and Differences of Range and Phase Lag between two stations

Jul. 1989

No.	PILOT STATION		TRISAKTI		TRISAKTI - PILOT STA			
	Date Time	Range (cm)	Date Time	Range (cm)	Dif. of Range (cm)	Ratio of Range	Phase Lag (min.) H.W	L.W
1	7/ 1 7:10	205	7/ 1 8:20	162	-43	0.79	70	154
2	7/ 2 7:40	222	7/ 2 9:20	158	-64	0.71	100	-83
3	7/ 3 8:25	222	7/ 3 10:10	160	-62	0.72	105	-185
4	7/ 4 9:15	224	7/ 4 11:00	159	-65	0.71	105	-150
5	7/ 5 10:00	219	7/ 5 12:00	154	-65	0.70	120	-120
6	7/ 6 10:45	206	7/ 6 12:15	154	-52	0.75	90	-137
7	7/ 7 11:51	196	7/ 7 12:00	145	-51	0.74	9	-86
8	7/ 8 11:30	168	7/ 8 12:50	135	-33	0.80	80	60
9	7/ 9 12:25	129	7/ 9 11:56	126	-3	0.98	-29	-400
10	7/10 11:09	126	7/10 11:20	127	1	1.01	11	89
11	7/11 11:15	141	7/11 12:00	114	-27	0.81	45	-122
12	7/12 11:30	134	7/12 12:00	106	-28	0.79	30	0
13	7/13 11:33	136	7/13 5:30	117	-19	0.86	-363	-140
14	7/14 5:00	157	7/14 6:10	134	-23	0.85	70	-165
15	7/15 5:44	184	7/15 6:15	150	-34	0.82	31	-150
16	7/16 5:45	202	7/16 8:55	167	-35	0.83	190	-70
17	7/17 8:11	216	7/17 9:00	149	-67	0.69	49	-179
18	7/18 7:45	207	7/18 10:08	165	-42	0.80	143	-93
19	7/19 9:50	213	7/19 10:10	158	-55	0.74	20	-130
20	7/20 9:27	212	7/20 11:00	157	-55	0.74	93	-84
21	7/21 9:54	206	7/21 11:30	154	-52	0.75	96	-40
22	7/22 9:50	191	7/22 11:35	149	-42	0.78	105	15
23	7/23 10:30	168	7/23 11:15	120	-48	0.71	45	30
24	7/24 10:30	127	7/24 11:00	130	3	1.02	30	45
25	7/25 10:15	137	7/25 10:55	125	-12	0.91	40	-40
26	7/26 9:55	160	7/26 11:10	114	-46	0.71	75	-30
27	7/27 10:30	165	7/27 5:35	123	-42	0.75	-295	120
28	7/28 5:10	184	7/28 7:00	138	-46	0.75	110	-110
29	7/29 6:00	203	7/29 7:00	144	-59	0.71	60	215
30	7/30 5:50	216	7/30 8:00	149	-67	0.69	130	-180
31	7/31 7:00	219	7/31 8:05	143	-76	0.65	65	-220
Mean		184		141	-42	0.78	46	-71
							-12	

Aug. 1989

No.	PILOT STATION		TRISAKTI		TRISAKTI - PILOT STA			
	Date Time	Range (cm)	Date Time	Range (cm)	Dif. of Range (cm)	Ratio of Range	Phase Lag (min.) H.W	L.W
1	8/ 1 8:20	210	8/ 1 9:40	143	-67	0.68	80	-135
2	8/ 2 8:20	204	8/ 2 10:30	143	-61	0.70	130	-30
3	8/ 3 8:45	201	8/ 3 11:00	133	-68	0.66	135	-120
4	8/ 4 8:30	174	8/ 4 11:58	93	-81	0.53	208	-105
5	8/ 5 7:15	157	8/ 5 7:50	127	-30	0.81	35	-75
6	8/ 6 11:00	102	8/ 6 12:00	99	-3	0.97	60	90
7	8/ 7 8:40	109	8/ 7 9:20	105	-4	0.96	40	65
8	8/ 8 9:15	105	8/ 8 9:55	102	-3	0.97	40	51
9	8/ 9 9:40	115	8/ 9 10:10	104	-11	0.90	30	-47
10	8/10 8:21	127	8/10 9:00	102	-25	0.80	39	103
11	8/11 5:45	132	8/11 6:30	94	-38	0.71	45	-140
12	8/12 4:50	159	8/12 5:40	109	-50	0.69	50	130
13	8/13 6:00	173	8/13 6:35	121	-52	0.70	35	25
14	8/14 5:24	200	8/14 6:30	138	-62	0.69	66	-200
15	8/15 6:15	207	8/15 7:00	141	-66	0.68	45	-240
16	8/16 7:15	198	8/16 8:30	140	-58	0.71	75	-165
17	8/17 8:05	190	8/17 8:40	136	-54	0.72	35	-185
18	8/18 7:00	196	8/18 7:55	142	-54	0.72	55	-137
19	8/19 8:05	164	8/19 8:03	129	-35	0.79	-2	-107
20	8/20 7:50	147	8/20 8:18	126	-21	0.86	28	-70
21	8/21 8:20	96	8/21 8:40	97	1	1.01	20	60
22	8/22 8:30	118	8/22 9:05	115	-3	0.97	35	50
23	8/23 9:20	136	8/23 9:40	102	-34	0.75	20	-65
24	8/24 3:42	153	8/24 4:00	106	-47	0.69	18	-135
25	8/25 3:45	183	8/25 4:00	125	-58	0.68	15	-164
26	8/26 4:25	201	8/26 5:45	140	-61	0.70	80	-226
27	8/27 5:20	208	8/27 5:40	140	-68	0.67	20	-230
28	8/28 5:55	207	8/28 6:20	143	-64	0.69	25	-265
29	8/29 6:00	190	8/29 5:30	137	-53	0.72	-30	-220
30	8/30 6:45	206					-45	
31	8/31 7:00	172						
Mean		166		122	-42	0.76	46	-86
							-19	

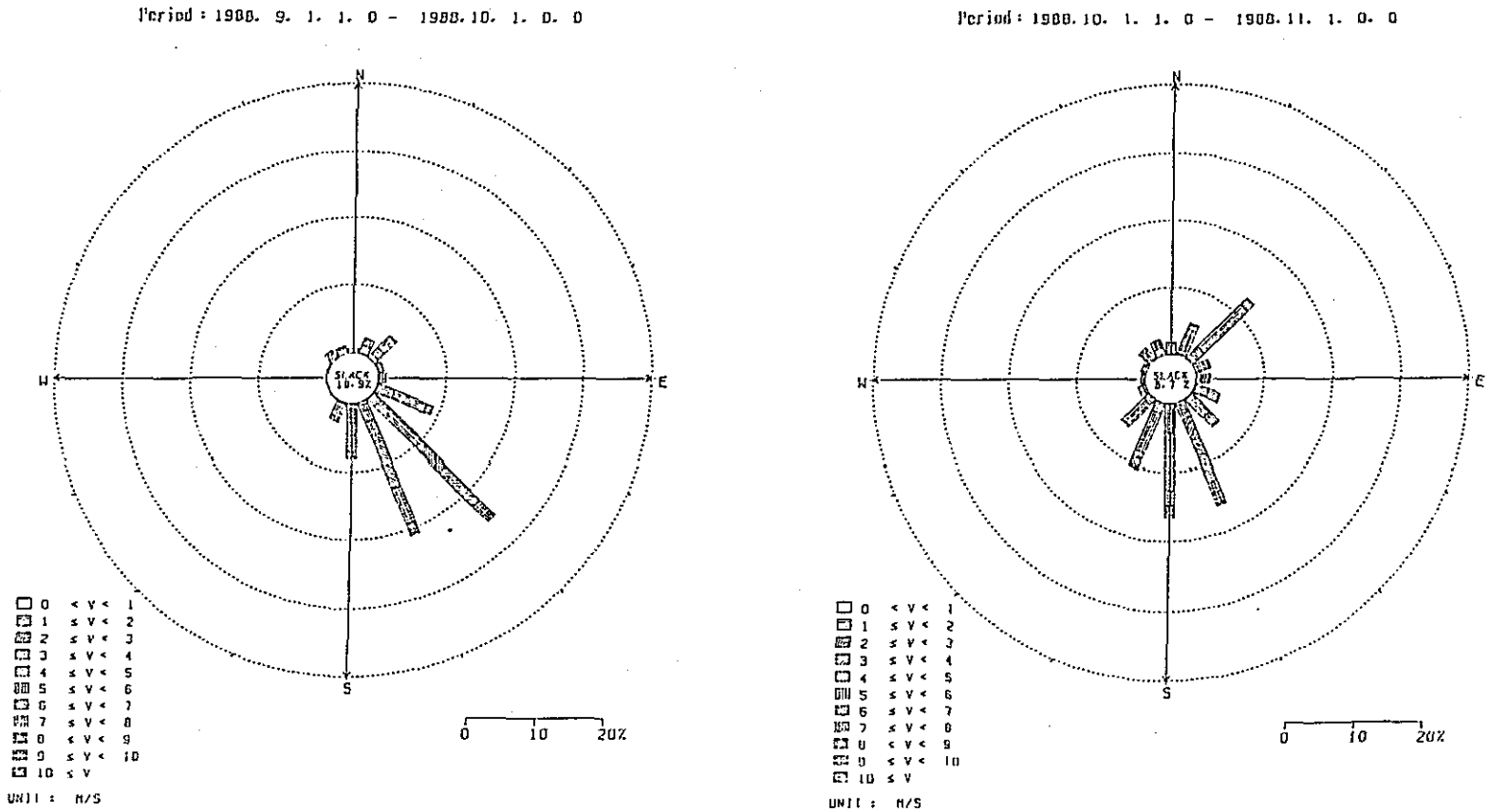


Fig. 1. 2-1 (1) Frequency Distributions of Wind Direction and Velocity
(Pilot Station)

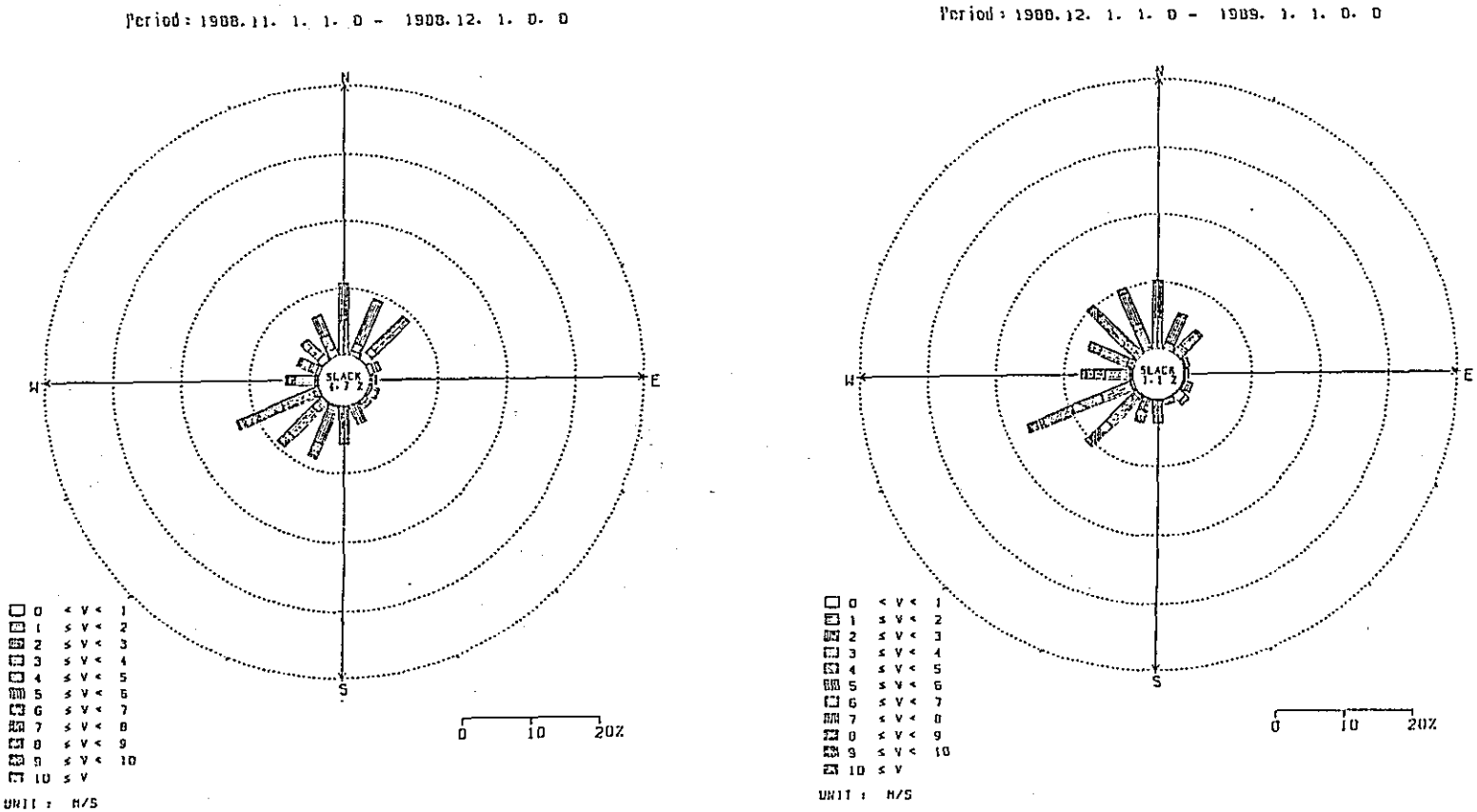


Fig. 1. 2−1 (2) Frequency Distributions of Wind Direction and Velocity
(Pilot Station)

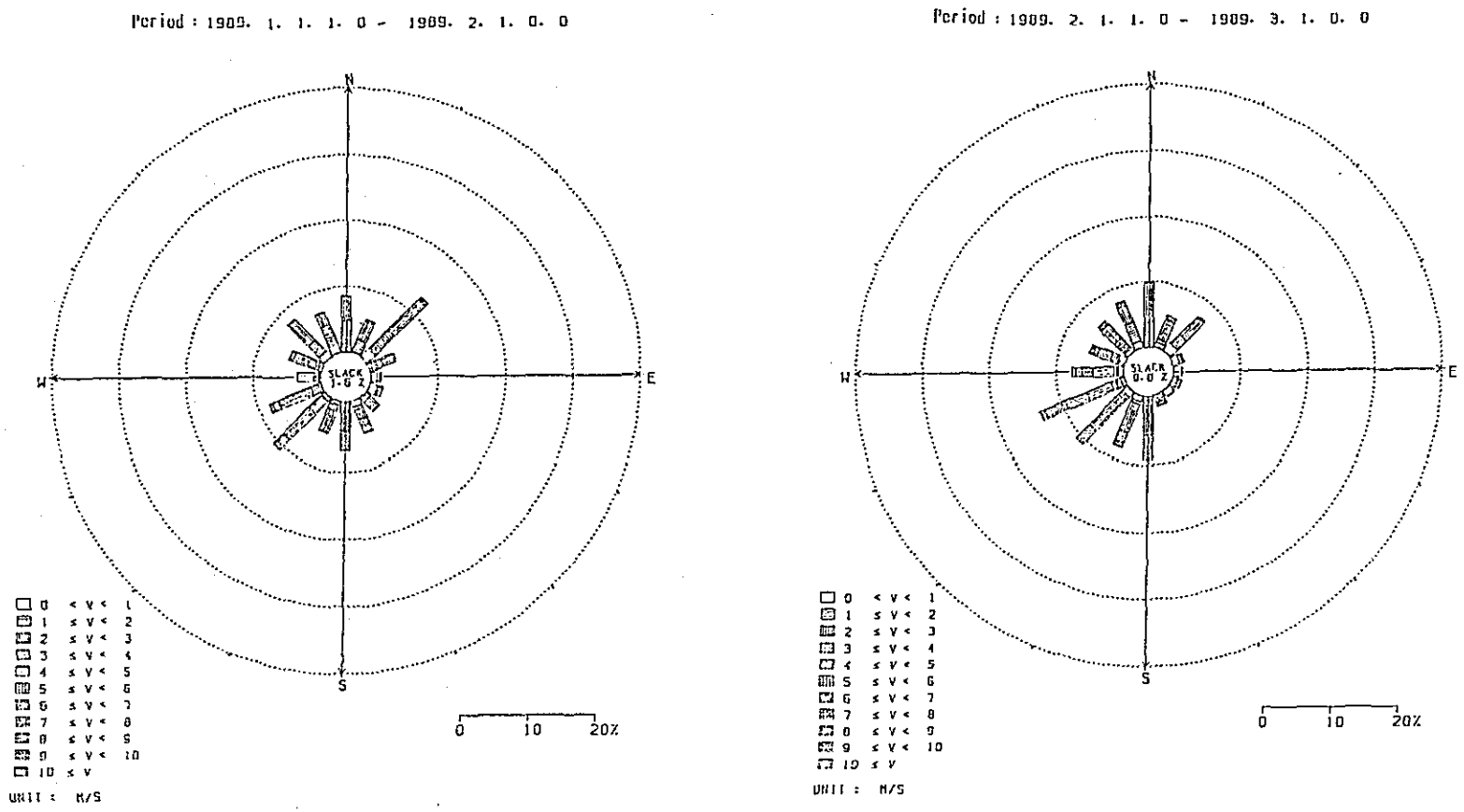


Fig. 1. 2-1 (3) Frequency Distributions of Wind Direction and Velocity
(Pilot Station)

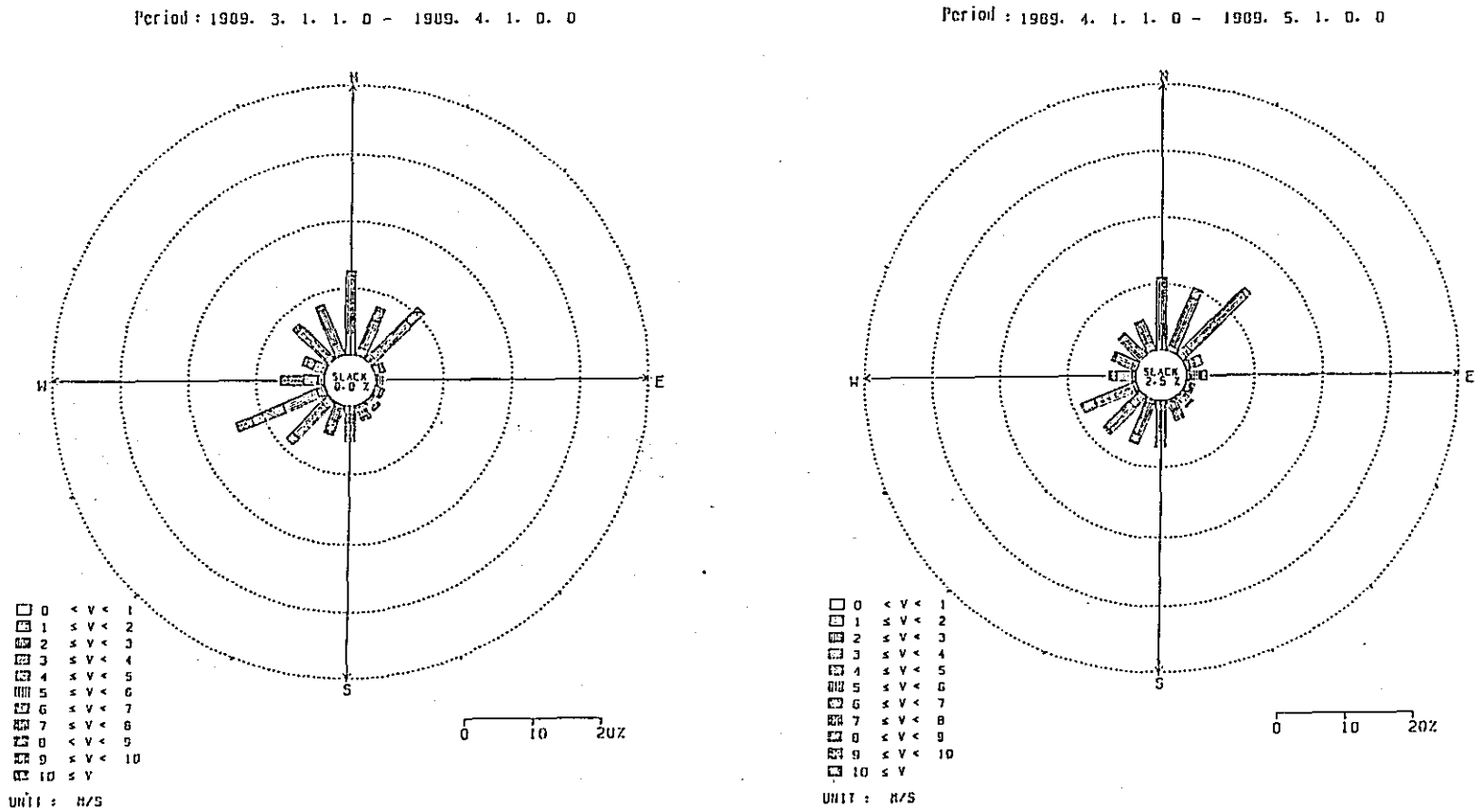


Fig. 1. 2-1 (4) Frequency Distributions of Wind Direction and Velocity
(Pilot Station)

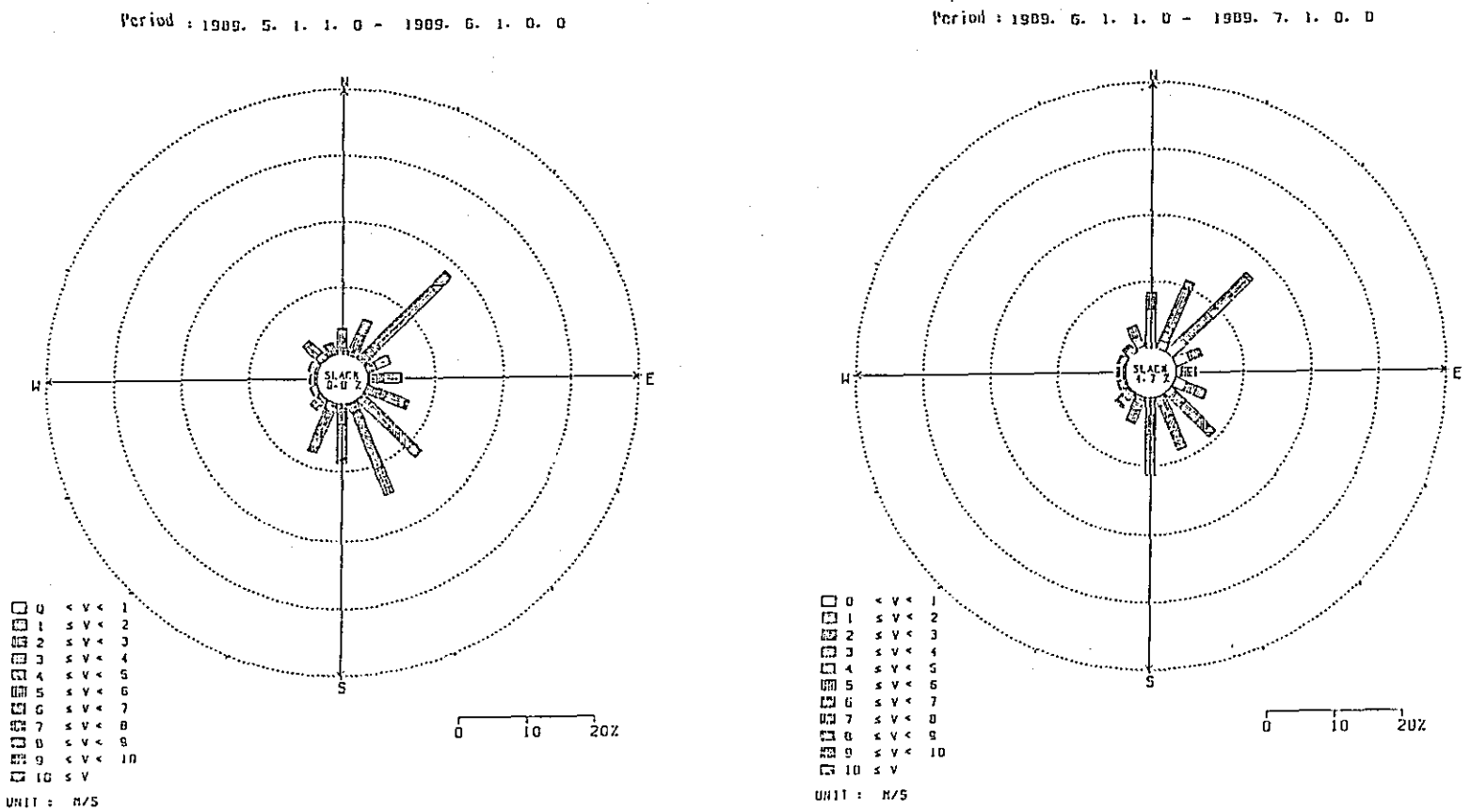


Fig. 1. 2-1 (5) Frequency Distributions of Wind Direction and Velocity
(Pilot Station)

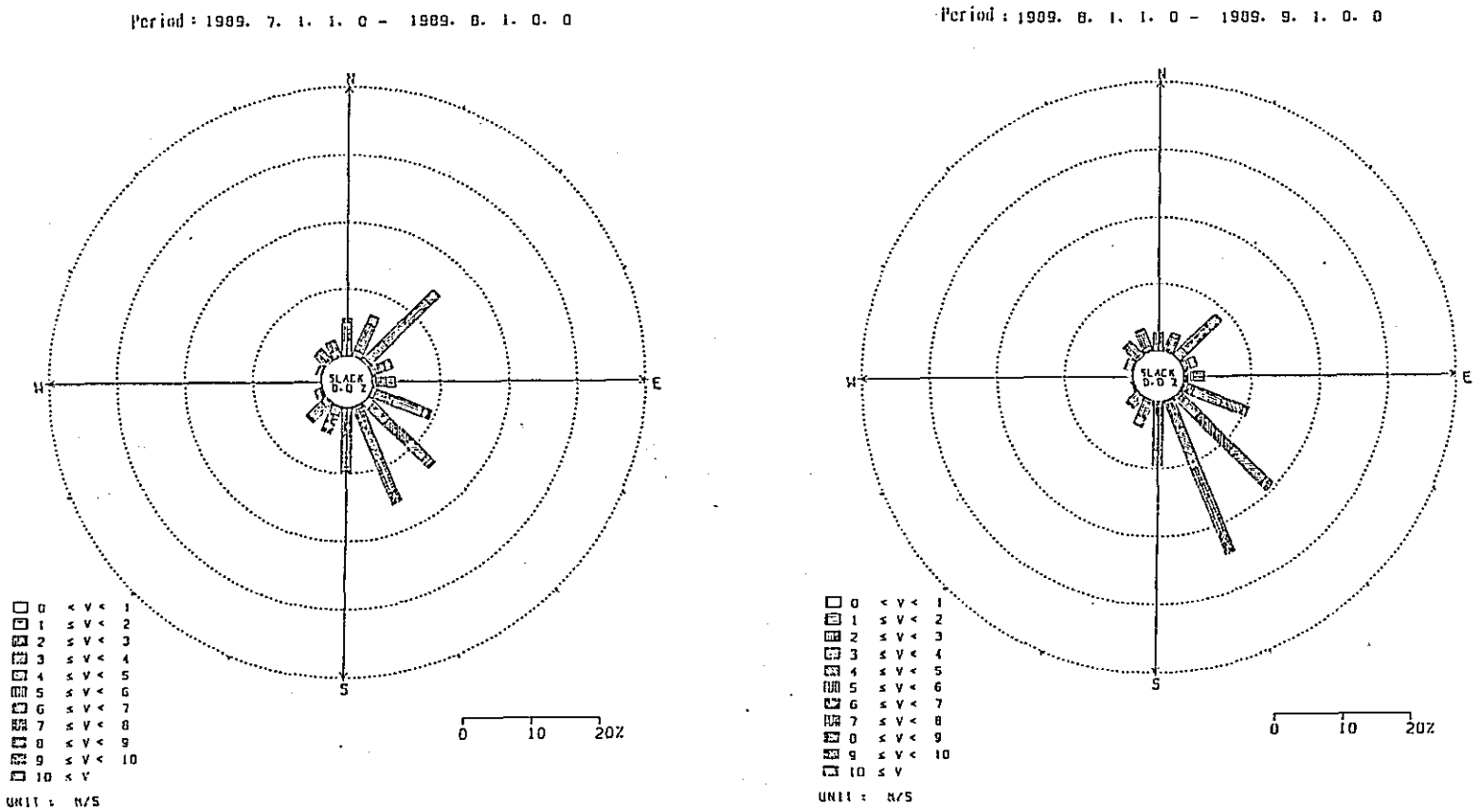


Fig. 1. 2-1 (6) Frequency Distributions of Wind Direction and Velocity
(Pilot Station)

Table 1. 2. −1 (1) Wind Data

Month : Sep. 1988
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DIR.	TIME
1	2.0 ESE	2.0 ESE	2.0 ESE	3.0 SE	3.0 SE	4.0 SE	C ESE	2.0 SE	2.0 SE	2.0 SE	2.0 SE	3.0 SE	2.0 ESE	2.0 ESE	2.0 ESE	2.0 ESE	2.0 SE	1.0 ESE	2.0 SE	2.0 SE	2.0 SSE	2.0 SSE	3.0 SSE	4.0 SSE	2.2	4.0 SE		6:00
2	3.0 SSE	2.0 SSE	4.0 SSE	2.0 SSE	3.0 SSE	4.0 SSE	3.0 SE	2.0 SE	2.0 SE	3.0 SE	4.0 SSE	5.0 SSE	4.5 SSE	5.0 SSE	5.0 SSE	4.0 SSE	3.0 SE	2.0 SE	2.0 SE	2.0 SE	2.0 E	C SSE	1.0 SSE	4.0 SE	3.0	5.0 SSE		12:00
3	1.0 ESE	C E	C E	C ENE	4.0 SSE	4.0 SSE	1.0 ESE	2.0 SE	1.0 SE	3.0 SSE	3.0 SSE	2.0 S	3.8 S	4.0 S	4.0 S	4.0 S	3.0 SSE	2.0 S	C S	2.0 SSE	1.0 SE	C SW	1.0 ESE	C ENE	1.9	4.0 SSE		5:00
4	C ESE	1.8 SE	C E	C NE	2.0 NE	1.0 NNE	C NE	C NE	3.0 NE	2.0 NE	2.0 NE	2.0 NE	C ENE	1.0 ESE	2.0 ESE	4.0 SSE	2.0 S	C SSW	C SSW	C NNW	C NNW	C N	1.0 NW	C NW	1.0	4.0 SSE		16:00
5	C N	C N	1.0 NE	C ENE	1.8 NNE	1.8 NNE	1.8 N	2.0 NNE	2.0 NE	2.0 NE	1.0 NE	C SSE	3.0 S	4.0 S	5.8 SSE	4.0 SE	3.0 SE	3.8 SE	3.0 ESE	C ESE	1.0 ENE	1.0 N	C N	1.0 NNE	1.8	5.8 SSE		15:00
6	C N	C NNW	C NNW	0.8 NE	1.8 NNE	1.8 N	C N	2.0 NE	2.0 NE	C NE	2.0 SSW	3.0 SSW	3.0 SSW	2.0 SSW	4.0 S	2.0 S	4.0 SSE	5.0 SSE	5.0 SSE	4.0 SE	4.0 SE	4.0 SE	4.0 SE	4.0 ESE	2.4	5.0 SSE		18:00
7	2.0 ESE	2.5 SE	2.0 SE	3.0 SE	3.0 SE	3.0 SE	3.0 ESE	1.0 ESE	1.0 SSE	C SSE	2.0 SSW	2.0 SSW	1.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	1.0 ENE	1.0 ESE	1.0 ESE	2.0 SE	2.0 SSE	2.0 SSE	3.0 SSE	4.0 SSE	2.0	4.0 SSE		24:00
8	4.0 SSE	4.0 SSE	4.0 SSE	4.0 SSE	5.0 SSE	5.0 SSE	5.0 SSE	4.0 SSE	4.0 SE	2.0 E	3.0 ESE	3.0 ESE	2.0 SE	2.0 NE	1.0 NE	2.0 NNW	1.0 NNW	1.0 NNW	C W	1.8 N	2.0 NNW	1.8 NNW	1.0 N	C N	2.6	5.0 SSE		5:00
9	1.0 NNW	C N	C NE	2.0 NNE	1.8 NNE	1.0 NNW	C NNW	C NW	1.0 NE	C NE	C S	4.5 S	4.0 SSE	5.0 SSE	4.0 S	5.0 SSE	5.0 SSE	4.0 SE	5.0 SE	3.0 SE	3.0 SE	3.0 SE	2.0 SE	2.0 SE	2.3	5.0 SSE		14:00
10	2.0 SE	1.0 SE	C ESE	C ESE	C ESE	C SE	C ESE	C ESE	C NE	C NE	2.0 S	2.0 S	4.5 SSE	4.5 SSE	4.0 SE	4.0 SE	3.8 SE	2.0 SE	3.0 SE	2.0 SE	2.0 SE	2.0 SE	2.0 SE	2.0 SE	1.8	4.5 SSE		13:00
11	4.0 SE	5.7 SE	5.0 SE	4.0 SE	3.0 SE	2.0 ESE	2.0 E	1.0 E	1.0 ESE	C ENE	C E	2.0 E	4.0 NE	4.0 SSE	4.0 SSE	6.0 SSE	4.0 SSE	5.0 SE	3.0 SE	4.0 SE	3.0 SE	3.0 SE	2.0 SE	2.0 SE	3.1	6.0 SSE		16:00
12	2.0 SE	2.0 SSE	3.0 SSE	3.0 SSE	2.5 S	2.5 S	2.0 S	2.0 SSE	2.0 SSE	2.0 SSE	2.0 SSE	2.0 SE	C ESE	C ENE	C E	C SSE	2.0 S	2.0 SSE	2.0 SE	C SSE	C W	C NW	C NW	1.8 NW	1.5	3.0 SSE		3:00
13	1.8 NW	1.8 NW	1.8 WNW	C WNW	1.8 NE	1.0 NE	C NE	1.0 NNE	2.0 NNE	2.0 NNE	C ENE	C ESE	C SSE	2.0 SSW	4.0 S	4.0 S	4.0 S	5.0 SSE	4.0 SSE	4.0 SSE	5.0 SSE	5.0 SSE	4.0 SSE	5.0 SSE	2.5	5.0 SSE		18:00
14	5.0 SSE	4.0 SSE	4.0 SSE	4.0 SSE	4.0 SSE	4.0 SSE	3.0 SSE	2.0 SE	3.0 SSE	1.0 E	C E	2.0 ESE	2.0 SE	4.0 SSE	4.0 SSE	4.0 SSE	4.0 SSE	4.0 SE	4.0 SE	2.0 SE	2.0 SE	2.0 SE	2.0 ESE	C E	2.9	5.0 SSE		1:00
15	C NE	C NE	C SW	C SW	C SW	C NW	1.0 WNW	C SSW	C NE	C E	C SSE	1.0 S	2.8 S	3.2 S	4.0 SSE	6.0 SSE	4.0 SE	4.0 SE	2.8 SE	2.0 SE	1.8 SE	1.0 SE	1.0 ENE	2.0 ESE	1.5	6.0 SSE		16:00

Note 1 : − shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. −1 (2) Wind Data

Month : Sep. 1988
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DAILY MAX. DIR.	DAILY MAX. TIME
16	C ESE	C ESE	C ESE	C ESE	2.0 NW	1.0 SW	2.0 SSE	C ESE	C SE	2.0 S	2.0 SSW	2.0 SSW	4.0 S	5.0 SSE	5.0 SSE	6.0 SE	4.0 SE	4.0 SE	4.0 SE	3.0 SE	2.0 ESE	2.0 SE	C E	C ESE	2.1	6.0	SE	16:00
17	C ESE	C ESE	C E	C E	0.8 NE	C ENE	C ESE	0.8 NE	C NE	2.0 NE	2.0 S	2.0 S	2.8 S	3.0 S	3.7 S	3.7 S	4.8 SSE	4.0 SE	4.0 SE	3.6 ESE	2.0 ESE	2.0 ESE	2.0 ESE	2.0 ESE	1.9	4.8	SSE	17:00
18	2.0 ESE	2.8 ESE	2.0 SE	2.0 ESE	2.0 SE	2.0 SE	2.0 ESE	1.8 ESE	2.0 SSE	2.0 S	2.0 S	3.6 S	5.0 S	6.0 SSE	5.8 SSE	5.8 SSE	5.8 SE	5.8 SE	4.0 SE	3.8 SE	5.0 SSE	4.0 SSE	4.0 SSE	4.5 SSE	3.6	6.0	SSE	14:00
19	2.0 SE	2.0 ESE	2.0 ESE	2.0 SE	4.0 SSE	3.0 ESE	3.0 SE	2.0 ESE	C E	C E	C ESE	2.0 SSE	3.0 S	4.0 S	4.5 SSE	2.0 NNE	2.0 NNW	C NNW	2.0 SE	4.0 SE	1.0 SE	C E	C E	C ENE	1.9	4.5	SSE	15:00
20	C ENE	1.0 NNE	1.8 NW	1.8 NW	2.0 NW	2.0 NW	2.0 NW	C NNE	2.0 NE	C S	3.0 SSE	2.0 SSW	2.0 WSW	3.0 S	4.5 S	5.0 S	6.0 SSE	5.0 SE	5.0 SE	5.0 SSE	6.0 SSE	5.0 SSE	4.5 SE	4.0 SE	3.0	6.0	SSE	17:00
21	3.0 SE	1.0 ESE	2.0 SSE	1.0 ESE	1.0 ESE	2.0 ESE	C ESE	C E	1.0 E	C ENE	C E	C SW	1.8 S	4.5 SSE	5.8 SSE	5.8 SSE	6.0 SE	6.5 SE	5.6 SE	5.5 SE	4.0 SE	4.0 SE	5.0 SE	5.0 SE	2.9	6.5	SE	18:00
22	3.6 SE	2.5 ESE	2.0 ESE	2.0 ESE	2.0 SE	2.5 SE	4.0 SE	4.0 SSE	4.0 SSE	4.0 SSE	4.0 SSE	4.5 SSE	5.0 SSE	5.8 SSE	5.0 SSE	5.0 SSE	5.0 SE	4.0 SE	4.0 SE	4.0 SE	4.0 SE	3.0 SE	3.8 SE	2.0 SE	3.7	5.8	SSE	14:00
23	2.0 SE	2.0 ESE	1.0 SSE	0.8 ESE	C NE	0.8 NE	0.5 NE	2.0 NE	2.0 NE	2.0 NE	1.8 NE	C ENE	2.0 SSW	5.5 SSE	4.5 SSE	4.0 SSE	4.0 SSE	4.5 SSE	5.5 SSE	3.8 SE	3.6 SE	4.0 SE	2.5 SE	C ESE	2.5	5.5	SSE	14:00
24	C E	C E	C E	C E	1.8 NNW	C NNW	1.0 NNE	2.0 NNE	2.8 NNE	2.0 NNE	0.8 E	3.0 ESE	2.0 SSE	3.5 S	4.0 SSW	2.0 SE	1.0 W	1.0 SE	1.0 SE	C E	C E	1.0 ENE	2.0 NE	2.0 NE	1.4	4.0	SSW	15:00
25	1.0 NE	1.8 ENE	C ENE	0.8 ESE	0.8 SE	0.8 E	C E	1.0 ENE	1.8 ENE	C E	1.0 SE	2.0 SSW	2.0 S	2.0 SSE	3.8 SSE	C E	C N	1.0 ESE	2.5 SE	2.5 ESE	2.5 ESE	2.0 ESE	1.8 ESE	2.0 ESE	1.4	3.8	SSE	15:00
26	C NE	1.0 N	C N	0.8 W	1.8 NW	C NNW	C NNE	1.8 NE	C E	1.0 SSW	0.8 SW	4.0 SSW	2.0 NE	2.0 NNE	C E	C ESE	2.5 SE	4.0 SE	4.0 SE	4.0 SE	4.0 SE	4.0 SE	4.0 SE	4.5 SE	1.9	4.5	SE	24:00
27	2.0 SE	4.0 SE	4.0 SE	3.0 SE	C E	C E	C E	C ESE	3.0 SE	4.0 SSE	4.0 SSE	5.6 SSE	5.6 SSE	6.0 SSE	6.0 SE	6.0 SE	6.0 SE	6.0 SE	6.0 SE	4.0 SE	3.0 SE	2.0 SE	2.0 SE	2.0 SE	3.5	6.0	SSE	14:00
28	2.0 SE	2.0 ESE	2.0 SE	1.0 ESE	C E	C ENE	C ESE	C ESE	3.0 SSE	3.0 SSE	3.0 S	2.5 S	4.0 S	5.0 S	5.8 S	6.0 S	6.0 SSE	6.0 SSE	6.0 SSE	6.0 SSE	5.8 SSE	5.8 SSE	5.8 SSE	5.0 SSE	3.6	6.0	S	16:00
29	4.0 SSE	4.0 SE	3.0 SE	2.0 ESE	2.0 SE	2.5 SE	1.0 ESE	1.0 ESE	1.8 SE	2.0 S	2.0 SSW	2.0 SSW	2.0 SSW	4.0 SSW	4.0 S	5.5 S	6.0 S	5.8 SSE	6.0 SSE	6.0 SSE	6.0 SSE	6.0 SSE	5.0 SE	5.0 SE	3.7	6.0	S	17:00
30	5.0 SSE	4.5 SSE	4.5 SSE	4.0 SSE	3.8 SE	4.0 SE	2.0 ESE	C ESE	2.0 SSE	1.0 SSE	3.8 S	3.0 SSE	3.0 S	4.5 S	4.5 S	5.8 S	6.0 S	5.0 SSE	4.0 SE	4.5 SE	4.0 SE	4.0 SE	3.0 SE	2.0 SE	3.7	6.0	S	17:00
MEAN VEL.	1.8	1.8	1.7	1.6	2.0	1.9	1.3	1.2	1.7	1.5	1.8	2.4	2.8	3.6	3.9	3.9	3.7	3.5	3.3	3.0	2.8	2.5	2.4	2.4	MEAN	MONTHLY MAX.VEL.	DIR.	
																									2.4	6.5	SE	

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. −1 (3) Wind Data

Month : Oct. 1988
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL. DIR.	TIME
1	2.0 SE	3.0 SE	2.5 SE	2.0 ESE	2.0 ESE	C NNE	C ENE	0.8 E	2.0 NE	2.0 NE	2.0 NNE	C E	1.0 SSW	2.5 S	2.0 SSW	5.0 SSE	5.0 SE	4.0 SE	4.5 SE	3.0 ESE	C E	1.8 NE	C NE	1.0 NW	2.0	5.0 SSE	16:00
2	2.0 NW	1.0 NW	2.0 NNW	1.0 NNW	1.0 NE	C E	1.0 NE	2.0 NE	C NE	C SSE	2.0 SSE	3.0 SSW	2.0 SSW	2.0 SSW	4.0 S	6.0 S	6.0 S	6.0 S	5.8 S	5.8 SSE	5.8 SSE	5.0 SSE	5.0 SSE	5.0 SSE	3.1	6.0 S	16:00
3	5.0 SSE	5.0 SSE	5.0 SSE	4.0 SSE	4.0 SSE	5.0 SSE	4.0 SSE	4.0 SSE	4.0 SSE	4.0 SSE	2.4 SSW	1.9 SSW	3.0 SSW	4.0 SSW	4.0 SSW	6.0 S	6.0 S	6.0 S	6.0 S	4.3 SSE	4.0 SSE	4.3 SSE	4.0 SSE	4.0 SSE	4.3	6.0 S	16:00
4	4.0 SSE	2.0 ESE	1.0 ESE	1.0 ESE	1.0 NE	1.0 NE	2.0 NE	2.0 NE	2.0 NE	1.0 NE	C S	1.0 SSW	2.0 SSW	1.0 SSW	2.0 SSW	5.0 SSW	5.1 S	5.2 S	5.0 S	4.4 SSE	5.0 SSE	4.1 SSE	4.0 SSE	3.3 SSE	2.7	5.2 S	18:00
5	3.0 SSE	3.0 S	4.0 S	3.0 S	2.3 S	2.0 S	2.0 NE	3.0 SSE	1.0 ESE	C NE	1.0 SE	3.0 SSE	1.0 SSE	1.0 WSW	C WSW	2.0 SW	1.0 SSW	2.0 SSW	2.0 SSW	2.2 SSW	3.0 SSE	4.1 SSE	4.0 SSE	4.0 SSE	2.3	5.0 SSE	12:00
6	4.0 SSE	4.0 SSE	4.0 SSE	4.0 SSE	3.0 SE	1.0 E	C E	1.0 ENE	C ENE	C ESE	2.0 S	4.1 S	4.3 S	2.0 S	2.0 SSE	5.0 S	4.0 S	5.2 S	4.2 SSE	4.0 SSE	4.0 SSE	3.4 SSE	3.3 SSE	3.0 SSE	3.0	5.2 S	18:00
7	2.2 SSE	3.0 SSE	3.0 SSE	5.0 S	4.0 S	2.0 SSW	2.0 SSE	C E	C NE	C NE	C SE	1.0 NE	2.2 NNE	1.0 E	C E	1.0 ESE	2.2 SE	2.0 SE	1.0 NNW	2.0 NW	2.0 NW	2.0 NW	2.0 N	2.0 N	1.7	5.0 S	4:00
8	2.4 NE	2.0 NE	2.0 NE	2.0 NE	2.0 NNE	2.0 NE	2.0 NE	2.0 NE	1.0 NE	1.4 ESE	2.0 ESE	2.0 SSE	2.0 SSE	2.0 S	3.0 S	4.0 S	4.2 S	4.0 S	4.0 S	3.0 SE	3.0 SSE	4.0 SSE	4.2 SSE	4.0 SSE	2.7	4.2 S	17:00
9	3.0 S	3.3 SSE	4.0 SSE	4.0 SSE	2.0 SE	1.0 ESE	2.0 ESE	2.0 SE	3.9 SSE	4.0 SSE	5.0 SSE	5.3 SSE	6.0 S	5.0 S	5.8 S	6.0 S	6.0 S	6.0 SSE	6.0 SSE	5.8 SSE	5.6 SSE	5.0 SSE	4.2 SSE	4.0 SSE	4.4	6.0 S	13:00
10	1.9 E	4.0 E	2.2 NE	1.0 ENE	2.0 NE	2.0 NE	2.0 NNE	2.1 NNE	2.0 NE	2.0 NE	1.4 S	3.0 S	2.0 ESE	1.0 SE	2.0 S	4.0 S	4.0 SSE	4.0 SSE	3.0 SSE	2.0 SE	2.0 SE	2.0 SE	2.0 ESE	1.0 ENE	2.3	4.0 E	2:00
11	1.3 NNE	1.4 NNW	1.0 ESE	1.0 N	2.0 NNE	1.0 ENE	C E	2.0 NE	2.0 NE	1.0 S	3.0 SSW	4.0 S	4.0 SSW	5.0 SSW	3.0 SSW	6.0 SSW	6.0 S	5.0 S	5.0 SSE	5.0 S	5.0 S	4.2 SSE	3.0 SSE	3.0 SSE	3.1	6.0 SSW	16:00
12	3.0 SSE	1.0 SE	1.0 ESE	C NE	2.0 NE	2.0 NNE	3.0 NE	3.0 NE	2.2 NE	2.0 NE	2.0 NE	1.0 ENE	1.0 NE	4.0 S	6.0 S	6.0 S	6.0 S	5.0 SSE	6.0 SSE	4.0 SE	2.0 SE	2.0 SE	C ESE	C ENE	2.7	6.0 S	15:00
13	1.0 NNW	2.0 NNW	2.0 NNW	1.0 NNW	2.0 NNW	2.0 N	2.0 N	2.0 NE	2.3 NE	3.0 NE	3.0 NE	2.0 NE	2.0 NE	2.0 NE	2.2 SSW	2.0 SW	2.0 SSW	2.2 S	3.1 SSE	C ENE	1.0 E	1.0 E	2.0 NE	3.0 NE	2.0	3.1 SSE	19:00
14	2.2 NE	2.0 NNW	1.0 N	1.0 N	2.0 NE	2.0 NNE	3.0 NE	3.0 NNE	2.0 NNE	3.0 NNE	2.2 NNE	1.0 ENE	2.0 SE	2.0 SW	2.0 SSW	5.0 SSE	1.0 SE	3.0 SSE	4.2 SSE	4.0 SE	4.0 SSE	4.0 SE	C NNE	2.0 NNW	2.4	5.0 SSE	16:00
15	2.0 NNW	3.0 NW	3.0 NW	3.0 NW	2.0 NNW	1.0 NNW	1.0 N	2.0 NE	2.4 NE	3.0 NE	2.0 NE	1.0 ENE	2.0 SSE	2.0 SW	2.0 SW	2.0 SW	2.0 SW	2.0 SW	3.0 W	2.3 NW	2.3 NW	2.0 NW	2.0 NNW	2.0 NNE	2.1	3.0 NW	2:00

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. -1 (4) Wind Data

Month : Oct. 1988
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DIR.	TIME
16	2.0 NE	3.0 NE	2.1 N	2.0 NNE	3.0 NE	2.0 NE	3.0 NE	3.0 NNE	3.0 NNE	2.0 NNE	2.0 NNE	2.0 NE	C NE	2.0 SW	2.0 SSW	2.0 SW	2.0 SSW	2.0 S	3.0 S	2.0 SSW	2.0 S	1.0 S	1.0 SSE	2.0 NE	2.1	3.0 NE		2:00
17	1.0 ENE	2.0 NE	1.0 NE	1.0 NE	2.0 NE	2.0 NE	2.0 NNE	2.0 NNE	2.0 NE	2.0 NE	2.0 NE	2.0 NE	2.0 ENE	2.0 ENE	2.2 S	3.0 S	C NNE	C WNW	2.2 SE	3.0 SSE	4.0 SSE	2.0 SE	2.0 ESE	C ESE	1.8	4.0 SSE		21:00
18	C ESE	1.0 SE	C E	2.0 SW	2.0 SW	2.0 S	C ENE	1.0 ESE	1.0 SSE	C S	C E	2.0 S	3.0 S	4.0 S	4.0 S	2.2 SW	4.0 S	C E	2.0 NW	C E	C ENE	1.0 E	2.0 ESE	6.0 WNW	1.6	6.0 WNW		24:00
19	2.0 WNW	4.0 SW	2.0 SW	2.0 W	1.0 WNW	2.0 W	2.0 WNW	C NNW	1.0 E	2.0 WSW	4.0 SW	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	3.0 S	4.0 S	4.0 SSW	4.0 S	4.0 S	4.0 S	4.0 S	3.0 S	2.6	4.0 SW		2:00
20	2.2 SSW	2.0 SW	2.0 WSW	2.0 NW	2.0 NW	1.0 NNW	C N	2.0 NNW	C W	1.0 WSW	1.0 SW	1.0 SW	2.0 SW	2.0 SW	1.0 SW	2.0 SW	2.0 SW	2.0 SW	2.0 SW	2.0 SW	2.0 SW	2.0 SW	2.0 WSW	2.0 SW	1.6	2.2 SSW		1:00
21	2.0 WSW	2.0 SW	2.0 SSW	1.0 SW	2.0 SSW	2.0 S	1.0 NNW	C NE	C SSW	C SSW	1.0 SSW	2.0 WSW	1.0 SW	2.0 S	2.0 S	4.0 S	3.3 S	4.0 S	4.0 S	4.0 S	4.0 S	3.0 SSE	2.0 SE	1.0 ESE	2.1	4.0 S		16:00
22	1.0 ESE	2.0 SE	2.0 SE	C E	1.0 ENE	2.0 ENE	2.0 NE	2.0 NE	2.0 NE	C SE	2.0 S	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	4.0 SSW	2.0 SSW	2.0 SW	2.0 SSW	3.0 S	3.0 S	1.9	4.0 SSW		19:00
23	3.0 S	2.0 S	1.0 ESE	C SE	C S	3.0 S	3.0 S	2.0 SSE	2.0 SSE	2.0 SSE	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	4.0 SSW	4.0 S	5.0 S	5.0 S	4.0 SSE	4.0 SSE	4.0 SSE	4.0 SSE	3.4 SSE	2.7	5.0 S		18:00
24	3.0 SSE	3.4 S	3.4 S	3.0 S	2.0 SE	C NE	2.0 ESE	C E	1.0 NE	2.0 SSE	3.0 S	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	3.0 SSW	4.0 SSW	2.0 SW	4.0 S	4.0 S	3.0 S	3.0 S	2.0 SSW	1.4 S	2.4	4.0 SSW		17:00
25	3.0 S	2.0 S	1.0 ESE	C ESE	C ESE	C E	1.0 NE	C NE	C ESE	C SSE	1.0 SSW	1.0 SSW	1.4 SW	2.0 SW	2.2 SSW	4.0 SSW	3.0 S	4.0 S	4.0 S	4.0 S	3.0 S	2.0 S	2.2 S	C ENE	1.7	4.0 SSW		16:00
26	C NE	1.0 NE	1.0 NNE	C NE	2.0 NE	2.0 NE	2.3 NE	2.0 NE	2.0 NE	C SE	2.0 SW	1.0 SW	2.0 SW	3.0 E	C NE	2.0 S	3.0 S	5.0 S	4.3 SSE	4.2 SSE	4.2 SSE	4.2 SSE	2.2 SE	2.0 SSE	2.1	5.0 S		18:00
27	4.0 SSE	2.0 SE	1.0 ESE	C ESE	C SE	C SE	C NE	C NE	C NE	C E	1.0 SSW	C SW	2.0 SW	2.0 SSW	2.0 S	3.0 SSW	3.0 SSW	5.0 SSE	4.0 SE	4.0 SE	3.0 SE	1.0 ESE	C ESE	C ENE	1.5	5.0 SSE		18:00
28	C E	C ESE	1.0 NNE	1.0 NNE	2.0 NNE	2.0 NNE	1.0 ENE	2.0 NE	2.0 NE	C NE	C SSE	1.0 S	1.0 SSW	4.2 S	6.1 SSE	6.0 SE	4.0 SE	2.0 E	4.0 SE	2.2 ESE	2.0 ESE	1.0 SE	2.0 SE	C NE	1.9	6.1 SSE		15:00
29	2.0 NNE	2.0 NE	2.0 NE	2.0 NNE	2.0 NE	1.0 N	2.0 NNE	2.0 NE	1.0 N	2.0 NE	C E	2.0 S	2.0 SW	5.0 SSE	3.0 SSE	4.0 S	4.0 S	3.0 S	3.0 NW	C NW	2.0 SSW	2.0 SE	1.0 ENE	2.0 NE	2.1	5.0 SSE		14:00
30	1.0 E	1.0 NE	1.0 ENE	2.2 NE	2.0 NNE	2.0 NNE	2.2 NNE	4.0 NNE	4.0 NNE	3.0 NNE	3.0 NNE	2.0 NE	1.0 NE	C E	3.0 SSE	3.4 SSE	2.1 SSE	2.2 SSE	1.0 SE	C SSE	2.0 S	2.3 S	2.1 SSE	2.0 SSE	2.0	4.0 NNE		8:00
31	3.0 SSE	2.0 SSE	2.0 WSW	2.0 WNW	2.0 NW	1.0 N	2.0 NW	1.4 N	2.0 NNE	1.0 NE	2.0 NE	2.0 NE	C E	C ESE	2.2 S	1.0 SW	2.0 SSW	1.0 WSW	1.0 SSW	2.0 SSW	2.0 SSW	1.0 W	1.0 WNW	C WNW	1.5	3.0 SSE		1:00
MEAN VEL.	2.2	2.3	2.0	1.7	1.9	1.5	1.7	1.8	1.6	1.4	1.8	2.0	2.0	2.3	2.5	3.6	3.4	3.4	3.7	3.0	3.0	2.7	2.3	2.2				

MEAN	MONTHLY MAX.VEL.	DIR.
2.3	6.1	SSE

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. −1 (5) Wind Data

Month : Nov. 1988
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DIR.	TIME
1	C NNW	C NNW	2.0 NE	2.0 NE	2.0 NE	2.0 NE	1.0 NE	2.0 NNE	C ENE	C SSE	1.0 S	1.0 SSW	2.0 SSW	2.0 SW	2.5 SSW	2.3 SSW	3.0 SSW	3.2 S	2.3 S	2.0 SSW	2.0 SSW	1.8 SSW	1.2 SW	2.0 WSW	1.6	3.2 S		18:00
2	1.8 W	1.0 NNW	1.0 NNE	1.8 NNW	1.5 N	0.8 N	1.8 NNE	1.8 N	1.9 N	2.0 N	1.0 ENE	2.0 S	2.0 SW	2.0 SW	2.0 SW	2.0 SSW	3.0 SSW	3.2 SSW	2.7 SSW	2.3 SSW	2.0 SSW	2.2 SSW	2.0 SSW	2.0 SSW	1.9	3.2 SSW		18:00
3	2.0 SW	2.0 SW	2.0 SSW	1.8 SW	1.8 SW	1.2 N	1.8 NNE	2.0 NE	1.2 SE	C W	2.2 WSW	3.0 WSW	3.0 WSW	3.0 WSW	3.0 WSW	4.0 WSW	2.5 WSW	2.2 WSW	2.6 WSW	2.8 WSW	3.0 WSW	3.0 WSW	4.0 WSW	2.3 WSW	2.4	4.0 WSW		16:00
4	2.2 W	2.2 WSW	2.0 W	2.4 WSW	2.0 WNW	2.2 NE	2.1 NE	2.2 NE	1.0 E	2.0 WSW	3.0 WSW	4.2 WSW	4.0	4.0 SW	4.2 SW	4.0 SW	4.0 SW	2.0 SW	2.0 SW	3.0 SW	3.3 WSW	2.2 WSW	2.2 WSW	3.0 WSW	2.7	4.2 WSW		12:00
5	2.0 SW	2.0 SW	3.0 WSW	2.4 WSW	2.2 W	2.0 NW	2.0 NNW	2.0 NW	2.0 NE	2.4 NNW	1.0 NW	2.0 W	2.0 WSW	2.0 SW	2.1 W	3.0 W	2.0 WNW	2.2 W	2.4 SW	2.0 SSW	2.2 SSW	2.0 SW	2.3 WSW	2.0 SW	2.1	3.0 WSW		3:00
6	2.0 SW	2.2 SW	3.9 WSW	2.0 WSW	3.2 WSW	2.3 WSW	3.0 WSW	2.9 WSW	6.0 SSW	5.2 SSW	4.4 SSW	4.0 SSW	2.0 SW	2.0 SW	2.0 SSW	1.3 SW	2.0 SW	2.0 SW	2.0 SW	2.0 SW	2.0 SSW	2.1 SW	1.8 NW	2.0 N	2.7	6.0 SSW		9:00
7	1.0 N	1.0 NNW	1.0 NNW	2.0 NNW	1.0 N	2.0 NNE	1.0 ENE	2.0 NE	2.0 NE	2.0 NE	1.0 E	2.0 S	2.1 SE	2.0 S	2.2 S	2.2 S	2.0 SSW	3.0 SSW	1.9 SW	2.0 W	1.0 WSW	4.2 SSW	2.0 WNW	1.0 SE	1.8	4.2 SSW		22:00
8	2.0 ESE	2.0 NE	2.0 NE	1.9 NNW	2.0 NNE	2.0 NE	2.0 NE	1.8 NE	1.0 NE	2.0 SSE	2.2 SSE	2.4 S	2.0 SSW	2.0 SW	2.0 SW	3.9 S	4.0 S	4.0 S	3.8 S	4.0 S	4.0 S	3.1 S	2.2 SSE	2.0 SE	2.5	4.0 S		17:00
9	3.0 SSE	3.0 SSE	2.0 ESE	2.0 ESE	2.0 E	2.0 WNW	2.0 W	2.0 WSW	1.0 SW	2.8 SW	2.0 SW	2.0 WSW	2.3 WSW	1.8 WSW	2.0 WSW	2.0 WSW	2.0 W	2.0 W	1.0 SW	1.0 SW	1.9 SW	5.0 S	1.9 NW	2.0 NNW	2.1	5.0 S		22:00
10	2.0 NNW	2.0 NNW	2.0 NNW	2.1 NNW	2.0 NNW	1.9 NNW	C NNW	C ENE	2.0 ESE	0.9 SE	2.0 S	1.0 S	1.9 S	2.0 S	2.0 S	2.2 S	2.4 S	2.4 S	2.0 S	2.0 SE	2.9 SE	2.0 ESE	1.0 E	1.0 NE	1.7	2.9 SE		21:00
11	2.0 NE	2.0 N	1.9 N	1.0 N	1.9 N	0.9 N	2.0 N	2.0 N	2.4 NNE	2.0 NE	2.0 NE	1.9 NE	C E	2.0 SSW	2.0 SSW	4.8 SSE	4.0 SSE	3.0 SSE	0.9 NNW	1.0 WNW	2.0 SSE	2.0 ESE	2.0 SSE	2.0 SSE	2.0	4.8 SSE		16:00
12	2.0 SSE	2.0 SSE	1.5 ESE	1.0 E	1.0 ESE	1.0 NE	1.5 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 N	2.0 NNE	2.0 N	2.0 NNE	2.0 NE	2.0 NE	2.0 NW	2.0 NW	2.0 NNW	2.0 NNW	2.0 NNW	1.8	2.0 SSE		1:00
13	2.0 NNW	2.0 NNW	2.0 NNW	2.0 N	2.0 N	2.0 N	2.0 N	2.0 N	2.0 N	2.0 N	2.0 W	2.0 W	2.0 SW	1.0 WSW	2.0 SSW	2.0 SSW	2.0 SSW	2.0 S	2.0 S	2.0 SSE	2.0 SSE	2.0 NNE	2.0 NE	2.0 NNE	2.0	2.0 NNW		1:00
14	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NE	2.0 NE	2.0 ENE	2.0 E	2.0 ESE	2.0 ESE	2.0 SE	2.0 W	2.0 NE	2.0 SSE	2.0 ESE	2.0	2.0 NNE		1:00
15	2.0 NNW	2.0 NNW	2.0 N	2.0 N	2.0 NNE	2.0 NE	2.0 NE	2.0 NE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	1.0 NNE	1.0 NNE	1.0 N	C NNE	C NNE	C NNE	C NE	2.1 NE	2.0 NE	2.2 ENE	C NE	1.5	2.2 ENE		23:00

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. −1 (6) Wind Data

Month : Nov. 1988
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DAILY MAX. DIR.	DAILY MAX. TIME
16	2.1 NE	C NE	0.6 NE	C NE	4.9 NW	2.0 NNW	1.9 NNW	2.0 NNW	C E	1.0 ENE	C NE	C ENE	C ENE	0.8 NE	2.0 S	2.1 S	2.0 SSW	2.0 SSW	2.0 SSW	3.0 SSW	2.9 S	3.8 S	4.0 S	3.2 S	1.8	4.9 NW		5:00
17	2.1 S	3.0 SW	C N	0.9 NNW	1.0 WNW	2.0 W	2.2 WNW	2.1 W	2.0 W	2.0 WSW	2.0 NW	2.0 NW	3.0 NW	1.0 SW	1.0 SW	2.2 SW	0.8 SW	2.0 WSW	2.0 W	2.0 WNW	1.9 WNW	2.0 WNW	1.0 NW	5.0 WSW	1.9	5.0 WSW		24:00
18	4.9 SW	2.1 SW	0.9 WNW	1.0 WNW	4.0 WNW	2.9 WNW	0.9 NW	5.0 WSW	3.8 WSW	5.0 W	4.0 W	3.0 WSW	3.0 WSW	4.2 WSW	5.0 WSW	3.0 WSW	4.0 SSW	4.0 SW	3.0 SW	4.0 SSW	3.9 SSW	1.0 WSW	3.8 WSW	4.2 WSW	3.4	5.0 WSW		8:00
19	4.9 WSW	4.2 WSW	2.3 W	2.1 W	1.9 N	2.0 N	2.0 N	2.1 N	2.2 N	1.0 NNW	2.0 NNW	4.0 W	3.9 SW	4.3 WSW	3.8 WSW	2.1 SW	2.9 SSE	2.2 SE	1.0 ESE	1.0 SE	C E	C ENE	1.9 NNW	2.0 NNW	2.3	4.9 WSW		1:00
20	1.9 NNW	1.0 N	2.0 N	2.0 N	2.0 N	2.4 NNE	3.0 NNE	2.2 NNE	2.0 NE	2.0 NE	2.1 NE	2.0 NE	C NE	1.9 SSW	1.0 SSW	2.0 SW	C SSW	0.4 WSW	C NW	1.0 NNW	1.9 NNW	0.4 WNW	1.0 WNW	1.0 WNW	1.5	3.0 NNE		7:00
21	1.0 NW	C NW	C NW	C N	0.4 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	0.9 NE	C ENE	C ENE	2.0 SSW	1.8 SW	2.0 SW	1.9 SW	2.0 SSW	2.5 SSW	3.0 SSW	2.0 SSW	2.0 S	1.0 S	C S	C ENE	1.3	3.0 SSW		19:00
22	0.4 NNE	1.0 NNE	0.9 N	0.6 NNE	C NE	2.0 NE	2.0 NE	2.0 NE	2.0 NE	1.0 NE	C SE	1.0 SSW	2.0 SW	1.0 SSW	4.0 SSE	2.0 SSE	2.8 SSE	2.0 SSE	2.1 SSE	C ENE	C ENE	2.2 NE	2.9 NNW	2.0 NW	1.5	4.0 SSE		15:00
23	1.0 WNW	2.0 W	1.0 NW	C NW	2.0 NW	1.0 NW	C NW	2.0 NW	2.0 NNE	1.0 NE	2.0 NNE	2.5 N	2.9 NNW	2.0 NE	2.0 NE	C W	0.9 W	C WNW	C WSW	C S	C WSW	C NE	2.1 SSW	2.3 WSW	1.2	2.9 NNW		13:00
24	0.9 NW	2.1 NNE	2.0 N	1.0 N	1.0 N	2.0 N	1.0 N	2.1 NNE	2.0 NE	2.0 NE	2.0 NE	2.0 NE	2.0 NE	2.0 ENE	C ESE	2.0 S	5.0 SW	2.0 SW	C WNW	C NNW	0.9 N	1.0 N	1.0 NNW	1.0 NNW	1.5	5.0 SW		17:00
25	C	1.0 NNW	1.9 NNW	0.9 NW	1.9 NNW	2.1 N	2.9 N	2.0 N	2.1 N	2.1 N	2.0 N	2.1 NNW	1.0 SSW	3.0 SSW	0.9 SSW	C NW	3.0 SW	5.0 W	3.9 W	0.4 WNW	C N	0.9 N	1.0 N	1.0 N	1.7	5.0 W		18:00
26	0.9 N	1.0 N	1.0 N	2.0 N	2.0 N	2.0 N	2.0 NNE	2.0 NNE	1.0 N	0.4 NNW	2.0 S	3.9 WSW	3.9 WSW	3.8 SW	4.0 SW	6.1 SSW	3.0 WNW	1.9 NW	C NNW	1.0 N	0.9 N	C NNE	C NNE	1.0 NNE	1.9	6.1 SSW		16:00
27	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	1.0 N	1.0 N	C N	2.0 WNW	4.0 W	4.8 W	4.9 WSW	4.9 WSW	8.0 WSW	7.9 WSW	7.9 WSW	5.1 WSW	5.2 WSW	4.0 WSW	3.0 W	4.5 WSW	4.5 WSW	4.5 WSW	3.7	8.0 WSW		15:00
28	3.8 WNW	6.0 WNW	C NW	3.0 WSW	1.0 W	3.5 S	1.8 NW	C NW	1.0 NW	1.0 WNW	2.0 SW	2.0 SW	9.8 W	5.0 WSW	4.0 WSW	4.0 WSW	4.0 SW	2.0 WSW	C W	2.0 SW	2.0 WSW	2.5 WSW	2.0 W	1.0 NW	2.6	9.8 W		13:00
29	C WNW	C WNW	C N	1.0 N	1.8 N	2.0 N	1.0 NNE	2.0 NNE	2.0 NE	2.0 ENE	2.0 S	1.0 WSW	3.0 WSW	3.0 WSW	2.0 WSW	3.0 SSW	3.0 WSW	3.0 WSW	1.0 SW	2.4 WSW	2.0 WSW	2.4 WSW	2.0 WSW	2.8 WSW	1.9	3.0 WSW		13:00
30	2.0 WNW	C NNW	C NNW	0.5 NNW	0.5 NNW	1.0 N	2.0 N	2.0 N	2.0 N	2.0 N	C SE	3.8 SSW	2.0 SSW	4.0 WSW	2.0 SSW	2.0 SSW	2.0 WSW	1.8 WSW	C NW	1.0 NW	1.0 NW	1.0 NW	C NNW	2.0 N	1.4	4.0 WSW		14:00
MEAN VEL.	1.9	1.8	1.5	1.5	1.8	1.9	1.7	2.0	1.8	1.8	1.9	2.3	2.4	2.5	2.5	2.6	2.7	2.4	1.8	1.8	1.9	2.0	1.9	2.0	MEAN 2.0	MONTHLY MAX.VEL. 9.8	MONTHLY MAX.DIR. W	

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. -1 (7) Wind Data

Month : Dec. 1988
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DAILY MAX. DIR.	DAILY MAX. TIME
1	C N	2.0 N	0.5 N	1.0 N	2.0 N	2.4 NNE	2.4 NNE	2.4 N	2.4 NNE	3.0 NNE	2.0 N	3.8 WNW	4.2 W	5.8 WSW	3.8 WSW	7.8 W	3.0 WNW	5.0 W	6.2 WNW	2.0 NW	1.0 NNW	C NW	C NW	1.0 NNW	2.7	7.8 W	16:00	
2	1.3 NNW	1.0 NNW	2.0 NNW	2.0 NW	2.2 NW	2.0 NW	2.0 NW	2.0 NNW	2.0 NNW	2.0 NNW	2.0 NNW	2.2 N	2.0 NNE	2.0 NNW	C ENE	C NNW	C WSW	1.2 S	1.0 S	C SSW	C SSW	C N	C N	0.4 N	1.2	2.2 NW	5:00	
3	1.9 WNW	1.8 NNW	1.0 NW	2.0 NW	1.9 NNW	1.0 NNW	0.9 N	1.0 NNE	1.0 NE	C E	C SE	C WSW	2.2 SW	2.0 SW	3.0 WSW	2.0 NW	2.2 WSW	2.0 SW	4.0 SW	2.5 WNW	2.2 WNW	4.1 SW	1.0 NW	1.9 N	1.7	4.1 SW	22:00	
4	2.0 N	2.0 N	2.0 N	C N	1.2 N	1.0 N	1.9 NNE	C NE	1.8 N	1.1 N	0.4 SE	1.0 SSW	2.3 WSW	2.0 WSW	2.2 WSW	2.0 SW	2.2 SW	2.0 SW	2.0 SW	1.0 SW	2.1 W	C NNW	C NNE	1.0 NW	1.4	2.3 WSW	13:00	
5	2.0 NW	2.0 NW	2.2 NW	1.0 NNW	2.0 NNW	2.0 NNW	2.0 N	2.0 N	2.0 N	1.0 NW	1.0 SW	2.5 WSW	4.1 WSW	4.0 WSW	4.2 WSW	4.1 WSW	2.8 WSW	4.0 WSW	6.3 WSW	6.0 WSW	4.0 WSW	2.3 WNW	6.3 W	2.0 WNW	3.0	6.3 WSW	19:00	
6	1.0 NNW	3.0 W	2.0 NW	1.0 NNW	2.0 SW	2.0 W	2.0 WSW	2.0 SSW	7.0 WSW	5.0 WSW	3.0 WSW	4.0 WSW	3.0 WSW	4.0 WSW	4.0 WSW	6.0 WSW	6.0 WSW	6.5 WSW	6.0 WSW	6.0 WSW	4.0 W	2.0 W	6.0 W	4.0 W	3.8	7.0 WSW	9:00	
7	7.0 W	4.0 WNW	2.5 WNW	1.0 NNW	1.0 NNW	1.0 NW	1.0 NNW	3.0 WSW	3.0 WSW	3.0 WSW	4.0 SW	4.2 WSW	4.2 WSW	3.0 WSW	2.0 WSW	6.0 SW	5.0 SSW	6.0 SSW	4.0 WSW	4.0 WSW	2.5 W	4.0 SW	4.0 SW	3.0 NW	3.4	7.0 W	1:00	
8	2.0 NW	2.5 WNW	2.0 NW	3.0 NNW	3.0 WNW	2.0 WNW	2.0 WNW	1.0 WNW	0.5 WSW	3.0 WSW	2.5 WSW	4.0 WSW	3.0 WSW	3.0 SW	5.0 SSW	6.0 WSW	3.0 SW	3.0 WSW	3.0 W	3.0 WNW	2.0 WNW	2.0 NW	2.0 NW	3.0 NW	2.7	6.0 WSW	16:00	
9	2.0 WNW	2.0 W	0.5 NW	2.0 NNW	2.0 NNW	1.0 NW	2.0 W	4.0 WSW	5.0 SW	6.0 WSW	4.5 W	4.5 WSW	4.5 WSW	4.5 WSW	4.0 SW	3.0 SW	3.0 WSW	3.0 WSW	2.0 W	1.0 NNW	1.0 NNW	1.0 NNW	1.0 NW	1.0 NW	2.7	6.0 WSW	10:00	
10	2.0 N	1.0 N	2.0 NW	1.0 NNW	2.0 N	2.0 N	2.5 N	3.0 N	3.0 N	3.0 NNE	2.0 SSE	2.0 SSE	3.0 WSW	3.0 SW	3.8 SSW	4.0 SW	3.8 SW	3.0 SW	6.0 W	2.0 W	2.0 NW	6.0 NW	2.0 NW	2.0 NNW	2.8	6.0 W	19:00	
11	2.0 NW	3.0 NNW	2.0 NNW	2.0 NNW	2.0 NNW	2.0 N	2.0 NNW	2.0 NW	1.8 WNW	1.0 E	2.5 SW	3.0 SSW	5.6 WSW	4.5 WSW	5.0 SW	7.0 WSW	5.0 WSW	5.0 WSW	2.5 WNW	2.8 SW	2.0 SW	2.0 SW	2.0 SW	2.0 WNW	2.9	7.0 WSW	16:00	
12	1.0 N	2.0 NNW	2.0 NW	2.0 N	2.0 N	2.0 NNE	2.0 NNE	2.0 NE	1.0 NW	0.5 S	3.0 WSW	2.0 SW	2.0 SSW	2.5 S	3.0 SSW	3.0 SSW	3.0 S	3.0 SSW	3.0 SSW	3.0 WSW	2.0 SW	3.0 WSW	2.5 W	3.0 W	2.3	3.0 WSW	11:00	
13	4.0 WNW	2.0 WNW	2.0 NW	2.0 NNW	2.0 WNW	2.0 NNW	2.0 N	2.5 N	2.8 NNE	2.3 NW	3.0 W	4.0 WSW	3.8 SW	4.0 WSW	3.0 NW	3.8 WSW	4.0 WSW	3.0 W	2.0 W	2.0 W	2.0 WSW	2.6 W	2.8 WSW	2.8 NW	2.8	4.0 WNW	1:00	
14	1.0 NW	2.5 NW	2.0 W	2.0 NNW	2.0 NNE	2.0 NNE	1.0 NW	2.8 NNW	2.5 NW	3.0 NNW	3.0 N	3.0 NW	3.0 NW	2.0 NW	4.0 SW	3.0 NNE	2.8 NW	3.0 NW	2.0 NNW	2.0 N	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.4	4.0 SW	15:00	
15	2.0 NNE	1.0 NE	3.0 NE	2.0 NE	1.0 ENE	3.6 S	1.0 S	2.0 WNW	1.0 NNE	1.0 N	1.0 NE	2.0 NE	2.0 NW	2.6 WNW	1.8 WNW	2.0 SW	2.8 W	1.0 W	2.0 NW	2.0 W	2.0 NNW	1.0 NE	1.0 ESE	1.0 NE	1.7	3.6 S	6:00	

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. −1 (8) Wind Data

Month : Dec. 1988
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DAILY MAX. DIR.	DAILY MAX. TIME
16	1.0 NNE	1.8 N	2.0 N	2.0 N	2.0 N	2.0 N	2.0 N	2.0 N	2.2 NNE	3.0 NNW	3.0 NW	3.0 N	4.0 NW	2.5 WNW	2.0 SW	2.0 SSW	2.0 S	1.0 ESE	2.0 SE	1.0 ESE	3.0 NE	2.0 NE	1.0 NE	1.0 NE	2.1	4.0	NW	13:00
17	1.0 SE	1.0 SE	1.0 E	1.0 N	1.5 N	1.8 N	1.0 NNW	2.0 NE	2.0 NNE	2.0 NE	2.0 NE	2.8 SSE	2.0 SSW	2.8 S	1.0 S	1.0 SW	1.0 SW	2.0 NW	1.0 NW	1.0 NW	1.0 N	0.8 ESE	0.8 ENE	0.8 ESE	1.4	2.8	SSE	12:00
18	2.0 S	1.0 SE	3.0 W	2.0 WNW	3.0 WSW	1.0 W	1.0 WSW	1.0 NE	1.0 ESE	1.0 NE	2.0 NNE	2.0 NE	2.0 NE	1.0 ESE	2.0 SE	1.0 E	0.5 E	2.0 SE	2.0 ESE	1.0 ESE	1.0 SE	0.8 SSE	2.0 NW	2.0 WNW	1.6	3.0	W	3:00
19	4.0 W	4.0 W	2.8 W	2.0 W	2.0 WSW	2.0 W	1.0 N	1.0 WNW	0.5 WNW	2.0 SW	2.0 SW	2.0 SW	2.8 WSW	4.0 WSW	4.0 SSW	3.0 SSW	4.0 SSW	3.0 NNW	1.0 NNW	1.0 NNW	2.0 NNW	1.0 SE	3.0 S	5.0 S	2.5	5.0	S	24:00
20	3.0 S	2.0 SE	1.8 SE	1.0 NE	1.0 NNE	5.0 NW	3.8 NW	2.0 NW	1.0 NE	1.0 ESE	0.5 SE	0.5 WSW	1.0 N	2.0 WSW	2.0 N	1.0 NNW	1.0 N	0.5 N	0.8 WNW	0.5 WNW	1.0 NNW	1.0 NNW	1.0 N	1.0 N	1.5	5.0	NW	6:00
21	1.0 N	1.0 N	2.0 NNE	2.0 NE	1.0 ESE	1.0 NE	2.0 NNE	3.0 NNE	2.0 NE	3.0 NE	2.0 SE	2.0 NNE	2.0 NW	1.0 ESE	1.8 NW	2.0 SSE	4.0 SW	3.8 WSW	2.0 SW	2.0 SW	2.0 SW	3.0 WSW	3.0 WSW	4.0 WSW	2.2	4.0	SW	17:00
22	4.0 WSW	2.8 WSW	4.0 WSW	2.8 WNW	2.8 WSW	4.0 WNW	2.0 SSW	3.0 S	5.0 W	4.0 SW	3.0 W	3.0 WSW	3.0 WSW	2.0 WNW	3.0 WNW	2.0 W	2.0 WNW	4.0 W	3.0 W	1.0 NNW	1.0 NNW	1.0 NNW	1.0 NNW	1.0 NNW	2.7	5.0	W	9:00
23	1.0 N	1.0 N	2.0 WNW	2.0 WNW	2.0 NW	2.0 NNW	1.0 NNW	2.0 NNW	2.0 W	2.0 WNW	2.0 WNW	2.0 W	4.0 WSW	4.0 WSW	3.6 WSW	2.6 WSW	3.0 WSW	2.0 WSW	2.0 SSW	3.0 SW	3.8 WSW	4.0 WSW	3.0 WSW	4.0 WSW	2.5	4.0	WSW	13:00
24	3.0 NW	2.5 NW	1.6 NW	2.0 N	2.0 N	2.0 N	1.8 NNE	1.8 NW	2.0 W	4.0 S	2.0 WSW	2.0 SW	2.0 SSW	5.0 WSW	5.0 WSW	3.0 W	2.0 WNW	2.0 WSW	2.0 WSW	2.0 WNW	2.0 NNW	2.0 NNE	2.0 ENE	2.0 ENE	2.4	5.0	WSW	14:00
25	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 NNE	2.0 N	2.0 NNW	2.0 WNW	2.0 WNW	4.0 WNW	5.0 WNW	4.0 WSW	4.0 WSW	4.5 WSW	4.0 WSW	4.5 WSW	5.0 SW	5.0 SW	4.0 SW	4.0 WSW	3.8 WSW	3.0 W	3.0 NW	3.0 NW	3.3	5.0	WNW	11:00
26	3.0 NW	3.0 NW	2.8 NNW	2.7 NNW	2.7 N	2.7 N	2.7 N	2.7 NNE	2.7 N	2.7 NNW	3.8 WNW	3.6 WSW	3.5 WSW	3.5 SW	3.5 WSW	2.5 SW	2.5 SW	2.5 SW	2.5 SSW	2.5 SSW	2.5 SSW	2.5 WSW	2.5 WNW	2.5 WSW	2.8	3.8	WNW	11:00
27	2.5 WNW	2.5 WSW	2.5 WSW	2.5 WSW	2.5 WSW	2.5 NW	2.5 NNW	2.8 WNW	2.0 NNW	1.0 N	0.5 W	3.0 W	4.0 SW	2.5 SW	4.2 SW	4.0 SW	3.9 SW	4.0 SW	2.0 W	2.1 W	1.9 NNW	1.9 NW	1.8 NW	1.9 N	2.5	4.2	SW	15:00
28	1.9 N	1.0 NNE	1.5 NNW	1.3 N	2.0 NNE	2.0 NE	0.6 E	0.9 ENE	2.1 NE	2.0 NE	1.0 SE	2.0 SSE	2.0 SSW	2.0 SSW	2.0 SW	2.0 SW	2.0 SW	2.0 SW	3.0 SW	2.1 SSW	2.6 SSW	4.0 SSW	4.0 SSW	4.0 S	2.1	4.0	SSW	22:00
29	4.0 S	3.9 S	4.0 S	3.9 S	3.0 S	3.9 S	4.0 S	2.1 SE	2.0 SSE	3.0 SSE	3.8 S	3.9 S	4.1 S	0.9 SW	3.0 SW	4.1 W	3.9 W	3.8 WSW	3.0 WSW	3.0 WNW	3.0 NNW	2.9 NNW	2.9 N	2.9 NW	3.3	4.1	S	13:00
30	2.9 NNW	2.9 NNE	2.9 NNE	2.9 NNW	2.9 N	2.9 N	2.8 NNW	2.8 N	2.8 NE	2.4 ENE	2.6 WSW	2.4 WSW	2.4 WSW	2.2 WSW	2.1 SW	2.1 WSW	2.1 SW	2.1 SW	2.1 W	2.1 NW	2.1 NNW	2.1 NW	2.1 N	2.1 NE	2.5	2.9	NNW	1:00
31	2.0 E	2.0 ENE	2.0 NE	2.0 NNE	2.0 NNE	2.0 NE	2.1 NE	2.1 NE	2.1 NE	2.1 ENE	2.1 NW	2.1 W	2.1 W	2.1 WSW	2.1 SW	2.1 SW	2.1 SW	2.1 SW	2.1 SW	2.1 SW	2.1 SW	2.1 WSW	2.1 SW	2.1 NNW	2.1	2.1	NE	7:00
MEAN VEL.	2.2	2.1	2.1	1.9	2.0	2.2	1.9	2.1	2.3	2.4	2.3	2.7	3.0	2.9	3.0	3.2	2.9	3.0	2.8	2.2	2.1	2.1	2.2	2.2				

MEAN	MONTHLY MAX.VEL.	DIR.
2.4	7.8	W

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. −1 (9) Wind Data

Month : Jan. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DIR.	TIME
1	2.2 W	2.2 NW	2.2 NNW	2.2 N	2.2 NNW	2.2 NW	2.2 N	2.2 NNW	2.2 NE	2.2 ENE	2.2 S	2.2 SW	2.2 SW	2.2 WSW	2.2 WSW	2.2 WSW	2.2 SW	2.3 WSW	2.3 WSW	2.3 WSW	2.3 SW	2.3 WSW	2.3 WSW	2.3 N	2.2	2.3 WSW		18:00
2	2.3 ENE	2.4 N	2.4 N	2.4 NE	2.4 NNE	2.4 N	2.4 N	2.4 NNW	2.4 NE	2.4 NE	1.0 SE	3.6 SW	3.0 SW	2.0 WSW	2.0 WSW	2.0 WSW	2.0 SW	2.0 SW	1.0 NNW	2.0 NE	2.0 NE	2.4 NE	2.0 NNE	1.0 N	2.2	3.6 SW		12:00
3	1.8 N	2.0 NNE	2.0 N	2.0 N	2.0 NNE	2.3 NNE	2.5 NE	2.0 NE	3.0 NE	3.8 NE	4.0 NE	2.5 NE	2.0 NE	1.0 NE	1.0 ENE	3.8 SSE	4.0 SSE	3.8 SSE	3.0 SSE	3.0 N	2.0 W	1.0 WSW	1.0 SW	0.5 SW	2.3	4.0 NE		11:00
4	2.0 NW	2.0 NW	2.0 N	1.0 NE	1.0 NE	2.0 NE	2.0 NE	1.0 NE	1.0 NE	4.0 S	2.8 SSW	2.0 SW	2.2 SSW	3.0 SSW	2.5 SW	3.0 SW	3.0 WSW	2.2 NE	1.0 ENE	1.0 ENE	0.8 ESE	0.5 NE	2.0 NW	2.0 NNW	1.9	4.0 S		10:00
5	2.0 NW	1.0 WSW	1.0 S	1.0 ENE	0.8 ENE	1.8 NW	2.0 NNW	2.0 NW	2.0 NW	2.0 NNE	1.3 NE	2.0 NE	2.3 NE	2.0 N	2.0 WNW	2.0 NNW	2.0 N	2.0 WNW	2.0 NW	2.0 WNW	2.0 NNW	2.0 NNW	2.0 NNW	2.0 NE	1.8	2.3 NE		13:00
6	2.0 NE	2.0 ENE	2.0 ENE	2.0 ENE	2.0 ENE	2.0 NW	2.0 NNE	2.0 E	2.0 SW	2.0 SW	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SSW	2.0 SW	2.0 SSW	2.0 NW	2.5 SSE	2.5 SE	2.5 SE	2.5 SE	2.5 SE	2.1	2.5 SSE		20:00
7	2.5 SE	2.5 ESE	2.5 NE	2.5 NE	2.5 NNE	2.5 NNE	2.0 ENE	2.0 ENE	1.0 NE	1.0 SSE	1.0 S	2.0 S	2.5 S	2.4 SSW	4.0 S	4.0 S	4.0 SSE	3.8 SSE	3.8 SSE	2.0 E	0.5 NE	2.0 ENE	1.0 E	2.0 ENE	2.3	4.0 S		15:00
8	2.0 NE	2.5 NNE	1.8 ENE	2.5 NE	2.0 NE	2.0 ENE	2.5 NE	2.0 NE	2.2 NE	2.0 NE	2.0 NE	1.0 NE	2.0 SW	2.0 SSW	5.8 SSE	4.8 SSE	2.0 SW	4.0 SSE	4.3 SE	4.0 ESE	1.0 E	1.8 NE	1.0 ENE	1.0 E	2.4	5.8 SSE		15:00
9	0.8 ESE	0.5 NE	0.5 E	0.5 E	1.8 ENE	1.8 ENE	2.0 ENE	2.5 NE	2.0 NNE	3.0 NE	2.0 NE	2.0 NE	2.0 NE	4.0 NNE	2.6 SE	3.0 SSE	3.8 S	2.0 S	1.0 W	2.0 SSE	C SSE	2.0 NW	2.0 NW	2.0 NW	1.9	4.0 NNE		14:00
10	2.0 NW	1.0 NW	0.8 NNE	1.0 N	1.0 N	1.0 N	2.0 NNE	2.0 NE	1.0 NE	0.8 ESE	0.5 SSE	2.0 SSW	0.8 SSW	1.0 SW	1.8 SSW	3.5 S	3.1 S	2.5 SSE	2.0 SSE	1.7 SE	C NE	C ESE	C ESE	C NE	1.3	3.5 S		16:00
11	C E	0.7 NE	1.5 NE	1.0 ENE	1.5 NE	2.0 NE	1.8 NE	1.9 NE	1.7 NE	1.6 NE	0.7 NE	C SSE	1.8 SSW	1.8 SSW	4.5 SSE	3.8 SSE	2.0 ESE	C E	0.8 NE	1.0 ENE	2.0 NE	2.5 NE	2.5 NNE	3.1 NNE	1.7	4.5 SSE		15:00
12	3.5 NNE	2.5 NNE	2.2 NE	1.8 NNE	1.5 N	2.0 N	2.2 NNW	1.0 NNW	2.0 N	0.8 NW	2.0 NW	2.1 N	1.8 NW	1.5 SW	C SW	2.5 SSE	1.0 SE	2.0 S	0.9 SSW	2.0 SSW	1.8 SSE	0.9 SSE	1.0 S	1.8 S	1.7	3.5 NNE		1:00
13	2.3 S	2.0 S	1.8 SSE	0.8 ESE	1.0 WNW	1.5 WNW	1.9 SW	1.0 W	1.8 WSW	0.9 SW	2.0 W	2.2 NW	0.8 WNW	1.2 SE	2.1 SSE	3.8 S	1.0 SE	1.0 NE	2.2 NNE	2.0 NNE	2.0 ENE	0.7 E	C E	1.2 NE	1.6	3.8 S		16:00
14	C NNE	C N	C NW	C N	C NW	0.8 NE	C ENE	C ENE	C SE	C ENE	1.4 NE	1.7 NE	0.8 ESE	0.8 SSE	2.0 S	2.0 S	3.5 S	4.0 SSE	4.0 S	4.2 SE	1.8 ENE	2.0 NE	1.8 N	1.4 NW	1.3	4.2 SE		20:00
15	0.7 NNW	C NW	C ENE	1.9 NE	2.0 ENE	1.9 NE	1.2 ESE	0.6 NE	2.0 NNE	2.0 NE	1.1 NE	0.6 E	2.2 S	3.3 S	3.8 S	3.9 S	3.6 S	3.8 S	2.2 NE	2.8 ENE	1.6 N	1.8 NNW	1.5 NNW	1.5 NNW	1.9	3.9 S		16:00

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table I. 2. -1 (10) Wind Data

Month : Jan. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DIR.	TIME
16	1.0 NNW	1.0 NW	1.0 NNW	0.9 NNW	0.8 N	1.2 N	1.3 N	1.8 NE	2.0 NNE	2.0 NE	0.8 NE	2.3 N	1.9 N	1.2 ENE	2.0 S	1.5 S	4.2 SE	4.3 SE	2.2 SE	2.0 N	0.8 SE	2.6 N	2.0 NW	2.0 WNW	1.8	4.3	SE	18:00
17	1.9 WNW	1.8 W	1.8 WSW	2.0 S	2.0 SW	2.5 S	3.8 S	3.9 S	3.5 S	2.5 SSW	2.4 WSW	2.2 SW	2.1 SW	2.0 SSW	2.0 S	2.0 S	2.2 SSE	2.2 S	2.3 SSE	2.3 SE	2.2 SSE	2.2 SE	2.2 ESE	2.1 ESE	2.3	3.9	S	8:00
18	2.0 NE	2.0 NNE	2.0 NNE	2.1 N	2.1 NNE	2.1 NNE	2.0 NE	2.0 NE	2.0 NE	2.1 NE	1.0 SSE	0.7 SSW	1.8 SW	3.8 S	3.5 S	4.0 S	3.7 SSE	2.9 S	2.0 S	3.0 S	2.8 S	2.8 SSE	2.8 SSE	2.7 S	2.4	4.0	S	16:00
19	2.6 S	2.2 SSW	2.2 N	2.2 W	2.0 N	2.0 N	2.0 N	1.9 NE	0.5 ENE	1.7 NE	1.2 S	1.8 SSW	1.7 SW	1.9 SW	2.0 SW	2.1 WSW	2.0 SW	2.4 SW	2.2 SW	2.6 SSW	2.2 SSW	2.0 SSW	2.8 S	1.9 S	2.0	2.8	S	23:00
20	0.7 W	0.5 W	1.8 N	2.0 N	2.3 NE	2.2 NNE	1.8 N	1.9 N	2.0 WNW	1.0 S	1.8 S	2.1 SSW	2.2 WSW	1.9 WNW	2.5 SW	2.0 SW	2.0 SSW	2.0 WSW	2.0 SSW	2.0 SSW	1.8 SSW	2.0 SSW	1.7 SW	2.0 S	1.8	2.5	SW	15:00
21	1.5 S	1.7 SW	1.5 SW	2.3 SSW	1.9 NE	1.9 NNE	1.9 NNE	1.9 NNE	2.0 NE	2.8 NW	2.2 W	4.8 SSE	0.7 NW	2.2 W	3.2 WSW	2.5 WSW	2.5 WSW	2.2 WSW	1.8 SW	2.3 WSW	2.0 WSW	1.9 WSW	2.2 WSW	2.0 WSW	2.2	4.8	SSE	12:00
22	1.5 WNW	1.0 N	1.5 NNW	2.2 NNW	2.0 NW	2.4 SE	1.9 NNW	2.0 NW	2.0 NNW	1.8 NNE	1.9 NNE	2.0 N	2.0 N	1.6 N	1.7 SW	1.7 SW	2.2 SW	1.5 SW	2.1 SW	2.2 SW	1.7 SW	1.7 SSW	2.5 WSW	2.0 WSW	1.9	2.5	WSW	23:00
23	2.0 WSW	2.1 NW	2.1 W	2.2 WNW	2.3 WNW	2.5 WNW	2.1 NW	2.1 W	2.1 W	2.0 WNW	1.5 N	1.5 ENE	0.9 SSE	0.7 SSW	C NE	C NNE	1.7 WSW	1.8 WNW	2.3 WNW	2.0 WNW	2.0 NW	2.5 WNW	2.0 WNW	1.5 NNW	1.7	2.5	WNW	6:00
24	1.8 NNW	1.6 N	1.8 N	1.8 NNE	1.9 NNW	2.1 NNW	2.0 NNW	3.0 NW	3.8 WNW	2.2 WNW	3.5 WNW	3.3 WNW	3.7 W	2.8 SW	2.5 SW	3.8 SW	3.3 WSW	3.0 SW	2.3 NW	2.8 WNW	1.8 NW	0.9 NW	2.0 NNW	1.8 NNW	2.5	3.8	WNW	9:00
25	4.2 NW	3.0 WNW	2.0 NW	2.0 NW	1.7 NNW	2.0 NNW	1.8 NW	2.0 NW	2.0 NW	2.0 NW	2.2 NW	2.0 WNW	1.9 NW	2.0 WNW	1.5 SW	1.7 WSW	2.0 WSW	1.9 SW	1.3 W	0.8 WNW	0.9 NNW	0.8 WNW	1.3 NW	1.6 NW	1.9	4.2	NW	1:00
26	0.9 NW	0.9 NW	0.6 NNW	1.5 N	1.3 N	1.2 N	1.0 NNE	1.0 NNE	1.0 NNE	0.8 SW	2.3 SW	3.0 WSW	2.8 WSW	2.5 WSW	2.8 SW	3.3 SW	3.0 SW	3.8 SW	3.5 SW	2.7 SW	2.7 SW	3.8 SW	2.2 SW	2.2 SW	2.1	3.8	SW	18:00
27	2.3 SW	3.7 WSW	3.0 SW	2.8 SW	2.6 SW	2.8 SW	3.4 SW	3.4 SW	2.9 SW	3.3 WSW	3.6 WSW	4.1 WSW	4.2 WSW	4.2 WSW	3.8 SW	4.0 WSW	2.8 WSW	2.8 WSW	3.2 SW	2.8 WSW	2.2 SW	2.2 WSW	2.4 WSW	2.2 WSW	3.1	4.2	WSW	13:00
28	2.6 SW	2.3 WSW	2.8 WSW	2.5 W	2.0 W	1.8 N	1.8 NNW	0.9 NNW	0.9 NW	1.3 NNW	0.9 NNW	2.1 WSW	2.3 W	2.2 SW	1.9 WSW	2.5 WSW	0.9 SW	2.4 SSW	1.0 WSW	2.0 W	1.0 NW	1.5 WNW	1.5 NNW	0.8 NW	1.7	2.8	WSW	3:00
29	C NNW	0.9 NNE	0.8 N	1.0 N	0.8 N	2.0 N	2.2 NNE	1.8 N	1.8 NNE	9.9 SE	7.7 S	C WSW	C SSW	1.0 WNW	1.7 NW	1.3 NW	0.5 N	1.8 N	0.4 N	1.0 NNE	2.5 NE	2.4 NE	1.8 NE	C SSE	1.8	9.9	SE	10:00
30	C WSW	2.3 W	3.2 WNW	C NNW	C NE	C E	0.8 NE	1.0 N	1.3 NNE	0.5 WNW	2.0 WNW	2.2 W	2.4 W	2.3 W	1.9 W	2.2 W	2.0 W	1.0 W	1.0 NNW	1.0 NNW	C NNW	0.5 NNW	0.8 NNW	1.5 NNW	1.2	3.2	WNW	3:00
31	1.3 NNW	1.3 NW	1.8 NW	2.0 NW	2.0 NW	1.8 NW	1.3 NW	0.7 N	0.6 N	1.2 NNW	1.0 NNW	C ESE	1.8 ESE	0.6 ESE	C ESE	2.0 WSW	1.7 WSW	1.9 WSW	1.0 SW	1.0 SW	1.7 WNW	1.7 WNW	1.8 WNW	1.8 WNW	1.3	2.0	NW	4:00
MEAN VEL.	1.7	1.7	1.7	1.7	1.7	1.9	1.9	1.8	1.8	2.1	2.0	2.0	2.0	2.0	2.3	2.7	2.4	2.4	2.0	2.2	1.6	1.8	1.8	1.7				

MEAN	MONTHLY MAX.VEL.	DIR.
2.0	9.9	SE

Note 1 : ~ shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. −1 (11) Wind Data

Month : Feb. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DIR.	TIME
1	1.8 WNW	1.4 NW	1.8 NW	1.8 NW	2.0 NW	2.6 NW	3.8 W	3.9 W	3.0 WNW	3.0 WNW	4.0 WNW	3.0 WNW	3.0 NW	2.0 W	2.5 WSW	2.0 WSW	2.0 W	0.5 W	C W	C WSW	0.5 W	2.5 SW	2.5 SW	1.0 SW	2.1	4.0	WNW	11:00
2	3.0 W	3.0 WSW	3.5 WSW	1.0 NW	2.0 N	1.0 WNW	2.0 WSW	4.0 WSW	2.5 WSW	4.0 W	5.0 W	5.0 W	5.8 W	4.0 W	4.0 W	3.5 WSW	3.0 W	2.5 W	2.0 W	1.8 W	1.8 W	1.0 WNW	2.0 W	1.8 NW	2.9	5.8	W	13:00
3	0.8 NNW	0.8 NNW	1.0 NNW	1.0 NNW	1.0 NNW	1.0 NNW	0.5 N	1.0 NW	2.8 W	2.8 SW	2.0 SW	2.5 SW	3.0 SW	3.8 SW	2.0 WSW	2.0 SW	2.0 SW	2.0 SSW	2.0 SSW	2.5 SSW	2.0 SW	2.0 SW	2.0 WSW	1.0 WSW	1.8	3.8	SW	14:00
4	1.0 WNW	2.5 WSW	2.0 W	2.0 WNW	1.5 N	1.0 NNE	1.0 N	1.0 NNW	0.5 WNW	0.5 WNW	0.5 SW	2.0 SW	2.0 SW	2.0 SSW	1.0 S	2.0 SW	3.0 S	3.5 S	3.0 SSW	4.0 S	4.0 S	4.0 S	4.2 S	4.0 SSW	2.2	4.2	S	23:00
5	2.5 SSW	2.0 SSW	3.0 NNW	0.5 NE	C NE	0.5 NE	C NE	0.5 NE	C ENE	2.0 NE	2.0 NE	2.0 NE	2.2 S	2.2 S	3.0 SSW	2.0 S	2.5 S	2.5 S	1.0 N	1.0 NE	0.5 NE	C E	C ENE	C NE	1.3	3.0	NNW	3:00
6	C E	0.8 ESE	0.5 ESE	1.0 ESE	0.8 SE	1.8 SSE	0.8 ESE	C ESE	C SE	0.5 SE	1.5 S	1.8 S	4.0 S	2.0 SSW	2.0 SW	2.5 SSW	2.5 SW	2.5 SSW	2.2 S	2.0 S	2.0 SSE	2.5 S	2.5 S	2.5 S	1.6	4.0	S	13:00
7	2.5 SSW	2.5 SSW	3.8 SSW	3.0 SSW	2.5 SSW	2.0 S	2.0 S	2.5 S	2.3 S	3.0 SSW	2.0 SW	5.0 WSW	5.0 WSW	4.2 WSW	4.0 WSW	4.0 WSW	3.0 WSW	2.5 W	2.2 WSW	1.0 SSW	3.8 S	4.0 S	4.5 S	4.0 S	3.1	5.0	WSW	12:00
8	3.0 S	2.0 SSW	3.0 SW	2.5 S	1.0 SW	2.0 SW	2.0 S	2.0 SW	2.5 SW	3.0 WSW	3.8 WSW	3.0 SW	4.0 WSW	4.0 SW	4.0 WSW	4.0 WSW	4.0 SW	4.0 WSW	3.8 SW	3.5 SW	3.0 SW	2.8 SW	2.5 SW	2.5 SW	3.0	4.0	WSW	13:00
9	3.0 SW	3.0 SW	2.0 SW	2.0 NNW	2.0 W	2.0 WNW	1.0 NNW	1.8 N	1.0 NNE	2.0 SSW	2.0 W	2.0 SW	1.0 W	1.0 WNW	1.5 W	3.0 WSW	2.2 WSW	2.0 WSW	0.8 NW	2.2 WSW	2.0 N	1.5 NW	2.2 NW	2.0 NNW	1.9	3.0	SW	1:00
10	1.0 WNW	4.0 NNW	3.0 NW	2.5 NNW	0.5 N	C N	2.0 NNE	1.0 N	2.0 N	2.0 NNE	1.0 NE	1.0 NE	C S	2.0 SW	3.0 SW	2.5 SW	2.2 SW	3.8 S	2.5 S	2.2 SSW	0.8 SSW	C SW	0.5 W	0.4 NW	1.7	4.0	NNW	2:00
11	1.0 N	1.0 NNW	2.0 NNE	2.0 NNE	2.5 NNE	2.0 NE	1.0 ESE	C ENE	1.0 NE	C E	1.0 WSW	C NW	2.5 W	3.0 W	3.0 W	2.5 WSW	2.8 WSW	2.5 SW	3.8 S	3.0 SW	4.5 NW	2.2 NW	2.0 NW	1.8 NW	2.0	4.5	NW	21:00
12	1.0 NW	2.0 NNW	2.2 NNW	3.0 WNW	1.0 NW	2.0 NNW	2.0 N	2.0 NNE	2.5 NE	1.0 NE	2.0 NNE	2.5 NW	1.0 WNW	0.8 SW	0.8 SSW	2.0 SSW	2.2 SSW	2.5 S	2.2 S	3.0 S	2.2 S	0.5 S	1.0 NNW	1.5 NNW	1.8	3.0	WNW	4:00
13	3.0 NNW	2.0 NNW	2.0 N	2.2 NNE	3.0 NNE	2.2 NE	2.0 NE	2.0 NE	2.0 NE	2.0 NE	2.0 NE	2.0 ENE	2.0 N	2.0 SSW	2.2 S	3.0 S	4.0 SSW	2.2 SSW	3.0 S	2.5 S	2.0 SSE	C SW	2.0 ESE	3.0 SE	2.3	4.0	SSW	17:00
14	3.0 SSE	3.0 SSE	3.0 SSW	2.0 S	2.5 WSW	4.2 WSW	2.0 W	2.0 WNW	2.2 WNW	1.0 NW	4.2 WSW	2.2 WSW	2.0 SW	3.5 SW	4.0 S	5.0 WSW	3.0 WSW	2.0 W	2.0 NW	1.0 N	1.0 NW	0.8 NNW	2.8 W	2.0 NW	2.5	5.0	WSW	16:00
15	1.8 NW	1.8 WNW	1.8 NW	1.0 NNW	1.0 NNW	1.0 NNW	1.5 NNW	1.0 NNW	2.0 NW	2.0 NW	2.2 NW	2.0 NNW	2.0 NNW	1.0 N	2.2 WNW	1.0 WSW	2.0 WSW	1.0 WSW	C WSW	C SSW	1.0 WSW	C WSW	0.5 WNW	1.0 WNW	1.3	2.2	NW	11:00

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. −1 (12) Wind Data

Month : Feb. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DIR.	TIME
16	C WNW	1.0 NNW	1.8 NNW	1.5 N	2.0 NNE	2.0 NNE	2.2 NE	2.5 NE	1.0 ENE	1.0 ENE	C ENE	C SSW	2.2 SSW	2.2 SSW	2.5 SSW	3.5 S	4.0 SSW	4.0 SSW	3.0 SSW	2.0 SW	2.2 SSW	4.0 S	4.0 S	3.5 SSE	2.2	4.0 SSW		17:00
17	1.0 ESE	2.0 SSE	2.0 SSW	2.0 SSW	C W	C WNW	1.5 N	C N	0.5 NE	2.0 NW	4.0 WNW	2.0 WNW	0.8 N	0.8 NNE	C E	C ENE	C SSE	C SSE	C SSE	C E	1.0 NE	1.0 ENE	2.0 NNE	1.0 N	1.0	4.0 WNW		11:00
18	1.0 N	1.0 N	2.0 N	1.0 N	1.0 N	2.0 NNE	2.0 N	2.0 NNE	1.0 NE	0.8 SE	2.0 S	2.2 SW	3.0 WSW	3.0 WSW	3.0 WSW	3.5 SW	3.5 SW	3.5 SW	3.0 WSW	3.0 WSW	3.0 WSW	2.5 SW	2.2 SW	3.0 WSW	2.3	3.5 SW		16:00
19	3.0 W	2.5 WNW	2.0 NW	2.0 NNW	2.0 N	2.1 N	2.0 NNW	2.0 N	2.0 WNW	2.1 W	3.0 W	4.0 W	3.5 WSW	3.8 WSW	5.5 WSW	5.0 W	4.0 WSW	3.0 W	3.0 NNW	3.0 W	2.8 W	2.7 WNW	2.6 W	2.5 WNW	2.9	5.5 WSW		15:00
20	2.4 N	2.4 N	2.4 N	2.4 N	2.4 N	2.4 N	2.3 N	2.2 N	2.2 NNE	2.4 NNE	2.0 WNW	2.8 SW	4.0 WSW	3.8 WSW	4.0 WSW	4.0 WSW	4.5 WSW	4.0 WNW	3.0 W	2.5 NW	2.4 NNW	2.2 NW	2.1 NNW	2.1 N	2.8	4.5 WSW		17:00
21	2.1 N	2.1 N	2.1 N	2.1 N	2.1 N	2.1 N	2.0 N	2.0 NNE	3.0 NNE	2.0 N	2.2 NNW	3.0 N	2.0 NNW	2.2 NNW	1.0 WSW	1.0 SW	1.0 WSW	1.0 WSW	2.2 SSW	3.0 SSW	2.0 SSW	2.0 SW	2.0 WSW	2.2 WSW	2.0	3.0 NNE		9:00
22	2.8 WSW	2.0 W	2.0 W	C N	2.2 S	C WSW	C N	C NNE	1.0 N	2.0 NW	2.0 NNW	2.2 WNW	3.0 NW	3.0 WSW	2.5 SW	2.8 SW	2.0 SW	1.0 S	2.5 S	2.0 SSW	2.5 SSW	3.5 S	3.0 SSW	2.0 WSW	1.9	3.5 S		22:00
23	4.2 WSW	1.0 WSW	C ENE	C E	0.8 SE	2.0 NE	2.0 NE	C WNW	C NNW	2.0 N	2.2 N	3.0 NNE	2.5 NE	3.0 NE	2.5 NE	2.0 ENE	C ENE	0.5 NE	0.5 NNE	2.0 NE	C NE	C E	1.0 NE	2.0 NE	1.4	4.2 WSW		1:00
24	2.0 NE	2.0 NE	2.0 NNE	1.0 NNE	1.8 N	2.0 NNE	2.0 N	2.0 N	1.0 N	1.0 NE	2.0 NE	C E	2.0 S	1.0 SSE	0.8 SW	2.8 WSW	1.5 SW	2.0 SW	0.8 SW	1.0 WSW	1.0 W	C NNW	2.3 NNW	2.0 NW	1.5	2.8 WSW		16:00
25	0.5 NNE	2.0 NNW	C NNW	1.0 N	2.0 NNE	3.0 NNE	3.5 NNE	3.0 NE	2.8 NE	2.8 NNE	2.5 NNE	2.0 NE	2.0 NE	1.0 NE	C ESE	C S	2.0 S	2.0 S	1.0 S	C SSW	C SE	3.5 NW	2.5 NNW	1.0 N	1.7	3.5 NNE		7:00
26	2.0 N	0.5 N	3.0 SSE	1.0 ESE	C NW	0.4 SE	C NNE	1.0 N	1.0 NE	1.0 NE	C E	2.0 S	2.5 SSW	3.0 SSW	3.0 SSW	2.0 SSW	2.0 SW	2.0 WSW	2.0 SW	2.0 SW	2.0 SW	1.0 SW	1.8 SSW	1.0 SSW	1.5	3.0 SSE		3:00
27	0.5 SSW	C SW	2.0 WSW	2.0 W	1.0 NNW	1.0 N	2.0 NNE	1.0 NNW	2.2 N	2.0 N	1.5 N	0.8 N	0.8 NE	0.8 S	4.2 SSW	3.2 S	2.2 WSW	3.5 WSW	9.0 WSW	2.2 WSW	4.2 WSW	4.0 WSW	3.0 WSW	2.0 W	2.3	9.0 WSW		19:00
28	4.0 NNW	2.3 WNW	2.0 NW	1.0 NNW	1.0 NNW	4.0 WNW	2.0 NW	2.0 WNW	0.8 NNW	0.7 NW	3.0 NW	4.5 W	4.0 SW	4.0 WSW	3.8 WSW	2.7 WSW	4.0 WSW	4.0 WSW	4.0 W	2.0 WNW	3.8 SW	4.0 WSW	4.0 WSW	3.0 WSW	2.9	4.5 W		12:00
MEAN VEL.	1.9	1.9	2.1	1.6	1.5	1.7	1.7	1.6	1.6	1.8	2.2	2.3	2.6	2.5	2.6	2.6	2.5	2.4	2.3	1.9	2.1	1.9	2.3	2.0	MEAN 2.1	MONTHLY MAX.VEL. 9.0	DIR. WSW	

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. -1 (13) Wind Data

Month : Mar. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL. DIR.	TIME
1	3.0 W	3.0 W	2.5 WNW	2.8 W	2.8 WNW	2.5 NW	3.6 N	2.0 NNW	2.0 NW	2.0 ENE	2.9 WSW	4.2 WSW	3.0 WSW	3.0 WSW	2.5 SW	2.5 SW	1.0 WSW	3.0 SSW	2.0 WSW	3.0 SW	4.0 W	4.0 WSW	3.8 WSW	2.8 WSW	2.8	4.2 WSW	12:00
2	2.0 WNW	2.5 W	3.0 W	4.0 WNW	3.5 WNW	3.0 NW	0.6 NW	3.8 W	2.2 WNW	2.2 NNW	1.8 NNW	0.6 WSW	C ESE	0.8 WSW	1.9 WSW	2.0 W	1.9 WSW	0.8 SW	2.0 S	1.8 S	0.5 S	1.5 NNE	0.8 NE	1.0 N	1.9	4.0 WNW	4:00
3	1.0 N	1.5 NW	1.2 N	1.8 N	2.0 NNE	1.9 N	2.0 N	2.0 N	2.0 NNW	2.5 N	2.8 W	2.5 NW	2.0 NNW	3.8 WSW	4.8 S	1.0 SW	0.8 NW	1.0 N	2.0 NNE	2.0 NE	2.5 NE	2.5 NNE	2.0 NNE	2.0 NNE	2.1	4.8 S	15:00
4	2.0 N	2.5 N	2.5 NNW	3.0 NNW	2.5 NNW	2.0 NNW	2.0 N	2.0 NW	2.0 NW	3.8 WSW	3.8 W	4.0 W	4.0 W	4.5 WSW	3.9 WSW	3.0 WSW	3.8 WSW	3.0 WSW	3.0 W	2.0 W	2.0 WNW	2.0 NW	2.0 NW	2.0 NW	2.8	4.5 WSW	14:00
5	3.0 NW	2.0 NNW	2.5 N	2.5 N	2.0 N	2.4 NNE	3.8 NE	3.6 NE	3.8 NE	3.2 NE	1.5 NE	2.0 SW	1.9 WSW	2.0 SW	2.0 SW	2.0 SW	2.0 SW	2.0 S	1.0 S	1.0 S	0.8 S	0.8 ENE	0.8 ENE	1.0 NW	2.1	3.8 NE	7:00
6	2.0 N	2.0 N	1.9 N	1.8 NNW	2.0 NNW	2.2 NW	1.8 WNW	2.0 N	2.0 NW	3.5 W	2.5 WSW	2.8 SW	3.0 WSW	3.6 WSW	2.8 WSW	2.2 WSW	2.5 SSW	2.5 SW	2.0 SW	2.0 SW	2.0 SW	2.0 WSW	2.0 SW	2.0 WSW	2.3	3.6 WSW	14:00
7	2.0 W	2.0 N	2.0 N	2.0 N	2.0 NNE	2.5 NNE	3.0 NNE	2.2 NE	3.8 SE	3.0 SW	2.5 SSE	3.0 W	2.8 SW	3.0 WSW	3.8 WSW	3.8 WNW	3.9 WNW	3.0 WNW	2.2 NNW	2.2 NNW	2.2 N	2.5 N	2.2 N	2.2 N	2.7	3.9 WNW	17:00
8	3.0 N	2.5 N	3.0 N	2.8 N	3.0 NNE	2.8 NNE	3.4 NNE	3.8 NNE	4.0 NNE	3.4 NNE	3.2 NNE	2.8 NNE	2.0 NW	4.0 W	4.0 WSW	2.5 WSW	2.2 NW	1.8 W	2.0 NNW	2.0 NW	3.8 NNW	2.1 NNW	2.0 NNW	2.2 N	2.8	4.0 NNE	9:00
9	2.2 NNW	2.0 NW	2.2 NW	2.0 NNW	2.0 N	2.2 N	2.5 N	2.0 N	2.6 N	2.8 N	3.0 NE	3.0 NE	2.5 N	2.0 N	2.2 NNE	2.0 ENE	2.0 NE	1.2 SE	1.8 SSW	1.0 W	2.0 NNW	1.8 N	2.2 NNE	1.0 N	2.1	3.0 NE	11:00
10	3.8 SSW	1.2 W	1.6 N	1.0 N	1.0 N	2.0 N	2.0 N	2.8 NE	1.8 NE	2.0 ENE	1.0 ENE	1.0 SE	1.5 SSW	2.1 SSW	1.5 SW	2.5 NE	1.7 NE	2.0 NNE	1.8 NNW	1.8 NW	0.9 N	1.0 WSW	0.8 SW	1.0 WSW	1.7	3.8 SSW	1:00
11	1.2 W	1.9 W	1.9 NNW	1.9 NE	1.8 NE	1.9 NNE	1.8 NE	2.0 NE	2.0 NE	0.9 ENE	0.9 SE	2.2 SSW	2.0 SSW	2.5 SW	3.6 WSW	3.0 WSW	2.0 SW	3.0 WSW	2.5 WSW	2.5 SW	2.5 WSW	3.0 SW	4.5 WSW	2.2 NW	2.2	4.5 WSW	23:00
12	2.2 NW	3.0 W	2.0 NNW	1.9 NNW	1.8 NNW	2.0 NNW	2.0 NNW	2.0 NNW	3.0 NW	4.5 WNW	5.0 WNW	5.0 W	3.9 WSW	3.9 SW	3.8 SW	3.5 WSW	3.0 WSW	2.0 W	4.0 W	3.0 W	3.8 W	4.0 WSW	3.2 WSW	3.5 W	3.2	5.0 WNW	11:00
13	3.0 W	3.0 WNW	2.0 NNW	2.0 NNW	2.0 N	2.0 N	1.8 N	2.0 NNW	3.5 WNW	2.0 W	3.8 WSW	3.8 WSW	4.0 W	4.5 WSW	4.0 W	3.9 WSW	3.0 WSW	4.5 WSW	4.5 W	2.4 WNW	2.0 NW	2.0 NW	2.0 NW	1.9 NNW	2.9	4.5 WSW	14:00
14	1.8 NW	2.0 NNW	2.0 NNW	2.2 NW	2.2 NW	2.0 NW	2.4 NW	2.5 WNW	3.5 WNW	4.1 WNW	4.5 WNW	3.8 W	3.8 W	3.8 W	3.0 WSW	4.0 WSW	2.8 WSW	3.2 WSW	4.0 WSW	3.0 WSW	3.9 SW	2.4 WSW	2.5 WSW	2.1 W	3.0	4.5 WNW	11:00
15	2.0 WNW	2.0 W	2.0 WNW	2.0 NW	2.0 NW	1.8 NW	1.8 N	1.8 NE	1.0 NE	2.0 WSW	3.5 WSW	3.8 WSW	3.5 WSW	3.8 WSW	3.9 WSW	3.5 WSW	4.5 WSW	3.5 WSW	3.0 WSW	2.5 WSW	2.7 WSW	2.7 WSW	1.8 SW	1.8 SW	2.6	4.5 WSW	17:00

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. −1 (14) Wind Data

Month : Mar. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DIR.	TIME
16	2.0 WSW	2.0 WSW	1.9 SW	1.9 NNE	2.0 NE	2.0 NE	1.8 NE	2.0 NE	1.9 NE	2.0 SSW	2.0 SW	2.0 SW	2.2 SW	2.2 SW	3.0 SW	2.9 SW	3.0 WSW	3.0 WSW	3.8 SW	3.0 SW	2.9 SW	2.9 SW	2.2 SW	2.1 WNW	2.4	3.8	SW	19:00
17	1.9 WNW	2.0 NW	2.0 N	2.0 NNW	2.2 N	2.0 N	2.2 N	2.0 N	2.8 N	2.2 NNW	3.0 NW	4.0 WSW	4.2 WSW	4.0 WSW	4.2 WSW	4.9 WSW	3.0 WSW	4.2 WSW	4.0 WSW	2.2 WSW	2.0 SW	2.2 WSW	2.0 SW	2.0 WSW	2.8	4.9	WSW	16:00
18	2.0 SW	2.0 WSW	2.0 N	2.0 SSW	3.0 SSW	3.0 W	1.9 NNW	0.9 NNE	1.2 NE	2.2 NNE	1.9 NNW	2.5 NNW	1.0 NW	2.0 SW	2.0 SW	1.9 SSW	2.0 SSW	2.0 SW	2.0 WSW	1.0 SW	0.9 WNW	2.1 NE	2.0 NE	2.0 NE	1.9	3.0	SSW	5:00
19	1.0 NNE	1.9 N	1.8 N	1.0 NNE	2.0 NE	1.9 NNE	2.0 NNE	2.0 NNE	2.0 NE	1.9 ENE	1.9 E	1.0 SSE	2.0 S	1.5 WSW	2.9 S	2.0 SW	2.0 SSW	2.0 SW	2.2 SSW	3.0 S	3.0 S	2.4 S	2.2 S	3.0 S	2.0	3.0	S	20:00
20	3.2 SSW	3.0 SSW	3.0 S	3.0 S	3.5 S	2.5 S	1.9 E	1.2 E	1.8 SSE	2.0 S	2.0 SW	2.0 WSW	2.0 WSW	2.2 SSW	2.0 WSW	2.2 WSW	1.8 W	1.0 WNW	2.0 NNW	2.0 N	2.0 N	2.0 NNE	2.6 NNE	2.2 NNE	2.2	3.5	S	5:00
21	3.0 NNE	3.0 NE	2.4 NNE	2.2 NNE	2.9 NNE	3.0 NNE	4.0 NNE	3.0 NNE	2.1 N	3.0 NE	2.4 NNE	3.9 NE	1.0 ESE	2.0 SW	2.0 WSW	2.0 NW	2.0 NW	1.5 WNW	1.8 NE	2.0 N	1.5 N	2.0 NNE	2.0 NE	2.2 NE	2.4	4.0	NNE	7:00
22	2.0 NE	1.8 N	1.8 N	2.0 NNE	2.0 NE	3.0 NE	3.8 NE	3.8 NE	2.0 N	2.0 WSW	2.0 WSW	1.8 SW	2.0 W	2.0 N	2.2 SW	2.8 W	2.0 NW	2.6 NW	2.0 NW	2.0 NNW	2.0 NNW	2.0 NNW	2.0 N	2.0 NNE	2.2	3.8	NE	7:00
23	3.8 NE	3.0 NNE	2.1 N	2.0 N	2.0 NNE	2.0 N	3.0 NE	3.0 NE	3.9 NE	3.0 NE	3.0 NNE	2.2 NE	1.0 NE	C ENE	2.0 SSW	2.5 SSW	2.0 WSW	2.0 SW	1.9 SW	2.0 SW	2.2 WSW	2.2 WSW	2.0 SW	2.0 WSW	2.3	3.9	NE	9:00
24	2.0 W	1.9 NNW	1.9 N	1.0 N	1.9 N	2.0 NNW	2.0 N	2.0 N	2.2 N	2.3 NNW	4.2 SSW	1.9 WSW	2.0 SE	2.0 SE	1.9 ESE	0.8 NE	C E	C SE	1.9 S	0.9 S	2.0 NE	2.0 NE	2.2 NE	2.2 NE	1.8	4.2	SSW	11:00
25	2.2 NE	2.0 NE	2.0 NE	1.0 NE	2.0 NE	1.6 NNW	1.9 NNW	1.0 NNE	0.9 ENE	2.0 NE	0.8 SSE	1.2 S	2.9 S	2.9 S	3.6 S	3.0 SSW	3.0 SSW	3.0 SSW	3.0 S	3.0 SSE	2.6 ESE	2.2 SE	3.2 SE	1.0 E	2.2	3.6	S	15:00
26	0.9 E	1.0 NNW	1.5 NNW	2.0 N	2.0 N	2.0 N	2.0 N	3.0 NNE	3.2 NE	2.5 NE	3.0 NE	2.0 NE	0.5 ESE	1.0 ESE	2.0 SSE	3.0 S	3.5 S	4.0 S	5.0 S	5.5 S	5.5 SSE	5.0 SSE	5.0 SSE	5.0 SSE	2.9	5.5	S	20:00
27	4.5 SSE	4.5 SSE	4.0 SSE	2.5 SE	2.0 SE	2.0 ENE	2.0 NE	3.0 NW	3.0 N	3.8 N	4.0 NNE	4.0 NNE	4.0 N	3.0 NNW	3.0 NNW	4.0 NNW	3.0 NNW	2.0 NW	2.8 SE	2.0 ESE	1.0 E	1.0 ESE	1.0 E	1.0 NE	2.8	4.5	SSE	1:00
28	1.0 NNE	2.0 NW	2.0 NW	2.0 NW	2.0 NNW	2.0 NNW	1.8 N	2.5 NNE	2.0 NNE	2.0 NE	C NE	1.0 NE	1.8 NE	2.0 NE	1.9 W	2.0 SW	4.5 SE	2.0 S	3.0 SE	2.2 SSE	2.1 SE	4.0 SSE	3.9 SSE	2.2 ESE	2.2	4.5	SE	17:00
29	1.8 ESE	2.0 NE	1.0 W	2.0 NW	2.0 NW	2.0 NW	2.0 NW	1.8 NNW	1.9 SSW	2.2 SW	2.3 SSW	2.0 SSW	2.2 SW	2.2 WSW	3.0 SSW	4.0 S	3.0 S	2.0 SSE	3.0 S	2.1 SSE	1.8 NE	2.0 NE	2.0 N	2.0 N	2.2	4.0	S	16:00
30	2.0 NW	2.0 NW	2.0 NNW	2.0 NNE	2.0 N	2.4 NNE	2.9 NNE	2.2 NNE	2.4 NNW	2.2 N	2.8 NNW	2.0 ESE	2.1 SW	2.8 SSW	4.0 S	3.0 SSW	4.1 SSW	5.0 SSW	4.0 SSW	3.8 S	3.4 SSW	3.0 SSW	1.8 W	2.0 NW	2.7	5.0	SSW	18:00
31	2.0 N	2.0 NNW	2.0 N	2.0 N	2.4 NNE	2.0 NNE	3.2 NE	2.8 NE	2.0 NE	2.1 NE	2.8 NE	2.0 ENE	2.0 SSW	2.0 SW	2.1 WSW	2.2 WSW	2.1 WSW	2.0 SW	2.1 SW	2.0 W	3.0 WNW	2.1 NW	1.8 SW	5.8 S	2.4	5.8	S	24:00
MEAN VEL.	2.2	2.2	2.1	2.1	2.2	2.2	2.4	2.3	2.4	2.6	2.6	2.6	2.3	2.6	2.9	2.7	2.5	2.4	2.7	2.3	2.4	2.4	2.3	2.2	MEAN 2.4	MONTHLY MAX.VEL. 5.8	DIR. S	

Note 1 : − shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. -1 (15) Wind Data

Month : Apr. 1989
St. : PILOT STATION MEAN

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DAILY MAX. DIR.	DAILY MAX. TIME
1	4.0 S	3.0 SSW	2.4 W	2.0 NNW	2.0 NNW	2.0 NNW	2.0 NW	2.0 WNW	1.8 E	2.0 SSE	2.0 WNW	2.0 WNW	2.0 SW	2.8 WSW	2.0 SSW	2.0 SSW	2.0 N	2.0 NNE	2.8 SW	3.2 S	2.2 NNE	2.0 E	2.0 NNE	2.0 NE	2.3	4.0	S	1:00
2	2.2 NNE	2.0 NNE	2.0 NNE	3.2 NE	2.8 NE	3.0 NE	2.2 N	3.0 NNE	2.0 NE	2.0 NE	2.0 SSE	2.0 S	2.2 SW	2.0 SW	3.0 SW	3.0 SSW	4.0 S	4.0 S	4.1 SSE	1.9 ENE	2.5 SE	1.7 ESE	1.7 ENE	2.0 SE	2.5	4.1	SSE	19:00
3	1.8 SSW	1.8 NNW	1.9 WNW	1.6 N	1.9 NNE	1.9 ENE	2.0 ENE	1.9 ENE	2.0 NE	1.9 S	2.0 S	2.0 SSW	2.0 SW	2.0 SW	5.0 SSW	0.6 WNW	2.0 N	3.9 W	2.0 SSW	2.0 NNW	2.0 W	3.0 W	2.0 WNW	2.0 NW	2.1	5.0	SSW	15:00
4	2.0 NW	2.0 NNW	2.0 NW	2.9 NNW	2.0 NE	2.2 NNE	2.0 WNW	2.0 WNW	2.0 SW	2.0 SSW	2.0 SW	2.0 N	1.8 S	3.6 WSW	2.8 NW	2.0 NW	2.0 WNW	2.0 N	2.0 E	2.8 NE	1.8 NE	1.8 NNW	2.0 NE	2.8 N	2.2	3.6	WSW	14:00
5	2.0 N	3.2 NE	3.6 NE	2.0 N	2.4 N	2.0 N	2.6 NNE	2.0 N	2.2 N	2.0 NE	2.0 NNE	2.0 S	2.0 SSW	1.6 SSW	2.0 SSW	3.0 S	2.2 SSW	2.0 SW	3.0 SSW	4.0 SSW	3.0 SSW	2.8 SSW	3.5 S	3.0 S	2.5	4.0	SSW	20:00
6	4.0 S	1.0 NE	2.0 WNW	1.9 N	2.0 NNW	2.0 NE	2.3 NE	2.5 NNE	2.5 NE	2.8 NE	2.5 NW	3.2 WSW	3.2 SW	2.5 WSW	2.0 WSW	2.2 WSW	2.1 N	2.0 NNW	2.0 NNW	2.0 NE	2.2 NNE	2.2 NNE	3.0 NNE	2.2 NE	2.3	4.0	S	1:00
7	2.1 N	2.5 NNE	2.5 NE	2.1 N	2.4 NNE	3.0 NNE	2.2 NE	2.9 NE	2.7 N	2.0 NE	2.0 NE	2.1 S	2.5 S	2.0 N	2.1 WSW	2.0 NW	1.5 WNW	1.8 NNE	1.7 E	2.0 ESE	4.0 SSE	3.8 SSE	2.0 E	1.9 ENE	2.3	4.0	SSE	21:00
8	2.0 NE	2.0 ENE	2.0 NE	2.0 NE	2.0 N	3.0 N	3.8 NNW	3.5 NW	2.8 NW	2.2 NE	2.4 N	1.8 S	2.0 S	2.2 S	2.0 SSW	2.1 SSW	2.0 SW	2.0 SW	2.0 SW	2.0 WSW	2.0 WSW	2.0 SSW	2.0 WSW	2.0 W	2.2	3.8	NNW	7:00
9	2.0 NW	4.5 W	3.2 WNW	3.2 WNW	2.4 NW	2.0 NNE	2.0 NNW	2.0 NNW	2.0 WNW	2.3 W	2.9 W	2.4 SW	2.5 SSW	2.1 WSW	2.0 W	2.6 WSW	2.2 W	2.6 W	2.1 WNW	2.0 WNW	2.0 N	2.1 NNE	2.0 NE	2.0 NE	2.4	4.5	W	2:00
10	2.2 NE	2.4 NE	2.3 NE	2.0 NE	2.1 NNE	2.0 NNE	2.2 NNE	2.0 N	2.0 NNE	3.2 NE	2.9 NE	2.2 NE	2.0 NE	2.0 SSE	2.0 SSW	2.0 SE	3.4 SSE	3.8 SSE	3.7 S	2.0 E	1.8 ESE	2.0 SE	1.8 E	2.0 NE	2.3	3.8	SSE	18:00
11	2.0 N	2.0 N	2.0 N	1.8 NNW	2.0 NNW	2.0 NNW	2.0 NNW	2.0 NW	2.0 NW	2.0 NE	1.8 SSE	2.0 SW	2.0 WSW	2.9 WSW	2.0 WSW	1.8 SW	1.8 SW	2.4 S	1.8 W	1.8 NE	2.0 NNE	2.2 SSW	1.8 E	1.8 NNE	2.0	2.9	WSW	14:00
12	1.2 S	1.0 S	1.9 E	2.0 NNE	1.9 NE	1.9 ENE	3.1 SE	3.8 SSE	4.0 SSE	2.9 S	2.1 SSW	2.0 SW	2.2 SW	3.2 WSW	2.0 WSW	2.0 S	2.0 E	2.0 SE	2.0 ESE	2.0 NE	3.0 NE	2.8 N	3.0 N	2.4 N	2.4	4.0	SSE	9:00
13	2.0 N	2.0 N	2.0 NNE	2.0 N	2.4 NE	2.0 N	2.6 NNE	2.0 NNE	2.5 NNE	2.4 NE	2.0 NE	1.0 ENE	2.0 NW	2.0 SW	2.0 SW	3.0 SSW	4.0 S	3.8 S	4.0 S	3.8 S	3.8 S	4.0 SE	2.0 S	1.9 SSE	2.6	4.0	S	17:00
14	1.8 WSW	2.0 WNW	2.0 S	1.8 W	2.0 N	2.0 N	2.5 NNE	2.0 N	2.8 NNE	2.0 NE	2.0 ENE	2.0 SE	2.0 WNW	1.9 ESE	1.8 ENE	0.9 E	0.8 N	1.8 N	2.0 NNE	2.0 N	2.0 NE	2.3 NE	2.0 NE	2.0 NE	1.9	2.8	NNE	9:00
15	1.8 N	2.0 N	2.0 N	2.0 N	2.4 N	2.0 N	2.6 NE	2.8 NE	2.4 NNE	2.0 NE	1.8 E	2.0 SSW	2.0 SSW	2.0 SW	2.0 SW	2.9 SSW	3.0 SSW	2.0 SSW	3.0 SSW	2.0 SSW	3.2 SSW	2.0 SSW	2.0 WSW	2.0 E	2.2	3.2	SSW	21:00

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. -1 (16) Wind Data

Month : Apr. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DIR.	TIME
16	1.8 SE	2.0 NNE	2.0 NNW	1.9 SW	2.0 NNE	2.0 N	2.2 NNE	2.2 NE	3.2 NNE	3.2 NNE	2.4 NNE	2.0 ENE	2.0 SE	2.0 SSE	2.0 SSW	2.0 SSW	2.0 SW	1.8 SSW	2.4 S	2.9 S	2.0 S	1.8 NE	2.0 W	2.0 NW	2.2	3.2	NNE	9:00
17	1.8 SSW	1.9 WNW	2.0 W	3.8 NNW	4.0 NW	2.2 NE	2.0 N	3.7 NNE	2.0 NE	2.0 NE	1.8 SE	1.9 S	2.0 SW	2.0 WSW	2.0 SW	1.9 SW	- -	1.9 SW	1.8 SW	1.8 WSW	1.8 WSW	2.0 WSW	2.0 SE	2.4 SSE	2.2	4.0	NW	5:00
18	2.0 NNE	2.1 NNE	2.0 NE	2.0 N	2.0 N	2.8 NNE	3.4 NNE	3.9 NNE	2.6 NE	2.3 NNE	2.0 NE	1.8 E	2.0 SW	C SW	1.0 SW	0.5 SW	C SW	C SW	C SW	C SSW	C SSW	C W	C WSW	C WNW	1.4	3.9	NNE	8:00
19	C WNW	C WNW	C NW	C NNW	C N	C NW	C WNW	C WNW	C WNW	1.0 WNW	2.0 SW	2.0 SW	2.0 WSW	2.0 WSW	2.0 WSW	2.0 SW	2.5 SW	2.1 WSW	2.0 WSW	2.0 WSW	2.0 WSW	2.0 WSW	2.0 WSW	1.8 NE	1.2	2.5	SW	17:00
20	2.0 NW	1.8 NNW	1.7 NNW	0.9 NNW	1.8 NNW	1.8 NNW	1.0 N	2.0 NNW	2.0 NW	2.2 WNW	2.2 W	2.5 W	3.0 W	3.0 W	3.0 WSW	3.0 WSW	3.0 WSW	2.2 WSW	2.2 W	2.1 W	2.0 W	2.0 NW	2.0 NW	2.0 WNW	2.1	3.0	W	13:00
21	2.0 NW	2.0 NW	2.0 NNW	2.0 NW	2.0 NW	2.0 NW	2.0 NNW	2.1 N	2.6 WNW	3.4 WNW	2.5 W	3.0 W	3.0 WSW	3.0 WSW	2.9 WSW	3.0 WSW	3.1 WSW	3.5 WSW	3.0 W	2.5 WNW	2.0 NNW	2.0 N	2.0 NNW	2.0 NNW	2.5	3.5	WSW	18:00
22	1.9 N	2.0 N	2.0 N	2.0 N	2.0 N	2.0 N	2.0 NNE	2.1 NW	2.0 NW	2.1 WSW	2.3 WSW	3.5 WSW	3.3 WSW	3.0 WSW	2.9 WSW	2.2 WSW	2.0 WSW	2.2 WNW	2.0 WSW	2.0 WSW	2.9 WNW	2.3 NNW	2.2 N	2.4 NE	2.3	3.5	WSW	12:00
23	2.2 NE	2.0 NE	1.9 NE	2.0 NNE	2.0 NE	2.0 NE	2.0 NE	2.0 NE	2.0 NE	1.9 ENE	2.0 WSW	2.2 SW	2.0 SW	2.1 SSW	2.2 SSW	2.0 SSW	2.0 SSW	2.2 S	2.0 S	2.0 S	0.8 SSE	0.5 SW	2.0 S	1.5 S	1.9	2.2	NE	1:00
24	2.2 S	1.4 ESE	1.8 ESE	2.0 SE	3.3 SSE	3.0 SSE	1.0 ESE	1.0 ESE	2.0 SSE	2.0 SSE	2.1 SSE	2.5 S	2.5 SSW	2.1 SSW	2.6 SSW	2.0 SSW	2.2 SSW	1.0 SW	2.5 SSE	0.8 SW	1.3 S	3.0 SSE	3.0 SSE	2.0 ESE	2.1	3.3	SSE	5:00
25	1.0 E	1.0 NE	1.0 N	2.0 N	1.7 NNE	2.0 NNE	2.0 NNW	2.0 NE	2.0 NE	0.5 NNE	2.0 NNE	2.0 NE	1.0 S	2.0 SW	3.2 WSW	2.2 WSW	1.8 SW	2.5 S	3.3 S	1.0 S	4.0 W	1.0 NE	1.0 NE	2.0 N	1.8	4.0	W	21:00
26	2.0 NNE	1.8 WSW	2.0 SE	1.3 E	2.0 NNE	2.0 NNW	2.0 N	2.0 N	2.1 NE	2.1 NNE	2.0 NE	2.4 NNE	2.0 NNW	2.0 NW	2.0 NW	2.0 WNW	1.6 E	1.7 E	1.9 NW	1.7 NW	1.8 NNW	2.0 NE	1.9 NE	2.0 ENE	1.9	2.4	NNE	12:00
27	2.0 ENE	2.0 N	2.0 NNE	2.0 N	2.0 N	1.9 N	2.0 N	2.0 NNE	2.0 NE	2.0 ENE	2.1 SSE	1.8 SE	1.9 SE	- -	C SSW	1.9 NNW	0.5 W	1.8 NW	2.1 NNE	2.1 NNE	2.0 NE	2.0 NE	2.0 NE	1.8 W	1.8	2.1	SSE	11:00
28	2.2 W	2.1 WSW	2.0 NW	2.0 N	1.9 N	2.0 N	2.0 N	2.0 NNE	2.1 NE	2.0 NE	2.0 NE	1.9 NE	2.0 NE	1.0 E	1.9 SW	2.0 SW	2.0 SW	1.9 SW	2.0 S	2.2 WSW	2.0 SW	3.0 SSW	4.0 WSW	3.0 SW	2.1	4.0	WSW	23:00
29	2.0 SW	2.0 SSW	2.0 SSW	2.1 NNE	2.5 NNE	2.2 NNE	2.1 N	2.4 N	3.8 NNE	3.9 NNE	2.1 NNE	3.0 NNE	2.8 NE	1.9 NE	1.9 SE	2.0 SW	2.0 WSW	2.0 SW	1.9 SW	1.9 SSW	4.0 S	3.9 S	1.6 S	1.8 NNE	2.4	4.0	S	21:00
30	2.0 N	2.0 N	2.0 NE	2.0 NE	2.1 NE	2.1 NNE	2.0 N	2.0 N	2.0 NNE	2.0 NE	2.0 NE	1.8 E	2.0 WSW	2.0 WSW	2.0 WSW	2.0 WSW	1.9 WNW	2.0 NW	2.0 ENE	1.8 E	1.8 E	1.9 ENE	1.7 ENE	1.9 NE	2.0	2.1	NE	5:00

MEAN VEL.	2.0	2.0	2.0	2.0	2.1	2.1	2.1	2.3	2.3	2.2	2.1	2.2	2.2	2.2	2.2	2.1	2.1	2.2	2.3	2.1	2.3	2.2	2.1	2.0

MEAN	MONTHLY MAX.VEL.	DIR.
2.1	5.0	SSW

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. -1 (17) Wind Data

Month : May 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DAILY MAX. DIR.	DAILY MAX. TIME
1	1.9 NE	1.1 NE	1.0 NE	1.9 NE	2.0 NNE	2.0 N	2.0 N	2.3 NE	2.5 NE	2.1 NE	2.0 NE	2.0 ENE	2.0 ENE	2.0 NE	0.5 WNW	C SSW	2.3 S	4.0 S	4.0 S	4.2 SSE	4.5 SSE	4.5 SSE	4.0 SSE	4.2 SSE	2.5	4.5	SSE	21:00
2	4.0 SSE	2.0 SE	2.8 SE	2.0 SE	2.0 SE	2.3 SE	1.5 ESE	1.5 E	1.9 SE	1.5 S	1.0 SE	2.0 S	2.5 SSW	1.0 SSW	2.5 SSW	4.0 S	4.3 S	4.5 SSE	4.5 SSE	5.0 SSE	5.0 SSE	5.5 SSE	5.0 SSE	4.8 SSE	3.0	5.5	SSE	22:00
3	4.0 SE	2.0 ESE	2.2 SE	1.5 E	1.8 SSE	1.9 ESE	1.5 ESE	1.8 NE	2.0 NE	2.1 NE	1.9 NE	1.0 SE	2.0 S	2.2 S	2.5 SSW	3.5 S	4.2 S	3.8 SSE	5.5 SSE	5.0 SE	3.8 SE	3.0 SE	4.0 SSE	3.0 SE	2.8	5.5	SSE	19:00
4	2.5 SE	3.0 SE	1.8 ENE	2.0 N	2.0 N	2.0 NNE	2.3 NE	2.0 NE	2.1 ENE	2.0 NE	2.0 NE	2.0 NE	2.0 ENE	2.0 SSW	3.0 SSW	4.8 S	5.0 S	4.8 SSE	5.0 SSE	5.0 SSE	4.0 SE	3.5 SE	3.9 SSE	4.5 N	3.1	5.0	S	17:00
5	3.5 NW	2.5 WNW	1.8 ENE	2.0 NE	2.0 NNE	2.5 NE	3.8 NE	3.5 NNE	3.8 NNE	3.9 NNE	3.5 NNE	3.0 NE	2.0 ESE	2.0 SSE	3.5 S	2.2 SE	2.0 SE	4.0 SE	4.0 SE	3.9 SE	1.9 SE	1.5 WNW	2.0 NNW	2.0 NNW	2.8	4.0	SE	18:00
6	2.0 NNW	2.0 WSW	1.8 ESE	1.7 NE	1.5 E	1.5 E	2.0 NE	3.0 NE	3.0 NE	3.5 NE	3.0 NE	1.9 NE	2.5 NE	2.5 NE	2.5 NE	2.5 SW	2.0 SSW	4.7 S	5.0 SSE	5.0 SSE	5.0 SSE	4.0 SSE	3.8 SE	2.0 ESE	2.9	5.0	SSE	19:00
7	2.0 NE	2.7 NE	2.5 NE	3.7 NNE	2.5 NE	3.0 NE	3.0 NE	3.8 NE	3.8 NE	2.0 NE	2.0 NE	2.0 S	4.5 WNW	2.0 N	3.0 SSW	3.8 S	4.1 S	4.5 SSE	3.0 SE	2.0 SE	2.0 SSE	3.0 SSE	4.8 SSE	3.0 SE	3.0	4.8	SSE	23:00
8	2.0 NE	2.0 NE	2.0 NNW	2.0 NW	2.0 NW	2.0 WNW	2.2 NNW	2.3 NNW	2.3 N	3.0 NE	3.5 NE	2.0 NE	2.0 S	2.0 SW	2.5 SSW	4.2 SSE	3.0 SSE	4.0 SSE	3.0 SSE	3.0 SSE	2.0 SE	2.3 SE	2.8 SE	3.0 SE	2.5	4.2	SSE	16:00
9	3.0 ESE	2.0 ESE	2.0 NE	2.0 NNE	2.0 N	2.0 N	2.0 N	2.0 NE	2.5 NE	2.1 NE	2.0 NE	2.0 NE	1.9 S	4.0 S	3.5 SSE	4.0 S	4.0 SE	3.5 SE	4.0 ESE	2.0 ESE	2.0 ESE	3.0 SE	2.6 ESE	3.2 SE	2.6	4.0	S	14:00
10	2.8 ESE	1.9 ESE	2.0 NNW	2.0 WNW	2.0 NNE	2.5 NNE	2.0 N	2.5 NNE	2.0 NE	2.0 NE	2.0 NE	2.0 NE	2.0 NE	2.0 SSW	2.5 SSW	2.0 S	4.0 SE	5.0 SSE	4.0 SSE	5.0 SSE	3.9 SE	2.0 ESE	2.3 NE	2.0 N	2.6	5.0	SSE	18:00
11	2.1 N	2.0 N	2.0 N	3.0 NE	3.5 NNE	3.0 N	3.0 NNE	3.8 NNE	3.0 NE	2.0 ENE	1.9 ESE	1.9 ESE	2.0 SE	2.0 SSW	2.2 SW	2.5 WSW	2.0 WSW	2.8 S	4.0 SE	3.0 SE	2.0 E	2.0 SE	2.5 SE	2.0 SE	2.5	4.0	SE	19:00
12	2.0 SSE	1.8 NW	2.0 N	2.0 NE	2.5 NE	2.0 E	3.5 NE	2.0 ENE	2.0 E	2.2 NE	1.9 SE	2.0 ESE	2.8 SSW	2.6 SW	4.1 S	2.0 NW	3.0 NW	1.9 ESE	1.9 NE	2.0 NW	2.0 N	2.0 ENE	2.0 NNW	1.8 NE	2.3	4.1	S	15:00
13	2.0 NE	2.0 NE	1.8 NW	2.0 WNW	2.0 NW	2.0 NNW	1.5 W	2.0 NNE	2.0 NNW	3.0 NE	3.0 N	3.5 NE	3.0 NE	2.5 NE	1.9 WSW	2.3 SW	2.2 SSW	3.0 SSW	3.8 SSW	4.3 SSW	4.1 S	4.0 S	2.2 SE	3.5 S	2.7	4.3	SSW	20:00
14	4.0 S	3.8 SSE	3.8 SSE	2.8 SE	2.0 SE	2.0 E	2.0 NE	2.0 NE	2.0 NE	1.8 E	3.0 SSW	3.0 SE	3.0 S	3.0 S	3.0 S	3.0 WSW	2.0 WSW	3.5 SSW	3.5 S	3.8 SSE	3.8 SE	2.0 SE	2.0 E	2.0 ESE	2.8	4.0	S	1:00
15	1.9 ESE	1.9 ENE	1.8 E	2.0 NNE	2.0 NNE	2.0 N	2.0 N	3.0 NNE	2.8 NE	2.0 NE	2.0 NE	1.5 NE	1.8 S	2.0 SSW	3.0 SSW	3.5 S	4.0 S	5.0 SSE	5.0 SSE	4.5 SSE	4.5 SSE	4.5 SSE	4.0 SE	3.0 SE	2.9	5.0	SSE	18:00

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. -1 (18) Wind Data

Month : May 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DAILY MAX. DIR.	DAILY MAX. TIME
16	2.0 SE	2.0 E	2.0 E	2.0 ENE	1.0 SE	1.3 E	1.5 NE	2.0 NE	1.0 ENE	1.0 NE	2.0 SSW	2.2 SSW	2.0 SSW	2.2 S	1.8 SW	2.0 SSW	4.5 SSW	5.0 S	4.8 SSE	4.8 SSE	5.0 SSE	5.0 SSE	5.0 SSE	4.8 SSE	2.8	5.0	S	18:00
17	4.5 SSE	4.3 SSE	1.8 ESE	2.0 ESE	1.5 ESE	1.5 E	1.5 E	1.5 ENE	2.8 S	2.5 SSW	2.2 SSW	3.0 SSW	3.0 SSW	3.8 SSW	3.8 SSW	3.9 S	4.0 S	4.5 S	4.2 SE	4.5 SE	3.8 SE	4.0 SSE	4.0 SSE	2.8 SSE	3.1	4.5	SSE	1:00
18	2.2 SSE	2.2 SE	2.0 E	2.0 ESE	2.0 E	2.0 N	2.2 NE	2.5 NE	2.0 NE	2.0 SSW	3.0 SSW	2.2 SSW	2.2 SW	2.0 SW	4.0 SSW	4.8 SSW	5.3 SSW	5.0 S	5.3 SSE	5.3 SSE	5.5 SSE	5.7 SSE	5.8 SSE	5.0 SSE	3.4	5.8	SSE	23:00
19	4.5 SSE	3.0 SE	3.0 SE	2.0 ENE	2.0 NNE	2.0 NNE	2.0 ENE	1.8 ESE	1.5 SE	1.8 SW	2.0 ENE	1.8 SSW	2.0 WSW	2.0 SW	2.0 SSW	3.9 SSW	5.0 S	5.6 SSE	5.8 SSE	5.5 SSE	4.7 SSE	4.0 SSE	4.0 SSE	3.0 SE	3.1	5.8	SSE	19:00
20	2.0 SE	2.0 SE	1.8 ESE	1.9 ESE	1.5 NE	2.0 NNW	1.5 W	2.0 NE	1.5 ESE	2.0 SSW	1.8 SW	2.0 SW	2.0 SW	3.5 SSE	3.8 SSE	4.5 SSE	4.2 SSE	4.0 SSE	3.9 SE	2.8 SE	3.0 SE	1.9 ESE	1.9 ESE	2.0 NE	2.5	4.5	SSE	16:00
21	2.2 NE	2.0 ENE	1.9 ENE	1.9 ENE	1.5 E	2.5 NE	2.0 NE	1.9 NE	2.0 NE	1.8 NE	2.0 SSW	2.0 SSW	2.0 S	3.0 SSE	4.3 SSE	4.1 S	4.5 SSE	4.2 SSE	2.0 ESE	2.1 NNE	3.9 NNE	1.8 NNE	1.5 SSE	2.0 E	2.5	4.5	SSE	17:00
22	2.0 NE	2.2 NE	1.7 NW	1.7 E	2.0 E	1.5 ESE	2.0 NE	1.5 E	2.0 NE	2.0 NE	2.5 NE	2.0 NE	2.8 NE	3.0 NNE	2.0 N	2.0 NW	2.0 S	4.0 ESE	2.0 E	4.5 NW	2.0 NNE	2.3 NE	2.0 E	3.0 SE	2.3	4.5	NW	20:00
23	2.0 ESE	2.0 SE	2.0 SE	2.0 ENE	2.0 E	2.0 E	2.0 N	1.9 NNW	2.0 NNW	2.0 E	1.8 SE	2.0 S	2.5 SSW	2.8 SSW	2.2 SSW	4.0 SSW	4.0 S	4.2 SSE	4.2 SSE	4.8 SSE	4.5 S	2.5 ESE	2.0 ENE	2.0 ESE	2.6	4.8	SSE	20:00
24	1.9 SE	1.8 NNE	2.0 N	2.3 NNE	2.5 NE	2.8 NNW	3.0 NW	2.5 N	2.0 W	2.0 W	2.5 W	2.3 SSW	2.3 SW	4.0 S	4.0 S	3.3 S	3.0 S	2.0 SSE	2.7 SSE	2.8 SE	2.0 ESE	2.0 ESE	2.3 NE	2.2 ENE	2.5	4.0	S	14:00
25	2.0 E	2.0 E	2.0 ESE	2.0 E	2.0 SSE	1.8 SE	2.0 WNW	1.8 NW	2.0 W	C SSW	0.8 SSW	1.0 SW	1.2 SSW	1.2 SW	1.9 S	1.5 SSW	1.7 SSW	1.7 SSW	2.9 SSW	2.8 S	4.0 SSE	3.5 SSE	2.3 SSE	3.3 SSE	2.0	4.0	SSE	21:00
26	1.2 NW	3.8 NNE	2.2 NW	2.0 W	1.8 N	1.5 N	1.7 NW	1.2 NE	0.8 NE	0.6 E	1.2 E	1.0 ENE	0.8 NE	2.0 NE	2.6 NE	1.5 ESE	1.2 ENE	0.8 NE	1.5 SE	2.4 SE	3.2 SE	1.2 ESE	0.9 E	1.0 NE	1.6	3.8	NNE	2:00
27	2.1 NE	1.8 NE	2.0 NE	2.1 NNE	2.0 NE	2.0 NE	3.2 NNE	3.3 NNE	4.0 NNE	3.2 NNE	3.8 NNE	3.0 NE	2.4 NE	2.4 NE	1.9 NE	1.7 NE	1.0 NW	3.5 S	4.0 S	4.5 SSE	4.8 SSE	5.0 SSE	4.4 SSE	2.0 ESE	2.9	5.0	SSE	22:00
28	1.5 E	1.0 NNE	1.0 ESE	1.5 ESE	2.0 ENE	2.0 NE	2.2 NE	2.0 NE	2.1 NNE	3.0 NNE	2.1 ENE	2.0 NE	2.0 WNW	2.0 SSW	3.2 S	3.0 SSE	1.7 ESE	2.0 NE	2.0 NW	2.0 N	2.0 NW	1.5 NW	1.3 N	2.0 NW	2.0	3.2	S	15:00
29	1.3 ENE	1.6 ESE	2.1 NNE	2.5 NE	2.5 NNE	2.8 NNE	2.5 NNE	2.5 NNE	1.8 NE	1.8 ENE	1.0 NE	2.2 S	1.5 S	1.8 SSW	2.5 WSW	2.2 S	3.8 SSE	4.5 S	4.4 SSE	5.0 SSE	4.0 SSE	4.5 SSE	3.2 SE	2.8 SE	2.7	5.0	SSE	20:00
30	4.2 SSE	3.8 SSE	5.9 SSE	4.0 ESE	2.0 ESE	2.0 ESE	1.9 E	2.0 NE	1.9 SE	1.8 E	1.6 SE	2.2 S	2.4 S	3.5 S	3.0 SE	2.8 SSE	1.9 W	2.3 WSW	3.0 E	3.8 NNW	2.0 SW	2.0 SE	2.8 SE	3.0 SSE	2.7	5.9	SSE	3:00
31	2.4 SE	3.0 SE	3.2 SE	3.8 SE	4.5 SE	3.8 SE	2.5 W	2.8 NW	3.0 NW	2.4 WNW	1.9 WNW	2.2 NW	2.5 WNW	1.5 NW	2.0 NNE	3.8 NE	4.6 NE	5.6 NE	5.2 NE	3.9 NE	2.0 NW	2.2 NW	2.5 NW	2.6 NW	3.1	5.6	NE	18:00
MEAN VEL.	2.5	2.3	2.2	2.2	2.1	2.1	2.2	2.3	2.3	2.1	2.2	2.1	2.2	2.4	2.7	3.0	3.2	3.8	3.8	3.8	3.4	3.1	3.0	2.8	MEAN 2.7	MONTHLY MAX.VEL. 5.9	MAX.DIR. SSE	

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. −1 (19) Wind Data

Month : Jun. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	2.4 NNW	2.0 N	2.6 NNE	3.0 NNE	3.8 NNE	3.5 NNE	3.8 NE	2.8 NNE	2.0 NNE	1.0 NE	1.0 NE	C NE	C ENE	C NE	C NE	C NE	C WSW	C WSW	3.2 SSE	3.4 S	3.2 S	3.7 S	3.7 S	3.7 S
2	3.8 S	3.0 SSE	2.8 SSE	2.0 SSE	C SE	C ESE	0.7 NE	2.0 NE	1.7 NE	1.7 NE	1.8 NE	C NE	C NE	1.8 S	2.0 S	3.2 SSE	2.0 SSE	C ENE	C NE	0.8 ESE	2.2 SSE	2.2 SE	2.5 SSE	1.3 ESE
3	1.0 SE	C ESE	1.0 NE	1.5 NNE	1.0 N	1.0 N	1.0 NNW	1.7 N	2.5 NNE	2.0 NNE	1.0 NNE	1.0 NE	1.5 NE	1.5 SSW	2.0 SSW	4.5 S	3.5 S	3.8 S	3.7 S	3.0 SSE	4.0 SSE	2.7 SE	2.1 SE	1.0 SE
4	0.5 N	0.8 NE	1.0 NNE	0.8 N	1.0 NNW	1.5 N	1.0 NNW	2.2 NNE	2.2 NE	3.2 NE	2.5 NNE	2.5 NNE	2.2 NE	1.5 NE	0.5 NE	1.0 NE	0.5 ENE	3.8 SSE	3.8 SSE	3.7 S	2.1 SE	2.6 SSE	1.9 SSE	C SE
5	C SE	C ESE	1.9 NW	1.9 NNW	1.8 N	1.8 N	0.5 NNE	1.0 NW	2.1 N	1.0 NNE	2.1 NE	2.0 NE	2.0 NE	C N	1.0 SW	2.3 W	2.0 WNW	2.3 W	C N	1.4 NNE	C N	C NNW	C W	0.5 SW
6	C WSW	1.3 NNW	0.8 N	2.0 NE	2.0 NNE	1.0 NNW	1.5 N	0.8 NNE	1.0 NE	2.0 NE	1.9 NE	0.8 NE	C SE	1.0 SW	1.8 SW	1.0 SW	1.8 S	2.5 S	2.8 S	3.0 SSE	1.0 ESE	1.9 SE	1.0 SE	1.0 ESE
7	C ESE	1.8 NE	1.9 NE	2.0 NE	2.0 NNE	1.0 N	C NE	1.9 NE	2.0 NE	1.0 ENE	C SE	1.9 S	1.9 SSW	1.9 SW	1.9 W	2.0 SW	2.3 SSW	3.0 S	3.9 S	3.5 SSE	3.8 SSE	2.0 SE	1.9 SE	1.8 E
8	0.8 ESE	C ENE	2.0 WNW	1.5 N	1.0 N	1.0 N	1.5 NE	C NNW	C E	C SSE	C ENE	C ENE	C S	1.2 SSW	2.0 S	3.0 S	3.0 S	3.7 S	3.0 S	3.7 S	3.9 SSE	2.1 SSE	2.6 SSE	2.1 SE
9	3.0 SSE	1.9 SE	1.9 SE	C ESE	C E	C NE	1.0 NE	C ENE	C SE	2.0 SSE	3.0 S	2.5 S	2.0 SSW	2.0 SW	2.0 SSW	2.2 SSW	3.7 SSE	3.8 SSE	3.7 SE	3.0 SE	1.8 ESE	1.0 ESE	1.0 E	0.8 NNW
10	1.0 NNE	C ENE	C ESE	1.2 NNE	C NNE	0.8 N	1.0 NE	C ENE	0.8 NE	1.2 NE	0.8 NE	0.5 SE	C S	1.0 S	1.0 S	2.2 S	3.3 S	3.0 S	3.0 SSE	4.2 SSE	4.0 SSE	3.7 SSE	2.5 SE	1.0 ESE
11	C ESE	C ENE	0.8 NE	0.8 NE	1.9 NNE	2.0 NNE	2.5 NNE	2.3 NE	1.8 NE	C ENE	1.9 NE	2.0 NE	C E	1.0 SSE	2.0 SSE	2.0 SSE	1.0 ESE	1.0 ESE	C ESE	C E	1.0 NE	2.1 NE	3.8 NE	0.5 NE
12	1.8 N	1.7 NNW	0.5 N	1.0 N	2.0 N	2.1 N	1.9 N	2.0 NNE	2.0 NE	2.7 NE	3.0 NE	3.0 NNE	1.9 ENE	2.2 NNE	2.6 NE	2.0 NE	1.0 ENE	C ENE	C ENE	2.5 SE	0.8 SE	0.8 ESE	1.0 SE	2.0 SE
13	1.0 SE	3.0 SSE	2.4 SSE	0.7 ESE	C E	C ENE	2.0 NNE	2.2 NNE	C NE	C ESE	0.8 S	C ESE	0.5 SSW	1.6 S	1.8 SSW	1.0 SSW	2.2 S	3.0 S	3.0 SSE	2.1 S	2.2 WNW	1.9 WSW	1.9 SW	1.0 SSW
14	C S	C SSW	C NNE	1.8 NNE	1.9 NNE	0.8 NNE	C NNE	C NNE	C SSE	C SSE	1.0 S	1.3 SSW	1.8 S	2.3 S	2.3 SSW	1.8 WSW	1.9 WSW	2.5 SW	4.0 S	2.7 WNW	2.0 WSW	C NW	1.0 NNE	2.0 NW
15	0.5 SW	3.8 S	1.0 N	2.1 NE	2.0 N	2.0 NNW	2.2 NNE	3.0 NE	2.1 NE	2.0 NE	2.2 NE	2.0 NE	1.0 SW	2.0 WNW	1.8 W	2.0 W	3.0 W	2.1 W	2.1 WNW	3.5 W	3.5 W	3.0 WNW	1.9 NW	2.0 NNW

DAILY MEAN	DAILY MAX. VEL.	DIR.	TIME
2.0	3.8	NNE	5:00
1.6	3.8	S	1:00
2.0	4.5	S	16:00
1.8	3.8	SSE	18:00
1.2	2.3	W	16:00
1.4	3.0	SSE	20:00
1.9	3.9	S	19:00
1.6	3.9	SSE	21:00
1.8	3.8	SSE	18:00
1.5	4.2	SSE	20:00
1.3	3.8	NE	23:00
1.7	3.0	NE	11:00
1.4	3.0	SSE	2:00
1.3	4.0	S	19:00
2.2	3.8	S	2:00

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. -1 (20) Wind Data

Month : Jun. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DAILY MAX. DIR.	DAILY MAX. TIME
16	2.0 NNW	2.0 NNW	1.8 NNW	1.0 N	C N	2.0 NNE	1.9 NNE	2.1 NNE	2.5 NNE	1.8 NE	1.8 NE	C NE	C ESE	4.2 SSW	5.0 SW	5.0 SW	2.2 WSW	2.2 SW	0.7 WNW	0.5 N	0.8 NW	C N	1.0 N	C N	1.7	5.0	SW	15:00
17	C NNW	1.0 N	2.0 NE	2.0 NE	2.5 NE	2.0 NE	2.0 NNE	C NNW	C NNE	C S	1.0 SSW	1.0 S	2.0 SSW	2.0 SSW	1.6 SSW	1.0 SSW	C SSW	C SSW	C SSW	C SW	6.3 WNW	1.0 N	0.9 W	C NW	1.2	6.3	WNW	21:00
18	1.0 NNE	0.5 N	1.0 N	2.0 NE	1.8 N	0.9 N	2.0 N	2.0 NNE	2.5 N	3.0 NNE	2.2 N	2.8 NNE	2.5 NNE	2.0 NE	1.8 NE	C ENE	C E	1.0 SE	C SSE	C E	C E	C NE	C NE	C ENE	1.2	3.0	NNE	10:00
19	C NE	C NNE	C NE	C ESE	C ESE	C ENE	C ENE	C ENE	1.0 NE	1.3 NE	C NE	C S	1.0 S	1.5 S	1.5 S	2.0 S	2.0 S	1.5 S	2.9 S	3.0 S	4.0 SSE	4.0 SSE	3.9 SSE	2.7 SSE	1.3	4.0	SSE	21:00
20	2.1 S	2.5 SSE	C WNW	0.5 NNE	C NE	C E	C ESE	C NE	C ENE	1.0 SE	2.0 S	3.0 SSE	3.2 S	4.0 SSE	4.3 S	4.8 S	2.5 SSW	4.2 S	4.3 S	4.0 S	3.0 S	4.0 S	4.0 S	1.9 N	2.3	4.8	S	16:00
21	2.0 SE	0.9 NNE	1.0 E	2.0 NNE	2.0 N	2.0 N	2.0 NNE	2.5 NW	2.0 NNW	2.0 WNW	3.9 WSW	3.8 WSW	2.0 SW	2.0 S	3.0 SSE	2.5 SSE	3.2 SSE	4.0 SSE	2.9 SE	2.0 ESE	2.0 ESE	1.0 E	1.0 NE	2.0 NE	2.2	4.0	SSE	18:00
22	2.0 NNE	2.0 NNE	2.0 N	1.5 NNW	2.0 ENE	1.5 E	1.0 NE	1.8 NW	2.0 NE	1.8 ESE	3.0 S	2.7 S	3.0 SSW	4.0 S	4.5 S	4.2 SSE	4.7 SSE	5.3 SSE	4.5 SE	4.5 SE	3.2 SE	3.2 SE	2.0 ESE	2.1 SE	2.9	5.3	SSE	18:00
23	2.0 NNE	2.0 N	2.0 NNE	1.8 E	1.8 NNE	1.9 NNE	1.7 NNW	2.0 NNW	2.3 NNE	2.3 NE	2.0 NE	1.9 S	2.0 SSW	3.9 SSE	4.3 SE	3.2 SE	4.2 SE	3.8 SE	3.3 SE	2.0 ESE	1.8 E	2.0 NE	1.8 ENE	1.8 ENE	2.4	4.3	SE	15:00
24	2.0 NE	7.0 E	1.8 E	2.2 SE	1.8 N	1.8 E	2.2 ENE	4.0 ENE	1.8 NE	1.0 N	2.0 NE	1.0 E	2.0 SSE	2.2 SSE	2.2 S	2.5 S	4.3 SE	4.0 SE	4.2 SE	3.9 SE	3.0 SE	3.0 SE	1.9 E	1.5 ENE	2.6	7.0	E	2:00
25	2.0 N	1.5 N	2.0 NNW	2.0 NNW	2.0 NNW	2.0 NNW	2.0 N	2.0 NW	2.8 NE	2.5 NE	2.0 NE	2.2 NE	2.0 NE	2.0 SSW	4.5 SSE	4.0 SSE	3.3 SE	4.0 SE	3.3 SE	2.0 ESE	2.0 NE	2.0 NE	2.2 NE	2.0 NNE	2.4	4.5	SSE	15:00
26	3.0 NNE	2.5 NNE	2.5 NNE	1.9 NNE	2.0 ENE	1.9 NE	1.5 E	1.5 E	2.0 NE	2.0 NNE	3.5 NNE	2.5 NNE	2.0 NNE	2.2 N	3.3 NNE	1.8 SSW	2.0 SSW	2.0 S	3.0 S	4.0 S	4.7 SSE	3.7 ESE	2.7 SE	1.9 ESE	2.5	4.7	SSE	21:00
27	1.8 ENE	2.0 SE	2.0 ESE	1.8 SE	1.8 NE	2.0 NE	2.0 NE	2.3 NE	2.0 NE	2.3 NE	2.0 NE	2.1 NE	2.0 NE	2.0 NE	2.0 ESE	5.0 SE	2.2 ESE	1.9 NNW	1.8 N	1.8 NE	1.5 E	2.2 ESE	1.8 NE	1.9 NE	2.1	5.0	SE	16:00
28	2.2 NW	2.2 NNW	2.2 N	4.0 NNE	2.5 NNW	2.0 NNW	2.0 N	2.0 N	2.5 N	2.5 NNE	2.1 NNE	1.8 ENE	2.1 NNE	2.2 NNE	2.4 NNE	0.9 ESE	3.3 SSE	2.5 WSW	4.6 SW	4.2 S	2.2 SE	0.7 SE	1.1 NE	1.8 NE	2.3	4.6	SW	19:00
29	1.0 NE	0.8 E	1.0 ENE	1.8 SE	0.8 ENE	2.0 SSE	1.9 SE	2.0 S	2.0 ESE	1.6 ESE	2.6 SSE	3.8 S	2.0 SW	2.2 SSW	2.1 SW	4.5 S	4.7 SSE	2.8 SE	2.0 E	1.8 ESE	2.0 SE	2.3 SE	2.6 SE	3.2 SE	2.2	4.7	SSE	17:00
30	2.4 SE	2.0 SE	2.4 ESE	1.6 ENE	1.8 N	1.8 NE	1.9 NNE	2.1 NE	2.9 NE	2.8 NNE	2.3 NNE	2.0 NNE	1.4 NW	1.7 SE	1.6 ENE	1.1 NE	1.2 N	1.5 SSW	1.8 WSW	1.8 SW	1.8 SW	2.8 S	3.6 SSE	2.8 SE	2.0	3.6	SSE	23:00
MEAN VEL.	1.4	1.6	1.5	1.6	1.4	1.4	1.5	1.6	1.6	1.6	1.8	1.7	1.5	2.0	2.3	2.4	2.4	2.5	2.5	2.5	2.5	2.1	2.0	1.5	MEAN	MONTHLY	MAX.VEL.DIR.	
																									1.9	7.0	E	

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. −1 (21) Wind Data

Month : Jul. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DIR.	TIME
1	2.2 ESE	2.0 SE	2.0 SE	2.0 NE	1.6 ENE	1.5 E	1.8 NE	2.0 NE	1.9 NE	0.8 E	1.3 S	1.9 SSW	1.9 SW	1.9 SW	2.4 SSW	4.5 SSW	1.9 SE	2.4 SSE	4.0 SSE	3.6 SE	3.0 SE	3.9 SE	2.9 SE	2.0 ESE	2.3	4.5	SSW	16:00
2	2.5 SSE	2.3 ESE	2.0 ESE	2.1 ESE	1.8 NNW	2.0 N	1.9 N	1.9 WNW	2.2 NE	2.0 NE	2.5 SE	2.0 WSW	2.0 WSW	4.6 S	4.3 SSE	3.8 SE	3.3 SE	2.8 ESE	1.8 ESE	2.0 ESE	1.9 ESE	1.8 S	1.9 NNW	2.0 NW	2.4	4.6	S	14:00
3	2.1 NW	2.4 N	2.0 NNW	2.0 NNW	2.0 N	2.7 N	2.1 N	4.1 NNE	2.4 N	3.2 N	3.0 NNE	2.8 NNE	2.6 NE	2.3 NE	1.9 NE	1.8 SE	3.5 SSE	3.8 SSE	4.2 SSE	3.3 SE	2.8 ESE	1.9 ESE	2.2 SE	2.0 ESE	2.6	4.2	SSE	19:00
4	2.0 NE	1.9 NE	1.9 NE	1.8 ENE	1.6 NE	1.9 ENE	1.8 NE	2.0 ENE	1.8 ENE	2.0 ESE	2.2 S	2.0 SW	2.4 S	3.8 SSE	3.8 SE	5.5 SSE	5.7 SE	5.5 SE	4.5 ESE	2.6 ESE	2.8 SE	2.0 ESE	3.0 ESE	3.5 SE	2.8	5.7	SE	17:00
5	2.0 E	2.0 E	2.0 E	2.0 NE	2.0 NW	2.0 NNE	2.0 NW	2.5 SE	2.2 ESE	2.2 SE	1.9 NE	3.6 SE	2.1 NE	4.2 SSE	4.8 SE	4.8 SE	5.0 SE	5.5 SE	4.5 SE	4.6 ESE	2.2 ESE	1.9 ESE	1.9 ESE	1.8 NNE	2.9	5.5	SE	18:00
6	2.0 NW	1.8 S	1.8 ESE	1.9 ENE	1.7 NE	2.0 SE	2.0 SE	2.1 ESE	2.0 E	1.9 SE	1.9 ENE	1.9 SSW	1.9 SW	4.1 SSE	4.6 SSE	2.0 SSE	4.2 SE	4.2 SE	5.0 SE	4.5 SE	3.9 SE	4.0 SE	3.2 ESE	3.0 SE	2.8	5.0	SE	19:00
7	3.2 SE	3.2 SE	2.3 ESE	2.0 ESE	1.9 NNE	2.0 NW	2.0 NW	1.7 NW	0.7 SSE	1.9 SSE	3.2 SSE	4.5 SSE	4.1 SSE	6.2 SSE	4.0 S	4.5 SSE	0.7 E	2.8 SE	3.2 SE	3.2 ESE	1.8 N	1.9 NNW	1.9 N	2.0 N	2.7	6.2	SSE	14:00
8	1.8 NNW	1.0 E	0.9 ESE	1.5 NW	1.5 N	1.9 NNW	2.0 NNW	2.0 NNE	2.2 NE	2.0 NE	2.0 NE	1.2 NE	1.0 NE	2.0 SSE	2.6 SSE	3.0 S	2.8 S	3.5 S	4.1 SE	2.7 ESE	3.5 SE	1.9 ESE	3.0 SSE	3.0 SSE	2.2	4.1	SE	19:00
9	1.5 ESE	2.1 SE	1.8 ESE	1.5 ESE	1.5 SSE	1.5 SSE	1.3 SE	1.9 ESE	1.0 ESE	1.6 SE	3.2 SSE	3.2 S	3.5 SSE	1.9 E	1.8 WSW	3.4 SE	2.0 ESE	3.2 SE	4.0 SE	4.1 SE	3.9 SE	3.7 SE	3.8 SE	3.4 SE	2.5	4.1	SE	20:00
10	2.8 SE	1.9 E	1.5 NE	1.8 N	2.0 N	2.0 N	2.0 NNE	2.8 NE	2.2 NE	2.0 NE	1.5 NE	1.8 NE	0.5 ESE	2.5 SSW	3.9 SSW	2.4 SW	4.1 SSE	5.4 SSE	5.2 SSE	5.3 SE	1.6 ENE	2.2 NE	0.7 NE	3.0 ESE	2.5	5.4	SSE	18:00
11	2.0 E	0.8 SE	1.9 E	1.0 E	0.8 E	0.8 ESE	0.7 ESE	0.7 ENE	1.2 NE	2.0 NNE	2.6 NNE	2.1 NE	1.8 NE	1.5 SSW	1.5 SW	1.2 S	1.2 SSW	0.6 WSW	2.0 NNW	1.0 N	2.6 NNE	2.4 NE	3.2 NNE	2.0 NNE	1.6	3.2	NNE	23:00
12	2.3 N	1.9 N	1.9 N	2.0 N	2.0 N	1.9 NNW	1.9 N	2.2 NNE	2.0 NE	2.2 NNE	2.1 NE	2.5 NE	2.4 NE	1.9 ENE	1.8 NE	1.8 NNE	2.8 S	5.6 S	5.5 SSE	5.0 SSE	4.5 SE	3.8 SE	3.0 SE	2.9 SE	2.7	5.6	S	18:00
13	2.5 SE	1.7 ESE	1.5 ESE	2.4 NE	2.0 NNE	3.3 NNE	2.2 NE	2.1 NNE	2.1 NNE	2.2 NNE	2.4 NNE	1.6 SW	2.0 SW	2.0 SW	3.2 S	5.0 SSE	4.7 SSE	4.2 SSE	4.5 SSE	4.7 SSE	2.8 SE	3.9 SSE	3.9 SSE	3.0 SE	2.9	5.0	SSE	16:00
14	2.5 ESE	2.0 ESE	2.0 ESE	1.2 NE	1.8 N	0.9 E	1.0 ENE	0.8 NE	0.8 ESE	1.9 ESE	2.2 SSE	1.8 SW	4.4 S	1.5 SE	3.1 SSE	3.5 S	2.5 S	2.5 SSE	2.2 SE	3.4 SSE	3.2 S	3.5 SSE	3.6 SSE	3.2 S	2.3	4.4	S	13:00
15	3.2 SSE	1.8 NNE	1.9 N	2.1 NW	1.8 NNW	1.5 N	1.4 N	1.5 ENE	2.5 NNE	2.9 NNE	2.5 NE	1.9 NNE	2.0 NE	1.0 NE	0.8 S	1.5 WSW	1.8 SSW	1.9 S	3.2 S	2.9 S	3.0 SSW	1.8 S	1.2 ESE	4.4 WSW	2.1	4.4	WSW	24:00

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. -1 (22) Wind Data

Month : Jul. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DIR.	TIME
16	2.8 NW	7.0 WNW	2.0 WNW	1.9 SW	2.1 WNW	2.0 WSW	1.7 N	2.1 NNW	1.6 W	2.0 SW	1.9 SW	1.9 S	2.1 S	2.2 S	3.8 S	3.9 S	4.0 S	5.1 S	4.4 SSE	4.0 SSE	2.9 SSE	2.1 SSE	2.2 SE	1.9 ESE	2.8	7.0	WNW	2:00
17	2.0 SE	2.1 SSE	1.8 SSW	2.0 SSE	1.7 E	2.0 NW	1.9 NNW	4.4 SW	1.9 NW	2.0 ENE	1.6 ENE	2.0 SSW	2.9 SW	3.0 SW	2.2 SW	3.2 SSW	2.6 SW	3.5 SW	2.6 SW	2.0 SW	2.3 S	2.0 SW	1.9 SSW	2.2 WNW	2.3	4.4	SW	8:00
18	2.0 N	2.2 NE	2.0 WNW	2.5 WNW	1.9 N	2.0 NE	2.4 NE	2.2 NE	2.9 NE	2.8 NNE	3.7 NE	3.5 NE	3.2 NE	3.2 NE	3.5 NNE	2.8 NNE	2.0 NE	1.8 NE	1.8 NE	2.5 SSE	2.5 SSE	1.9 ESE	2.0 NE	2.2 N	2.5	3.7	NE	11:00
19	2.0 NNW	2.0 NNW	2.0 NW	2.0 N	2.0 NNW	2.1 N	2.2 NNW	2.2 NNE	3.0 NNE	2.0 NNW	1.9 NE	2.2 SSW	2.1 SSW	2.4 SW	2.7 SSW	2.2 SW	2.0 SSW	2.5 S	3.5 S	4.2 S	4.1 S	4.4 S	4.2 S	3.9 S	2.7	4.4	S	22:00
20	2.1 S	1.8 NNE	2.0 NW	1.8 N	6.2 S	4.5 SSE	2.0 E	1.7 ENE	2.1 ENE	2.0 NE	1.8 ENE	2.0 S	0.9 NE	2.0 SSE	2.0 S	2.5 S	1.6 NE	2.8 NE	2.0 NE	2.0 NE	2.0 NE	2.0 NNE	2.0 N	2.0 NNE	2.2	6.2	S	5:00
21	2.0 NNE	1.9 NNE	2.0 N	2.0 N	2.0 NNE	2.0 NNE	1.8 ENE	1.9 NE	2.0 NE	1.9 NE	1.8 S	1.9 SSW	2.0 S	3.2 S	2.2 WSW	2.5 SW	4.5 SSE	4.8 SSE	4.8 SSE	5.2 SSE	4.2 SE	2.1 E	1.5 ENE	2.0 NE	2.6	5.2	SSE	20:00
22	2.1 NE	2.0 NE	1.8 E	1.8 ENE	1.9 E	1.8 E	1.9 SE	0.8 N	C NE	1.9 NE	1.2 E	1.2 SSW	1.9 SSW	2.0 SW	2.0 SW	2.0 SW	4.0 S	5.0 SSE	5.5 SSE	6.1 SSE	4.9 SSE	3.5 SE	2.0 ESE	2.0 ESE	2.5	6.1	SSE	20:00
23	2.0 ESE	2.0 ESE	2.0 ESE	2.9 NE	3.0 NE	2.8 NE	2.7 ENE	2.2 ENE	2.1 ENE	1.9 NE	2.2 S	1.9 ESE	2.6 S	2.5 S	2.2 E	3.8 SSW	4.3 S	3.9 SE	4.0 SE	3.8 ESE	2.1 NE	2.4 SSE	2.2 E	2.1 NE	2.7	4.3	S	17:00
24	2.1 SE	2.0 E	2.8 NE	2.5 ESE	1.9 ESE	2.8 NE	2.8 NNE	4.0 NE	3.5 NE	3.2 NE	2.2 NE	2.0 NE	3.0 S	3.5 S	3.5 S	3.9 S	4.2 S	3.9 SE	2.8 E	3.0 SE	3.9 SE	4.1 SE	3.0 NNE	3.0 NE	3.1	4.2	S	17:00
25	2.9 NE	2.2 NE	2.2 NW	2.0 N	2.1 ESE	2.5 NE	2.2 NE	3.0 NE	2.3 NE	1.9 SE	2.2 S	3.6 S	2.8 S	3.5 S	2.8 SW	4.0 SSW	5.5 SSE	4.5 SSE	5.2 SSE	6.0 SSE	4.0 SSE	4.0 SE	4.2 SSE	5.8 SSE	3.4	6.0	SSE	20:00
26	4.5 SSE	5.1 SSE	5.0 SSE	4.5 SSE	4.0 SE	2.5 ESE	1.9 ESE	2.0 NE	3.1 NNE	2.4 NE	2.0 SE	2.5 SSW	2.0 NNE	2.5 NE	3.8 NE	2.0 NE	2.0 NNE	2.1 NNE	2.5 NW	2.1 S	3.3 ESE	2.6 NE	3.3 N	2.8 NNW	2.9	5.1	SSE	2:00
27	2.8 NW	2.5 NNW	2.3 NNE	3.0 N	3.5 NNE	3.9 NNE	3.2 N	3.0 N	3.3 NNE	3.3 NE	3.6 NE	3.5 NE	2.2 NE	2.8 WSW	2.5 WSW	3.0 SSW	2.5 SW	3.5 SSW	3.7 SE	4.2 SE	4.0 SE	2.1 SE	2.0 ESE	2.0 NNE	3.0	4.2	SE	20:00
28	2.5 N	2.5 NE	2.5 NE	2.0 ESE	2.0 ENE	2.5 NNE	2.3 NNE	2.8 NE	2.0 ENE	2.3 SSW	2.5 SSW	2.4 SSW	3.2 SSW	3.8 SSW	4.2 S	4.2 S	6.2 S	5.9 S	6.0 SSE	6.0 SSE	6.0 SSE	5.0 SSE	4.2 SSE	4.0 SE	3.6	6.2	S	17:00
29	4.5 SE	5.3 SSE	6.0 SSE	5.2 SSE	5.8 SSE	6.0 SSE	5.2 SSE	5.5 SSE	6.0 SE	5.4 SE	5.3 SSE	5.2 SSE	5.6 S	6.2 SSE	6.3 SSE	5.9 SSE	5.2 SE	6.1 SE	4.8 SE	5.3 SE	4.2 SSE	5.3 SSE	5.2 SSE	5.3 SSE	5.5	6.3	SSE	15:00
30	5.3 SSE	2.7 SE	3.9 SSE	3.2 SE	3.2 SE	3.2 SE	4.0 SE	2.6 ESE	2.4 NE	2.2 ESE	2.8 S	2.9 S	2.4 SW	4.0 S	4.4 S	6.0 SSE	6.0 SE	6.1 SSE	5.5 SSE	5.9 SSE	5.9 SSE	5.5 SSE	4.5 SSE	5.5 SSE	4.2	6.1	SSE	18:00
31	5.2 SSE	5.5 SSE	4.2 SE	4.0 SE	4.0 ESE	2.2 ESE	2.5 SE	3.8 ESE	3.8 SE	4.0 SE	5.0 SSE	4.6 SSE	4.6 S	5.0 SSW	5.8 SSW	6.1 S	6.4 S	6.1 SSE	5.3 SSE	5.5 SSE	5.9 SSE	6.0 SSE	5.8 SSE	5.0 SE	4.8	6.4	S	17:00

MEAN VEL.	2.6	2.5	2.3	2.3	2.4	2.3	2.2	2.4	2.2	2.3	2.5	2.5	2.5	3.0	3.2	3.4	3.5	3.9	3.9	3.9	3.4	3.1	2.9	3.0

MEAN	MONTHLY MAX.VEL.	DIR.
2.8	7.0	WNW

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. -1 (23) Wind Data

Month : Aug. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DAILY MAX. DIR.	DAILY MAX. TIME
1	4.2 SSE	4.3 SE	4.4 SE	3.9 SE	3.0 ESE	3.9 SE	3.8 SE	2.5 ESE	2.3 SSE	2.2 S	2.1 ESE	2.8 NE	2.2 ESE	3.3 SSW	3.5 SSW	4.2 SSW	5.0 S	5.6 SSE	5.8 SSE	5.0 SE	4.6 SSE	3.8 SE	3.9 ESE	4.0 ESE	3.8	5.8	SSE	19:00
2	3.6 ESE	3.2 SE	3.7 SE	3.7 ESE	3.7 SE	2.9 ESE	3.5 ESE	3.0 ESE	3.0 SE	2.0 SE	2.5 S	2.8 S	2.6 SSW	3.0 WSW	4.0 S	6.0 S	6.0 S	6.0 S	6.1 SSE	5.6 SSE	6.0 SSE	6.0 SSE	5.5 SSE	5.5 SSE	4.2	6.1	SSE	19:00
3	5.2 SSE	5.6 SSE	5.2 SSE	5.0 SSE	4.1 SSE	4.2 SE	3.1 ESE	2.4 NE	2.6 NE	2.2 NE	2.1 SSE	3.0 S	2.8 SSW	3.9 SSW	2.8 SW	4.2 NW	2.8 NNW	2.2 NW	2.5 N	2.6 E	2.2 E	2.2 ESE	2.0 NE	3.0 NE	3.2	5.6	SSE	2:00
4	2.4 N	3.5 NNE	2.8 NNW	2.0 NW	2.8 NNW	3.0 NNW	2.5 NNW	2.5 NNE	3.2 NNE	2.8 NE	2.5 NE	2.0 E	2.5 SSW	2.5 SSW	2.8 SSW	3.2 SSW	5.2 SSW	5.9 SSE	5.8 SSE	5.4 SSE	6.2 SSE	4.8 SSE	4.8 SSE	5.0 SSE	3.6	6.2	SSE	21:00
5	3.9 SE	2.2 ESE	2.8 ESE	2.1 NNW	2.8 NW	4.9 NW	3.6 NW	3.0 NW	2.9 NW	2.1 NNW	3.4 NE	3.0 NE	2.5 NE	2.1 ENE	3.0 SSW	3.2 SW	4.3 S	4.2 S	4.5 S	3.9 SSE	4.0 SSE	4.1 SSE	5.0 SSE	3.9 SSE	3.4	5.0	SSE	23:00
6	2.9 SE	2.6 SE	2.0 ESE	2.2 NE	2.8 NE	3.0 NE	3.8 NE	4.1 NE	3.5 NE	3.7 NE	3.2 NE	3.6 NE	3.8 NNE	3.4 NE	3.2 NE	2.2 NE	2.5 NNE	2.0 NNE	1.9 NNW	1.2 N	2.2 SSE	3.8 SSE	4.1 SSE	4.5 SSE	3.0	4.5	SSE	24:00
7	4.8 SSE	4.5 SSE	3.9 SSE	3.6 SSE	1.8 E	1.8 E	1.6 E	1.2 E	2.1 ENE	1.5 ENE	2.4 NNE	2.0 S	4.0 S	3.6 SSW	4.0 S	4.9 SSE	3.9 SSE	3.6 SSE	4.4 SSE	4.5 SSE	4.2 SE	3.5 SE	2.0 SE	1.5 NE	3.1	4.9	SSE	16:00
8	1.5 ENE	1.8 NE	1.8 ENE	1.9 NE	1.3 N	1.9 N	2.0 NNW	2.0 NW	2.4 NE	1.9 NE	2.8 NE	2.3 SW	3.2 SSW	3.9 S	3.8 S	3.7 S	2.0 E	2.0 ESE	2.8 SE	3.5 SE	1.8 ENE	1.9 NE	1.9 NE	2.0 NNE	2.3	3.9	S	14:00
9	2.0 NNW	2.5 NW	2.0 NW	2.0 NW	2.1 WNW	2.0 NNE	2.0 N	2.1 NNE	2.0 SSE	3.9 SSE	4.5 S	4.8 S	3.7 NE	2.1 NNW	2.8 S	3.7 S	4.0 SE	3.0 SE	3.6 SE	3.9 SE	4.0 ESE	3.5 ESE	3.9 SE	4.0 SE	3.1	4.8	S	12:00
10	4.0 SE	3.7 SE	2.6 ESE	2.0 E	2.6 SE	2.5 SE	2.2 SE	3.9 SE	3.3 SE	3.5 ESE	2.1 ESE	4.2 SSE	5.9 SSE	6.2 SSE	5.8 SSE	5.4 SE	4.3 SE	4.0 SE	4.2 SE	3.9 SE	3.6 SE	3.3 SE	3.5 ESE	3.9 SE	3.8	6.2	SSE	14:00
11	2.0 SE	2.2 ESE	1.9 ESE	1.6 E	1.9 ENE	1.8 ENE	1.8 ENE	1.9 ENE	1.9 NE	1.9 SSW	2.5 SSW	2.0 SW	2.0 SW	2.0 SW	2.2 SW	2.2 SW	4.0 S	5.3 SSE	6.0 SSE	5.5 SSE	4.0 SE	2.1 ESE	2.5 ESE	1.9 ESE	2.6	6.0	SSE	19:00
12	1.6 NNW	2.0 NW	0.9 NNW	0.7 NNW	1.0 W	1.8 N	1.0 SSE	1.5 S	2.1 SSE	2.0 S	3.0 S	3.6 S	4.0 S	5.9 SSE	4.8 SSE	5.3 SSE	4.9 SE	4.2 SE	4.1 SE	4.0 ESE	4.0 SE	4.4 SE	3.8 ESE	3.9 ESE	3.1	5.9	SSE	14:00
13	2.6 ESE	3.2 SE	1.9 ESE	2.0 NNW	1.9 WNW	2.0 WNW	2.0 WNW	1.0 WNW	2.0 S	2.8 SSE	1.9 SSW	2.1 SSW	2.8 S	4.1 S	6.0 S	6.4 S	6.4 SSE	5.3 SSE	5.5 SSE	4.5 SE	4.4 SSE	3.8 SE	4.0 SE	4.0 SE	3.4	6.4	S	16:00
14	3.0 ESE	2.1 ESE	2.5 SE	4.8 SSE	6.0 SSE	5.7 SSE	3.1 SE	5.3 SSE	5.0 SSE	4.6 SSE	4.0 S	4.0 S	4.8 S	5.5 S	5.8 S	6.2 S	6.0 S	5.9 SSE	6.0 SSE	6.0 SSE	4.0 SSE	3.9 SSE	1.8 E	2.0 NE	4.5	6.2	S	16:00
15	2.0 NE	2.0 N	2.5 NNE	2.1 N	2.0 NNE	2.5 NE	2.5 NE	2.3 NE	2.0 NE	2.0 NNE	2.0 SSW	2.3 SSW	2.0 SSW	2.0 SW	4.0 S	4.8 S	4.5 S	5.0 SSE	6.2 SSE	4.9 SSE	4.8 SSE	4.1 SE	3.8 SE	3.6 SE	3.2	6.2	SSE	19:00

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. −1 (24) Wind Data

Month : Aug. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL. DIR.	DAILY MAX. TIME
16	3.6 ESE	3.6 ESE	3.9 ESE	2.0 ESE	2.0 ESE	2.1 ESE	2.2 ESE	2.5 ESE	4.4 SE	4.3 SE	5.2 SSE	4.5 SSE	4.2 SSE	4.6 SSE	5.5 SSE	6.0 SSE	5.9 SSE	4.3 SE	5.2 SE	4.2 SE	3.9 SE	3.9 SE	4.0 SE	3.0 SE	4.0	6.0 SSE	16:00
17	3.2 SE	3.9 ESE	2.9 SE	2.0 ESE	1.8 ESE	1.8 NE	1.8 SE	2.0 SE	2.9 SE	4.8 SSE	5.2 SSE	5.5 SSE	4.5 S	4.2 S	4.4 S	5.0 S	5.7 SSE	6.0 SSE	5.5 SSE	4.7 SSE	5.0 SSE	4.1 SE	4.1 SE	4.1 SE	4.0	6.0 SSE	18:00
18	4.9 SSE	5.2 SSE	5.2 SSE	5.4 SSE	5.8 SSE	5.0 SSE	5.1 SSE	3.8 SSE	4.3 SSE	5.0 SSE	4.5 SSE	5.0 SSE	5.1 SSE	4.8 SSE	4.7 SSE	4.7 SSE	5.8 SSE	6.0 SSE	5.8 SSE	5.5 SSE	5.9 SSE	4.3 SSE	3.7 SE	3.5 SE	5.0	6.0 SSE	18:00
19	4.0 SE	3.3 SE	3.1 SE	3.5 SE	3.0 SE	2.8 SE	2.0 SE	2.0 ESE	2.0 SE	3.2 ESE	2.5 SSE	3.9 SSE	5.2 SSE	4.3 SSE	4.5 SSE	4.5 SSE	5.2 SSE	4.8 SSE	4.0 SSE	5.0 SSE	5.0 SSE	4.8 SSE	5.2 SSE	4.2 SE	3.8	5.2 SSE	13:00
20	3.9 SE	3.0 ESE	3.7 SE	2.9 SE	3.6 SE	1.8 ESE	2.0 SE	2.4 SE	2.8 SE	2.7 SSE	2.9 S	2.0 SSW	4.9 SSE	6.0 SSE	5.2 SE	5.8 SSE	5.6 SSE	5.8 SSE	4.8 SE	4.6 SE	3.9 SE	3.5 SE	2.9 ESE	2.0 E	3.7	6.0 SSE	14:00
21	2.0 NE	2.0 NNE	1.9 NE	1.9 NNW	2.0 NE	2.0 N	1.5 NNW	1.0 NW	1.5 S	3.8 SSE	5.2 SSE	5.9 SSE	5.8 SSE	5.5 SSE	6.0 SSE	5.5 SSE	7.8 ESE	4.5 SE	5.0 SE	5.0 SE	4.1 SE	4.0 SE	4.0 ESE	2.8 SE	3.8	7.8 ESE	17:00
22	2.6 SE	3.2 SE	2.0 ESE	2.0 E	2.0 NNW	2.0 NW	2.6 NW	2.0 NNW	1.4 NW	1.9 SSE	1.6 S	2.0 SW	2.0 SW	4.6 S	6.0 SSE	6.0 SSE	6.0 SSE	6.0 SSE	5.8 SSE	5.8 SSE	5.0 SE	4.1 SE	4.8 SE	5.2 SE	3.6	6.0 SSE	15:00
23	4.0 SE	3.8 SE	4.0 SE	3.0 SE	2.1 SE	2.1 SE	2.2 ESE	1.8 SSE	2.4 SSE	2.9 SSE	3.0 SE	4.0 SSE	6.0 SSE	4.6 S	4.8 S	6.0 SSE	1.9 NE	4.0 SSE	4.8 SE	4.0 SE	4.5 ESE	3.5 ESE	3.2 ESE	3.9 SE	3.6	6.0 SSE	13:00
24	1.8 NE	2.1 WNW	1.9 SE	2.3 ESE	1.9 E	1.6 ESE	1.8 ESE	2.0 SSE	2.2 ESE	3.0 ESE	1.8 SSW	5.2 SSE	5.6 SSE	5.8 SSE	5.9 SSE	2.4 SE	4.8 SE	4.4 SE	4.0 SE	2.8 N	2.0 NNW	2.6 NNW	2.0 NNW	2.4 NNW	3.0	5.9 SSE	15:00
25	2.0 NNW	2.0 WNW	1.6 NW	1.8 ESE	1.9 E	1.9 E	2.0 NE	2.4 NE	2.4 NE	2.1 NE	3.5 SSE	3.5 S	2.0 SW	2.8 WSW	4.6 S	5.0 S	5.2 SSE	5.3 SSE	4.3 SE	5.5 SE	4.6 SE	4.2 SE	4.2 SE	3.9 SE	3.3	5.5 SE	20:00
26	3.5 SE	2.1 ESE	2.9 SE	1.9 SE	1.8 ESE	1.8 ESE	1.9 N	1.9 N	2.1 ENE	2.0 SSE	2.0 S	2.1 SSW	2.8 SSW	3.2 SSW	4.9 S	5.0 S	5.2 SSE	4.9 SSE	5.2 SSE	4.1 SSE	2.0 E	3.2 NE	2.2 ENE	1.9 SE	2.9	5.2 SSE	17:00
27	2.9 NNE	2.9 N	2.0 NNW	2.1 NNE	2.0 NE	2.0 E	2.0 NE	2.0 NNE	2.0 NNE	2.6 NE	2.1 NE	3.0 SSW	3.0 SW	2.5 WNW	4.0 WSW	4.8 S	5.9 SSE	3.1 SE	3.1 ESE	2.6 ESE	2.0 NNE	2.6 ENE	3.0 NE	3.1 NNE	2.8	5.9 SSE	17:00
28	2.1 SW	2.4 SSW	3.5 S	3.5 SE	2.0 N	2.2 N	2.2 N	3.0 NE	2.8 NE	2.0 ESE	1.9 NE	3.1 S	2.2 SSW	4.2 S	2.1 E	2.1 SE	2.0 E	2.2 SE	3.3 ESE	2.0 ENE	3.0 ESE	2.0 ESE	2.4 NE	2.1 NE	2.5	4.2 S	14:00
29	2.8 NNE	2.0 NE	2.0 E	2.0 ENE	2.1 ESE	2.2 N	2.4 NNE	2.5 NE	2.6 NE	2.0 ENE	2.0 S	2.3 SSW	2.8 SSW	4.2 S	5.5 S	6.0 S	6.1 S	6.1 S	6.8 SSE	6.5 SSE	6.1 SSE	4.6 SSE	4.2 SSE	4.0 SSE	3.7	6.8 SSE	19:00
30	4.8 SSE	4.0 SE	3.2 SE	3.5 NNE	3.3 NNW	3.5 NW	2.6 NW	2.8 NW	3.2 WNW	2.5 WNW	2.0 SW	2.1 SW	2.5 SW	2.8 SW	2.8 WSW	2.8 WNW	2.0 NW	1.9 SE	2.1 SSE	2.0 SSE	1.8 ESE	2.0 S	2.0 N	2.0 NNW	2.7	4.8 SSE	1:00
31	2.1 NNW	2.0 NW	2.1 N	2.2 N	2.2 NE	2.0 NE	1.9 ENE	1.9 E	1.9 ESE	2.0 S	3.2 SSE	0.4 SSE	3.0 SSE	4.2 S	2.0 SSW	5.5 SSE	6.0 SSE	5.9 SSE	4.2 SE	2.8 ESE	1.9 E	1.8 ESE	1.8 SSE	2.0 SE	2.7	6.0 SSE	17:00

MEAN VEL.	3.1	3.0	2.8	2.6	2.6	2.6	2.4	2.4	2.6	2.8	2.9	3.2	3.6	3.9	4.2	4.6	4.7	4.5	4.6	4.2	3.9	3.6	3.4	3.3

MEAN	MONTHLY MAX.VEL.DIR.
3.4	7.8 ESE

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. -1 (25) Wind Data

Month : Sep. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DAILY MAX. DIR.	DAILY MAX. TIME
1	2.2 SE	0.9 E	0.8 SE	0.7 ESE	1.0 SSE	0.9 NW	1.0 N	1.9 SSE	2.0 SSE	3.0 SSE	4.2 SSE	4.3 SSE	5.0 SSE	6.0 SSE	6.0 SSE	6.0 SSE	6.0 SSE	6.3 SE	5.5 SE	4.2 SE	4.7 SE	5.9 SE	4.2 SE	4.1 SE	3.6	6.3 SE	18:00
2	3.0 ESE	4.0 ESE	3.4 ESE	4.4 SE	4.2 SE	3.8 SE	4.0 ESE	4.2 SE	3.9 ESE	4.1 SSE	5.2 SSE	5.5 SSE	5.0 SSE	6.0 SSE	6.2 SSE	6.4 SE	6.8 SE	6.0 SSE	5.0 SE	5.0 SE	5.3 SE	5.2 SE	4.9 SE	4.9 SE	4.9	6.8 SE	17:00
3	4.2 SE	4.0 SE	4.1 ESE	3.9 ESE	2.9 ESE	4.3 SE	4.8 SSE	5.6 SE	5.6 SE	5.6 SSE	5.0 SSE	5.7 SSE	6.0 SSE	6.0 SSE	6.5 SSE	7.0 SSE	6.5 SSE	5.2 SE	4.5 SE	4.0 SE	3.9 SE	3.9 SE	3.7 SE	3.2 SE	4.8	7.0 SSE	16:00
4	4.2 SSE	4.1 SSE	4.3 SSE	4.2 SE	3.2 SE	3.9 SSE	2.5 SSE	3.2 SSE	4.0 SSE	4.0 SSE	4.2 S	5.0 SSE	5.8 SSE	4.0 SE	5.0 S	6.0 SSE	5.0 SE	5.2 SE	5.2 SE	4.8 SSE	5.9 SSE	4.8 SE	4.0 SE	3.5 SE	4.4	6.0 SSE	16:00
5	3.5 SE	3.5 SE	3.3 SE	3.9 SE	3.2 SE	3.8 SE	4.0 SE	3.9 SE	3.9 SE	3.3 SE	3.0 SE	4.0 SSE	3.8 SSE	3.0 SE	6.0 SSE	4.5 SE	4.4 SE	4.0 SE	3.8 SE	3.8 SE	2.0 ESE	2.8 SE	1.5 NE	1.4 NNE	3.5	6.0 SSE	15:00
6	1.3 ENE	1.0 E	1.0 SE	2.1 SE	3.5 SE	2.0 ESE	1.5 NNE	1.6 NE	1.9 S	2.0 SSW	2.0 SW	4.8 S	6.2 S	6.0 SSE	5.0 SE	5.8 SSE	5.0 SSE	4.8 SSE	4.1 SSE	5.0 SSE	4.2 SSE	4.2 SSE	4.2 SSE	5.9 SSE	3.5	6.2 S	13:00
7	4.0 SE	3.0 ESE	2.0 E	2.2 SE	3.3 SE	2.0 NNE	2.1 NE	3.5 NNE	3.9 NNE	2.1 NE	3.5 S	3.9 S	4.0 S	2.3 S	3.2 S	5.0 SSE	5.0 SE	4.1 SE	4.0 SE	4.0 SE	2.8 ESE	2.9 ESE	3.5 ESE	3.7 ESE	3.3	5.0 SSE	16:00
8	3.7 ESE	3.5 ESE	2.2 ESE	2.5 SE	1.9 NE	2.1 NW	2.0 N	1.8 ENE	1.6 ESE	2.0 S	2.1 SSW	2.0 SW	2.0 SW	2.2 S	5.9 S	6.2 SSE	6.0 SSE	6.0 SSE	5.9 SE	4.8 SE	5.8 SSE	5.8 SSE	6.0 SE	4.0 SE	3.7	6.2 SSE	16:00
9	3.5 SE	3.5 SE	4.0 SE	3.6 SE	1.9 ESE	1.0 NE	1.5 N	0.9 SSE	2.0 SSE	2.5 SSE	4.0 SSE	3.0 SSE	2.0 S	3.0 S	5.5 SSE	6.2 SSE	6.8 SSE	3.5 E	2.8 WNW	1.8 W	2.2 SE	1.7 ESE	2.0 NE	2.0 NE	3.0	6.8 SSE	17:00
10	2.8 NE	2.8 NNE	2.1 NNE	2.1 NNW	2.5 NNW	2.1 NNW	2.1 N	2.0 NNE	2.8 NE	2.0 NE	2.0 SSW	2.0 SW	2.0 SW	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	2.3	2.8 NE	1:00
11	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	- -	-
12	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	- -	-
13	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	- -	-
14	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	- -	-
15	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	-	- -	-

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2. -1 (26) Wind Data

Month : Sep. 1989
St. : PILOT STATION

Unit : Wind Speed m/sec
Wind Direction at 16 Points of Compass

TIME / DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	DAILY MEAN	DAILY MAX. VEL.	DAILY MAX. DIR.	DAILY MAX. TIME
16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	
22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	

MEAN VEL.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	3.2	3.0	2.7	3.0	2.8	2.6	2.6	2.9	3.2	3.1	3.5	4.0	4.2	4.3	5.5	5.9	5.7	5.0	4.5	4.2	4.1	4.1	3.8	3.6

MEAN	MONTHLY MAX.VEL.	MAX.VEL.DIR.
3.8	7.0	SSE

Note 1 : - shows no Record.
Note 2 : Upper layer shows Wind Speed, Lower layer shows Wind Direction.
Note 3 : C shows Calm (less than 0.4 m/sec) .

Table 1. 2-2 (1) Frequency Distributions of Wind (Pilot Station)

St. : Pilot Station
Period : 1988. 9. 1 1: 0 - 1988. 10. 1 0: 0

Dir. \ Vel.	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-	Total
-	136 18.9											136 18.9
N	0 -	6 0.8	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	6 0.8
NNE	0 -	9 1.2	9 1.2	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	18 2.5
NE	5 0.7	9 1.2	17 2.4	1 0.1	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	33 4.6
ENE	0 -	7 1.0	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	7 1.0
E	2 0.3	3 0.4	4 0.6	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	9 1.2
ESE	2 0.3	18 2.5	37 5.1	7 1.0	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	65 9.0
SE	1 0.1	11 1.5	62 8.6	35 4.9	51 7.1	15 2.1	8 1.1	0 -	0 -	0 -	0 -	183 25.4
SSE	0 -	4 0.6	20 2.8	16 2.2	57 7.9	41 5.7	14 1.9	0 -	0 -	0 -	0 -	152 21.1
S	0 -	2 0.3	20 2.8	13 1.8	17 2.4	6 0.8	3 0.4	0 -	0 -	0 -	0 -	61 8.5
SSW	0 -	2 0.3	16 2.2	2 0.3	3 0.4	0 -	0 -	0 -	0 -	0 -	0 -	23 3.2
SW	1 0.1	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	2 0.3
WSW	0 -	0 -	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	1 0.1
W	1 0.1	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	2 0.3
WNW	0 -	2 0.3	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	2 0.3
NW	0 -	7 1.0	4 0.6	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	11 1.5
NNW	0 -	6 0.8	3 0.4	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	9 1.2
Total	148 20.6	88 12.2	193 26.8	74 10.3	130 18.1	62 8.6	25 3.5	0 -	0 -	0 -	0 -	720 100.0

Short Data 0
Data Obtained 100.0%

St. : Pilot Station
Period : 1988. 10. 1 1: 0 - 1988. 11. 1 0: 00

Dir. \ Vel.	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-	Total
-	65 8.7											65 8.7
N	1 0.1	8 1.1	5 0.7	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	14 1.9
NNE	2 0.3	4 0.5	25 3.4	6 0.8	2 0.3	0 -	0 -	0 -	0 -	0 -	0 -	39 5.2
NE	1 0.1	17 2.3	67 9.0	10 1.3	0 -	0 -	0 -	0 -	0 -	0 -	0 -	95 12.8
ENE	3 0.4	12 1.6	3 0.4	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	18 2.4
E	5 0.7	8 1.1	1 0.1	1 0.1	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	16 2.2
ESE	2 0.3	15 2.0	12 1.6	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	30 4.0
SE	0 -	7 0.9	22 3.0	4 0.5	9 1.2	1 0.1	1 0.1	0 -	0 -	0 -	0 -	44 5.9
SSE	0 -	3 0.4	17 2.3	26 3.5	48 6.5	22 3.0	4 0.5	0 -	0 -	0 -	0 -	120 16.1
S	1 0.1	5 0.7	27 3.6	27 3.6	35 4.7	15 2.0	14 1.9	0 -	0 -	0 -	0 -	124 16.7
SSW	0 -	11 1.5	49 6.6	7 0.9	8 1.1	2 0.3	1 0.1	0 -	0 -	0 -	0 -	78 10.5
SW	0 -	8 1.1	33 4.4	0 -	2 0.3	0 -	0 -	0 -	0 -	0 -	0 -	43 5.8
WSW	0 -	3 0.4	6 0.8	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	9 1.2
W	1 0.1	1 0.1	2 0.3	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	5 0.7
WNW	1 0.1	2 0.3	3 0.4	0 -	0 -	0 -	1 0.1	0 -	0 -	0 -	0 -	7 0.9
NW	0 -	2 0.3	12 1.6	4 0.5	0 -	0 -	0 -	0 -	0 -	0 -	0 -	18 2.4
NNW	1 0.1	8 1.1	10 1.3	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	19 2.6
Total	83 11.2	114 15.3	294 39.5	87 11.7	105 14.1	40 5.4	21 2.8	0 -	0 -	0 -	0 -	744 100.0

Short Data 0
Data Obtained 100.0%

Note: Upper layer shows Number of obs. date and
Lower layer shows Number of obs. date in %.

Table 1. 2-2 (2) Frequency Distributions of Wind (Pilot Station)

St. : Pilot Station
Period : 1988. 11. 1 1: 0 - 1988. 12. 1 0: 0

Dir. \ Vel.	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-	Total
-	34 4.7											34 4.7
N	10 1.4	27 3.7	41 5.7	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	78 10.8
NNE	5 0.7	9 1.2	52 7.2	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	67 9.3
NE	10 1.4	8 1.1	48 6.7	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	66 9.2
ENE	6 0.8	3 0.4	4 0.6	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	13 1.8
E	2 0.3	4 0.6	2 0.3	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	8 1.1
ESE	0 -	3 0.4	9 1.2	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	12 1.7
SE	1 0.1	3 0.4	6 0.8	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	10 1.4
SSE	0 -	0 -	16 2.2	3 0.4	3 0.4	0 -	0 -	0 -	0 -	0 -	0 -	22 3.1
S	1 0.1	4 0.6	24 3.3	7 1.0	5 0.7	1 0.1	0 -	0 -	0 -	0 -	0 -	42 5.8
SSW	2 0.3	7 1.0	35 4.9	10 1.4	5 0.7	1 0.1	2 0.3	0 -	0 -	0 -	0 -	62 8.6
SW	1 0.1	14 1.9	38 5.3	6 0.8	8 1.1	1 0.1	0 -	0 -	0 -	0 -	0 -	68 9.4
WSW	1 0.1	6 0.8	36 5.0	26 3.6	17 2.4	6 0.8	0 -	2 0.3	1 0.1	0 -	0 -	95 13.2
W	2 0.3	2 0.3	21 2.9	3 0.4	4 0.6	2 0.3	0 -	0 -	0 -	1 0.1	0 -	35 4.9
WNW	4 0.6	8 1.1	10 1.4	2 0.3	1 0.1	0 -	1 0.1	0 -	0 -	0 -	0 -	26 3.6
NW	8 1.1	14 1.9	9 1.2	1 0.1	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	33 4.6
NNW	8 1.1	17 2.4	24 3.3	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	49 6.8
Total	95 13.2	129 17.9	375 52.1	59 8.2	44 6.1	11 1.5	3 0.4	2 0.3	1 0.1	1 0.1	0 -	720 100.0

Short Data 0
Data Obtained 100.0%

St. : Pilot Station
Period : 1988. 12. 1 1: 0 - 1989. 1. 1 0: 00

Dir. \ Vel.	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-	Total
-	8 1.1											8 1.1
N	6 0.8	27 3.6	41 5.5	4 0.5	0 -	0 -	0 -	0 -	0 -	0 -	0 -	78 10.5
NNE	1 0.1	7 0.9	32 4.3	4 0.5	0 -	0 -	0 -	0 -	0 -	0 -	0 -	44 5.9
NE	1 0.1	12 1.6	21 2.8	3 0.4	0 -	0 -	0 -	0 -	0 -	0 -	0 -	37 5.0
ENE	2 0.3	1 0.1	5 0.7	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	8 1.1
E	2 0.3	3 0.4	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	6 0.8
ESE	2 0.3	9 1.2	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	12 1.6
SE	3 0.4	7 0.9	6 0.8	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	16 2.2
SSE	1 0.1	0 -	6 0.8	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	8 1.1
S	1 0.1	4 0.5	4 0.5	11 1.5	6 0.8	1 0.1	0 -	0 -	0 -	0 -	0 -	27 3.6
SSW	0 -	1 0.1	14 1.9	7 0.9	4 0.5	2 0.3	1 0.1	0 -	0 -	0 -	0 -	29 3.9
SW	1 0.1	4 0.5	43 5.8	12 1.6	15 2.0	4 0.5	1 0.1	0 -	0 -	0 -	0 -	80 10.8
WSW	3 0.4	1 0.1	34 4.6	34 4.6	36 4.8	7 0.9	9 1.2	2 0.3	0 -	0 -	0 -	126 16.9
W	1 0.1	2 0.3	27 3.6	12 1.6	8 1.1	2 0.3	3 0.4	2 0.3	0 -	0 -	0 -	57 7.7
WNW	3 0.4	5 0.7	33 4.4	7 0.9	4 0.5	1 0.1	1 0.1	0 -	0 -	0 -	0 -	54 7.3
NW	3 0.4	18 2.4	41 5.5	13 1.7	1 0.1	1 0.1	1 0.1	0 -	0 -	0 -	0 -	78 10.5
NNW	1 0.1	31 4.2	38 5.1	6 0.8	0 -	0 -	0 -	0 -	0 -	0 -	0 -	76 10.2
Total	39 5.2	132 17.7	347 46.6	114 15.3	74 9.9	18 2.4	16 2.2	4 0.5	0 -	0 -	0 -	744 100.0

Short Data 0
Data Obtained 100.0%

Note: Upper layer shows Number of obs. date and
Lower layer shows Number of obs. date in %.

Table 1. 2-2 (3) Frequency Distributions of Wind (Pilot Station)

St. : Pilot Station
Period : 1989. 1. 1 1: 0 - 1989. 2. 1 0: 0

Vel. / Dir.	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-	Total
-	12											12
	1.6											1.6
N	8	27	28	1	0	0	0	0	0	0	0	64
	1.1	3.6	3.8	0.1	-	-	-	-	-	-	-	8.6
NNE	2	13	24	2	1	0	0	0	0	0	0	42
	0.3	1.7	3.2	0.3	0.1	-	-	-	-	-	-	5.6
NE	13	28	50	3	1	0	0	0	0	0	0	95
	1.7	3.8	6.7	0.4	0.1	-	-	-	-	-	-	12.8
ENE	3	13	15	0	0	0	0	0	0	0	0	31
	0.4	1.7	2.0	-	-	-	-	-	-	-	-	4.2
E	7	3	2	0	0	0	0	0	0	0	0	12
	0.9	0.4	0.3	-	-	-	-	-	-	-	-	1.6
ESE	9	2	4	0	1	0	0	0	0	0	0	16
	1.2	0.3	0.5	-	0.1	-	-	-	-	-	-	2.2
SE	1	5	10	0	4	0	0	0	0	1	0	21
	0.1	0.7	1.3	-	0.5	-	-	-	-	0.1	-	2.8
SSE	7	4	11	8	7	1	0	0	0	0	0	38
	0.9	0.5	1.5	1.1	0.9	0.1	-	-	-	-	-	5.1
S	0	10	23	16	5	0	0	1	0	0	0	55
	-	1.3	3.1	2.2	0.7	-	-	0.1	-	-	-	7.4
SSW	5	6	26	1	0	0	0	0	0	0	0	38
	0.7	0.8	3.5	0.1	-	-	-	-	-	-	-	5.1
SW	5	19	41	15	0	0	0	0	0	0	0	80
	0.7	2.6	5.5	2.0	-	-	-	-	-	-	-	10.8
WSW	1	11	39	7	4	0	0	0	0	0	0	62
	0.1	1.5	5.2	0.9	0.5	-	-	-	-	-	-	8.3
W	2	6	18	1	0	0	0	0	0	0	0	27
	0.3	0.8	2.4	0.1	-	-	-	-	-	-	-	3.6
WNW	4	12	18	5	0	0	0	0	0	0	0	39
	0.5	1.6	2.4	0.7	-	-	-	-	-	-	-	5.2
NW	9	17	33	1	1	0	0	0	0	0	0	61
	1.2	2.3	4.4	0.1	0.1	-	-	-	-	-	-	8.2
NNW	11	23	17	0	0	0	0	0	0	0	0	51
	1.5	3.1	2.3	-	-	-	-	-	-	-	-	6.9
Total	99	199	359	60	24	1	0	1	0	1	0	744
	13.3	26.7	48.3	8.1	3.2	0.1	-	0.1	-	0.1	-	100.0

Short Data 0
Data Obtained 100.0%

St. : Pilot Station
Period : 1989. 2. 1 1: 0 - 1989. 3. 1 0: 00

Vel. / Dir.	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-	Total
-	0											0
	0.0											0.0
N	9	23	35	1	0	0	0	0	0	0	0	68
	1.3	3.4	5.2	0.1	-	-	-	-	-	-	-	10.1
NNE	5	3	22	5	0	0	0	0	0	0	0	35
	0.7	0.4	3.3	0.7	-	-	-	-	-	-	-	5.2
NE	11	12	25	2	0	0	0	0	0	0	0	50
	1.6	1.8	3.7	0.3	-	-	-	-	-	-	-	7.4
ENE	7	3	2	0	0	0	0	0	0	0	0	12
	1.0	0.4	0.3	-	-	-	-	-	-	-	-	1.8
E	9	0	0	0	0	0	0	0	0	0	0	9
	1.3	-	-	-	-	-	-	-	-	-	-	1.3
ESE	5	4	1	0	0	0	0	0	0	0	0	10
	0.7	0.6	0.1	-	-	-	-	-	-	-	-	1.5
SE	7	0	0	1	0	0	0	0	0	0	0	8
	1.0	-	-	0.1	-	-	-	-	-	-	-	1.2
SSE	3	2	3	4	0	0	0	0	0	0	0	12
	0.4	0.3	0.4	0.6	-	-	-	-	-	-	-	1.8
S	4	5	30	12	11	0	0	0	0	0	0	62
	0.6	0.7	4.5	1.8	1.6	-	-	-	-	-	-	9.2
SSW	6	3	31	11	5	0	0	0	0	0	0	56
	0.9	0.4	4.6	1.6	0.7	-	-	-	-	-	-	8.3
SW	7	5	42	16	3	0	0	0	0	0	0	73
	1.0	0.7	6.3	2.4	0.4	-	-	-	-	-	-	10.9
WSW	4	10	26	23	23	4	0	0	0	1	0	91
	0.6	1.5	3.9	3.4	3.4	0.6	-	-	-	0.1	-	13.5
W	5	5	21	11	6	4	0	0	0	0	0	52
	0.7	0.7	3.1	1.6	0.9	0.6	-	-	-	-	-	7.7
WNW	6	9	15	4	4	0	0	0	0	0	0	38
	0.9	1.3	2.2	0.6	0.6	-	-	-	-	-	-	5.7
NW	5	14	19	5	1	0	0	0	0	0	0	44
	0.7	2.1	2.8	0.7	0.1	-	-	-	-	-	-	6.5
NNW	7	20	20	3	2	0	0	0	0	0	0	52
	1.0	3.0	3.0	0.4	0.3	-	-	-	-	-	-	7.7
Total	100	118	292	98	55	8	0	0	0	1	0	672
	14.9	17.6	43.5	14.6	8.2	1.2	-	-	-	0.1	-	100.0

Short Data 0
Data Obtained 100.0%

Note: Upper layer shows Number of obs. date and
Lower layer shows Number of obs. date in %.

Table 1. 2-2 (4) Frequency Distributions of Wind (Pilot Station)

St. : Pilot Station
Period : 1989. 3. 1 1: 0 - 1989. 4. 1 0: 0

Dir. \ Vel.	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-	Total
-	0 0.0											0 0.0
N	1 0.1	23 3.1	65 8.7	5 0.7	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	95 12.8
NNE	1 0.1	8 1.1	35 4.7	12 1.6	4 0.5	0 -	0 -	0 -	0 -	0 -	0 -	60 8.1
NE	3 0.4	18 2.4	41 5.5	20 2.7	0 -	0 -	0 -	0 -	0 -	0 -	0 -	82 11.0
ENE	5 0.7	2 0.3	5 0.7	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	12 1.6
E	2 0.3	6 0.8	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	8 1.1
ESE	2 0.3	5 0.7	4 0.5	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	11 1.5
SE	2 0.3	2 0.3	7 0.9	3 0.4	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	15 2.0
SSE	1 0.1	2 0.3	5 0.7	2 0.3	4 0.5	4 0.5	0 -	0 -	0 -	0 -	0 -	18 2.4
S	3 0.4	5 0.7	11 1.5	13 1.7	4 0.5	3 0.4	0 -	0 -	0 -	0 -	0 -	39 5.2
SSW	0 -	4 0.5	16 2.2	12 1.6	3 0.4	1 0.1	0 -	0 -	0 -	0 -	0 -	36 4.8
SW	2 0.3	9 1.2	46 6.2	9 1.2	0 -	0 -	0 -	0 -	0 -	0 -	0 -	66 8.9
WSW	2 0.3	8 1.1	40 5.4	38 5.1	18 2.4	0 -	0 -	0 -	0 -	0 -	0 -	106 14.2
W	0 -	9 1.2	14 1.9	17 2.3	8 1.1	1 0.1	0 -	0 -	0 -	0 -	0 -	49 6.6
WNW	1 0.1	4 0.5	10 1.3	8 1.1	4 0.5	1 0.1	0 -	0 -	0 -	0 -	0 -	28 3.8
NW	2 0.3	6 0.8	44 5.9	5 0.7	0 -	0 -	0 -	0 -	0 -	0 -	0 -	57 7.7
NNW	0 -	15 2.0	41 5.5	5 0.7	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	62 8.3
Total	27 3.6	126 16.9	384 51.6	149 20.0	48 6.5	10 1.3	0 -	0 -	0 -	0 -	0 -	744 100.0

Short Data 0
Data Obtained 100.0%

St. : Pilot Station
Period : 1989. 4. 1 1: 0 - 1989. 5. 1 0: 00

Dir. \ Vel.	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-	Total
-	18 2.5											18 2.5
N	1 0.1	9 1.3	68 9.5	2 0.3	0 -	0 -	0 -	0 -	0 -	0 -	0 -	80 11.1
NNE	1 0.1	5 0.7	57 7.9	11 1.5	0 -	0 -	0 -	0 -	0 -	0 -	0 -	74 10.3
NE	0 -	14 1.9	82 11.4	6 0.8	0 -	0 -	0 -	0 -	0 -	0 -	0 -	102 14.2
ENE	0 -	11 1.5	8 1.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	19 2.6
E	1 0.1	15 2.1	6 0.8	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	22 3.1
ESE	0 -	7 1.0	3 0.4	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	10 1.4
SE	0 -	5 0.7	10 1.4	1 0.1	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	17 2.4
SSE	1 0.1	2 0.3	10 1.4	8 1.1	3 0.4	0 -	0 -	0 -	0 -	0 -	0 -	24 3.3
S	0 -	11 1.5	23 3.2	10 1.4	7 1.0	0 -	0 -	0 -	0 -	0 -	0 -	51 7.1
SSW	0 -	5 0.7	35 4.9	9 1.3	1 0.1	1 0.1	0 -	0 -	0 -	0 -	0 -	51 7.1
SW	4 0.6	12 1.7	37 5.2	3 0.4	0 -	0 -	0 -	0 -	0 -	0 -	0 -	56 7.8
WSW	0 -	4 0.6	44 6.1	15 2.1	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	64 8.9
W	1 0.1	3 0.4	17 2.4	6 0.8	2 0.3	0 -	0 -	0 -	0 -	0 -	0 -	29 4.0
WNW	1 0.1	5 0.7	20 2.8	3 0.4	0 -	0 -	0 -	0 -	0 -	0 -	0 -	29 4.0
NW	0 -	3 0.4	30 4.2	1 0.1	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	35 4.9
NNW	1 0.1	9 1.3	25 3.5	2 0.3	0 -	0 -	0 -	0 -	0 -	0 -	0 -	37 5.2
Total	29 4.0	120 16.7	475 66.2	77 10.7	16 2.2	1 0.1	0 -	0 -	0 -	0 -	0 -	718 100.0

Short Data 0
Data Obtained 100.0%

Note: Upper layer shows Number of obs. date and
Lower layer shows Number of obs. date in %.

Table 1. 2-2 (5) Frequency Distributions of Wind (Pilot Station)

St. : Pilot Station
Period : 1989. 5. 1 1: 0 - 1989. 6. 1 0: 0

Vel. / Dir.	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-	Total
-	0 0.0											0 0.0
N	0 -	3 0.4	24 3.2	2 0.3	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	30 4.0
NNE	0 -	3 0.4	23 3.1	17 2.3	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	44 5.9
NE	3 0.4	23 3.1	87 11.7	21 2.8	1 0.1	2 0.3	0 -	0 -	0 -	0 -	0 -	137 18.4
ENE	0 -	11 1.5	17 2.3	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	28 3.8
E	2 0.3	16 2.2	19 2.6	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	38 5.1
ESE	0 -	24 3.2	23 3.1	1 0.1	3 0.4	0 -	0 -	0 -	0 -	0 -	0 -	51 6.9
SE	0 -	13 1.7	34 4.6	32 4.3	11 1.5	1 0.1	0 -	0 -	0 -	0 -	0 -	91 12.2
SSE	0 -	2 0.3	10 1.3	19 2.6	48 6.5	29 3.9	0 -	0 -	0 -	0 -	0 -	108 14.5
S	0 -	5 0.7	18 2.4	15 2.0	24 3.2	4 0.5	0 -	0 -	0 -	0 -	0 -	66 8.9
SSW	3 0.4	7 0.9	30 4.0	13 1.7	5 0.7	1 0.1	0 -	0 -	0 -	0 -	0 -	59 7.9
SW	0 -	5 0.7	12 1.6	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	17 2.3
WSW	0 -	1 0.1	7 0.9	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	9 1.2
W	0 -	3 0.4	6 0.8	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	9 1.2
WNW	1 0.1	2 0.3	6 1.1	0 -	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	12 1.6
NW	0 -	9 1.2	16 2.2	4 0.5	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	30 4.0
NNW	0 -	1 0.1	13 1.7	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	15 2.0
Total	9 1.2	128 17.2	347 46.6	127 17.1	96 12.9	37 5.0	0 -	0 -	0 -	0 -	0 -	744 100.0

Short Data 0
Data Obtained 100.0%

St. : Pilot Station
Period : 1989. 6. 1 1: 0 - 1989. 7. 1 0: 00

Vel. / Dir.	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-	Total
-	34 4.7											34 4.7
N	14 1.9	28 3.9	19 2.6	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	61 8.5
NNE	9 1.2	17 2.4	45 6.3	8 1.1	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	80 11.1
NE	21 2.9	40 5.6	55 7.6	5 0.7	0 -	0 -	0 -	0 -	0 -	0 -	0 -	121 16.8
ENE	16 2.2	11 1.5	3 0.4	0 -	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	31 4.3
E	6 0.8	14 1.9	1 0.1	0 -	0 -	0 -	0 -	1 0.1	0 -	0 -	0 -	22 3.1
ESE	13 1.8	12 1.7	11 1.5	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	37 5.1
SE	7 1.0	15 2.1	23 3.2	13 1.8	8 1.1	1 0.1	0 -	0 -	0 -	0 -	0 -	67 9.3
SSE	3 0.4	2 0.3	19 2.6	24 3.3	13 1.8	1 0.1	0 -	0 -	0 -	0 -	0 -	62 8.6
S	4 0.6	14 1.9	21 2.9	28 3.9	14 1.9	0 -	0 -	0 -	0 -	0 -	0 -	81 11.2
SSW	4 0.6	12 1.7	13 1.8	1 0.1	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	31 4.3
SW	2 0.3	9 1.2	7 1.0	0 -	1 0.1	2 0.3	0 -	0 -	0 -	0 -	0 -	21 2.9
WSW	2 0.3	4 0.6	3 0.4	2 0.3	0 -	0 -	0 -	0 -	0 -	0 -	0 -	11 1.5
W	1 0.1	2 0.3	4 0.6	3 0.4	0 -	0 -	0 -	0 -	0 -	0 -	0 -	10 1.4
WNW	2 0.3	0 -	7 1.0	1 0.1	0 -	0 -	1 0.1	0 -	0 -	0 -	0 -	11 1.5
NW	3 0.4	5 0.7	4 0.6	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	12 1.7
NNW	3 0.4	11 1.5	14 1.9	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	28 3.9
Total	144 20.0	196 27.2	249 34.6	86 11.9	39 5.4	4 0.6	1 0.1	1 0.1	0 -	0 -	0 -	720 100.0

Short Data 0
Data Obtained 100.0%

Note: Upper layer shows Number of obs. date and
Lower layer shows Number of obs. date in %.

Table 1. 2-2 (6) Frequency Distributions of Wind (Pilot Station)

St. : Pilot Station
Period : 1989. 7. 1 1: 0 - 1989. 8. 1 0: 0

Vel. / Dir.	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-	Total
-	0 0.0											0 0.0
N	1 0.1	16 2.2	21 2.8	5 0.7	0 -	0 -	0 -	0 -	0 -	0 -	0 -	43 5.8
NNE	0 -	7 0.9	33 4.4	10 1.3	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	51 6.9
NE	4 0.5	27 3.6	65 8.7	13 1.7	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	110 14.8
ENE	1 0.1	16 2.2	8 1.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	25 3.4
E	4 0.5	11 1.5	11 1.5	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	26 3.5
ESE	5 0.7	21 2.8	35 4.7	7 0.9	3 0.4	0 -	0 -	0 -	0 -	0 -	0 -	71 9.5
SE	1 0.1	8 1.1	24 3.2	34 4.6	25 3.4	10 1.3	3 0.4	0 -	0 -	0 -	0 -	105 14.1
SSE	1 0.1	3 0.4	15 2.0	16 2.2	30 4.0	39 5.2	14 1.9	0 -	0 -	0 -	0 -	118 15.9
S	1 0.1	8 1.1	23 3.1	19 2.6	16 2.2	4 0.5	4 0.5	0 -	0 -	0 -	0 -	75 10.1
SSW	0 -	10 1.3	11 1.5	8 1.1	2 0.3	2 0.3	0 -	0 -	0 -	0 -	0 -	33 4.4
SW	0 -	8 1.1	20 2.7	2 0.3	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	31 4.2
WSW	1 0.1	2 0.3	6 0.8	0 -	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	10 1.3
W	0 -	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	1 0.1
WNW	0 -	1 0.1	5 0.7	0 -	0 -	0 -	0 -	1 0.1	0 -	0 -	0 -	7 0.9
NW	0 -	3 0.4	15 2.0	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	18 2.4
NNW	0 -	8 1.1	12 1.6	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	20 2.7
Total	19 2.6	150 20.2	304 40.9	114 15.3	80 10.8	55 7.4	21 2.8	1 0.1	0 -	0 -	0 -	744 100.0

Short Data 0
Data Obtained 100.0%

St. : Pilot Station
Period : 1989. 8. 1 1: 0 - 1989. 9. 1 0: 00

Vel. / Dir.	0-	1-	2-	3-	4-	5-	6-	7-	8-	9-	10-	Total
-	0 0.0											0 0.0
N	0 -	6 0.8	15 2.0	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	21 2.8
NNE	0 -	0 -	18 2.4	5 0.7	0 -	0 -	0 -	0 -	0 -	0 -	0 -	23 3.1
NE	0 -	12 1.6	37 5.0	15 2.0	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	65 8.7
ENE	0 -	9 1.2	8 1.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	17 2.3
E	0 -	11 1.5	12 1.6	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	23 3.1
ESE	0 -	13 1.7	34 4.6	25 3.4	5 0.7	0 -	0 -	1 0.1	0 -	0 -	0 -	78 10.5
SE	0 -	5 0.7	29 3.9	52 7.0	50 6.7	9 1.2	0 -	0 -	0 -	0 -	0 -	145 19.5
SSE	1 0.1	4 0.5	14 1.9	15 2.0	49 6.6	74 9.9	26 3.5	0 -	0 -	0 -	0 -	183 24.6
S	0 -	3 0.4	13 1.7	10 1.3	29 3.9	7 0.9	10 1.3	0 -	0 -	0 -	0 -	72 9.7
SSW	0 -	3 0.4	18 2.4	9 1.2	1 0.1	1 0.1	0 -	0 -	0 -	0 -	0 -	32 4.3
SW	0 -	0 -	16 2.2	2 0.3	0 -	0 -	0 -	0 -	0 -	0 -	0 -	18 2.4
WSW	0 -	0 -	2 0.3	1 0.1	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	4 0.5
W	0 -	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	0 -	1 0.1
WNW	0 -	2 0.3	8 1.1	1 0.1	0 -	0 -	0 -	0 -	0 -	0 -	0 -	11 1.5
NW	0 -	3 0.4	15 2.0	3 0.4	2 0.3	0 -	0 -	0 -	0 -	0 -	0 -	23 3.1
NNW	2 0.3	4 0.5	20 2.7	2 0.3	0 -	0 -	0 -	0 -	0 -	0 -	0 -	28 3.8
Total	3 0.4	76 10.2	259 34.8	140 18.8	138 18.5	91 12.2	36 4.8	1 0.1	0 -	0 -	0 -	744 100.0

Short Data 0
Data Obtained 100.0%

Note: Upper layer shows Number of obs. date and
Lower layer shows Number of obs. date in %.

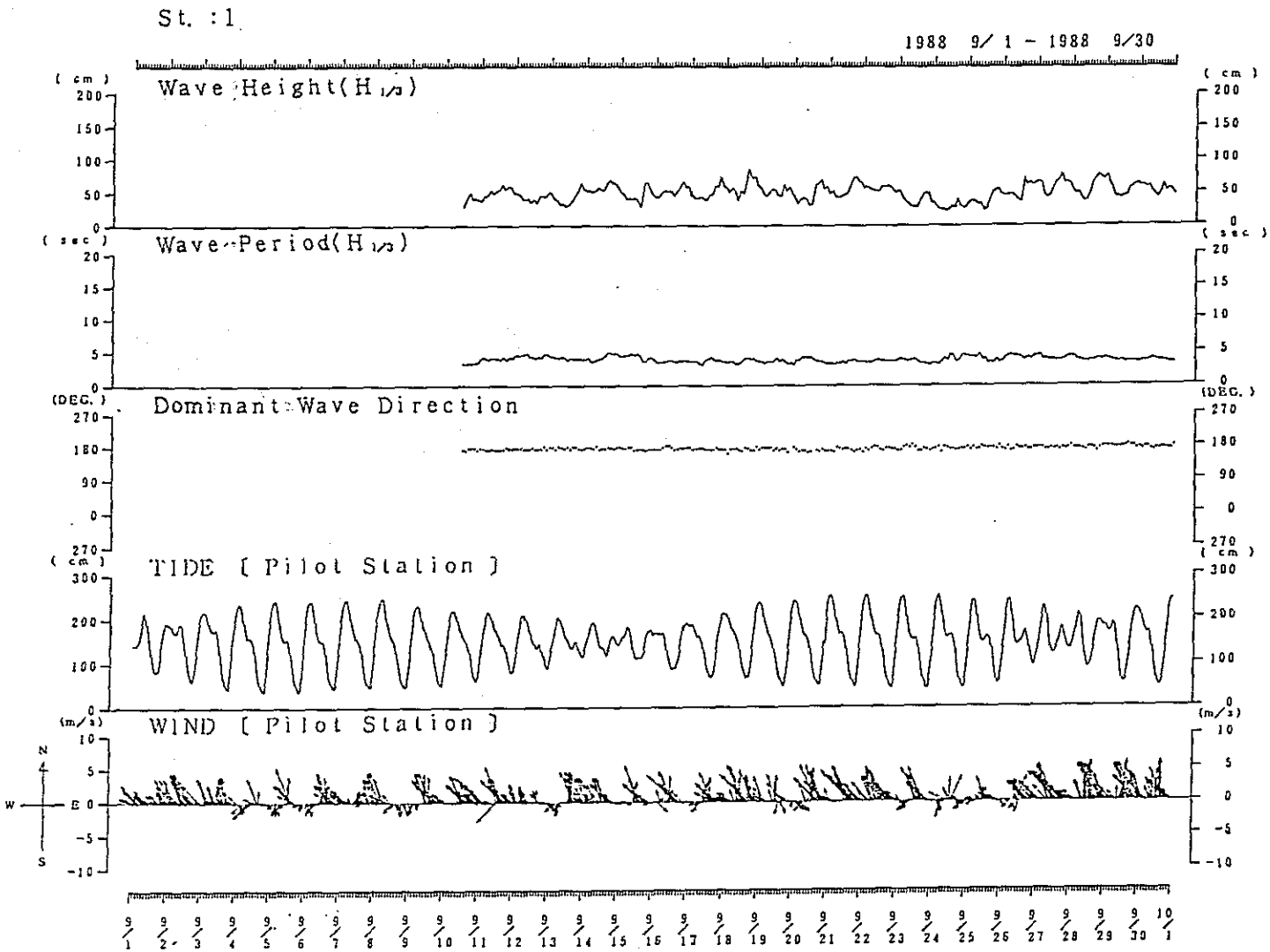

Fig. 1. 3-1 (1) Variation of Significant Wave(H 1/3) (Yearlong Survey)

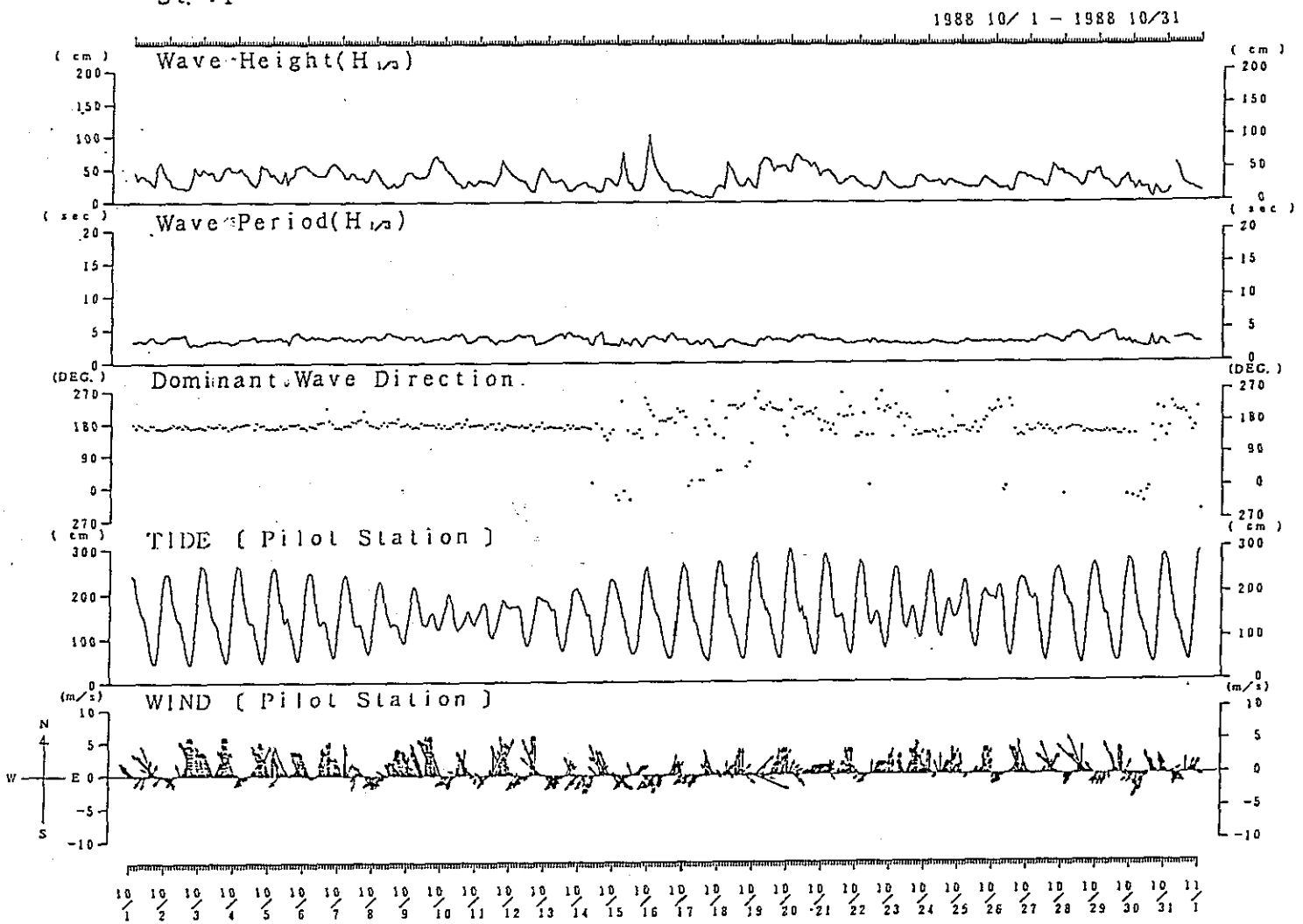

Fig. 1. 3–1 (2) Variation of Significant Wave($H_{1/3}$) (Yearlong Survey)

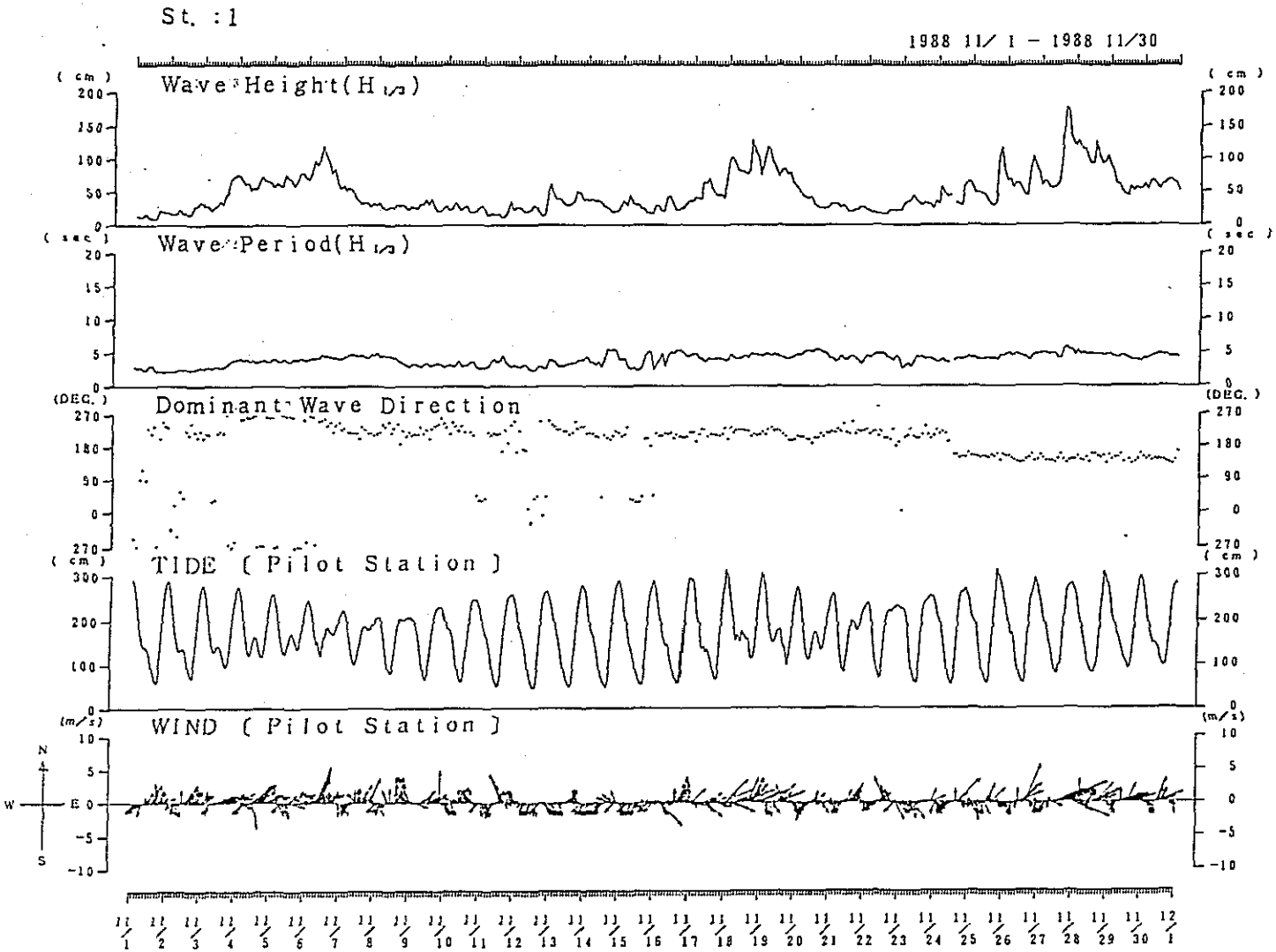

Fig. 1. 3-1 (3) Variation of Significant Wave($H_{1/3}$) (Yearlong Survey)

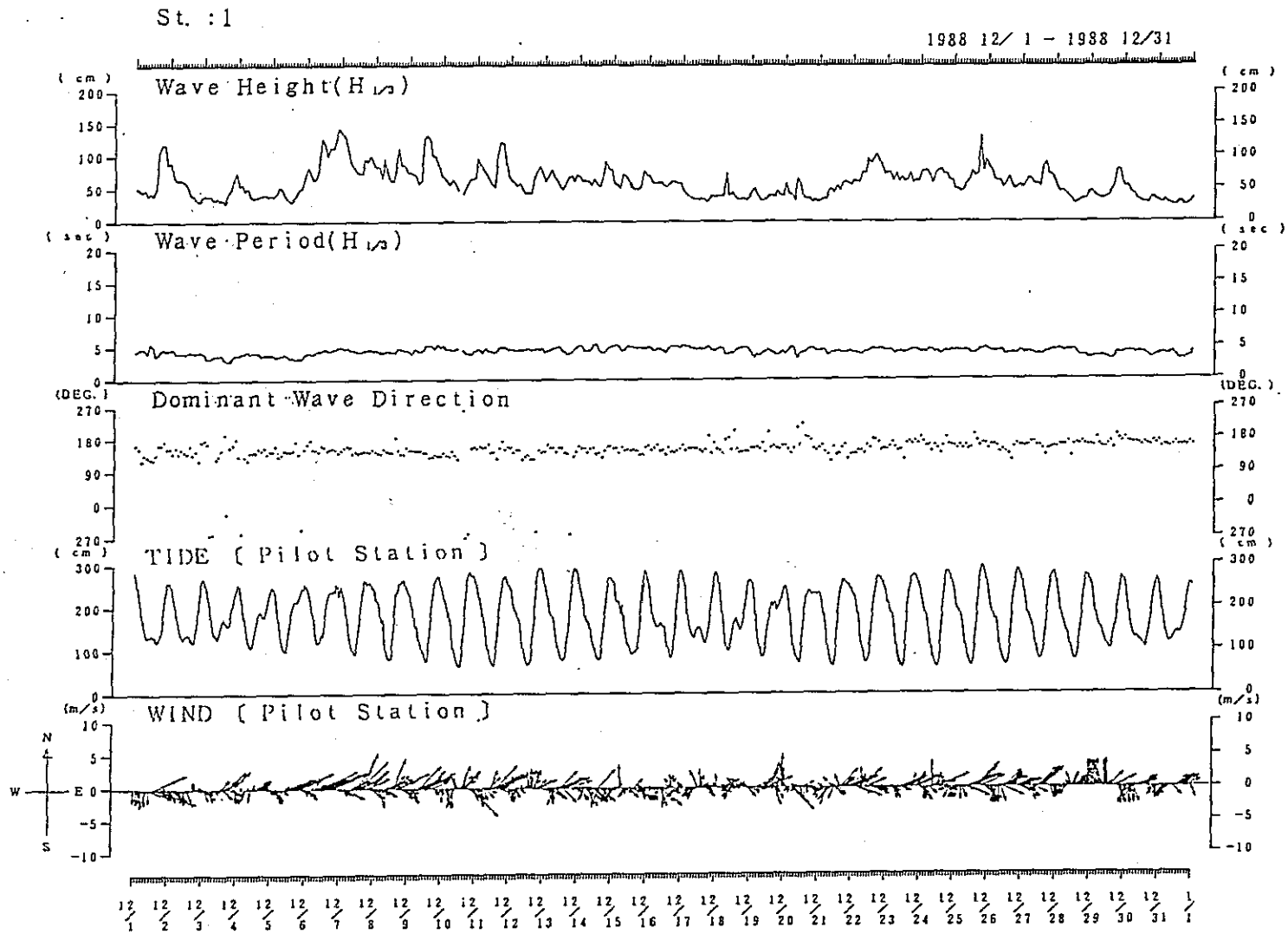

Fig. 1. 3-1 (4) Variation of Significant Wave($H_{1/3}$) (Yearlong Survey)

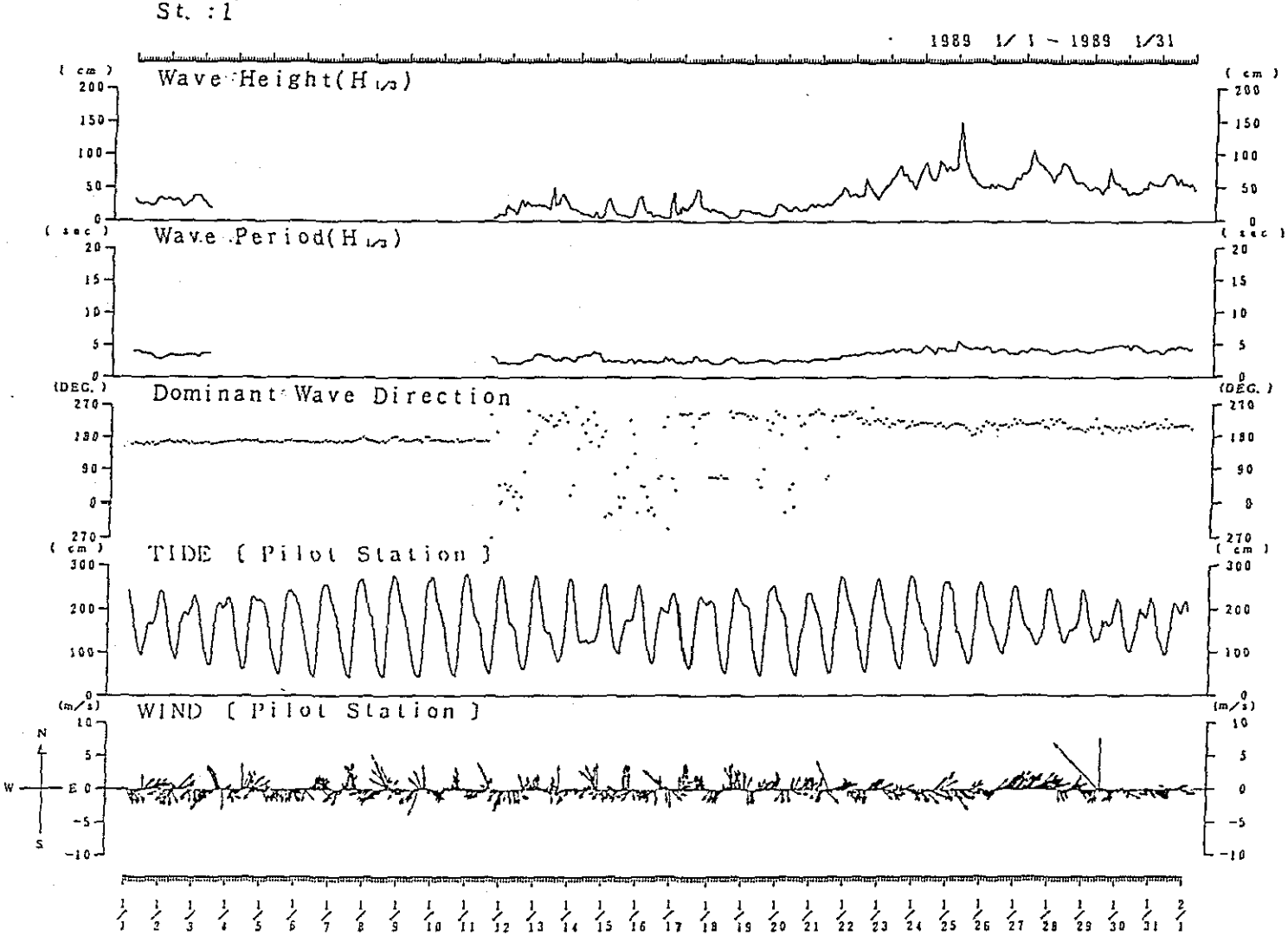

Fig. 1. 3-1 (5) Variation of Significant Wave(H 1/3) (Yearlong Survey)

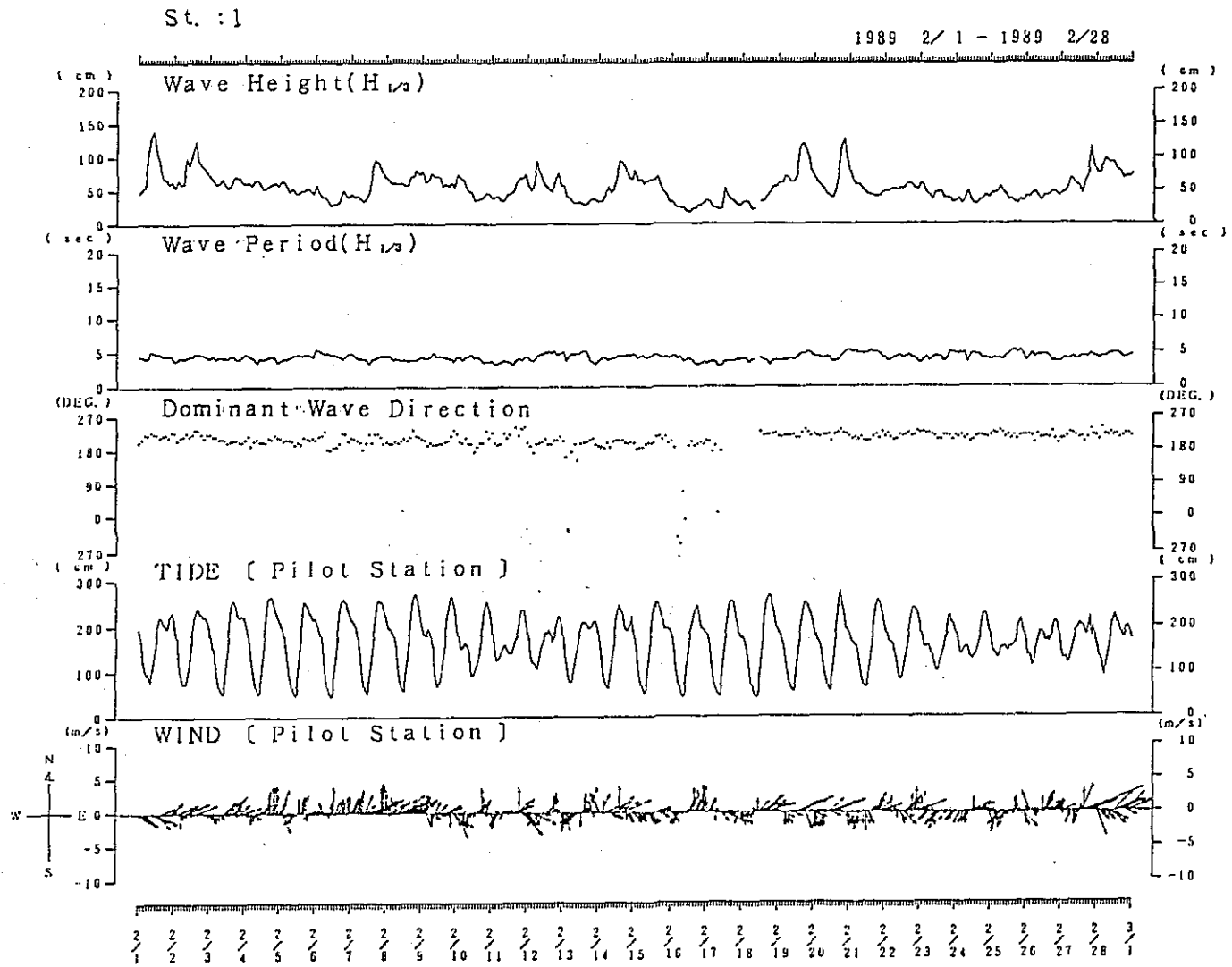

Fig. 1. 3-1 (6) Variation of Significant Wave($H_{1/3}$) (Yearlong Survey)

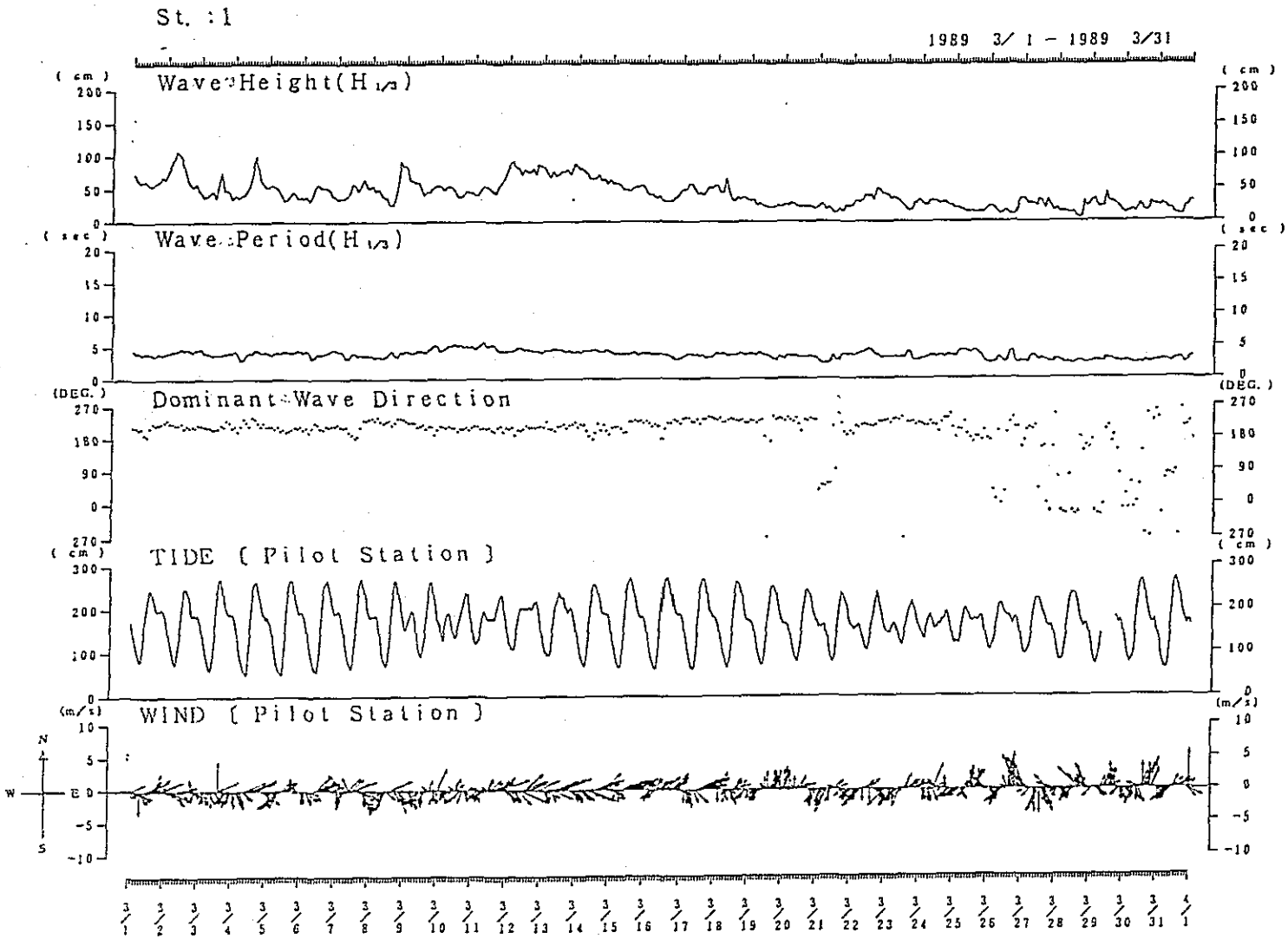

Fig. 1. 3-1 (7) Variation of Significant Wave(H 1/3) (Yearlong Survey)

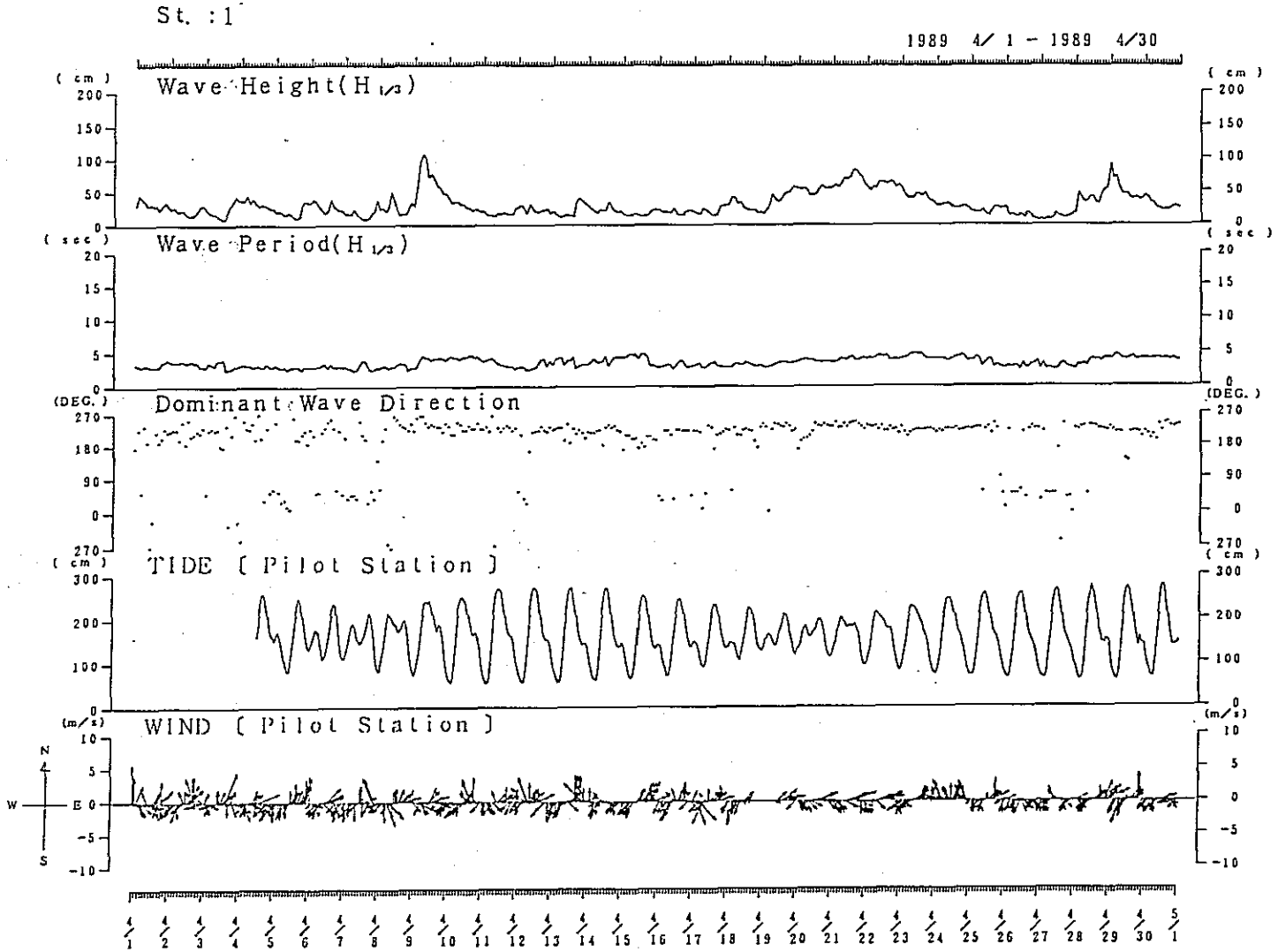

Fig. 1. 3-1 (8) Variation of Significant Wave(H 1/3) (Yearlong Survey)

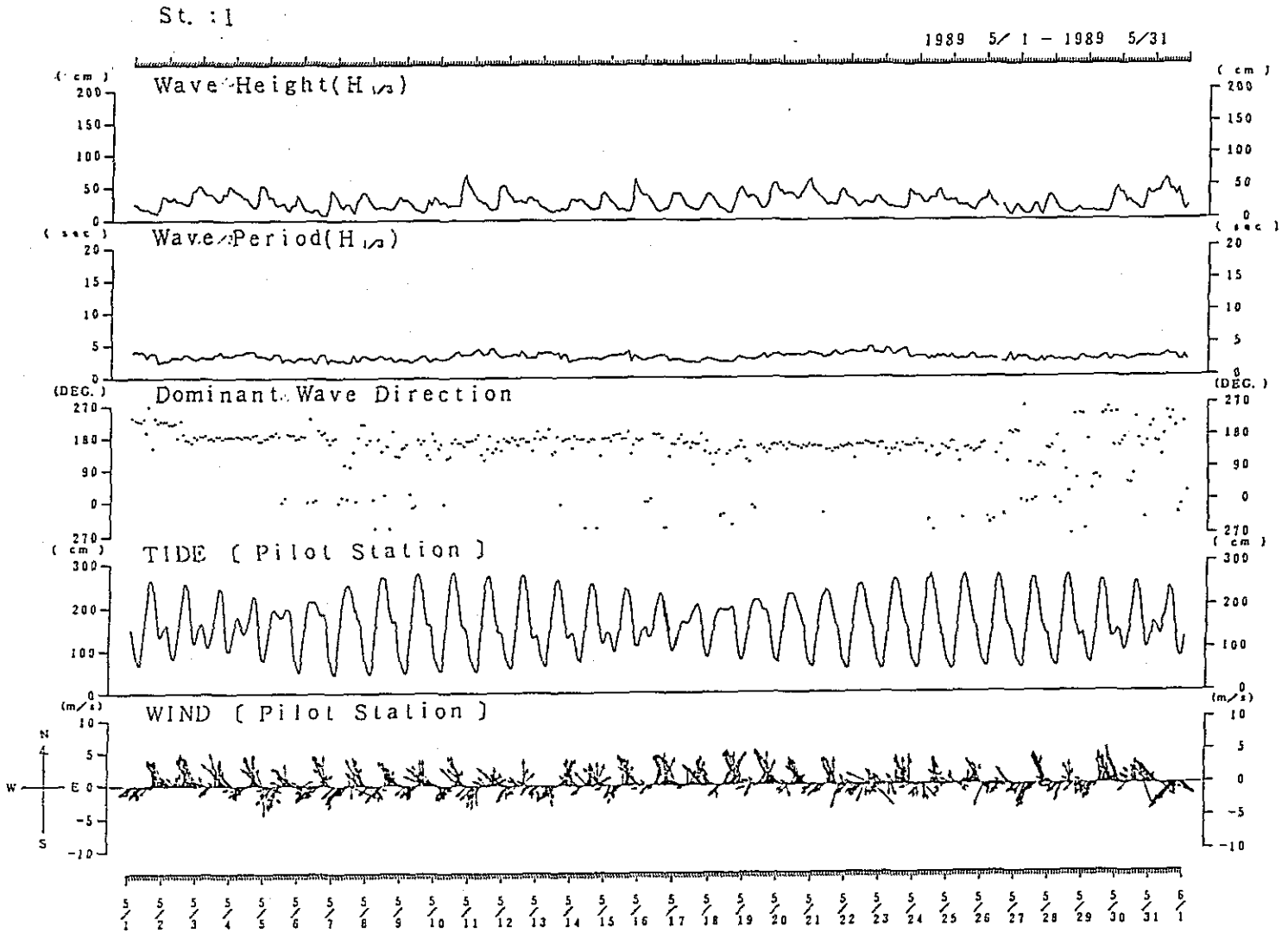

Fig. 1. 3-1 (9) *Variation of Significant Wave(H 1/3) (Yearlong Survey)*

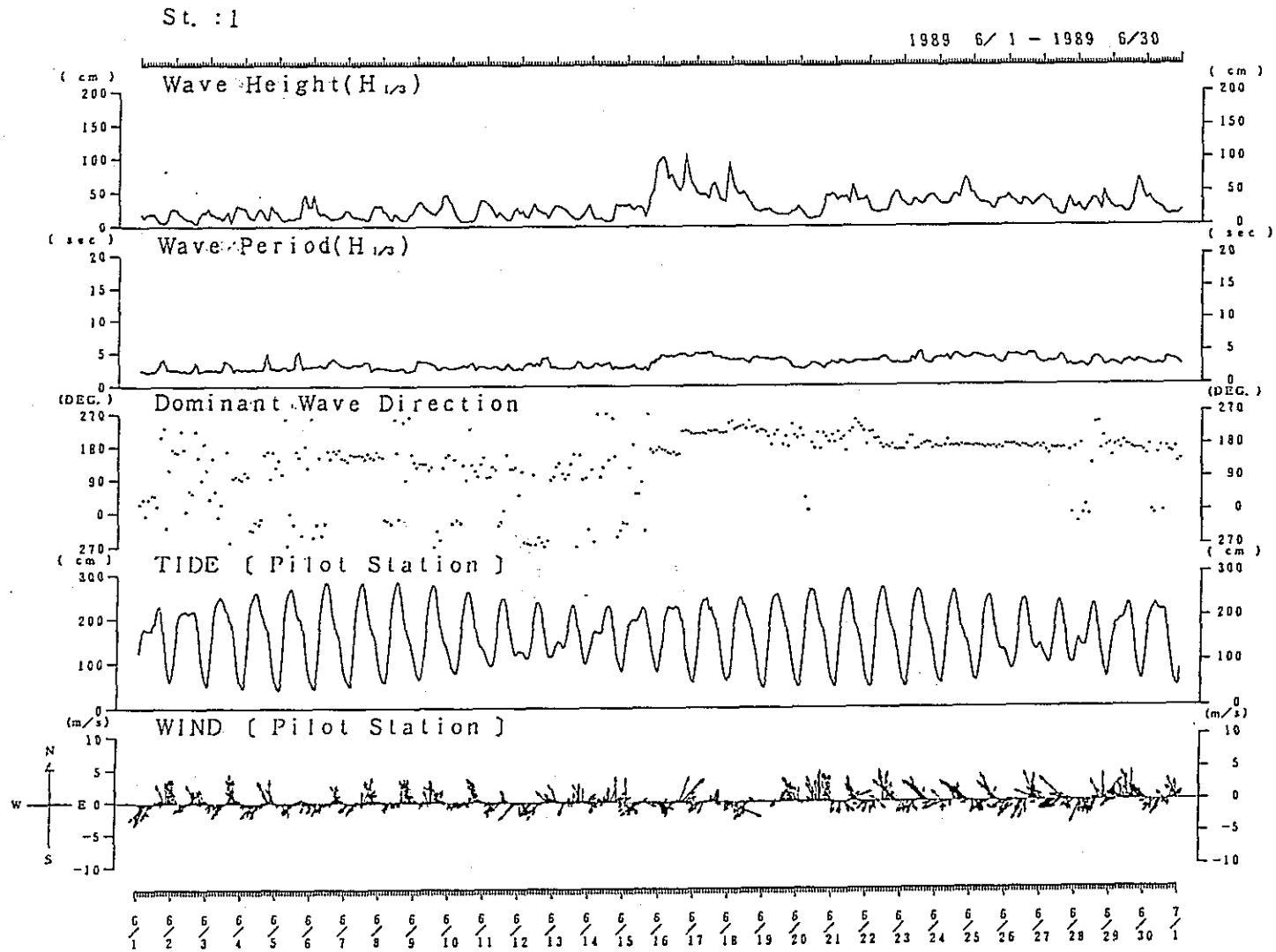

Fig. 1. 3-1 (10) Variation of Significant Wave($H_{1/3}$) (Yearlong Survey)

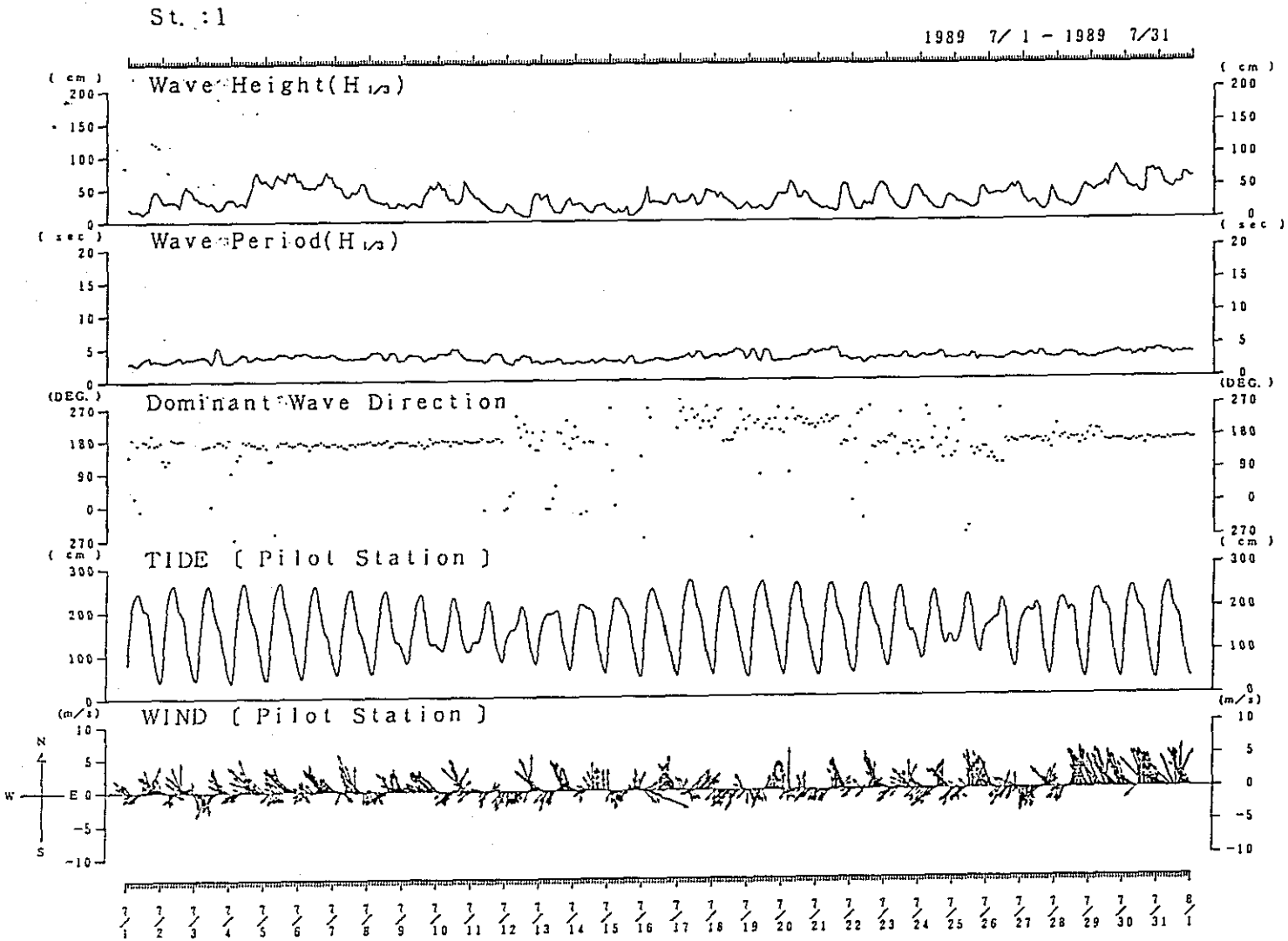

Fig. 1. 3-1 (11) Variation of Significant Wave($H_{1/3}$) (Yearlong Survey)

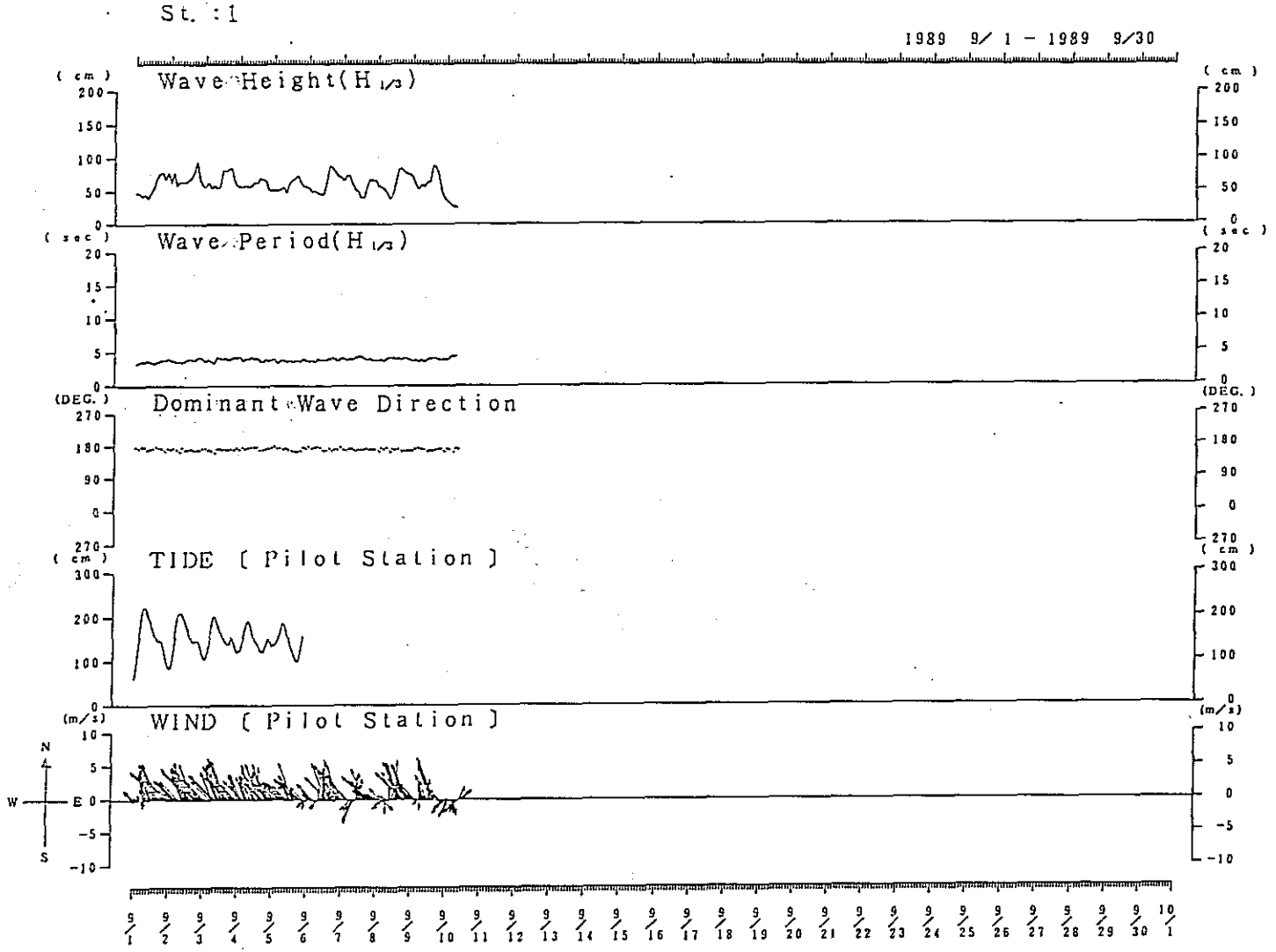

Fig. 1. 3-1 (12) Variation of Significant Wave($H_{1/3}$) (Yearlong Survey)

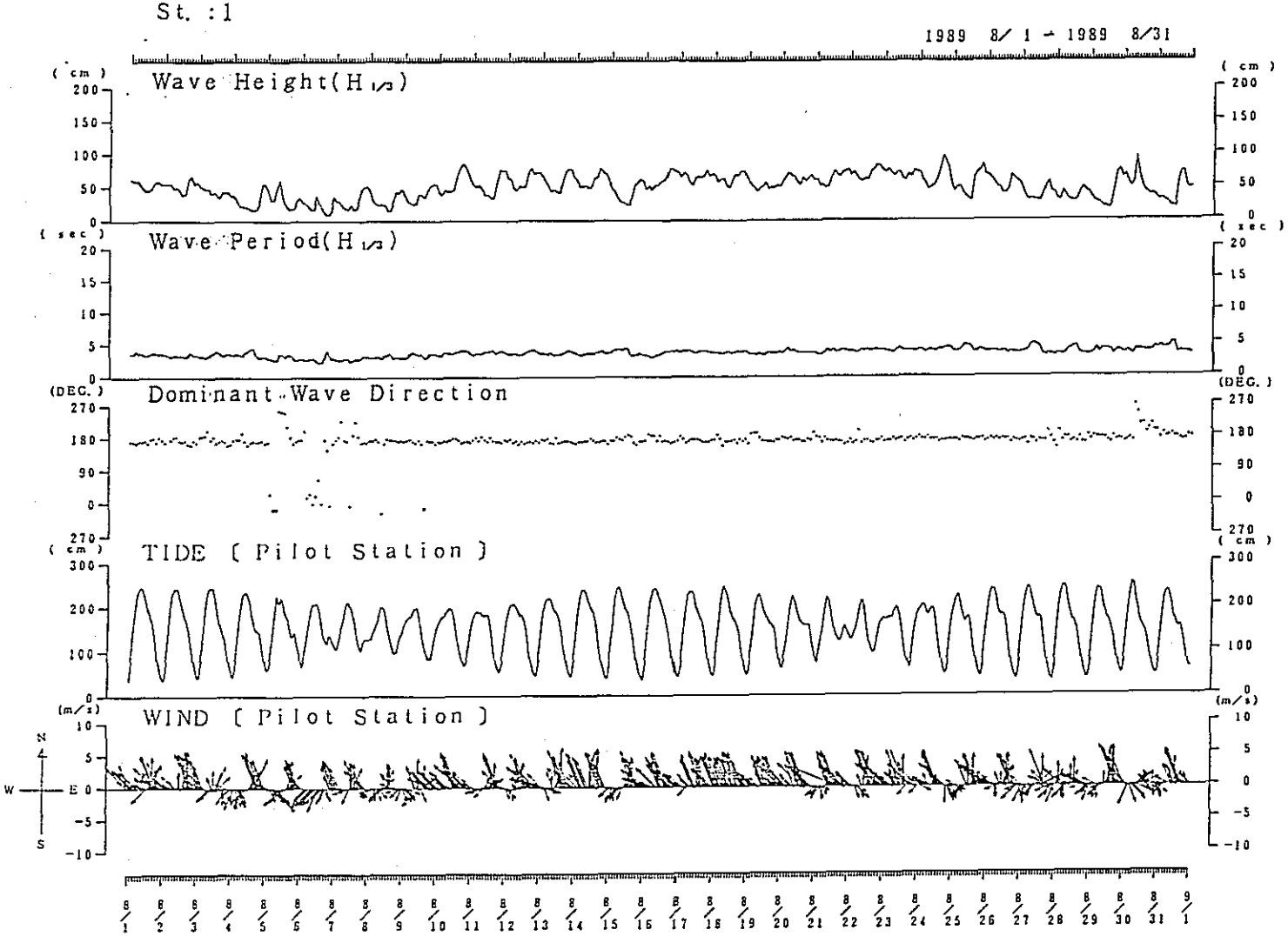

Fig. 1. 3-1 (13) Variation of Significant Wave($H_{1/3}$) (Yearlong Survey)

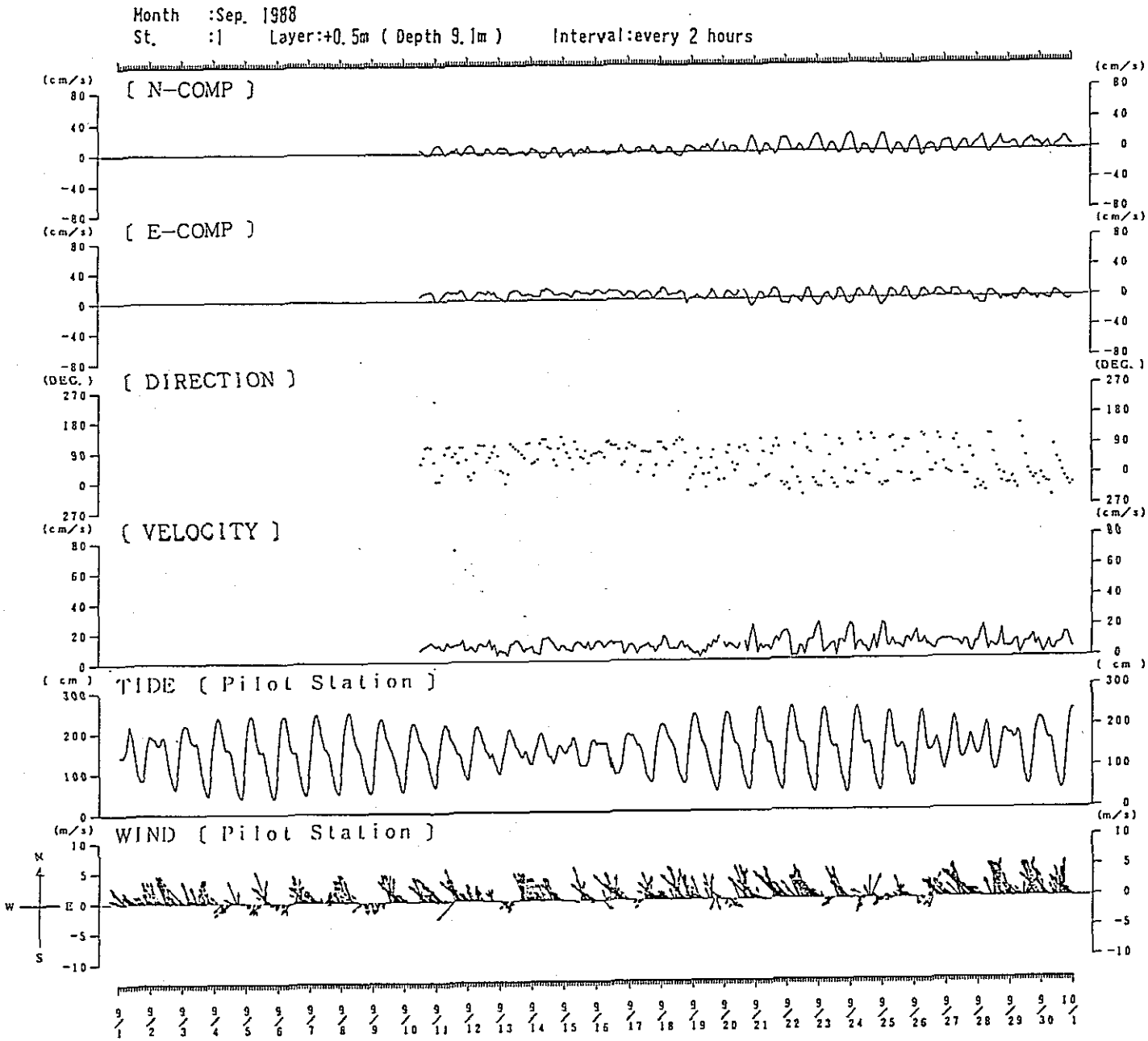

Fig. 1. 3-2 (1) Curve of Average Current in Each Burst Duration (Yearlong Survey)

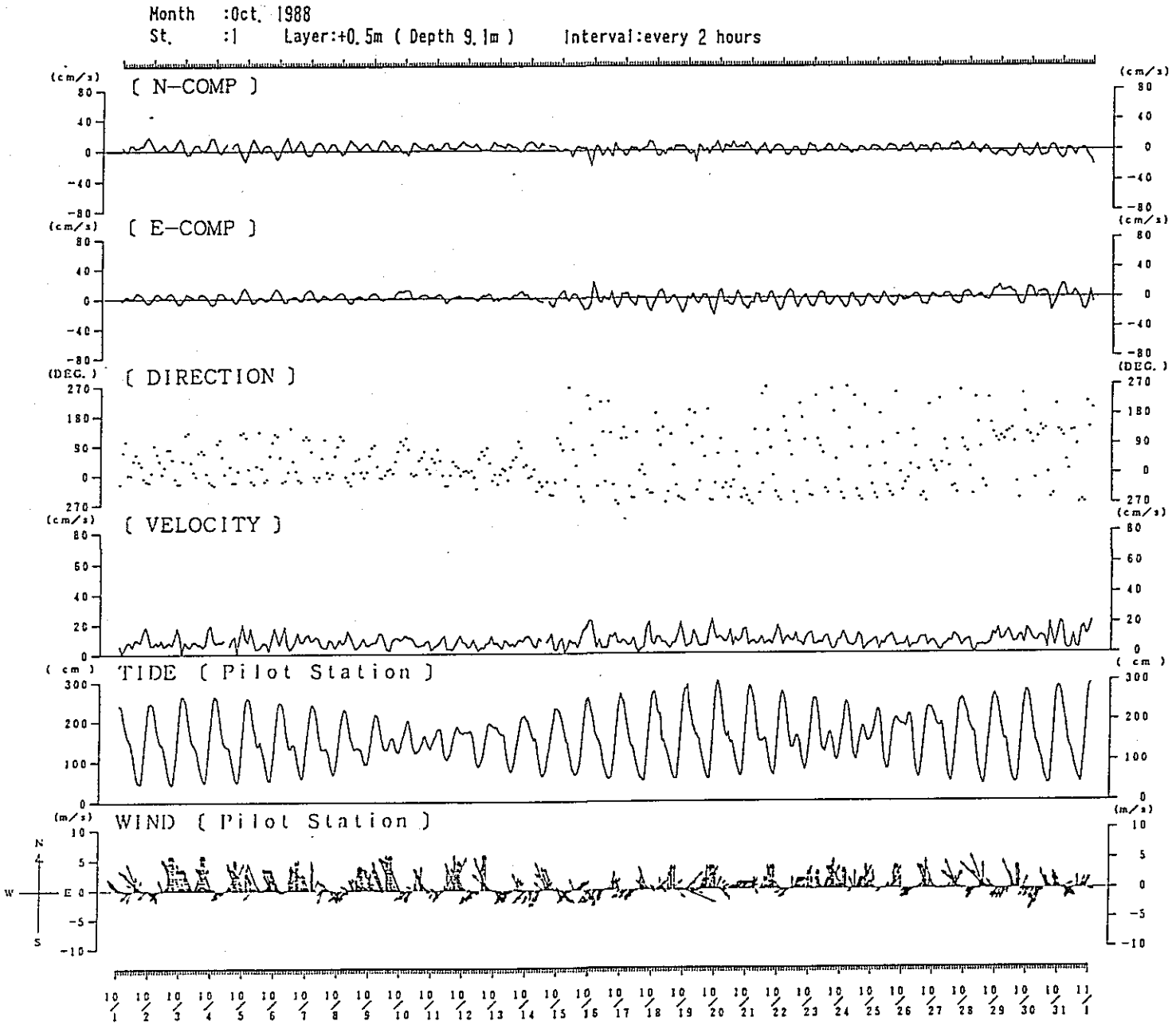

Fig. 1. 3-2 (2) Curve of Average Current in Each Burst Duration (Yearlong Survey)

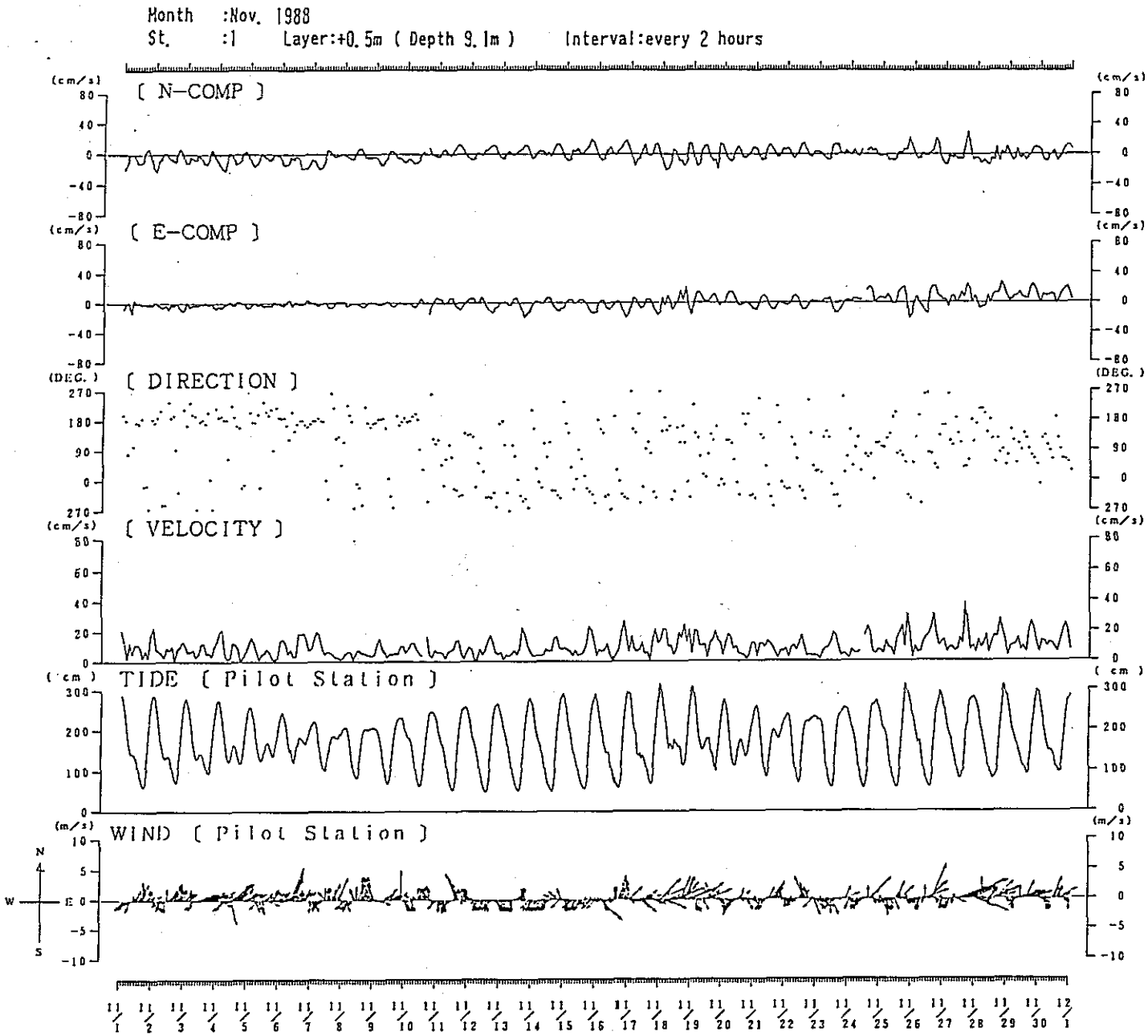

Fig. 1. 3-2 (3) Curve of Average Current in Each Burst Duration (Yearlong Survey)

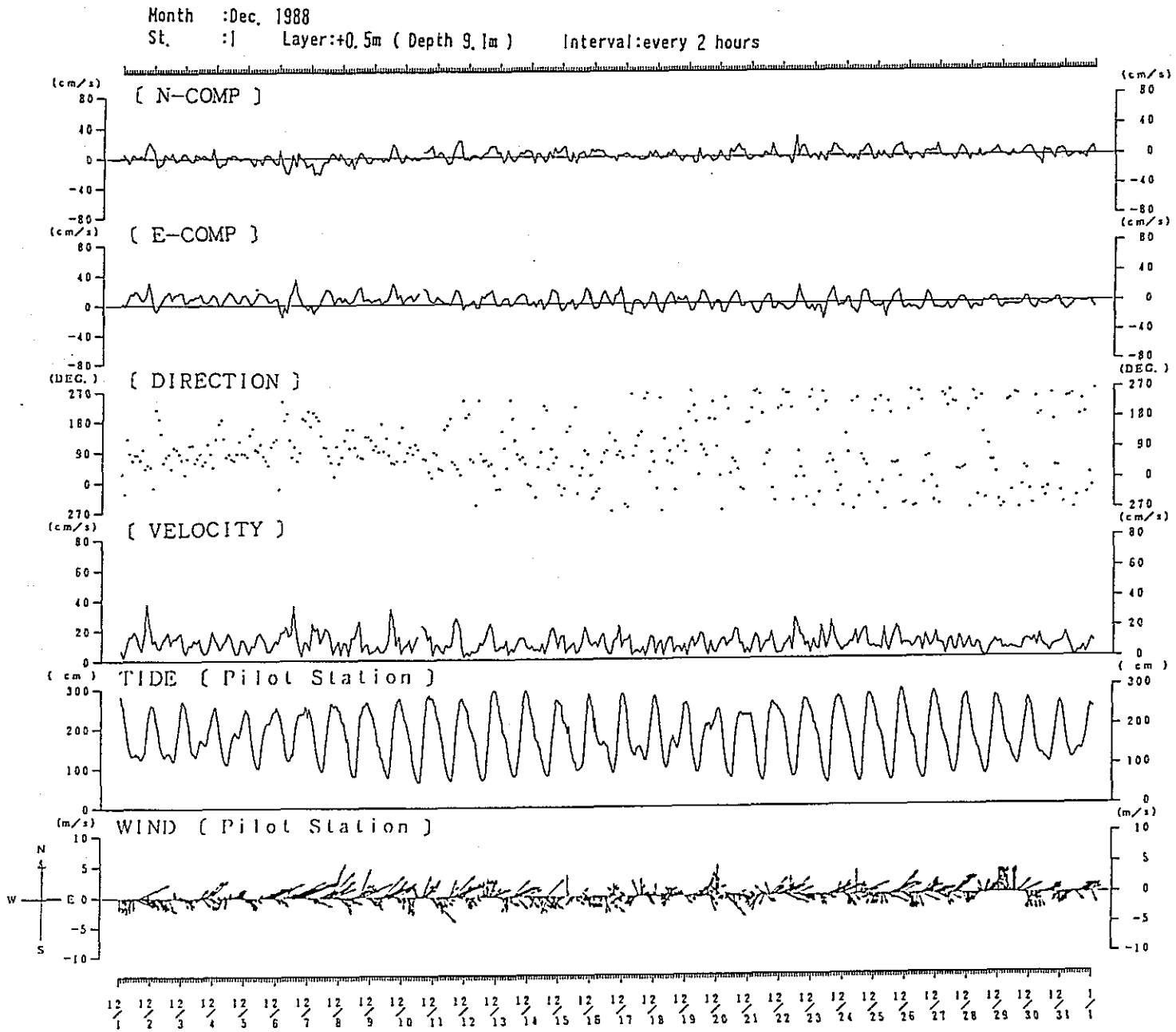

Fig. 1. 3-2 (4) Curve of Average Current in Each Burst Duration (Yearlong Survey)

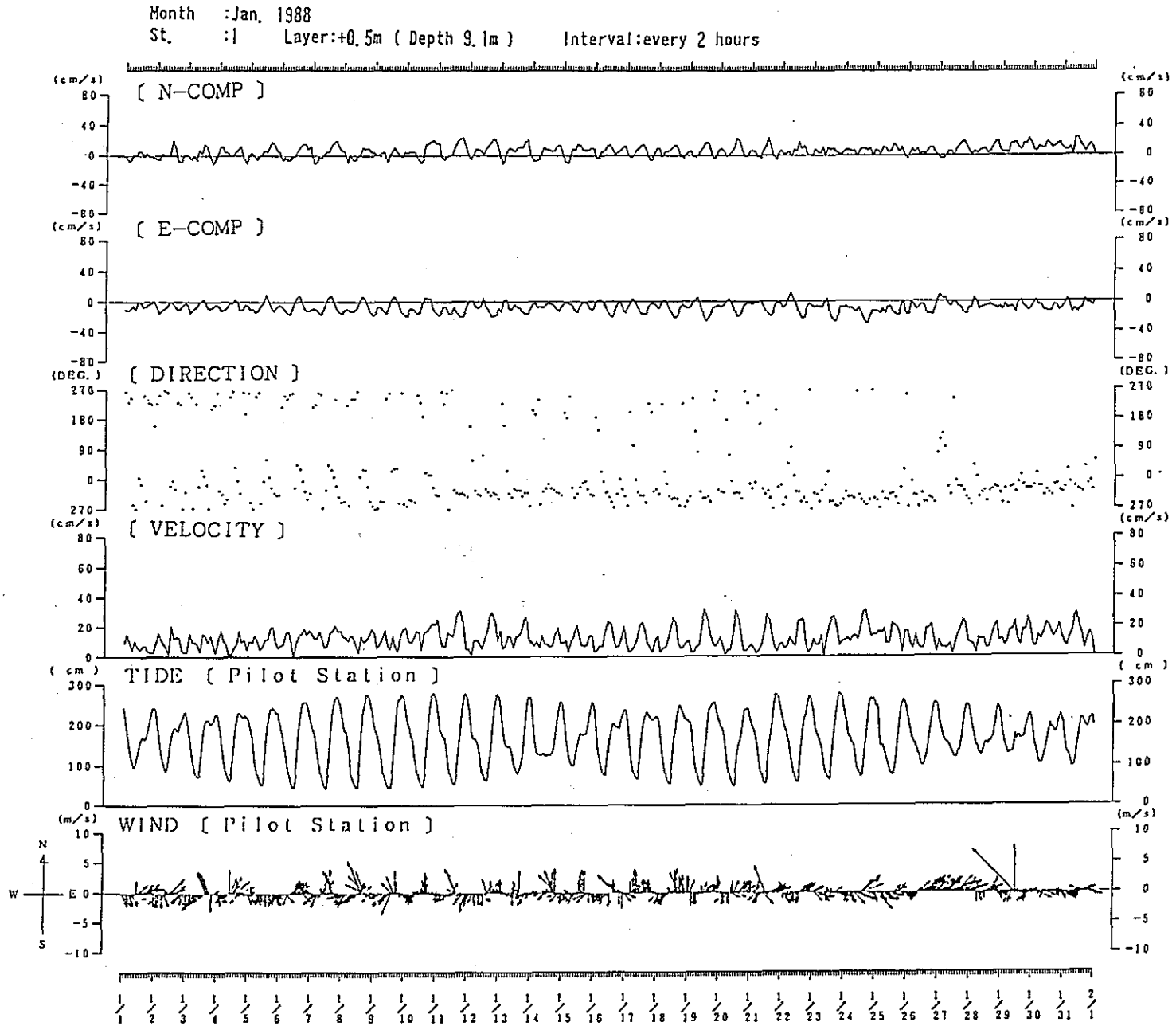

Fig. 1.3-2 (5) Curve of Average Current in Each Burst Duration (Yearlong Survey)

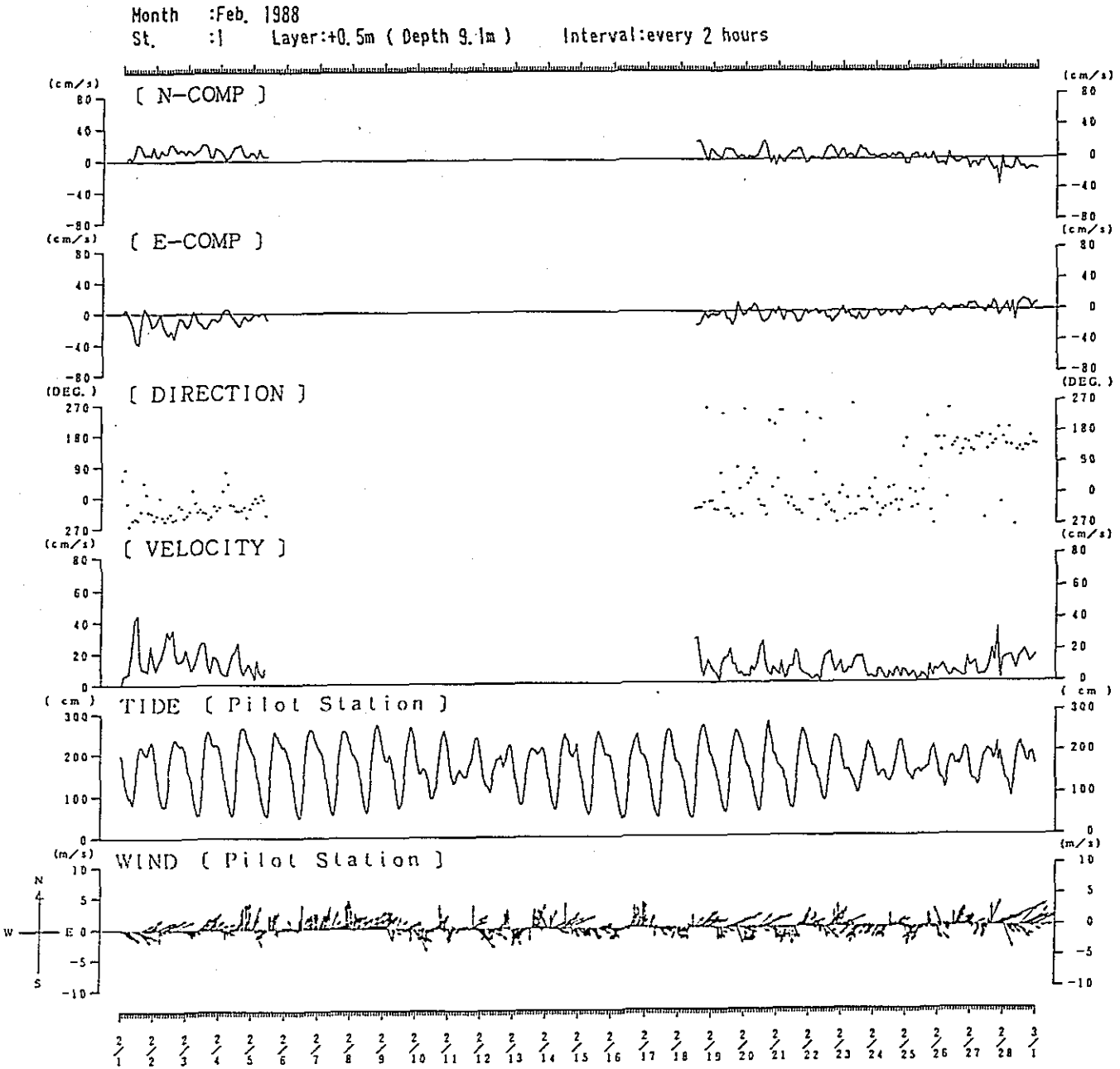

Fig. 1. 3-2 (6) Curve of Average Current in Each Burst Duration (Yearlong Survey)

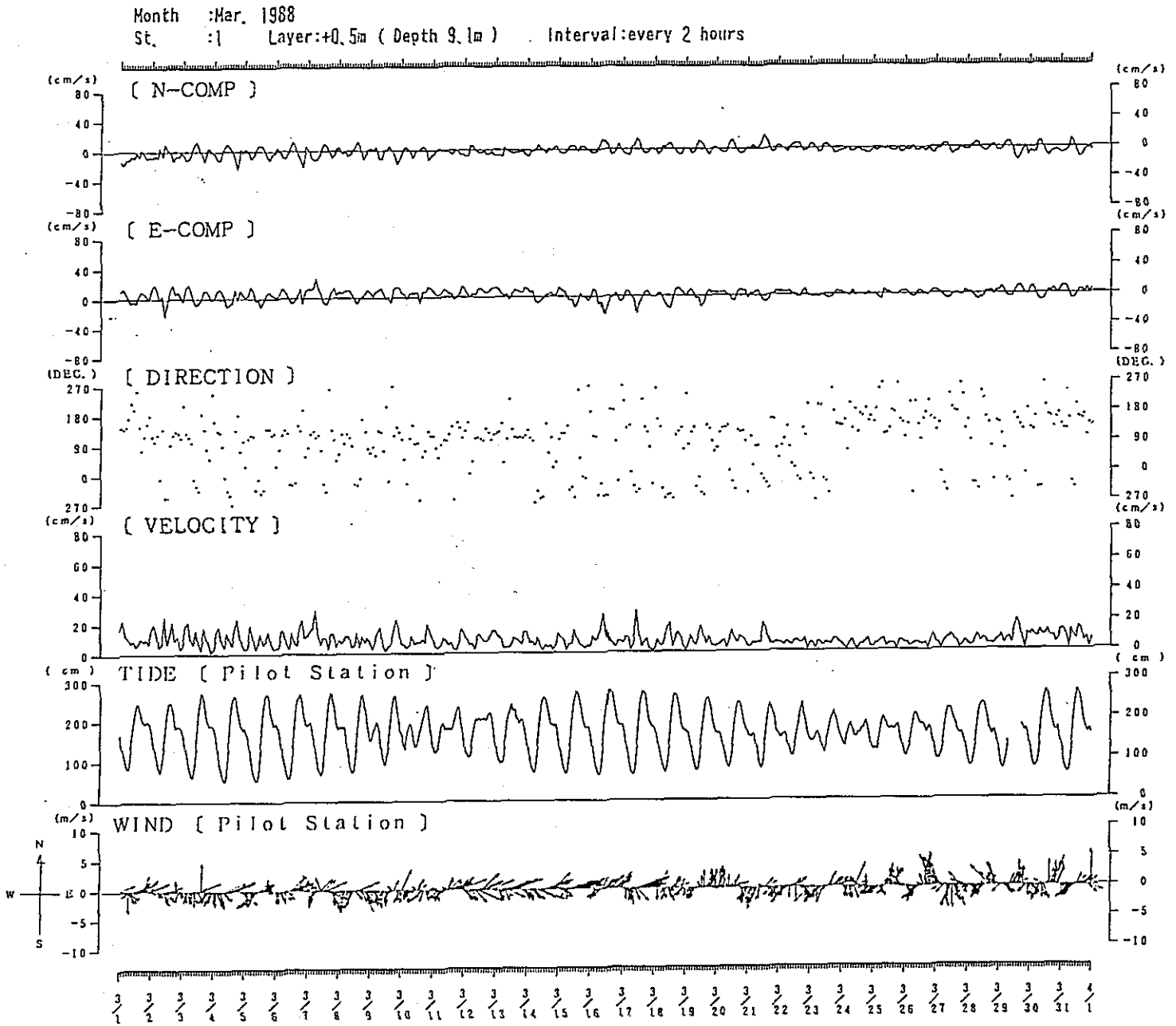

Fig. 1. 3-2 (7) Curve of Average Current in Each Burst Duration (Yearlong Survey)

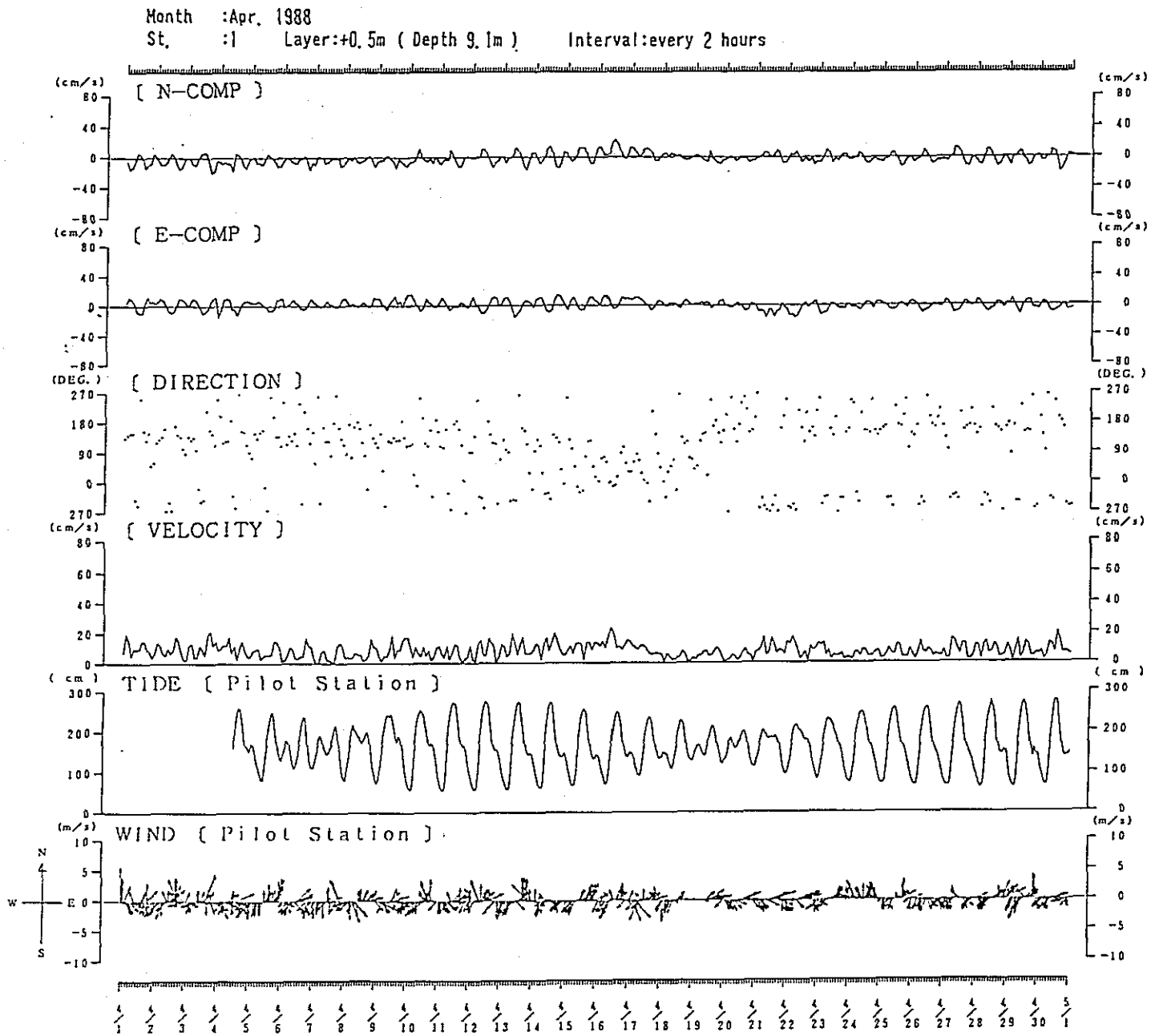

Fig. I. 3-2 (8) Curve of Average Current in Each Burst Duration (Yearlong Survey)

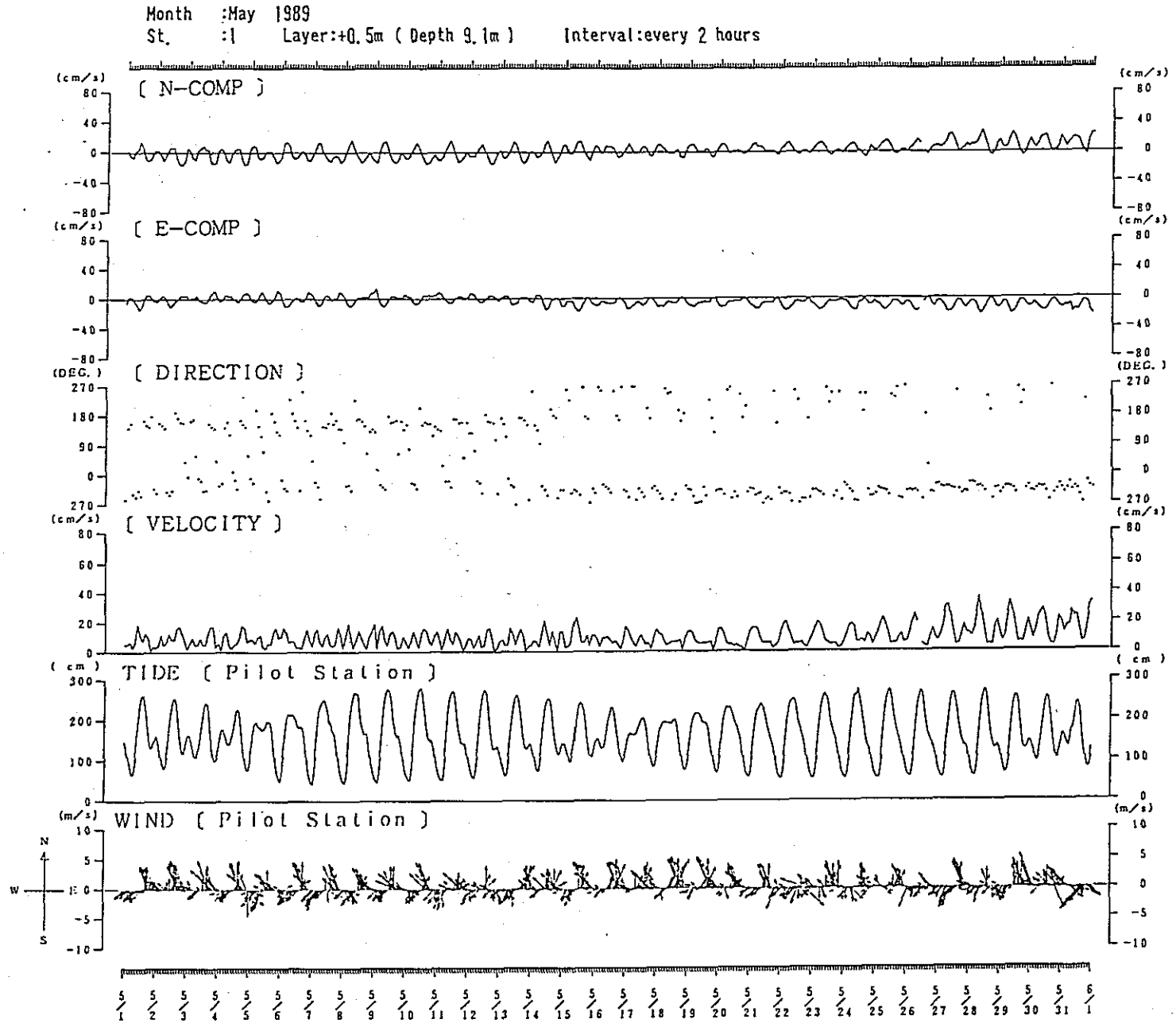

Fig. 1. 3-2 (9) Curve of Average Current in Each Burst Duration (Yearlong Survey)

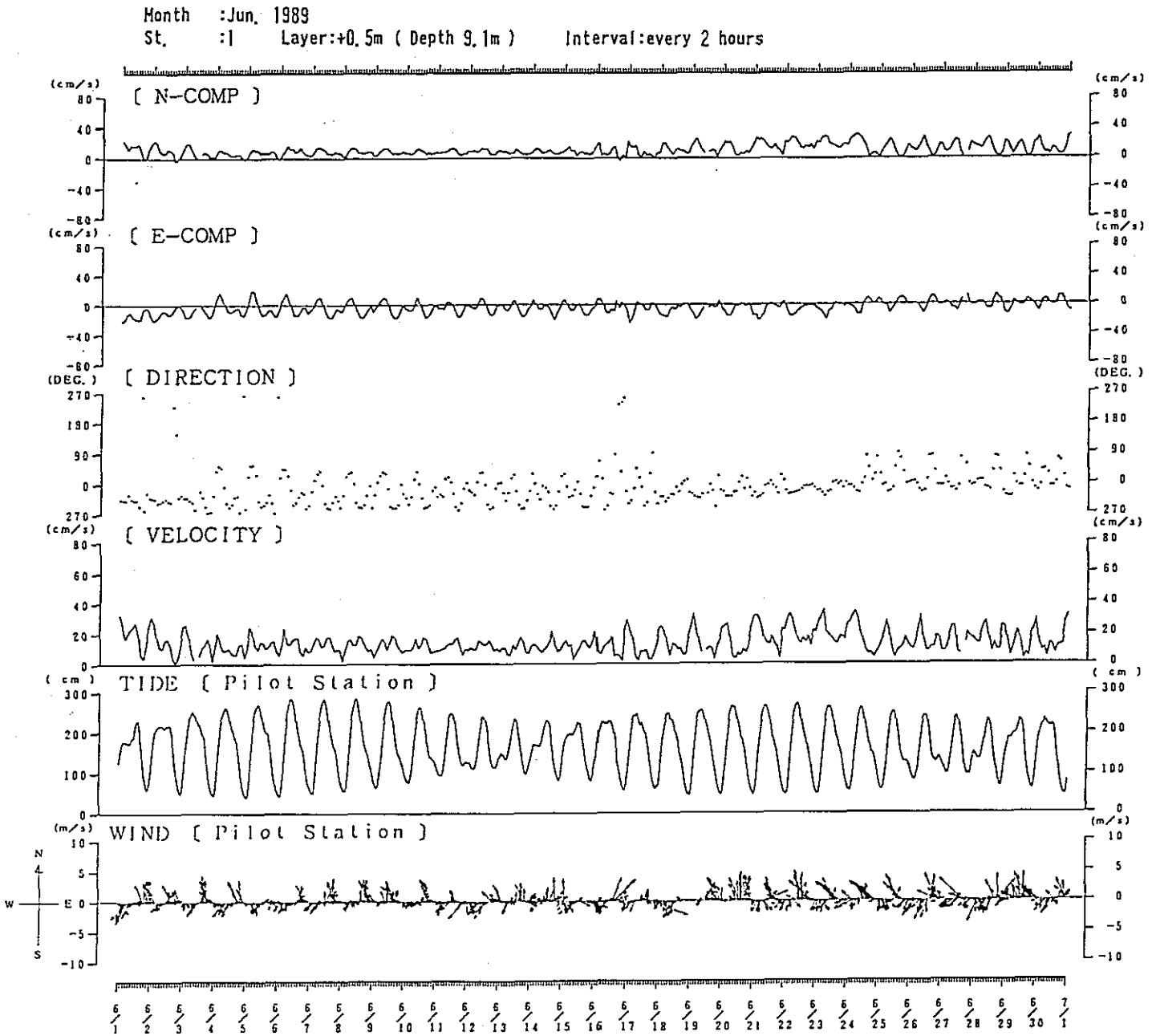

Fig. 1. 3-2 (10) Curve of Average Current in Each Burst Duration (Yearlong Survey)

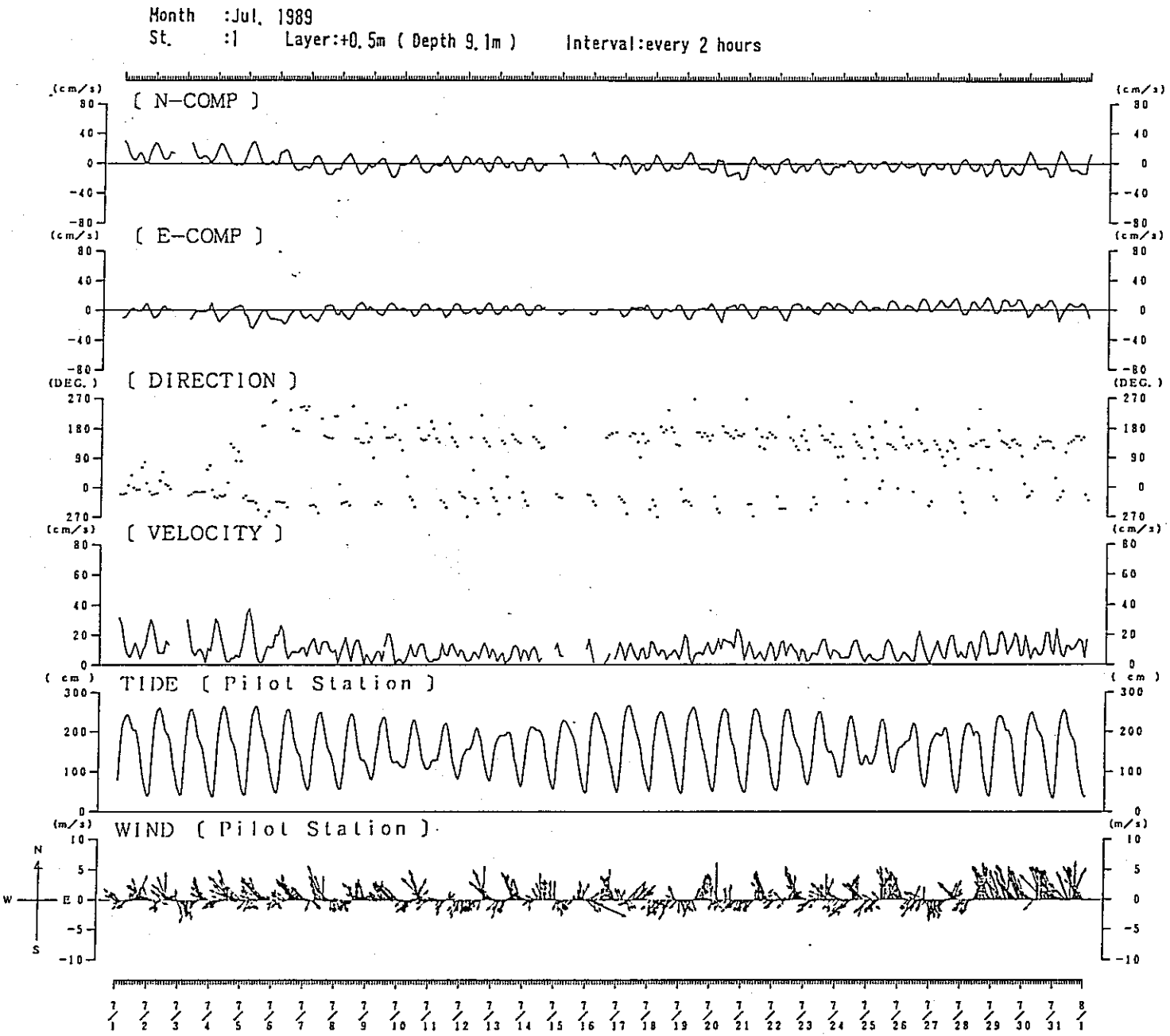

Fig. 1.3-2 (11) Curve of Average Current in Each Burst Duration (Yearlong Survey)

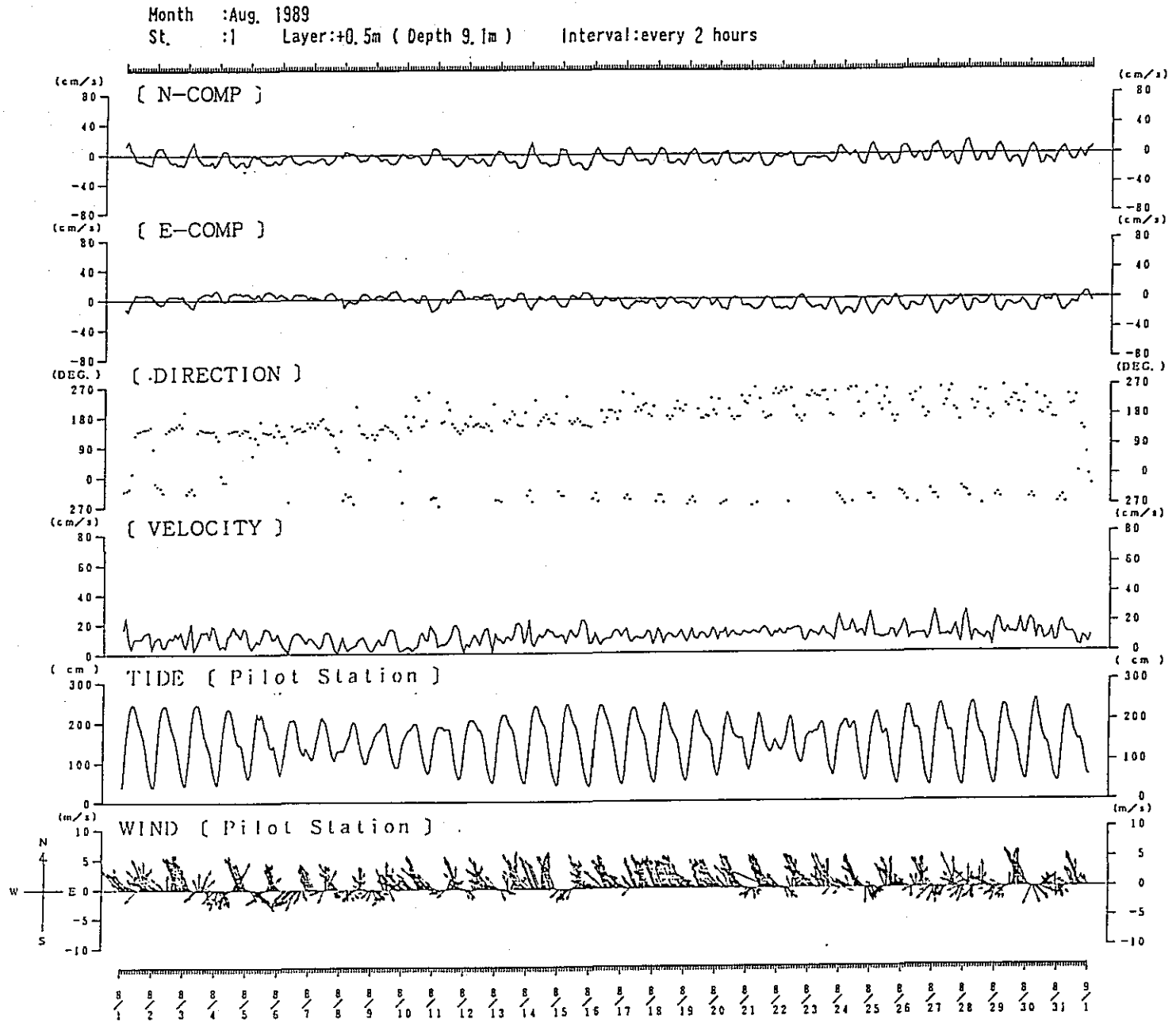

Fig. 1.3-2 (12) Curve of Average Current in Each Burst Duration (Yearlong Survey)

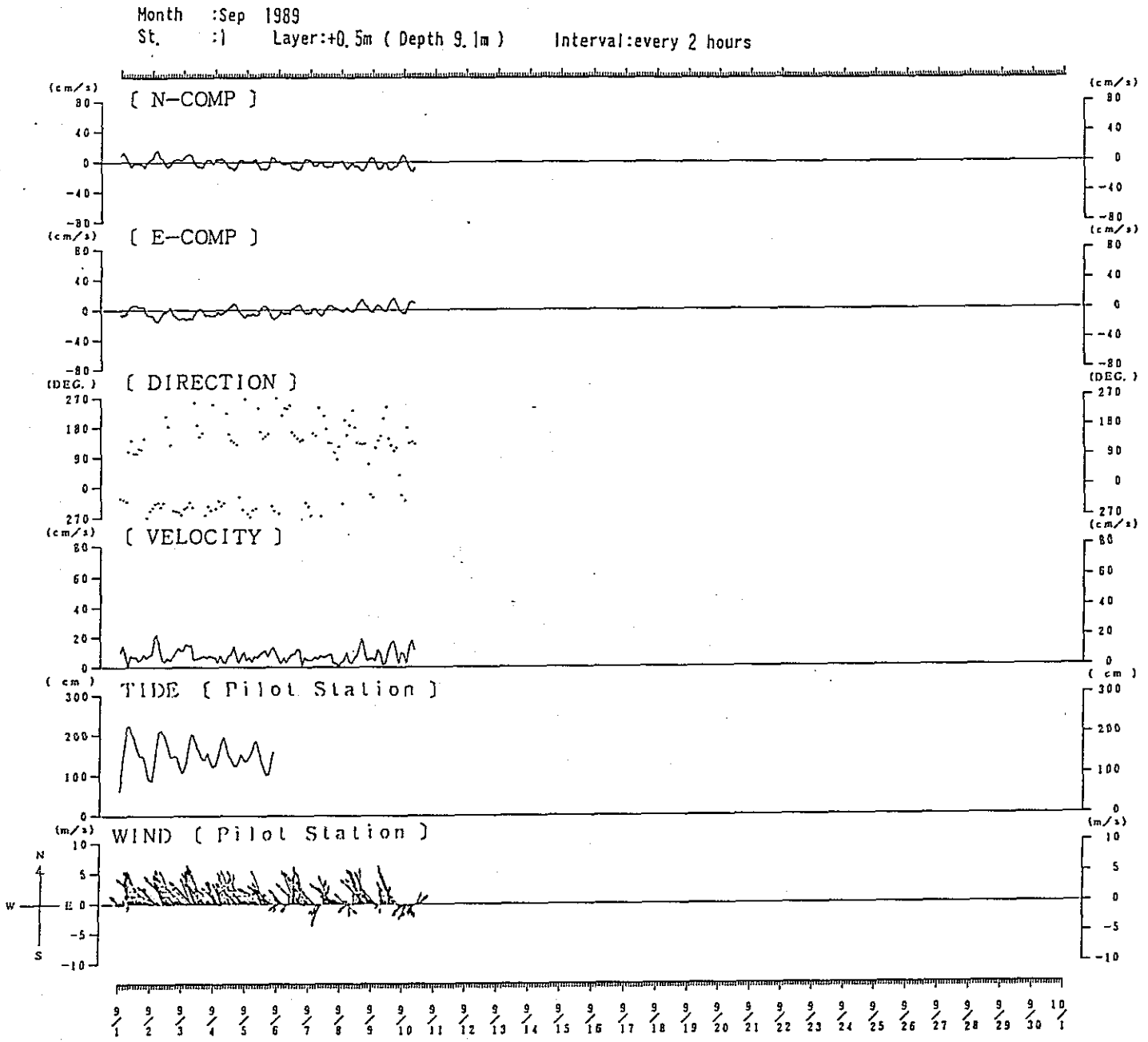

Fig. 1. 3-2 (13) Curve of Average Current in Each Burst Duration (Yearlong Survey)

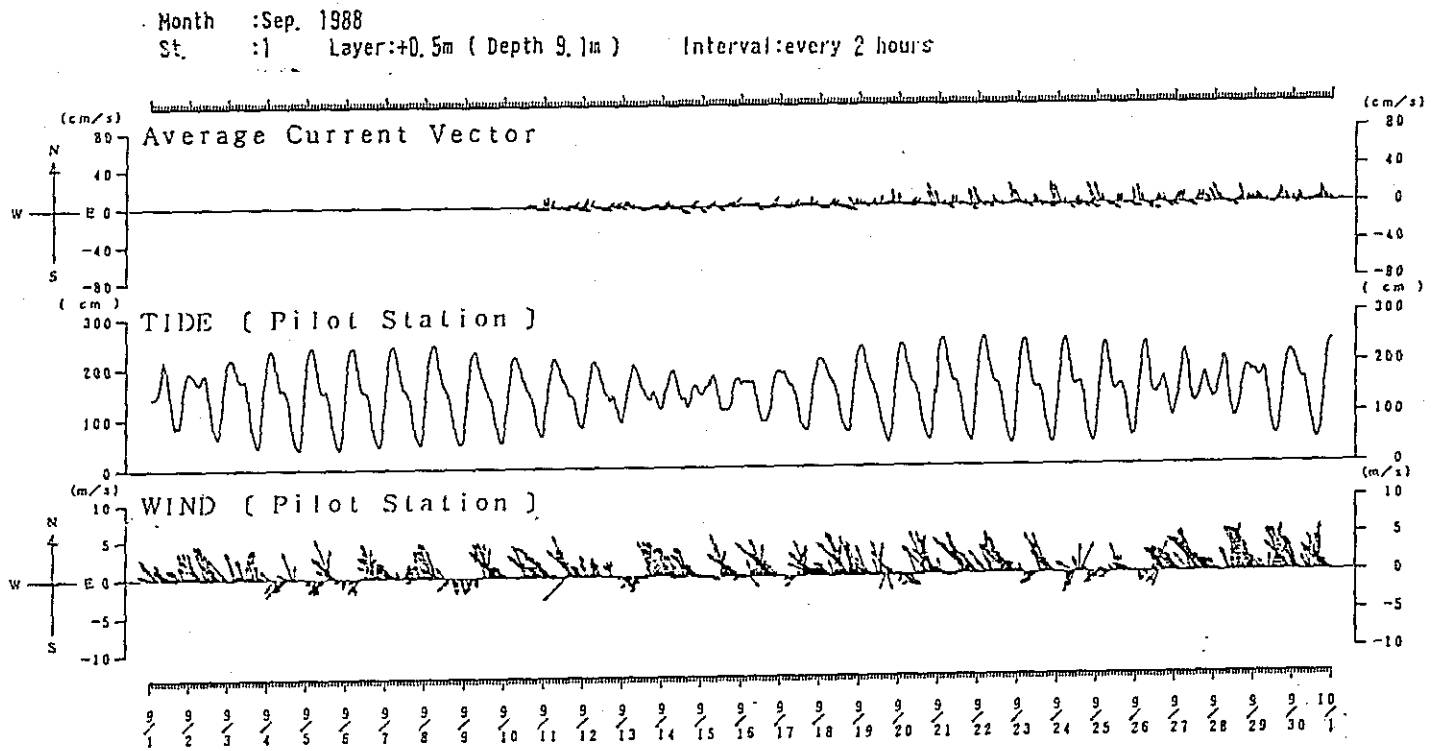

Fig. I. 3-3 (1) Average Current Vector in Each Burst Duration
(Yearlong Survey)

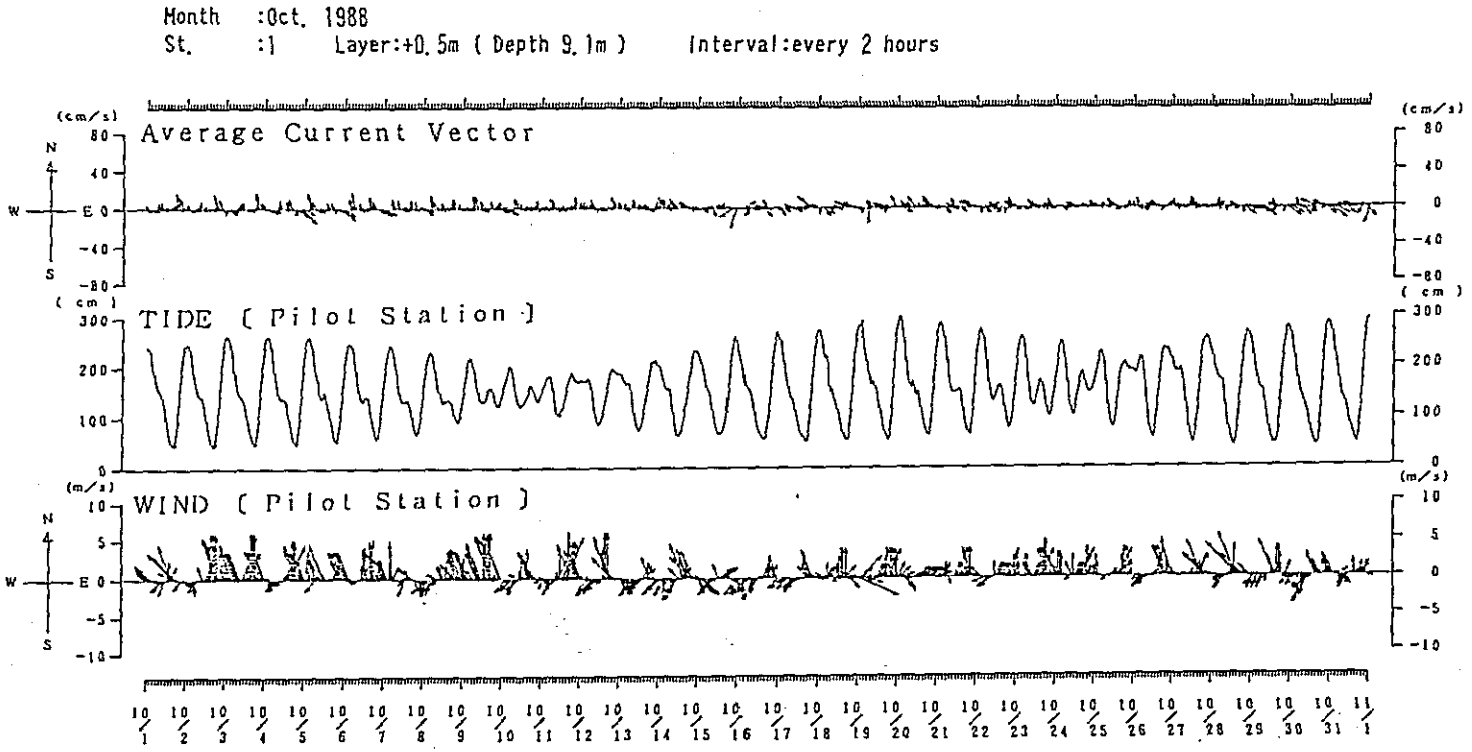

Fig. 1. 3-3 (2) Average Current Vector in Each Burst Duration
(Yearlong Survey)

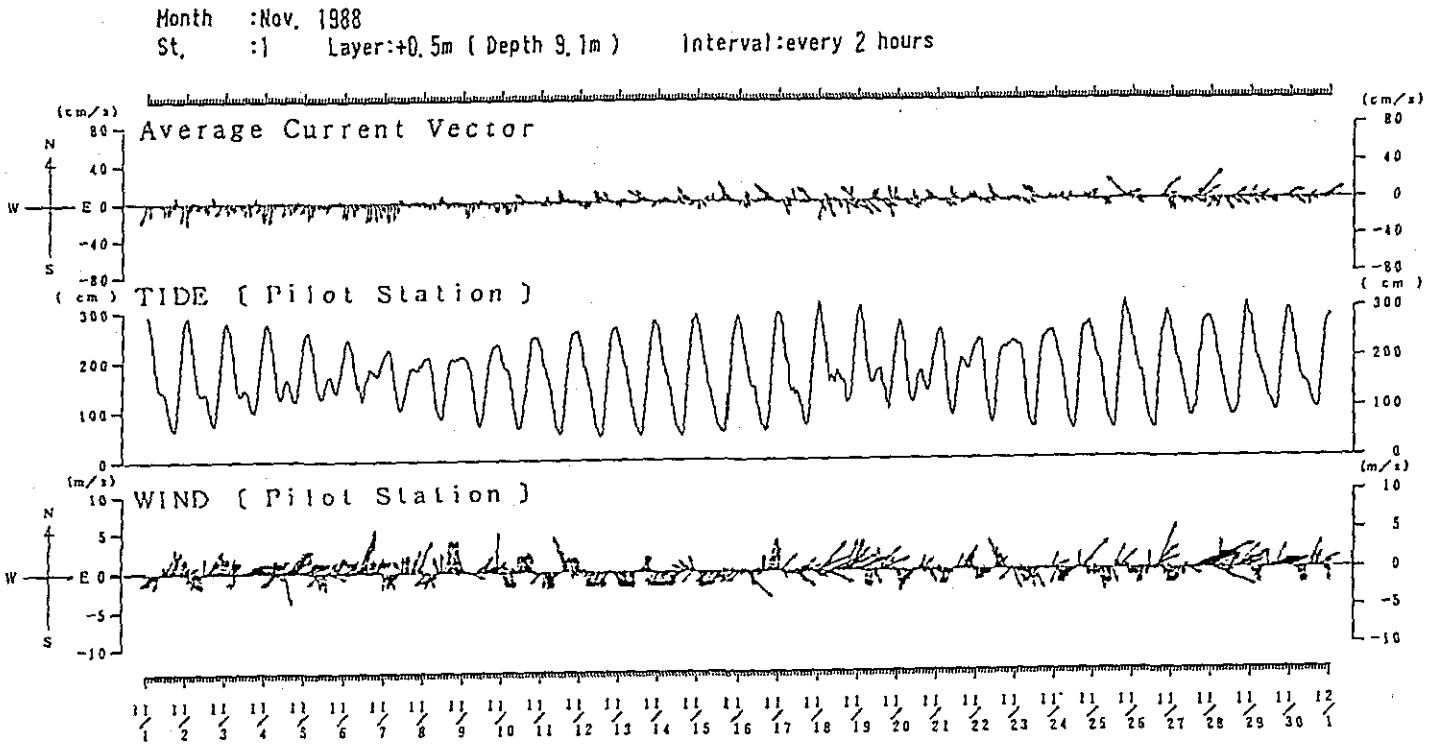

Fig. 1. 3-3 (3) Average Current Vector in Each Burst Duration
(Yearlong Survey)

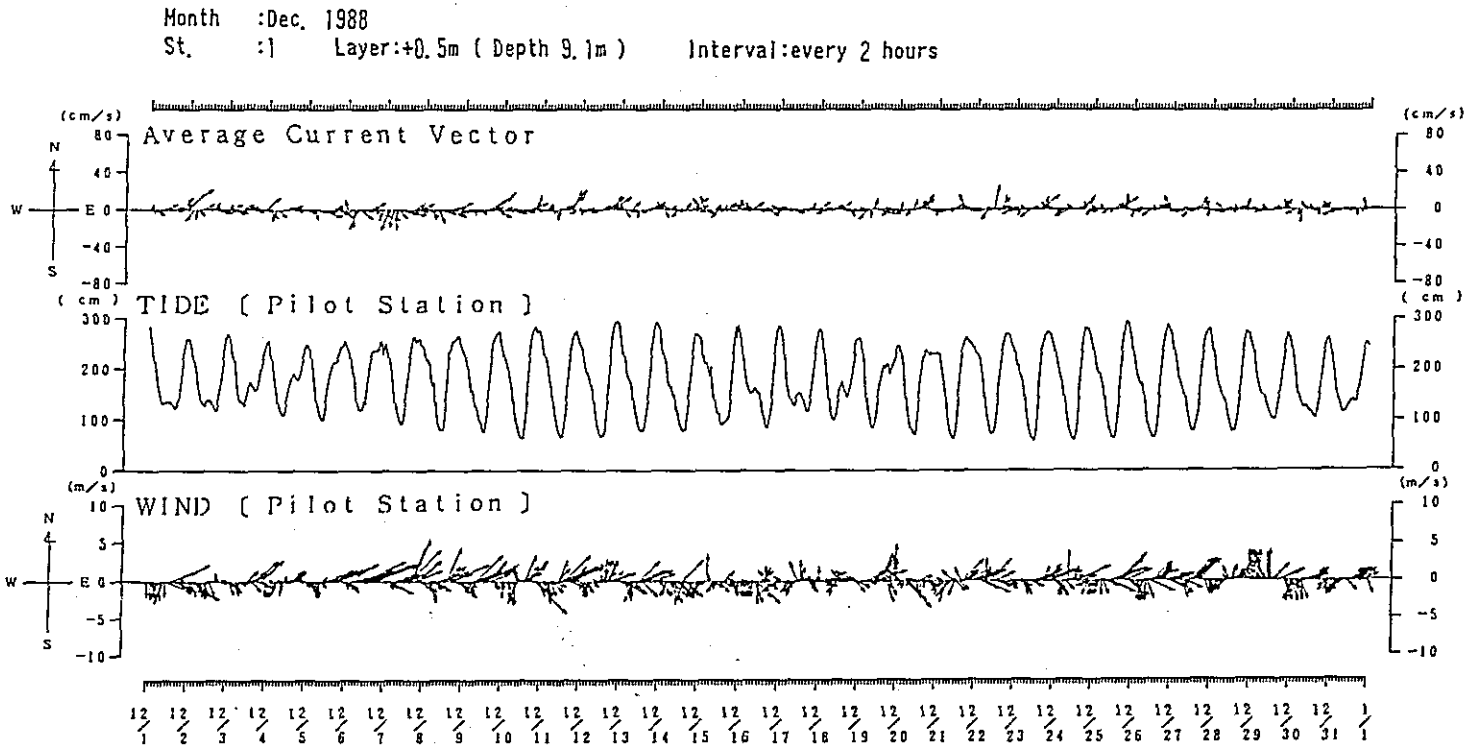

Fig. 1. 3-3 (4) Average Current Vector in Each Burst Duration
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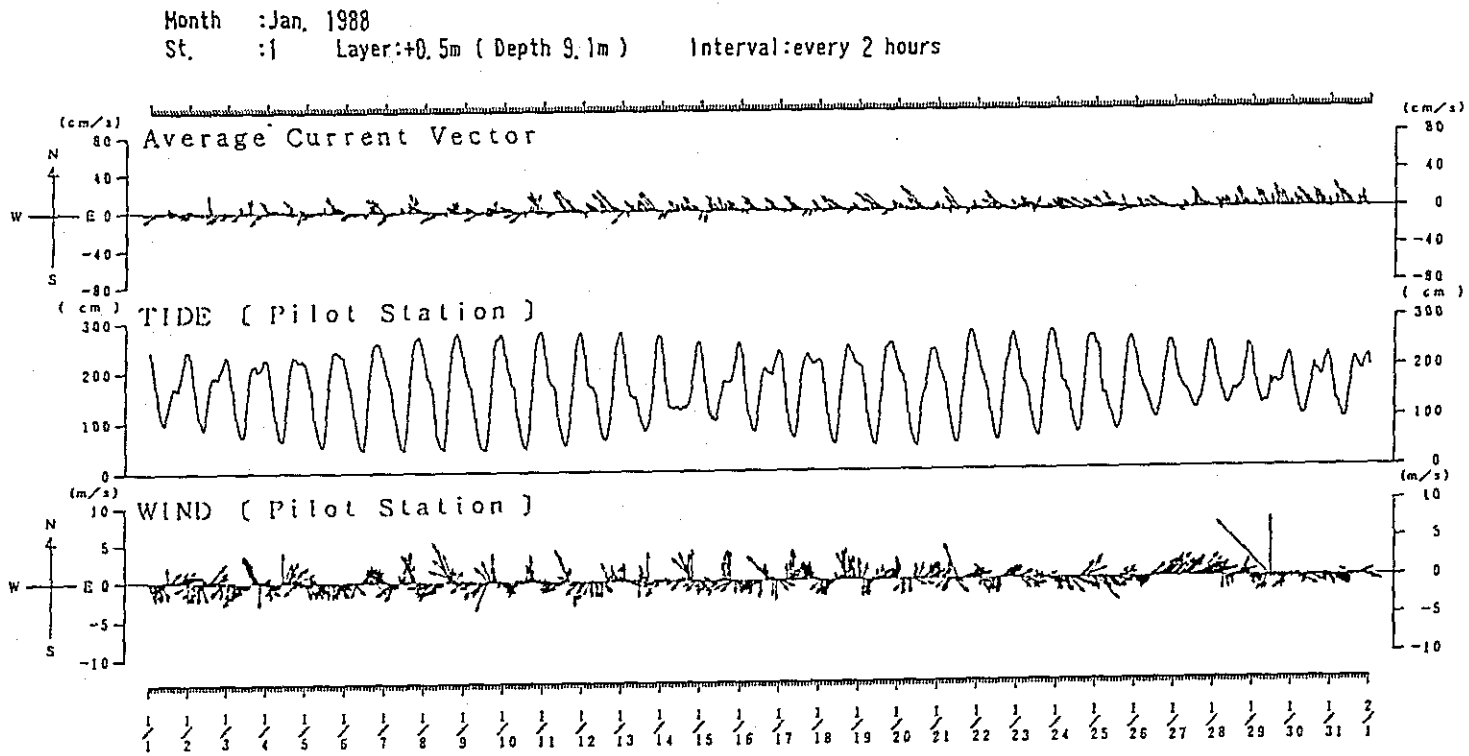

Fig. 1. 3-3 (5) Average Current Vector in Each Burst Duration
(Yearlong Survey)

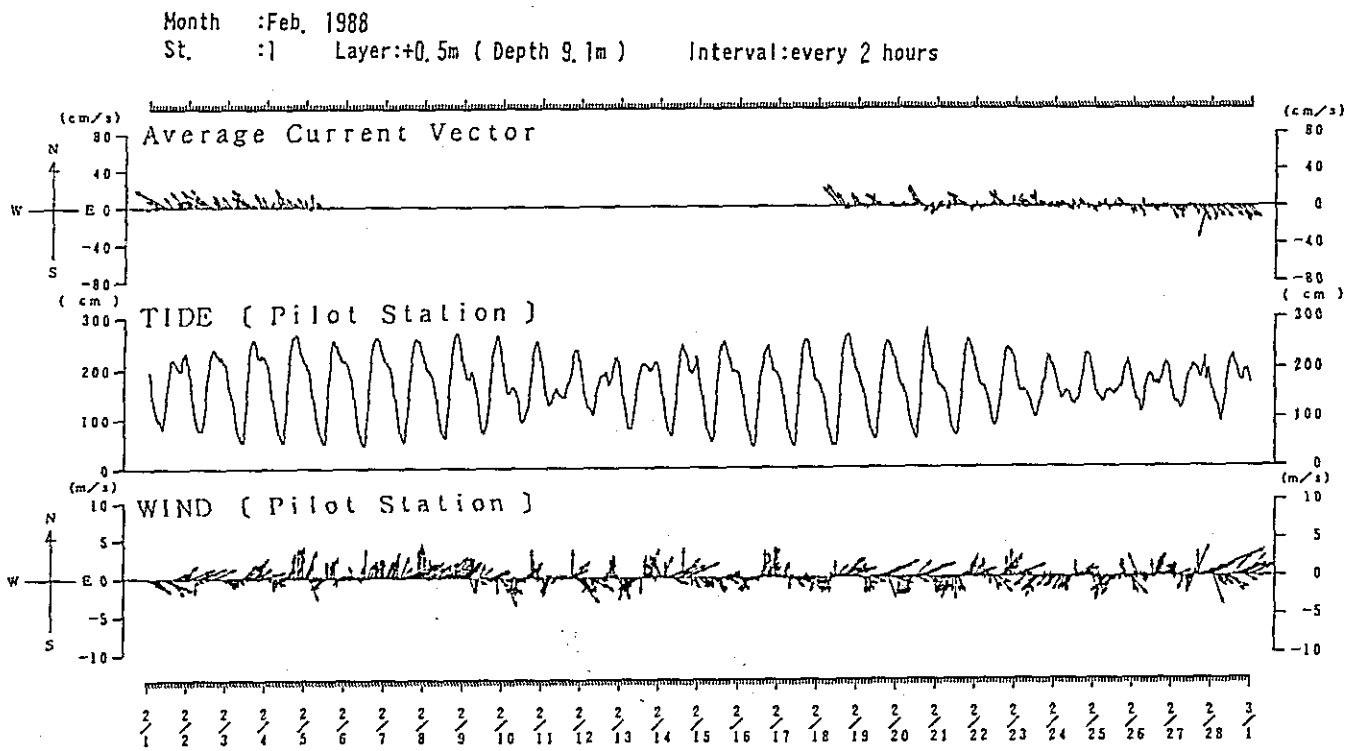

Fig. 1. 3-3 (6) Average Current Vector in Each Burst Duration
(Yearlong Survey)

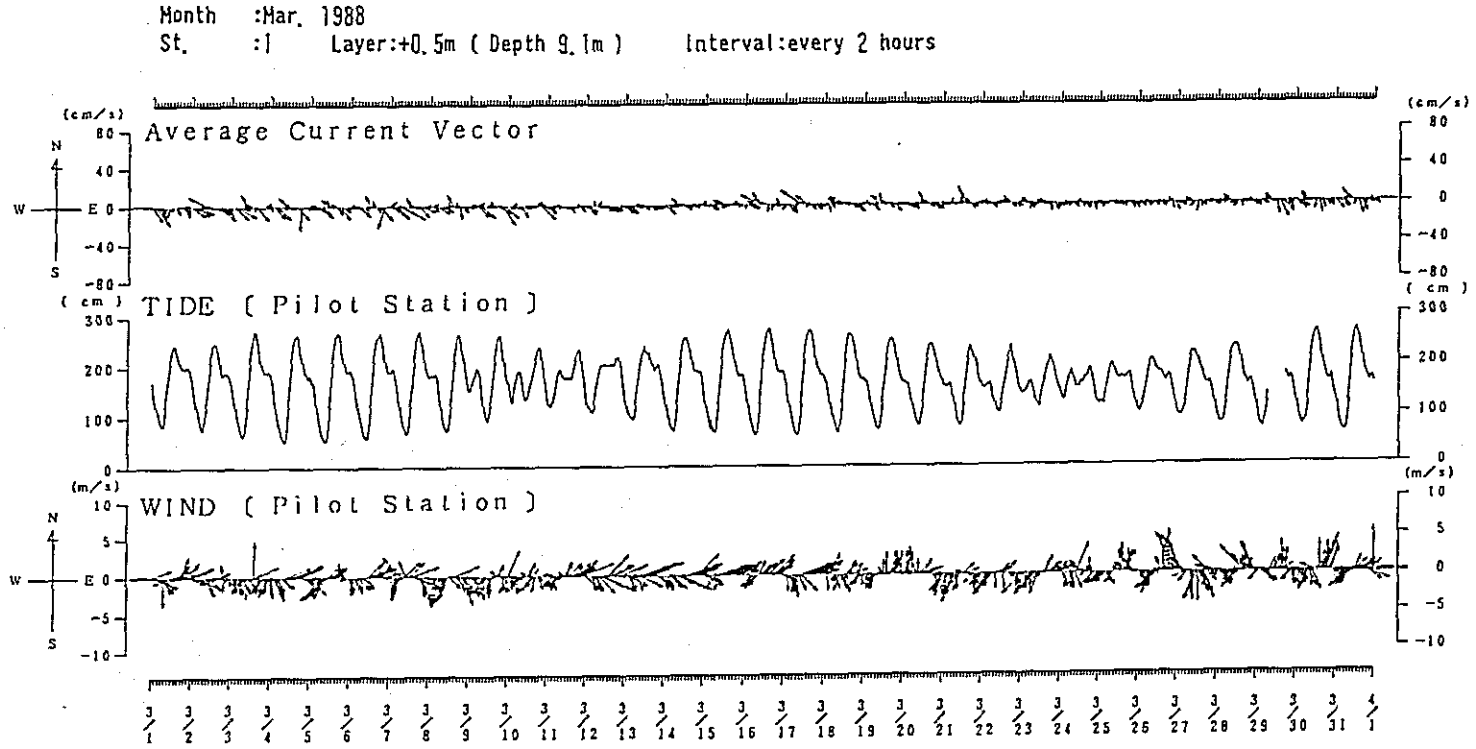

Fig. 1. 3-3 (7) Average Current Vector in Each Burst Duration
(Yearlong Survey)

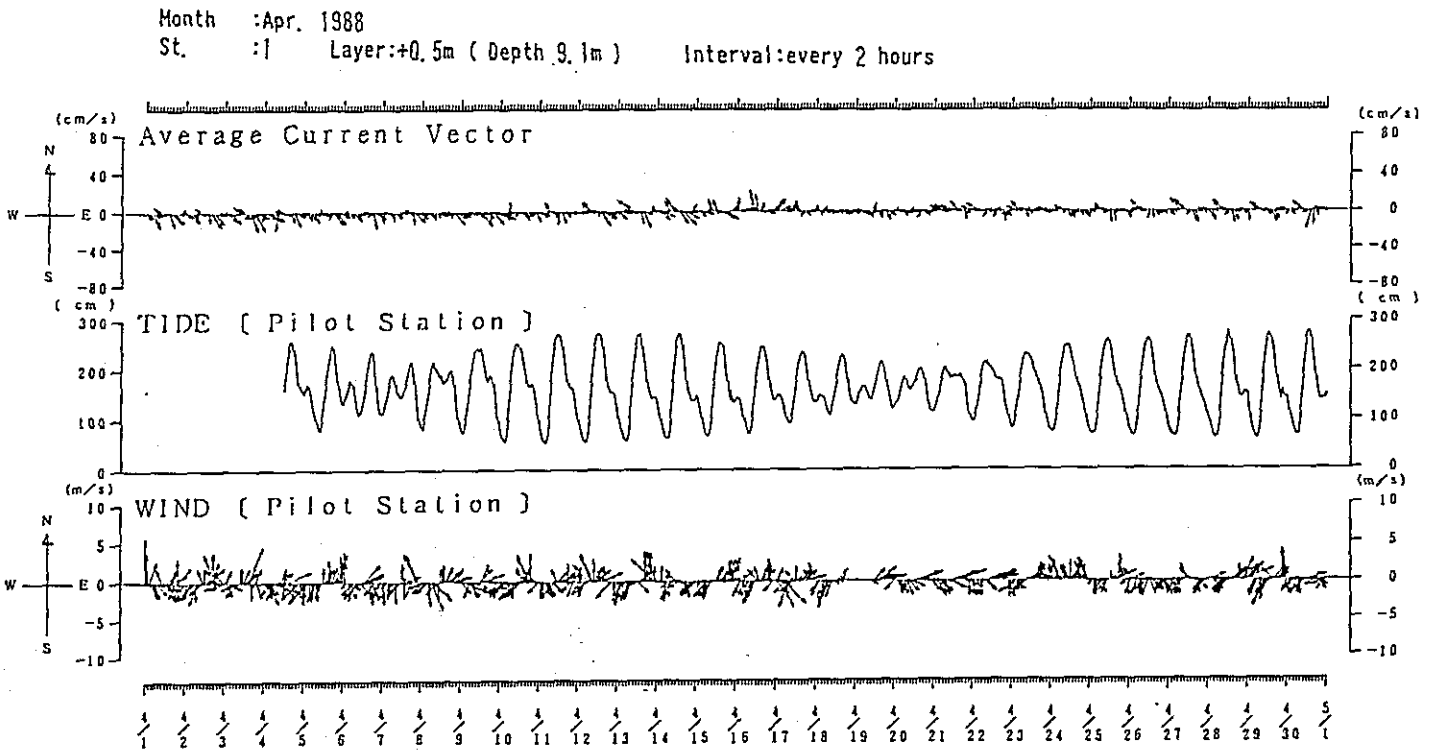

Fig. 1. 3-3 (8) Average Current Vector in Each Burst Duration
(Yearlong Survey)

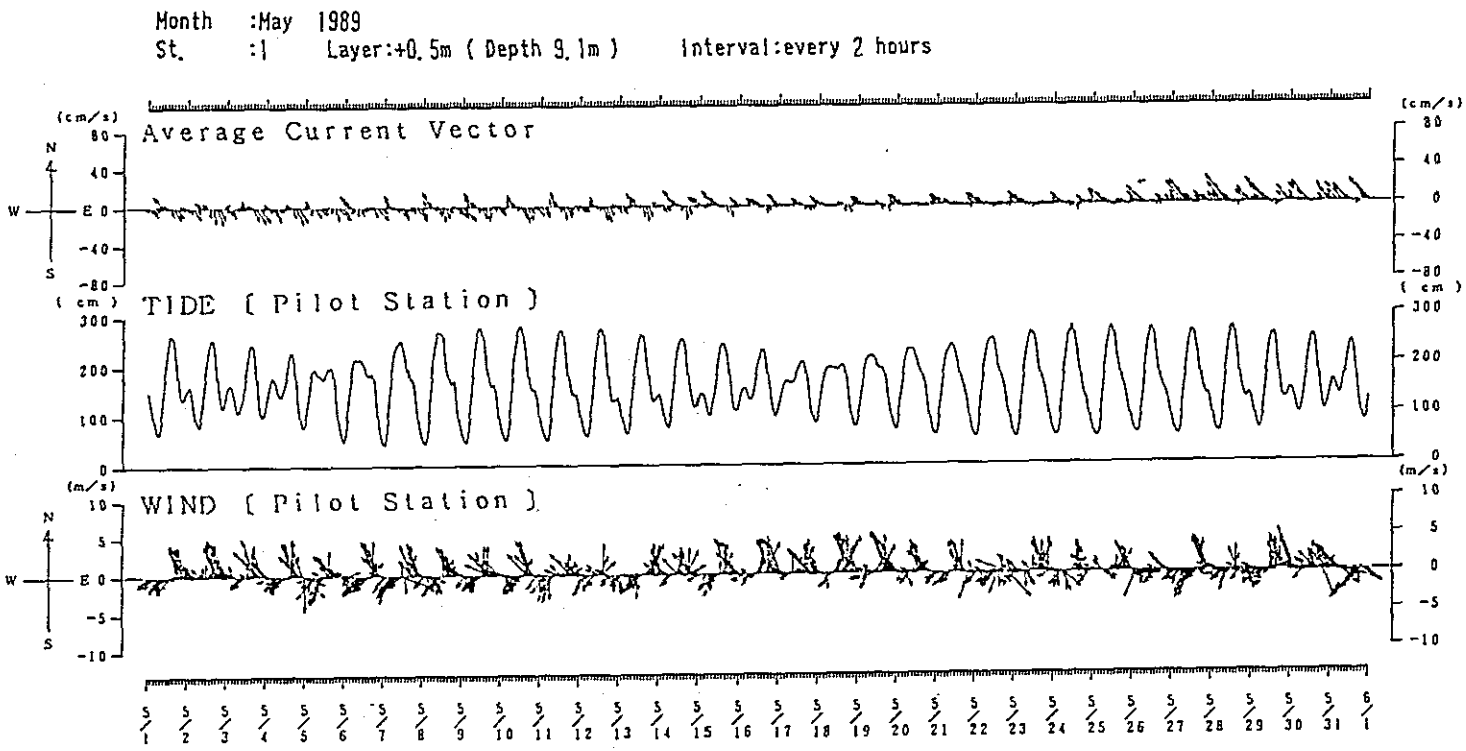

Fig. 1. 3-3 (9) Average Current Vector in Each Burst Duration
(Yearlong Survey)

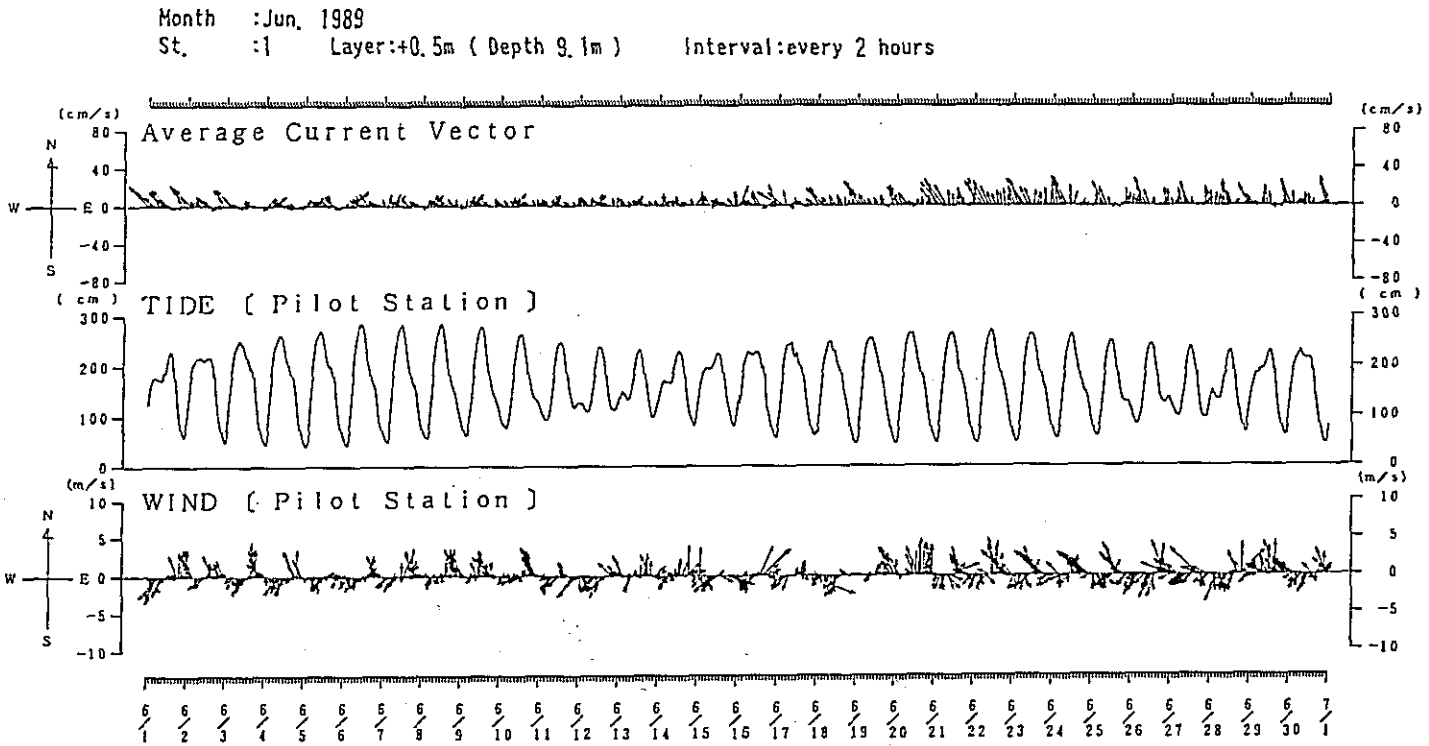

Fig. 1. 3-3 (10) Average Current Vector in Each Burst Duration
(Yearlong Survey)

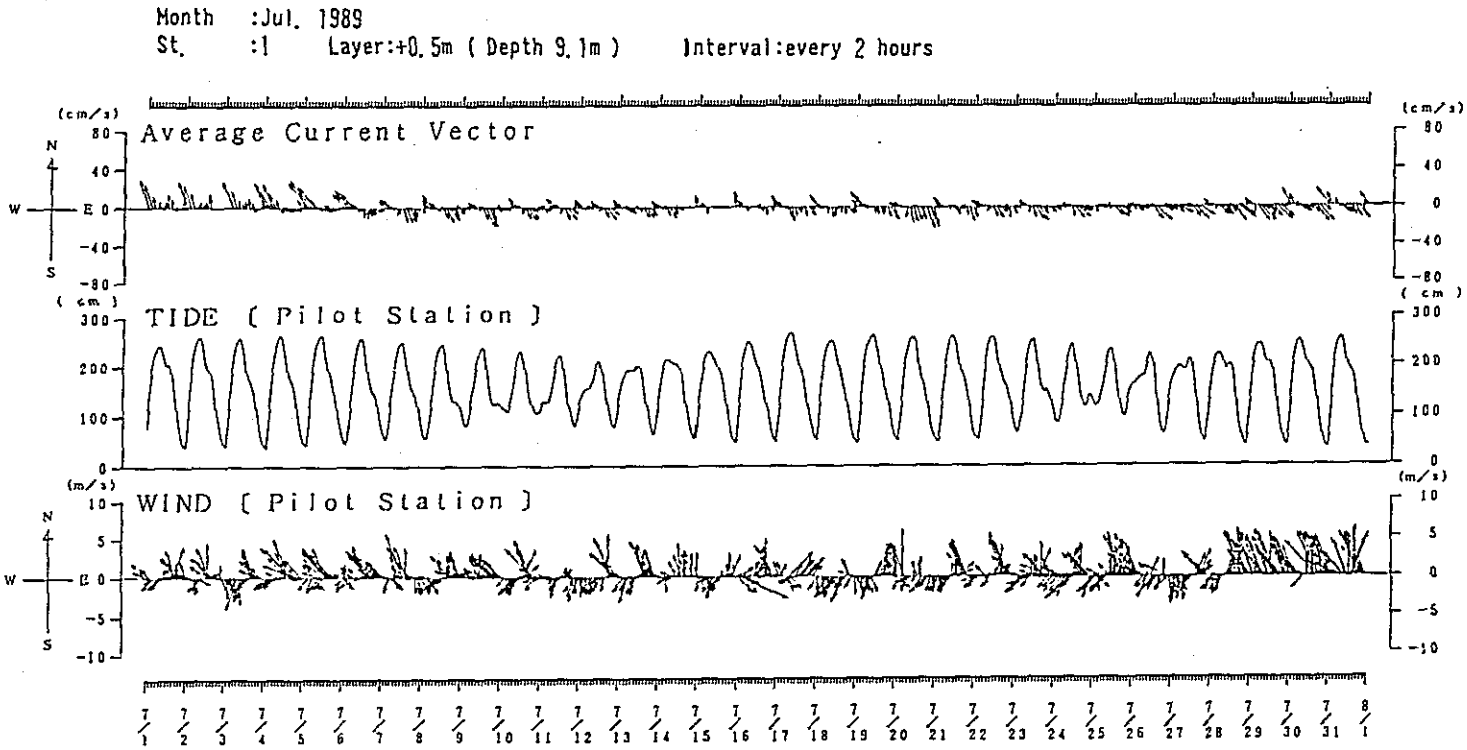

Fig. 1. 3-3 (11) Average Current Vector in Each Burst Duration
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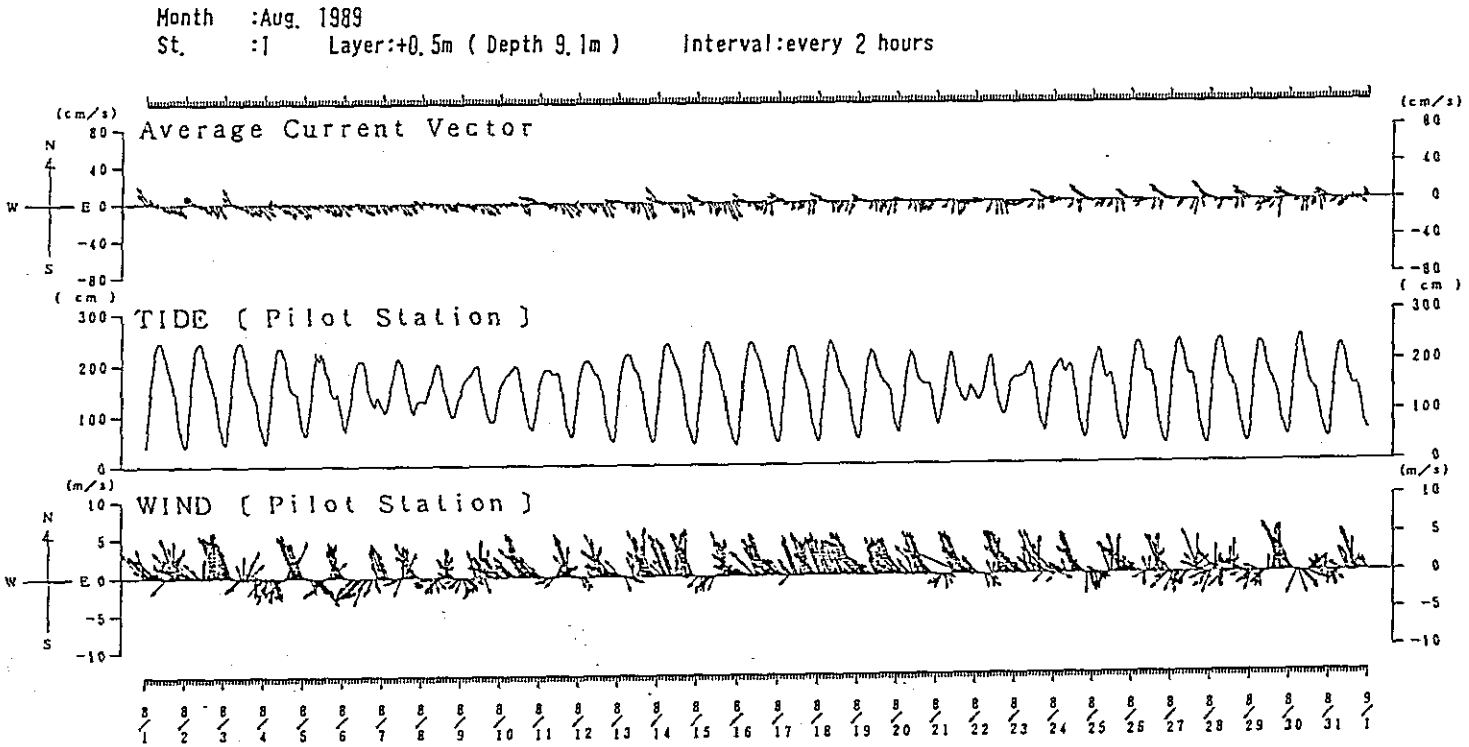

Fig. 1. 3-3 (12) Average Current Vector in Each Burst Duration
(Yearlong Survey)

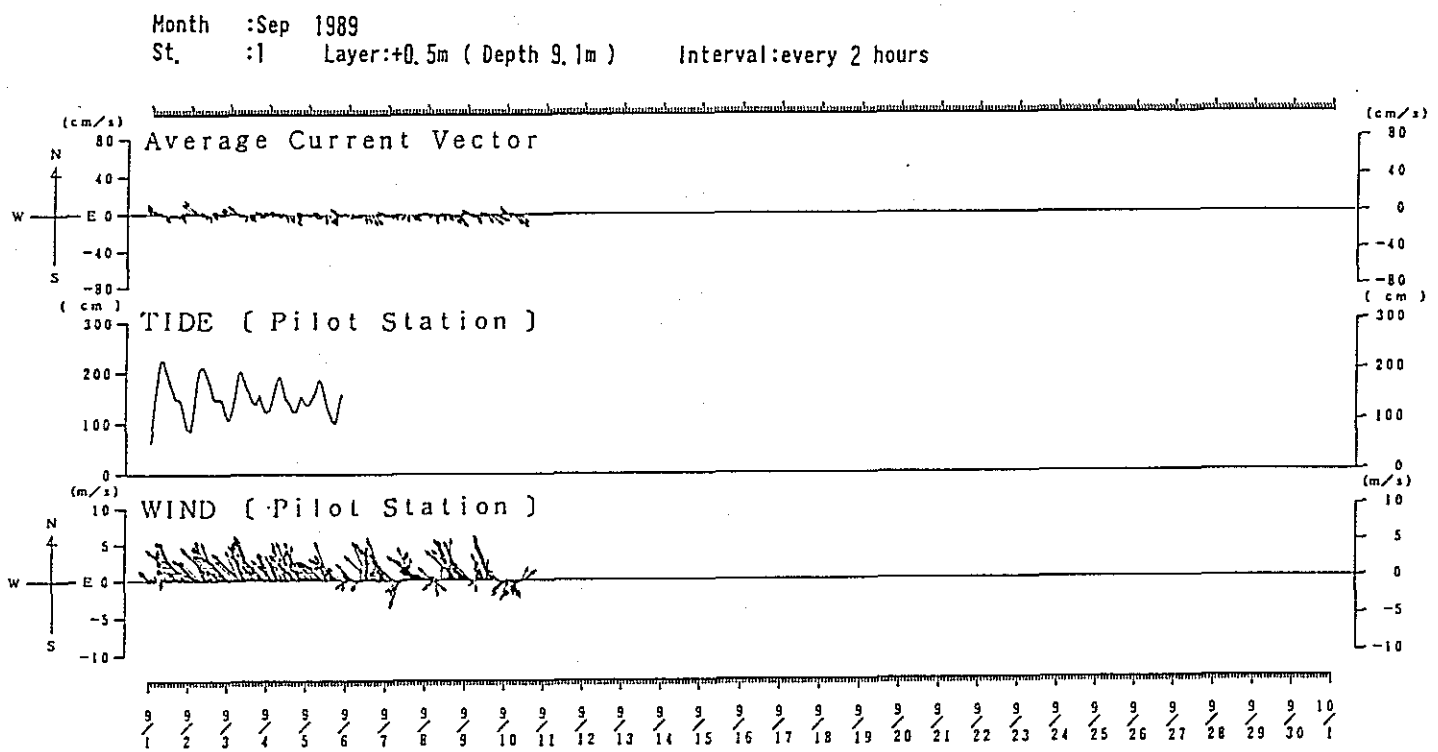

Fig. 1. 3-3 (13) Average Current Vector in Each Burst Duration
(Yearlong Survey)

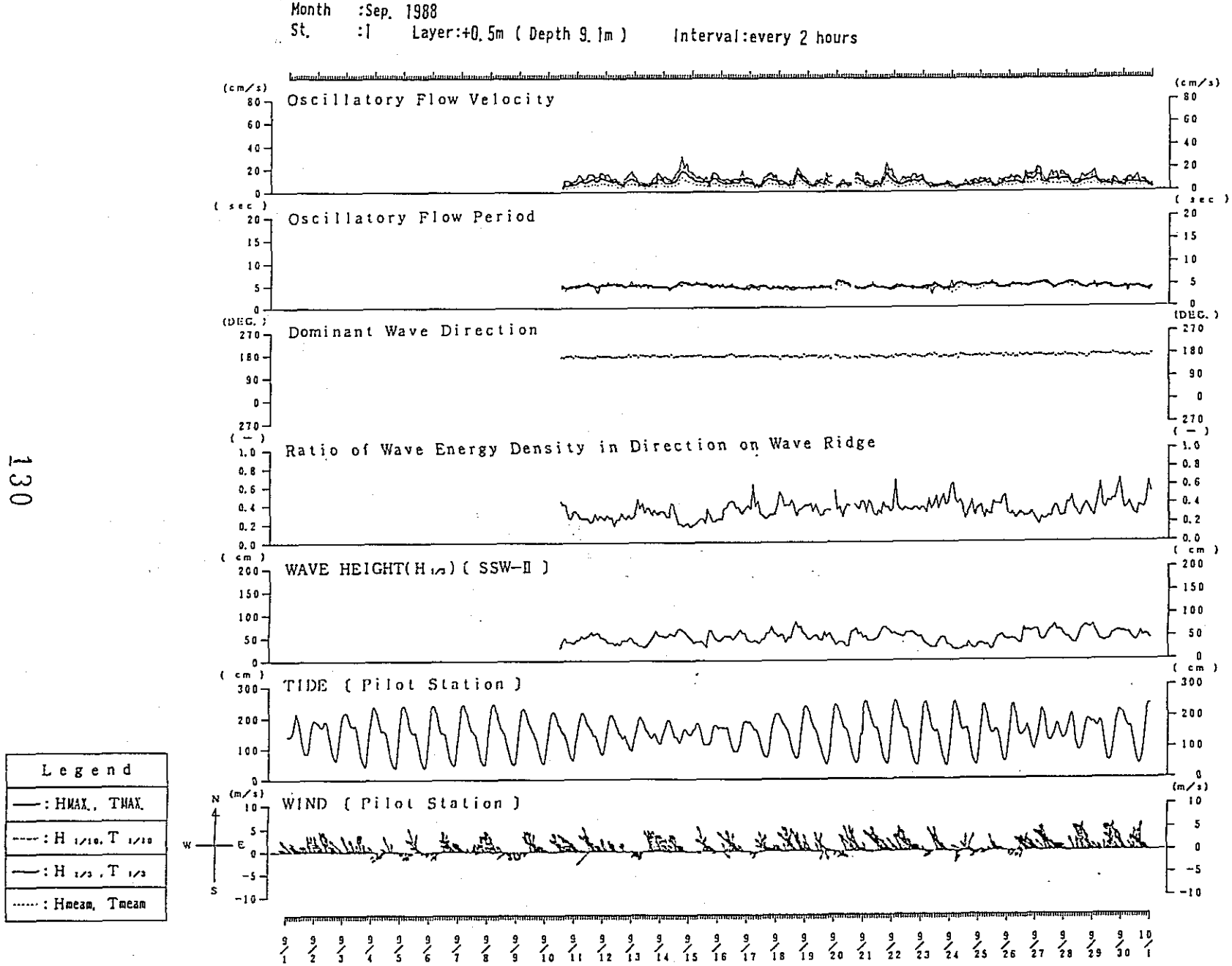

Fig. 1. 3-4 (1) Time Serial Variation of Oscillatory Flow

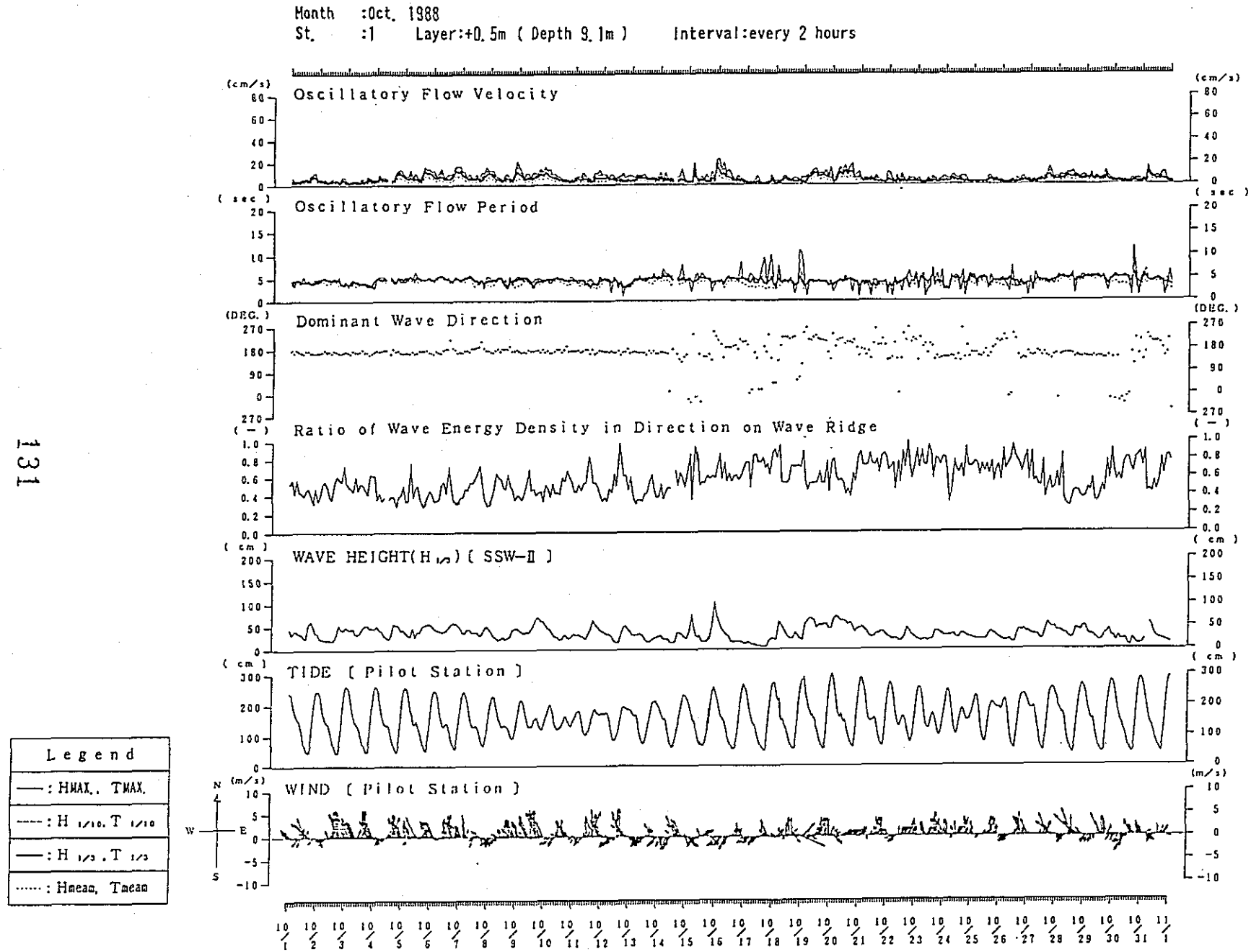

Fig. 1. 3-4 (2) Time Serial Variation of Oscillatory Flow

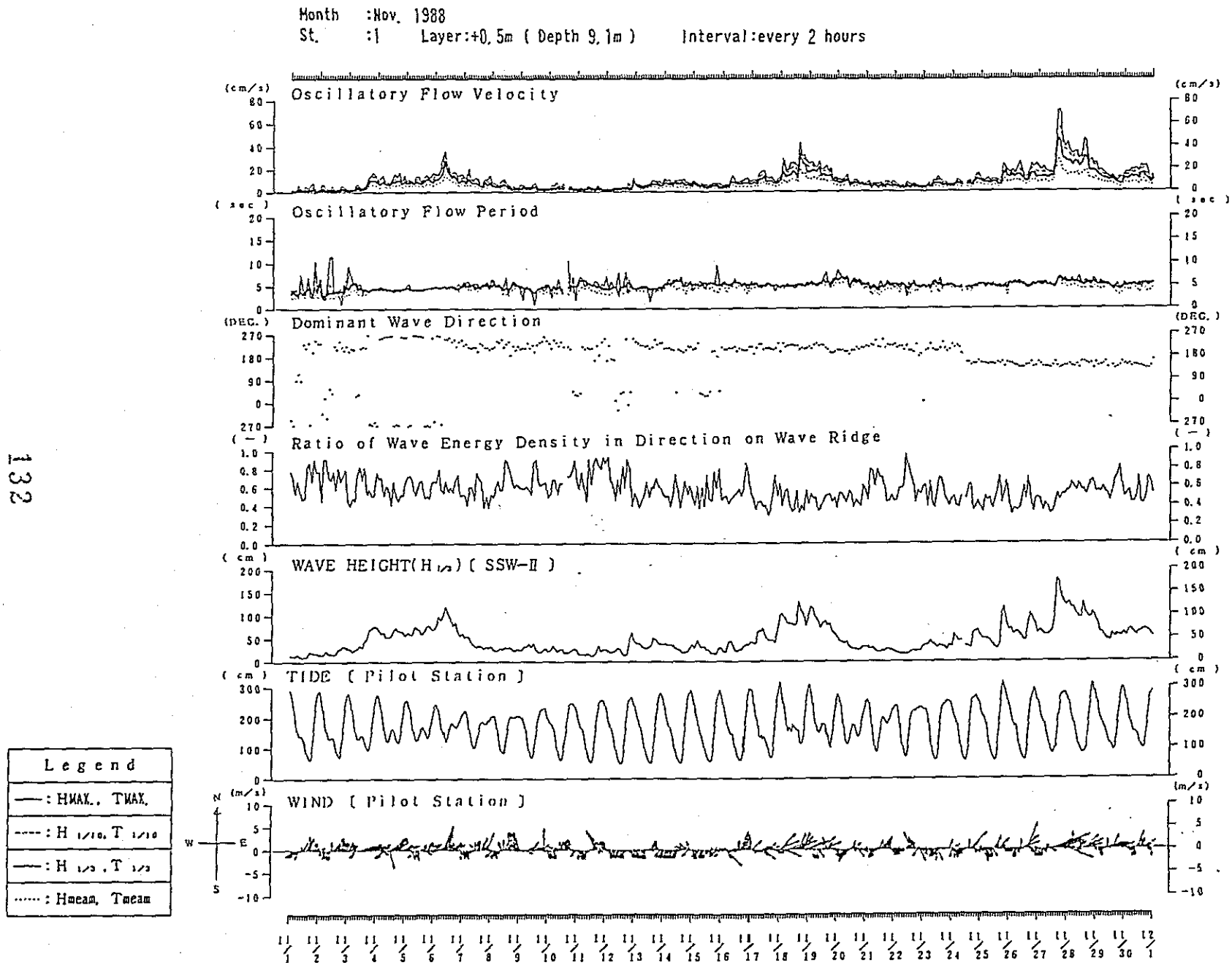

Fig. 1. 3-4 (3) Time Serial Variation of Oscillatory Flow

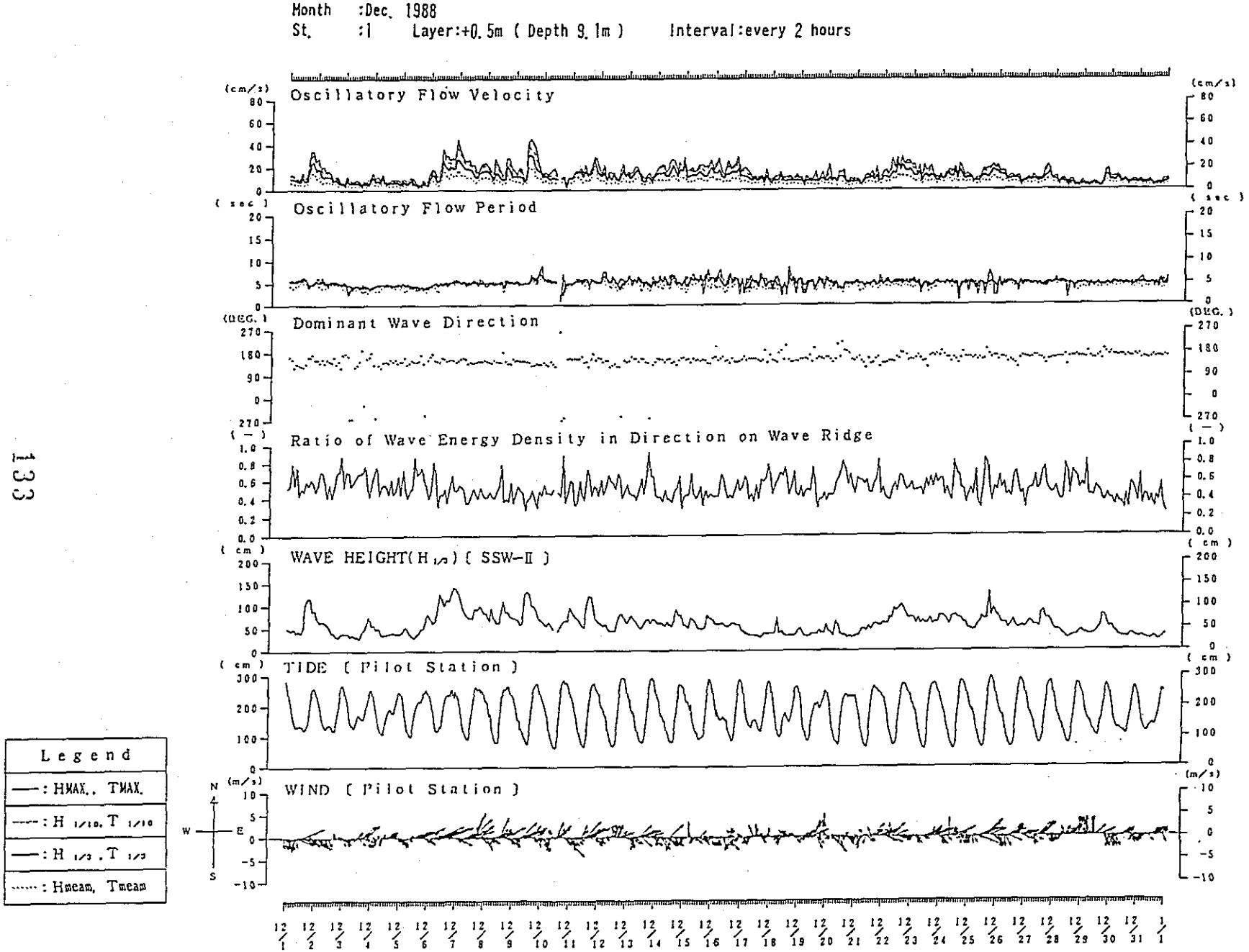

Fig. 1. 3-4 (4) Time Serial Variation of Oscillatory Flow

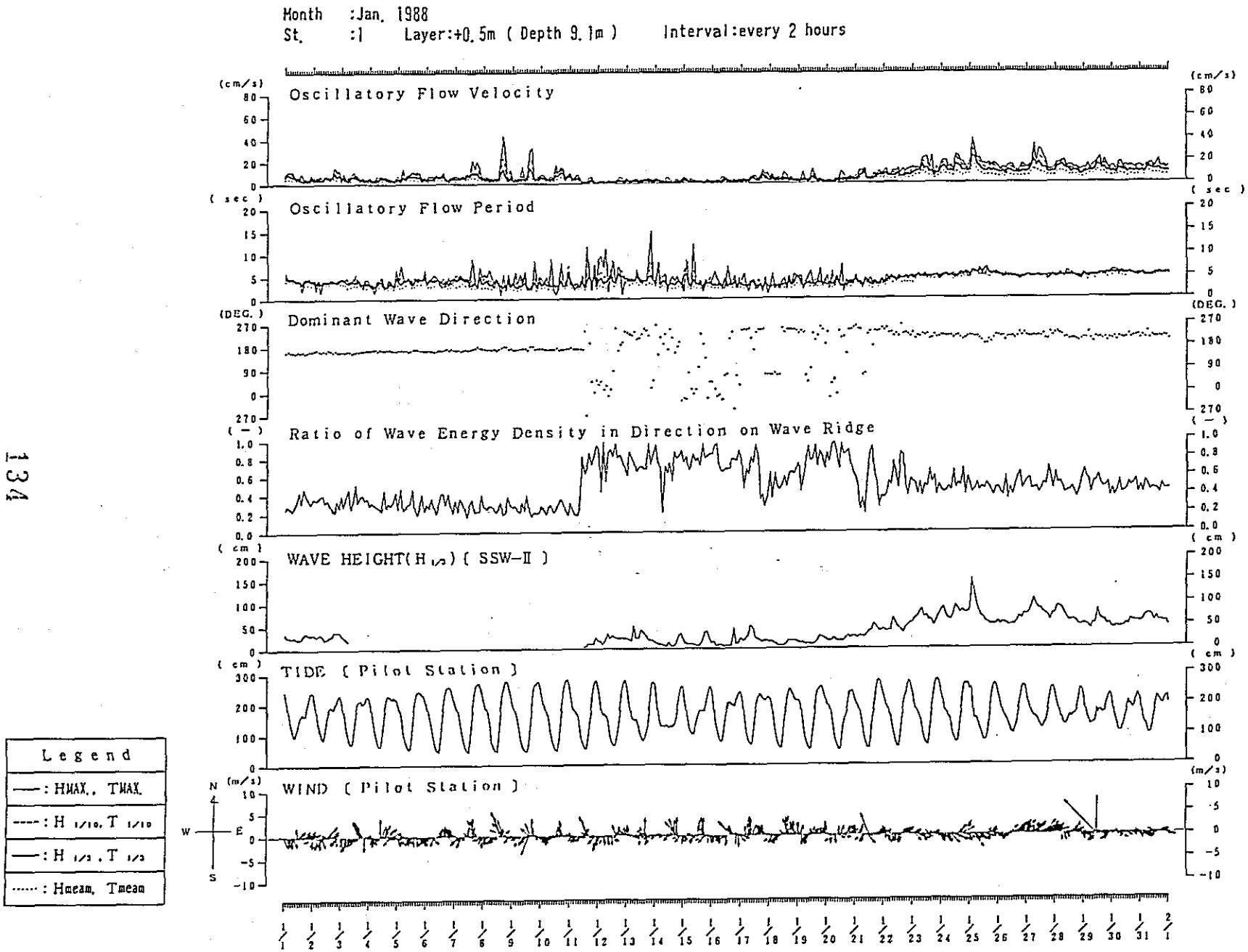

Fig. 1. 3-4 (5) Time Serial Variation of Oscillatory Flow

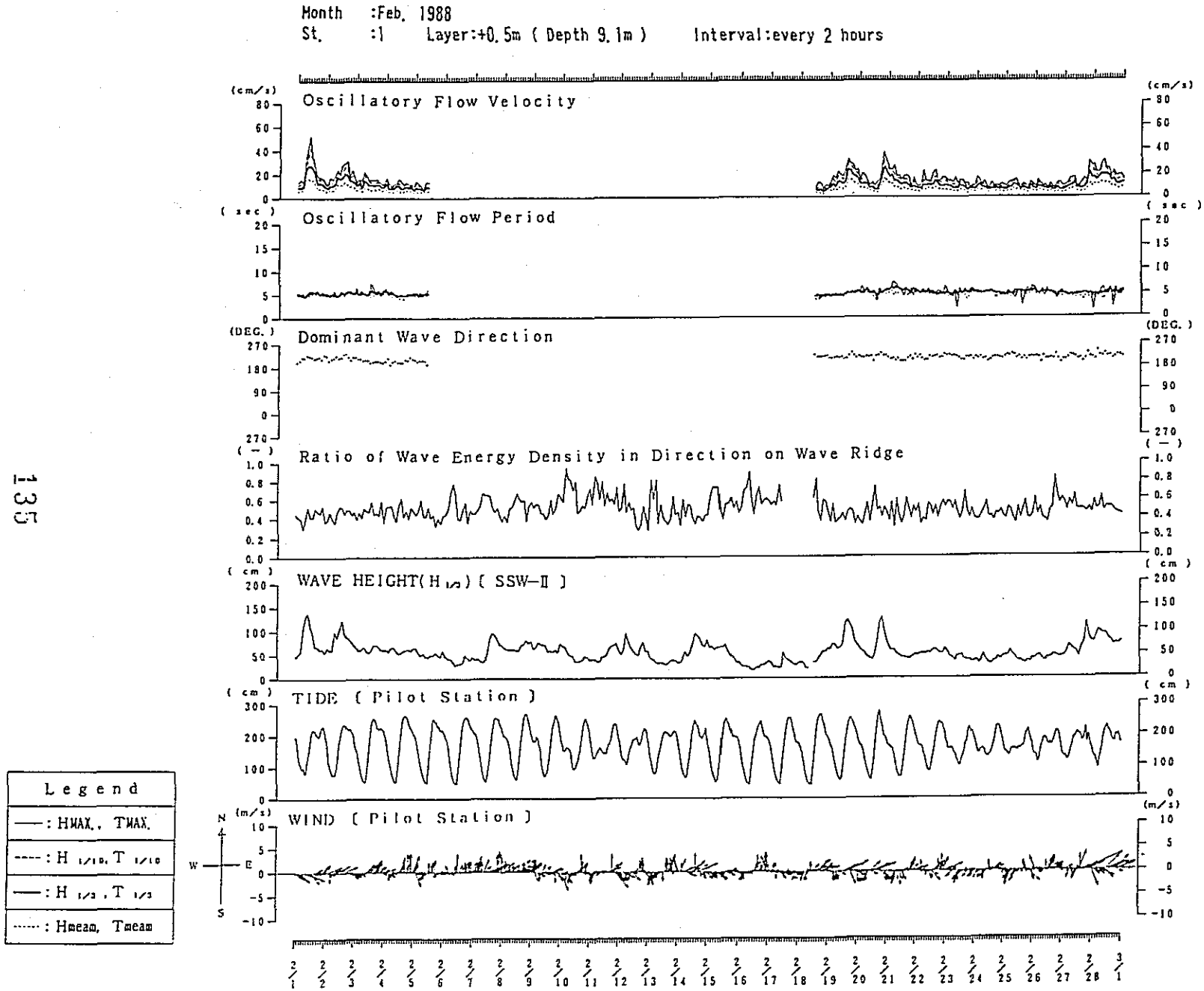

Fig. 1. 3-4 (6) Time Serial Variation of Oscillatory Flow

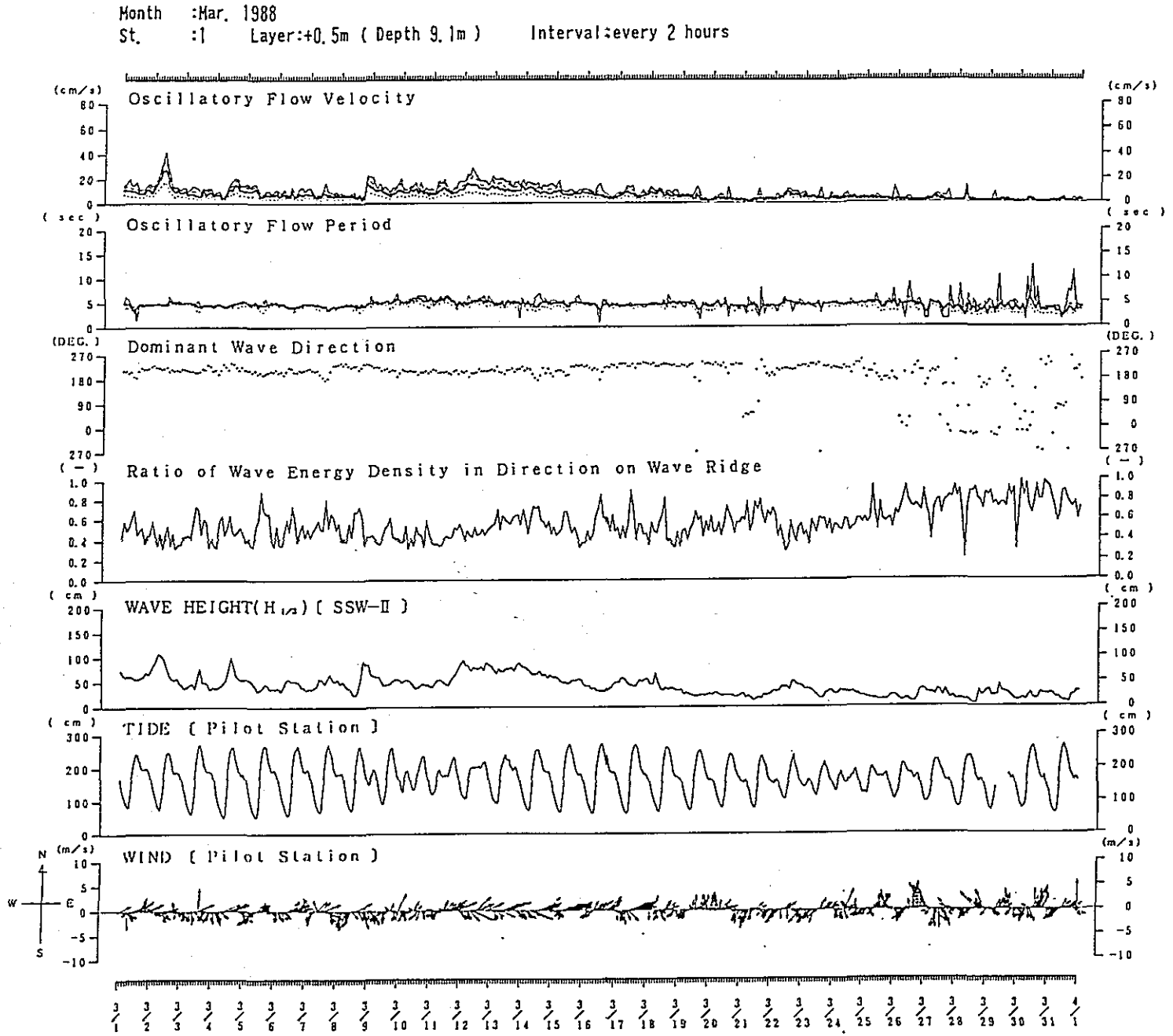

Fig. 1. 3-4 (7) Time Serial Variation of Oscillatory Flow

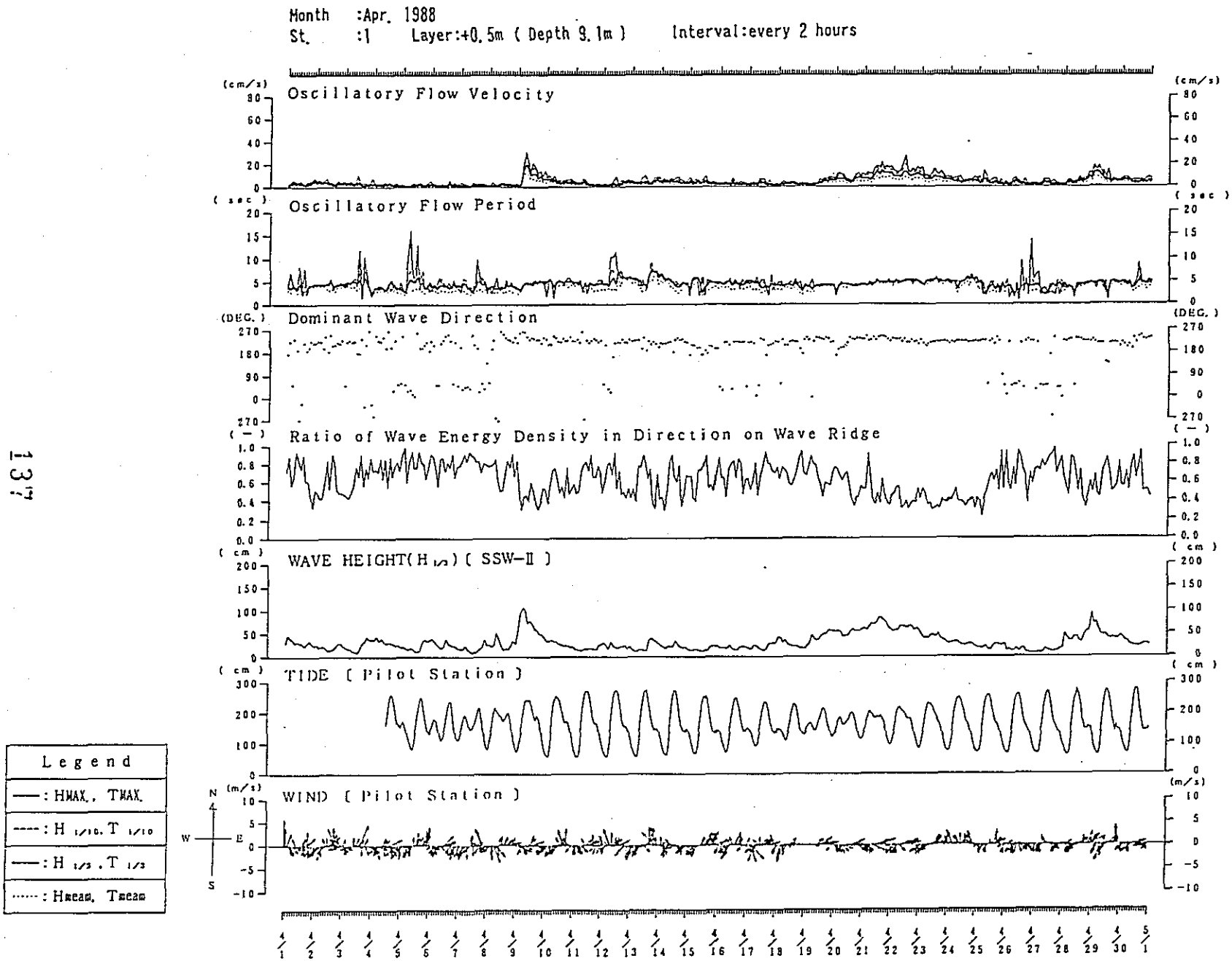

Fig. 1. 3-4 (8) Time Serial Variation of Oscillatory Flow

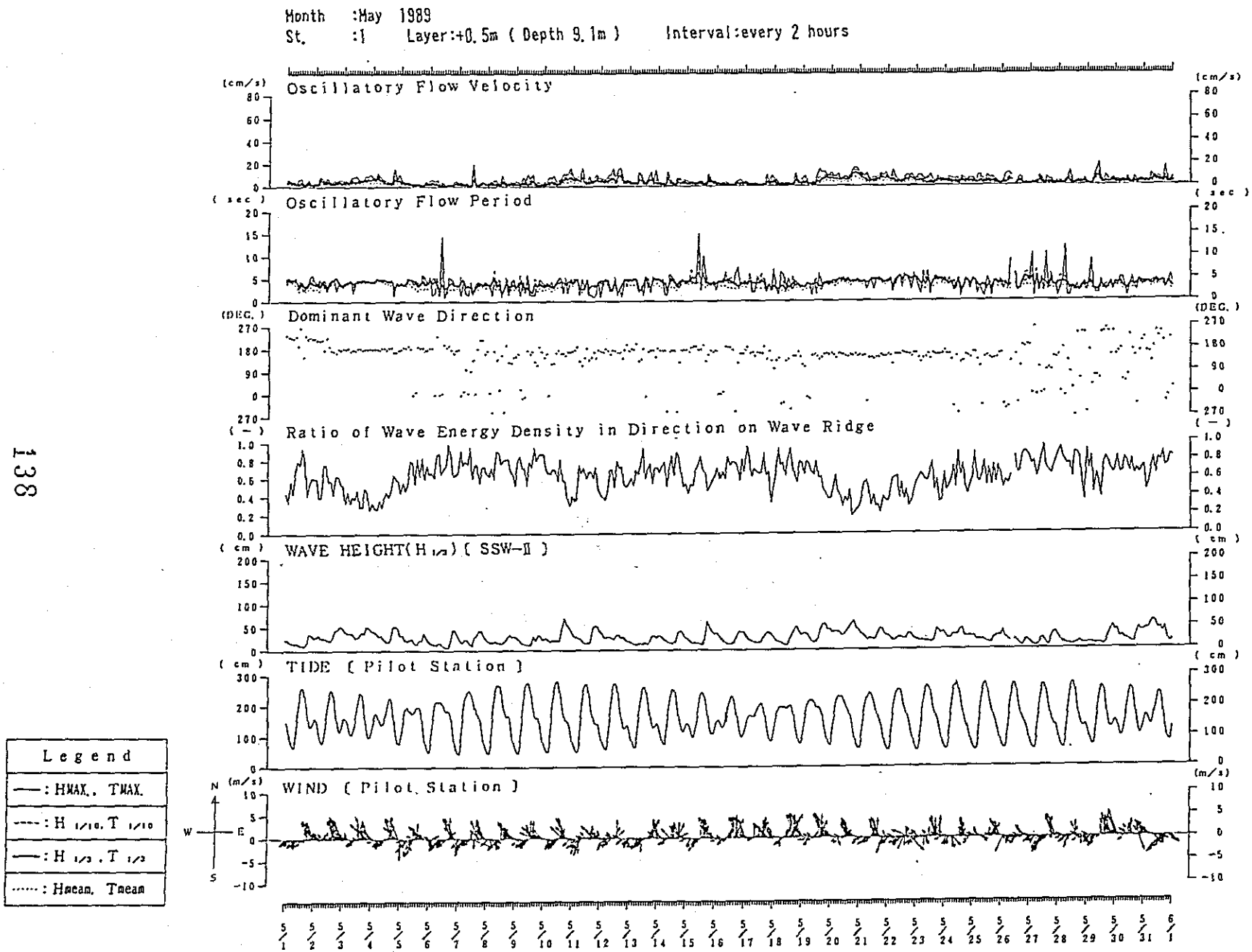

Fig. 1. 3-4 (9) Time Serial Variation of Oscillatory Flow

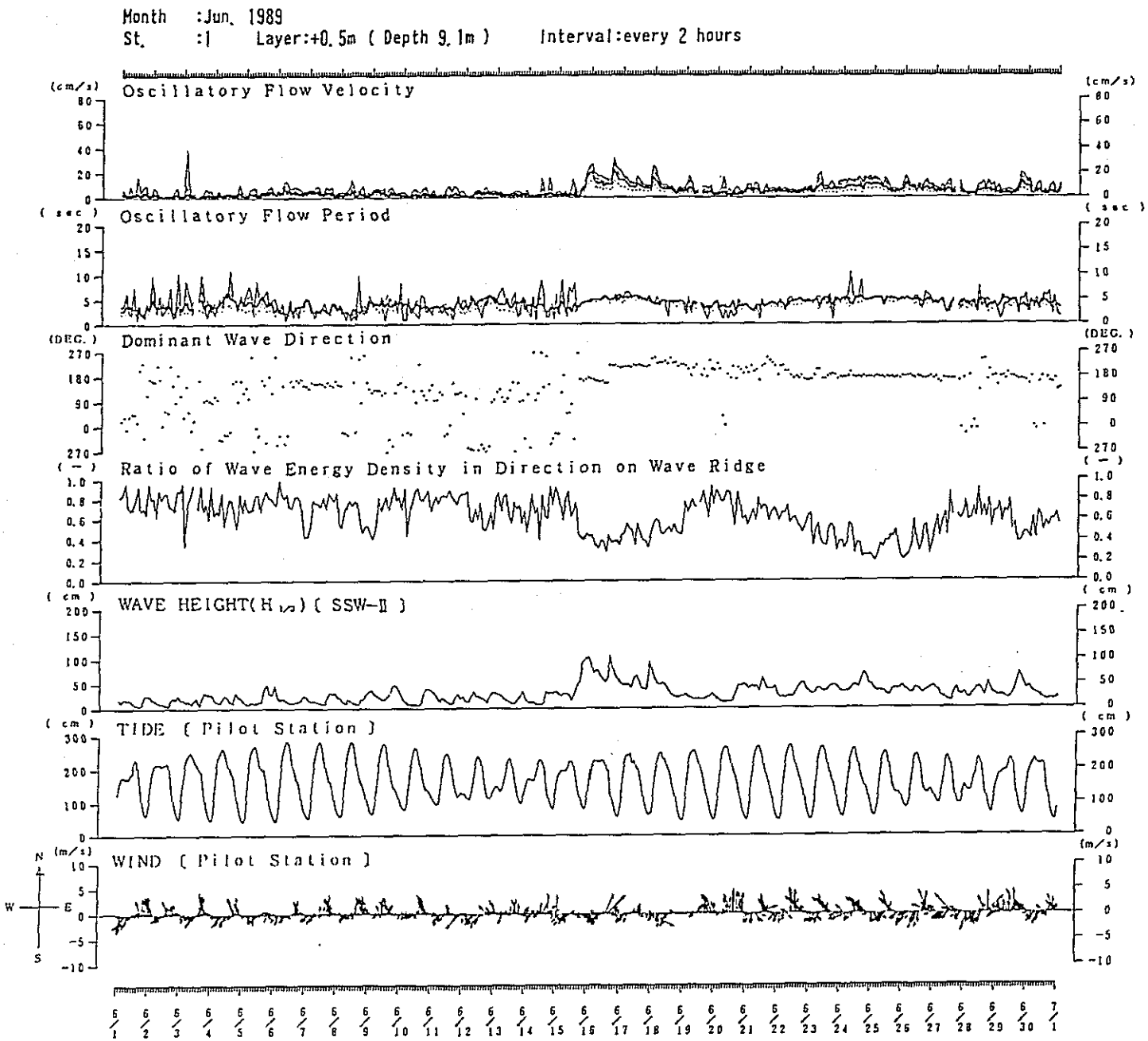

Fig. 1. 3-4 (10) Time Serial Variation of Oscillatory Flow

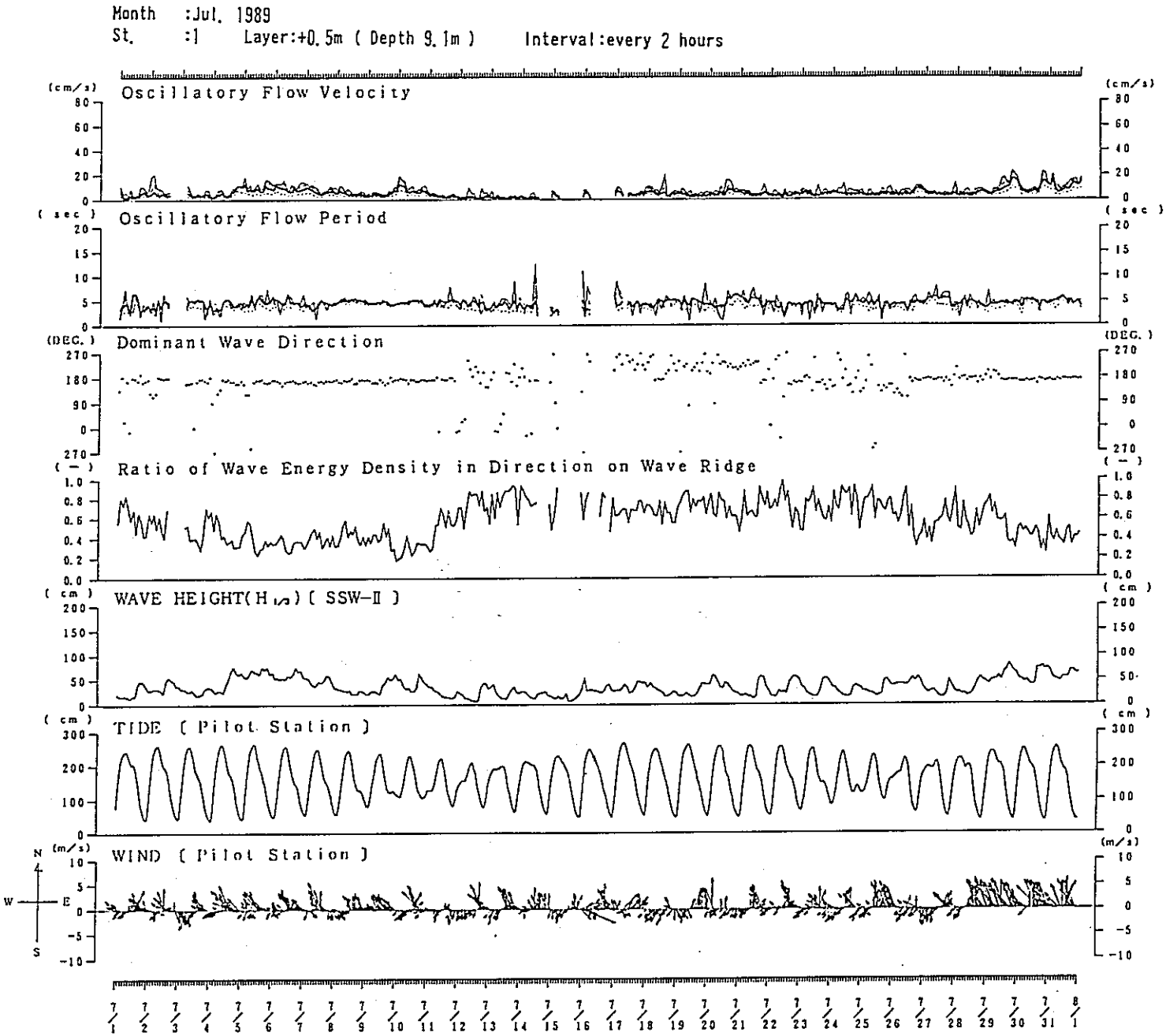

Fig. 1.3-4 (11) Time Serial Variation of Oscillatory Flow

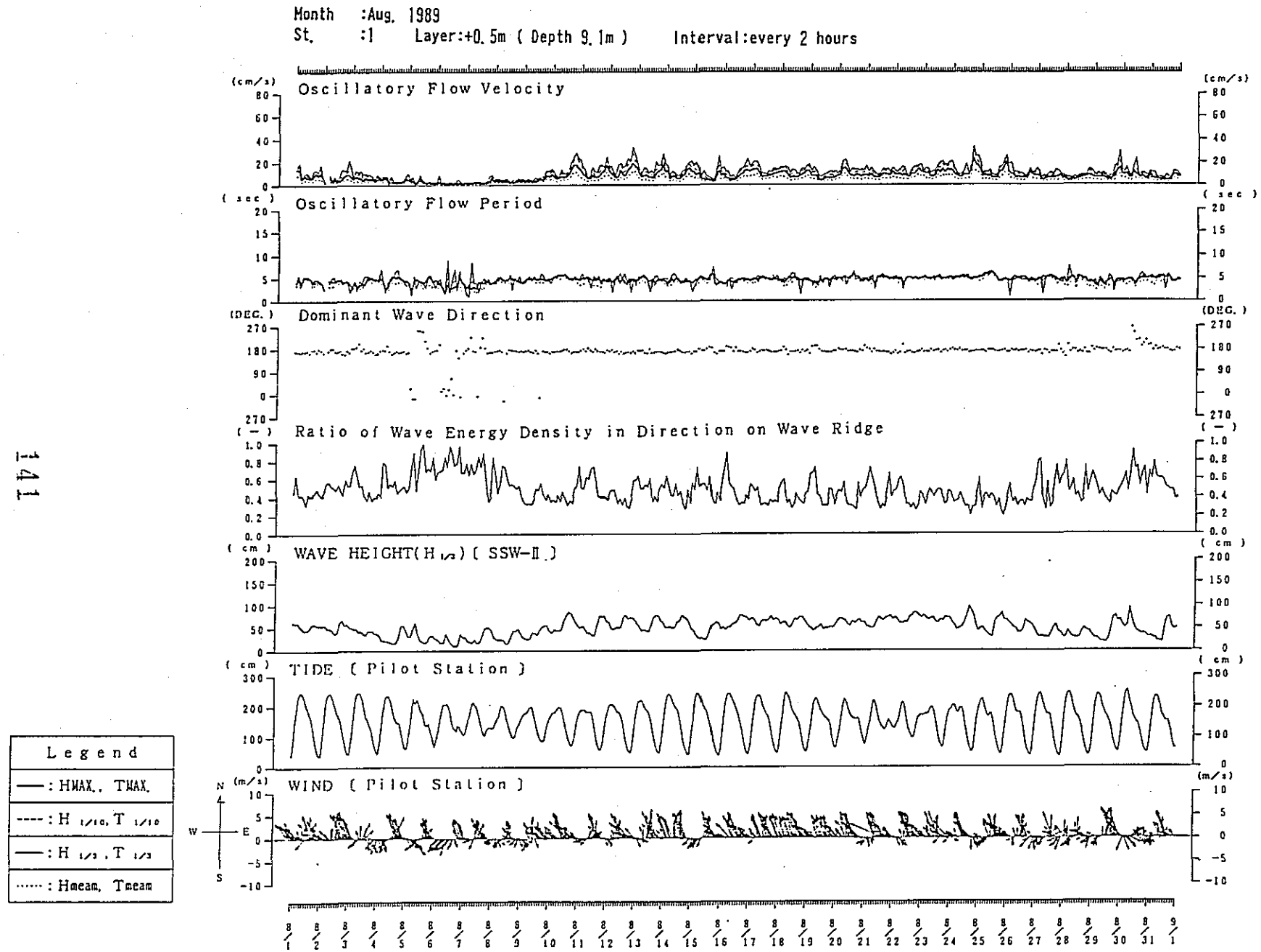

Fig. 1.3-4 (12) Time Serial Variation of Oscillatory Flow

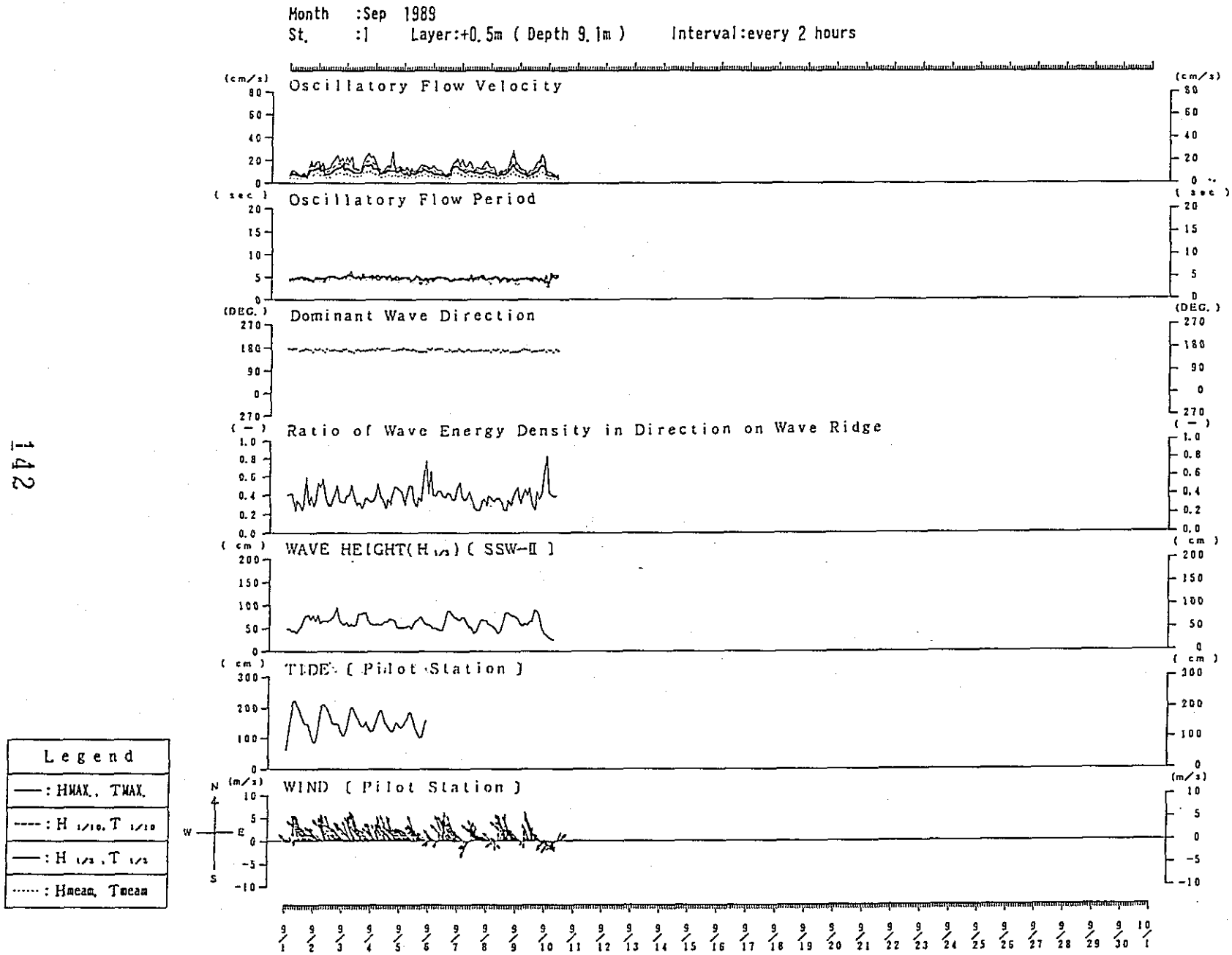

Fig. 1. 3-4 (13) Time Serial Variation of Oscillatory Flow