

Technical Report no. 50
for Project Element K1.4

July 1985

**ATLAS OF BEACH PROFILES
MONITORED ON BETIO-BAIRIKI,
TARAWA ATOLL, KIRIBATI:
JANUARY 1982 – JULY 1985**

by

Russell Howorth

Prepared for

Committee for Co-ordination of Joint
Prospecting for Mineral Resources in
South Pacific Offshore Areas (CCOP/
SOPAC) Work Programme.

As a contribution by

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INTRODUCTION

Since January 1982, CCOP/SOPAC has been carrying out nearshore-coastal studies in the Betio-Bairiki area of South Tarawa. These studies form part of the Kiribati work programme element K1.4 and included the setting-up of a beach profile monitoring programme. The survey times have been as follows:

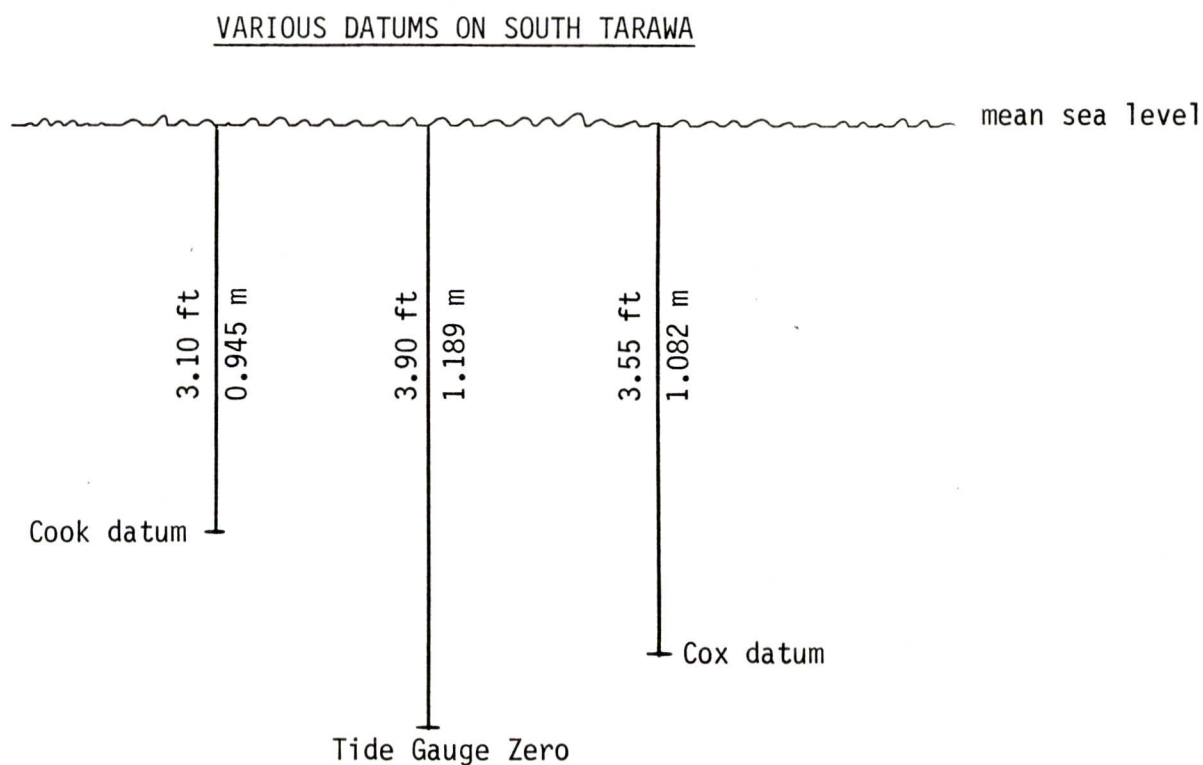
- (i) January 1982 (Howorth, 1982a)
- (ii) June 1982 (Howorth, 1982b)
- (iii) January 1983 (Carter, 1983)
- (iv) August 1983 (Howorth, 1983)
- (v) August 1984 (survey carried out by Lands and Survey, Kiribati)
- (vi) July 1985 (survey carried out by Lands and Survey, Kiribati)

For background information summary of other work completed to date, the reader is referred to the above reports.

The atlas is published at this time since it is expected that construction of the Betio-Bairiki causeway will be carried out in the 12-18 month period commencing early 1986. Whilst there are only 6 surveys over a 3½ year period, nonetheless this is likely to be the most complete record of the position, and short-term fluctuations in position of the beaches of Betio and Bairiki prior to causeway construction.

A map is included (folds out from back of report) which shows the relative positions of the profiles; for detailed location of each profile refer to Howorth (1982a). Fifteen profiles are located on Betio and eleven on Bairiki.

Vertical reference points for all profiles were levelled in by Lands and Survey to tide-gauge zero. Cox datum and the Cook datum are two additional datums used in Tarawa, the diagram following illustrates the relationship between these various datums.



The heights of the vertical reference points are given in the accompanying table. All the data recorded, which has been used in producing this atlas of beach profiles, is given in the Appendix.

Betio & Bairiki Beach Profile Datums

<u>Bairiki</u>	<u>Ref to Cox Datum</u>		<u>Ref to T.G.Z.</u>		<u>Ref to Cook Datum</u>		<u>Ref to M.S.L.</u>	
<u>Profile No.</u>	<u>Ft.</u>	<u>M</u>	<u>Ft.</u>	<u>M</u>	<u>Ft.</u>	<u>M.</u>	<u>Ft.</u>	<u>M</u>
1	9.64	2.94	9.99	3.04	9.19	2.80	6.09	1.86
2	10.62	3.24	10.97	3.34	10.17	3.10	7.07	2.15
3	9.83	3.00	10.18	3.10	9.38	2.86	6.28	1.91
4	10.28	3.13	10.63	3.24	9.83	3.00	6.73	2.05
5	9.82	2.99	10.17	3.10	9.37	2.86	6.27	1.91
6	9.46	2.88	9.81	2.99	9.01	2.75	5.91	1.80
7	10.20	3.11	10.55	3.22	9.75	2.97	6.65	2.03
8	11.82	3.60	12.17	3.71	11.37	3.47	8.27	2.52
9	11.97	3.65	12.32	3.76	11.52	3.51	8.42	2.56
10	10.45	3.19	10.80	3.29	10.00	3.05	6.90	2.10
11	8.81	2.69	9.16	2.79	8.36	2.55	5.26	1.60
<u>Betio</u>								
1	10.26	3.13	10.61	3.23	9.81	2.99	6.71	2.05
2	9.60	2.93	9.95	3.03	9.15	2.79	6.05	1.84
3	12.00	3.66	12.35	3.76	11.55	3.52	8.45	2.58
4	10.74	3.27	11.09	3.38	10.29	3.14	7.19	2.19
5	12.05	3.67	12.40	3.78	11.60	3.54	8.50	2.59
6	12.30	3.75	12.65	3.86	11.85	3.61	8.75	2.67
7	9.22	2.81	9.57	2.92	8.77	2.67	5.67	1.73
8	10.32	3.15	10.67	3.25	9.87	3.01	6.77	2.06
9	10.99	3.35	11.34	3.46	10.54	3.21	7.44	2.27
10	9.99	3.04	10.34	3.15	9.54	2.91	6.44	1.96
11	11.14	3.40	11.49	3.50	10.69	3.26	7.59	2.31
12	12.66	3.86	13.01	3.97	12.21	3.72	9.11	2.78
13	14.13	4.31	14.48	4.41	13.68	4.17	10.58	3.22
14	10.94	3.33	11.29	3.44	10.49	3.20	7.39	2.25
15	12.06	3.68	12.41	3.78	11.61	3.54	8.51	2.59

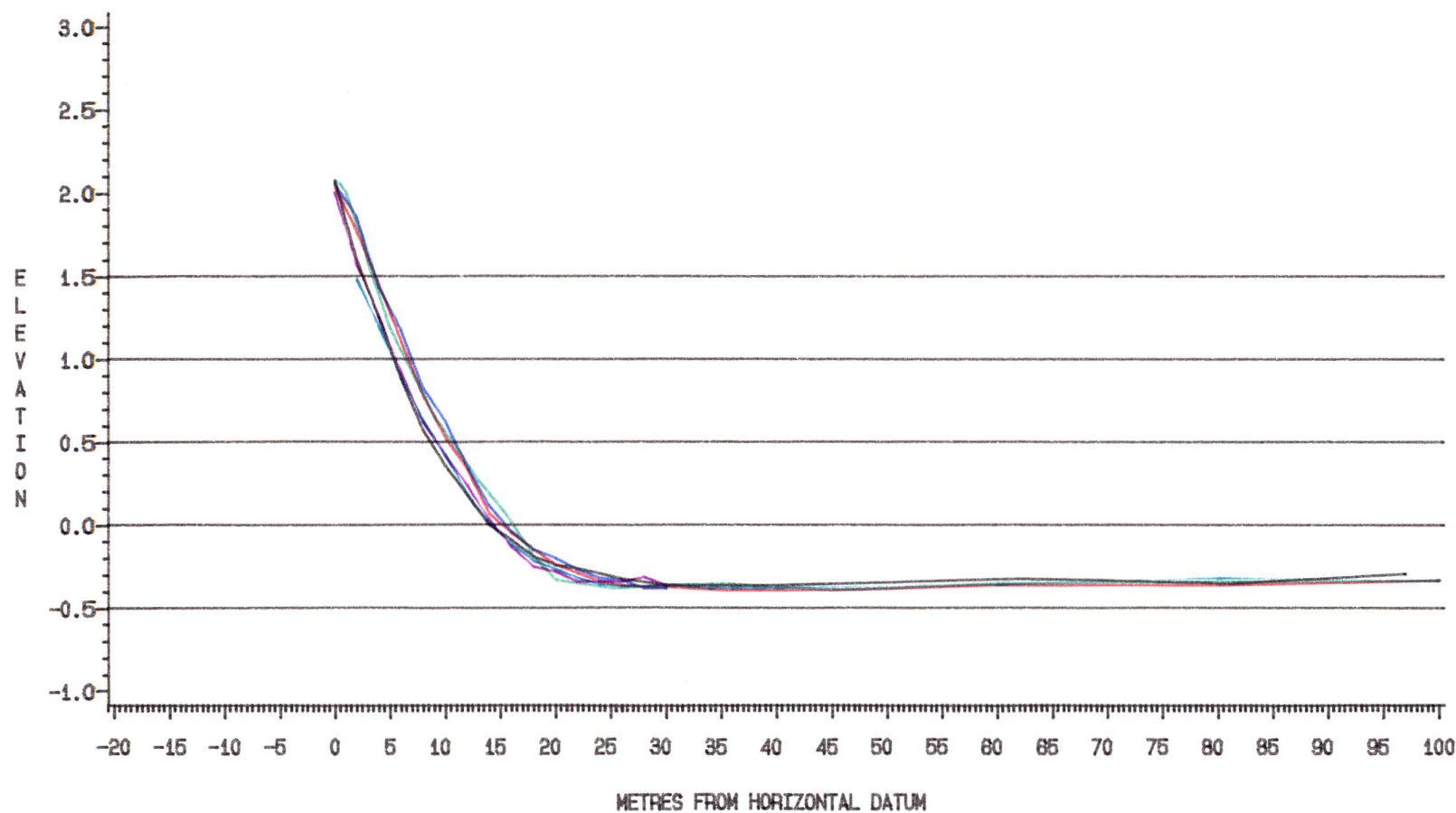
Note: The data given are for the vertical datum positions as described in Howorth (1982; Appendix 2). Betio 2 and Bairiki 10 have subsequently been changed (Howorth, 1983) and the heights given in this table should be adjusted accordingly. Betio 13 has been lost completely and is being replaced.

References

- Carter, R. (1983). Coastal Erosion in Kiribati. Cruise Report No. 76, CCOP/SOPAC, UN Mineral Prospecting, Suva, Fiji.
- Howorth, R. (1982a). Coastal Erosion in Kiribati; South Tarawa. Technical Report No. 22, pp. 13, CCOP/SOPAC, UN Mineral Prospecting, Suva, Fiji.
- Howorth, R. (1982b). Coastal Erosion in Kiribati; South Tarawa. Technical Report No. 25, pp. 8, CCOP/SOPAC, UN Mineral Prospecting, Suva, Fiji.
- Howorth, R. (1983). Coastal Erosion in Kiribati; South Tarawa. Technical Report No. 31, pp. 11, CCOP/SOPAC, UN Mineral Prospecting, Suva, Fiji.

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BETIO 1

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

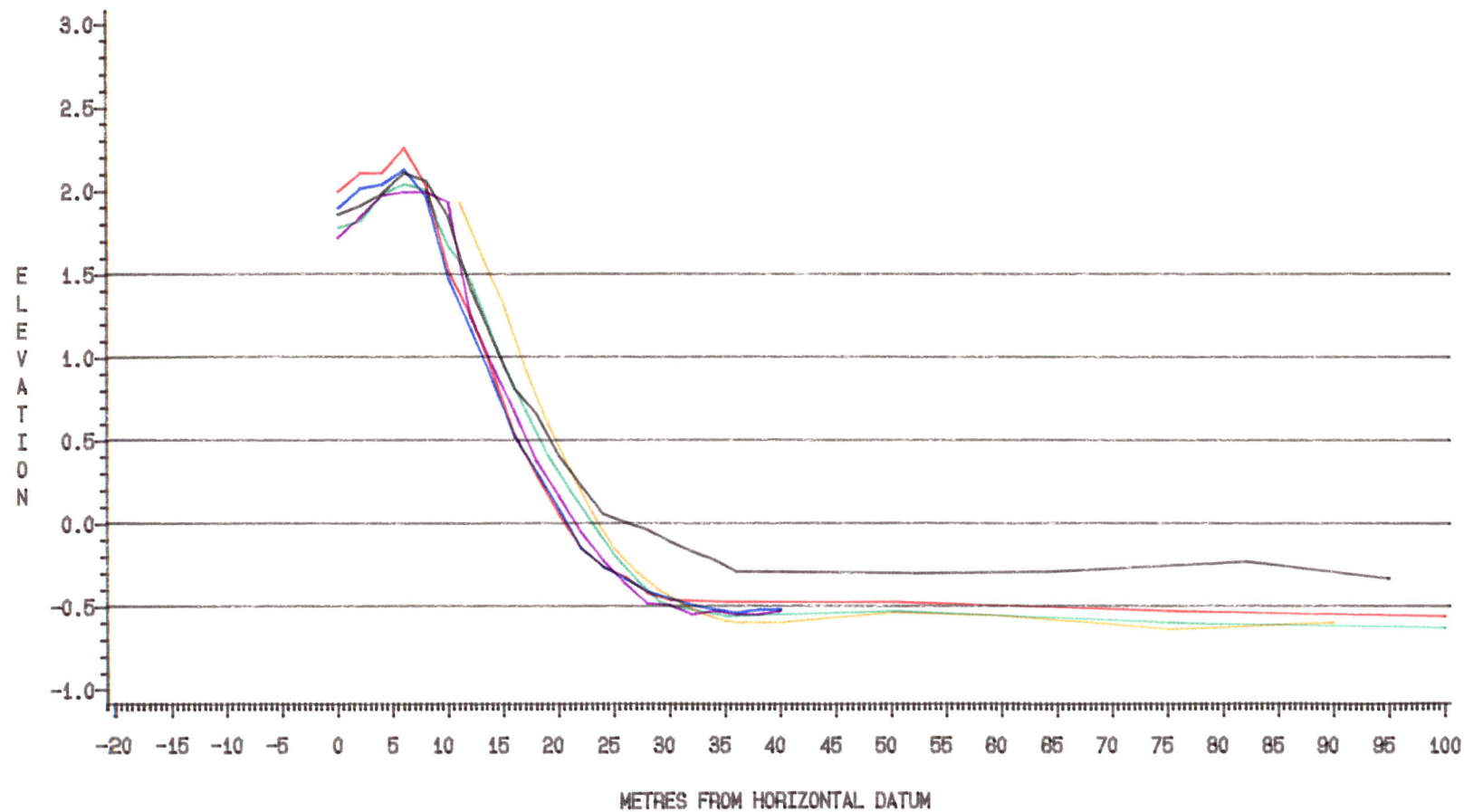
AUGUST 1984

JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BETIO 2

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

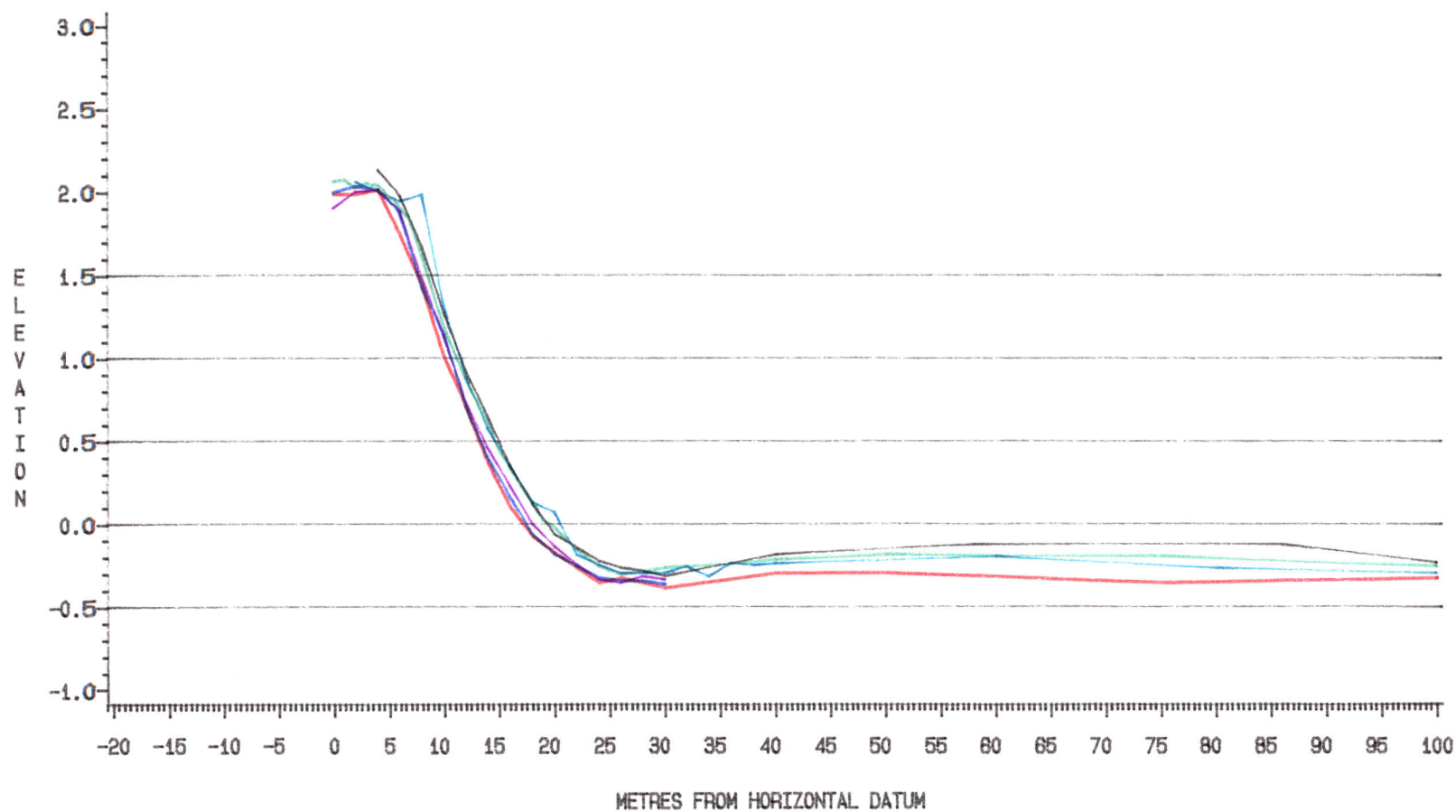
AUGUST 1984

JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BETIO 3

JANUARY 1982 - JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

AUGUST 1984

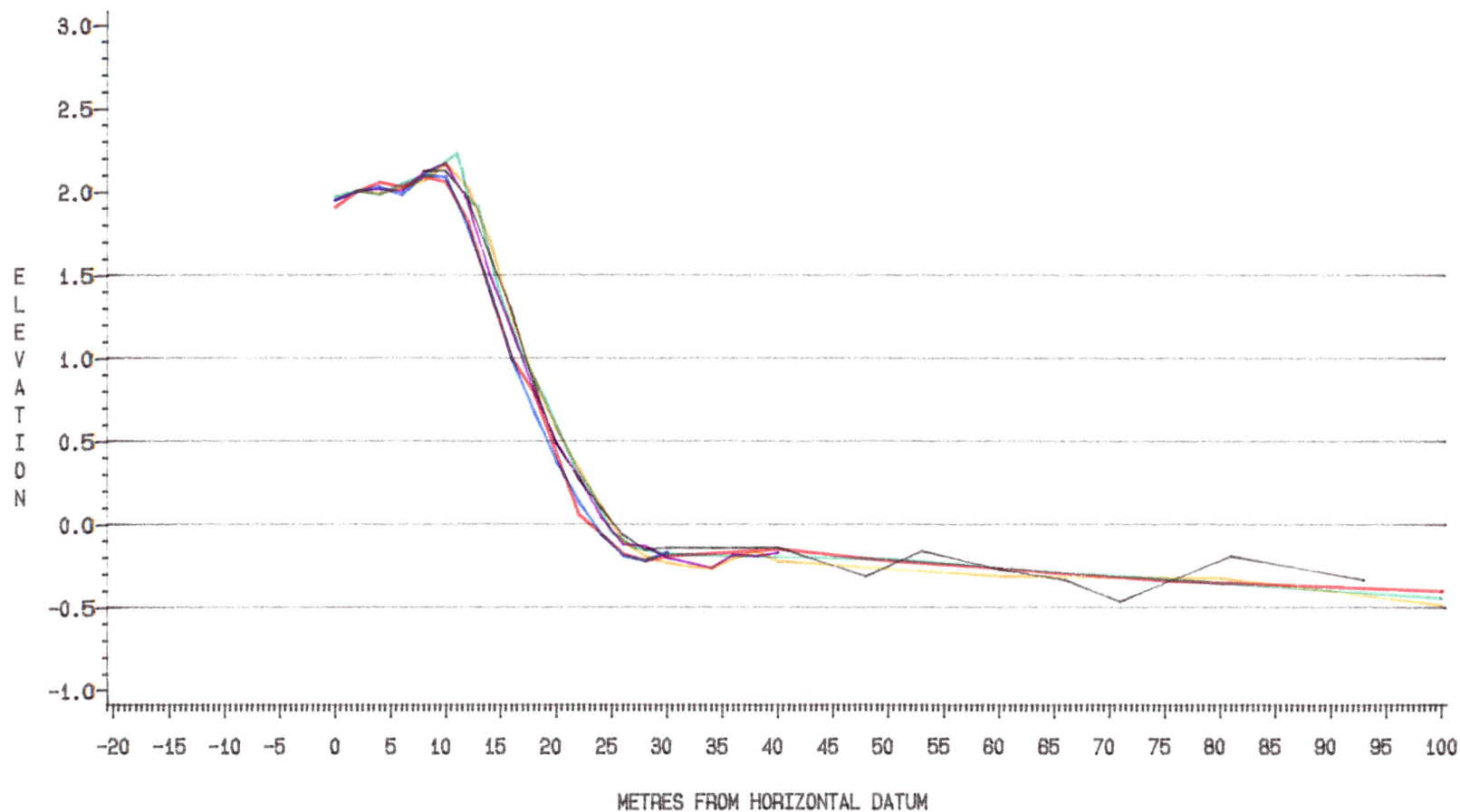
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI

BEACH PROFILE: BETIO 4

JANUARY 1982 – JULY 1985

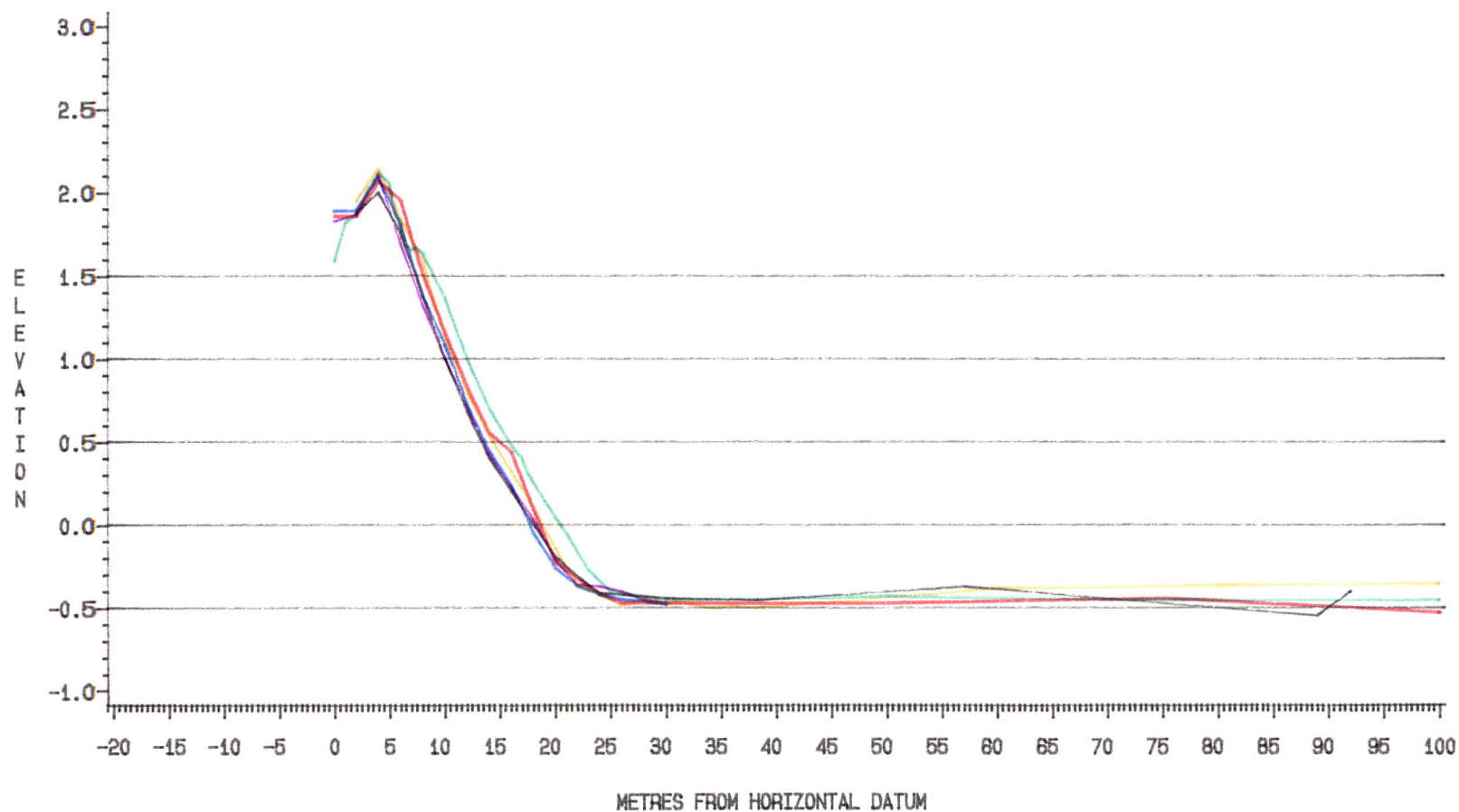


JANUARY 1982
JUNE 1982
JANUARY 1983
AUGUST 1983
AUGUST 1984
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BETIO 5

JANUARY 1982 - JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

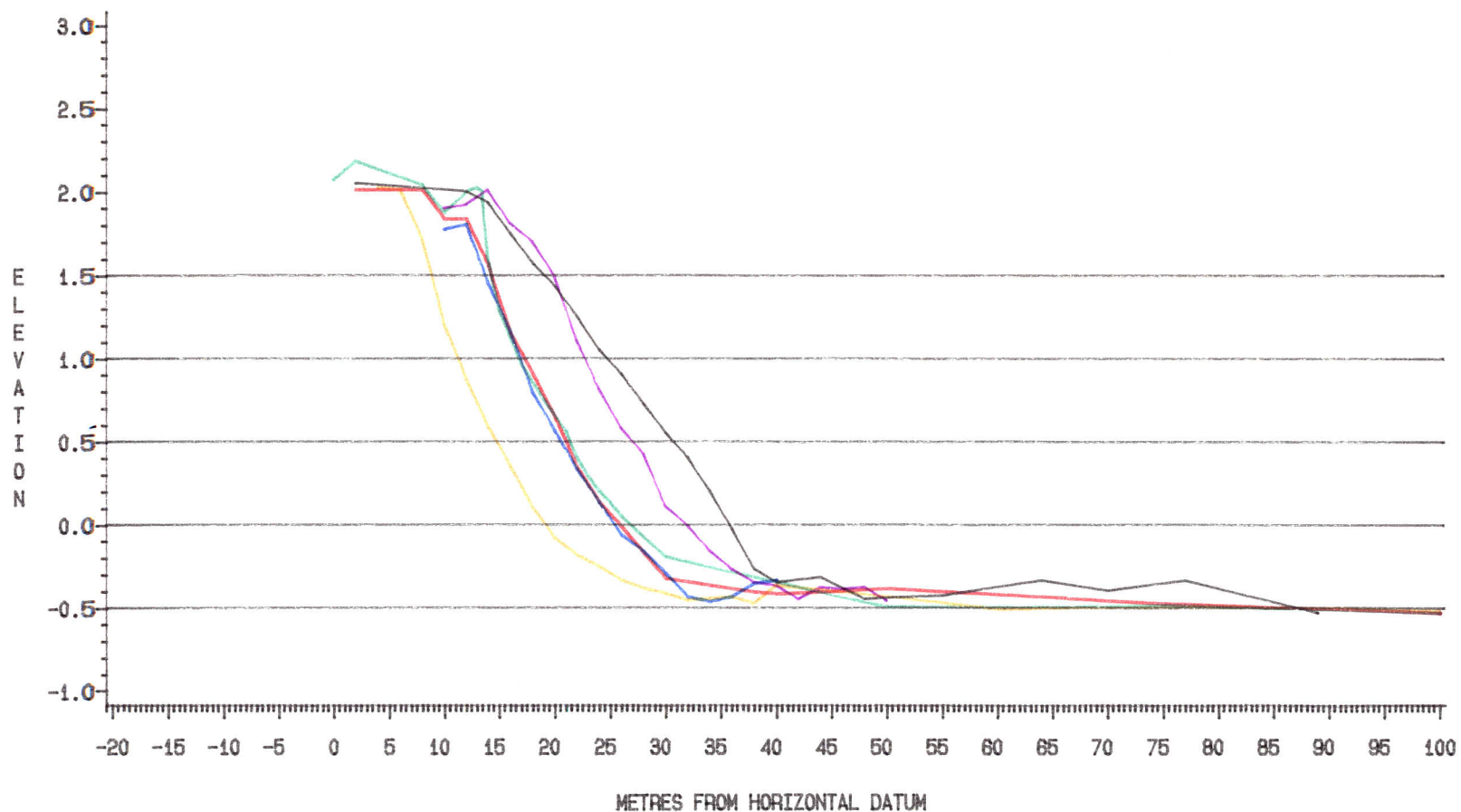
AUGUST 1984

JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BETIO 6

JANUARY 1982 - JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

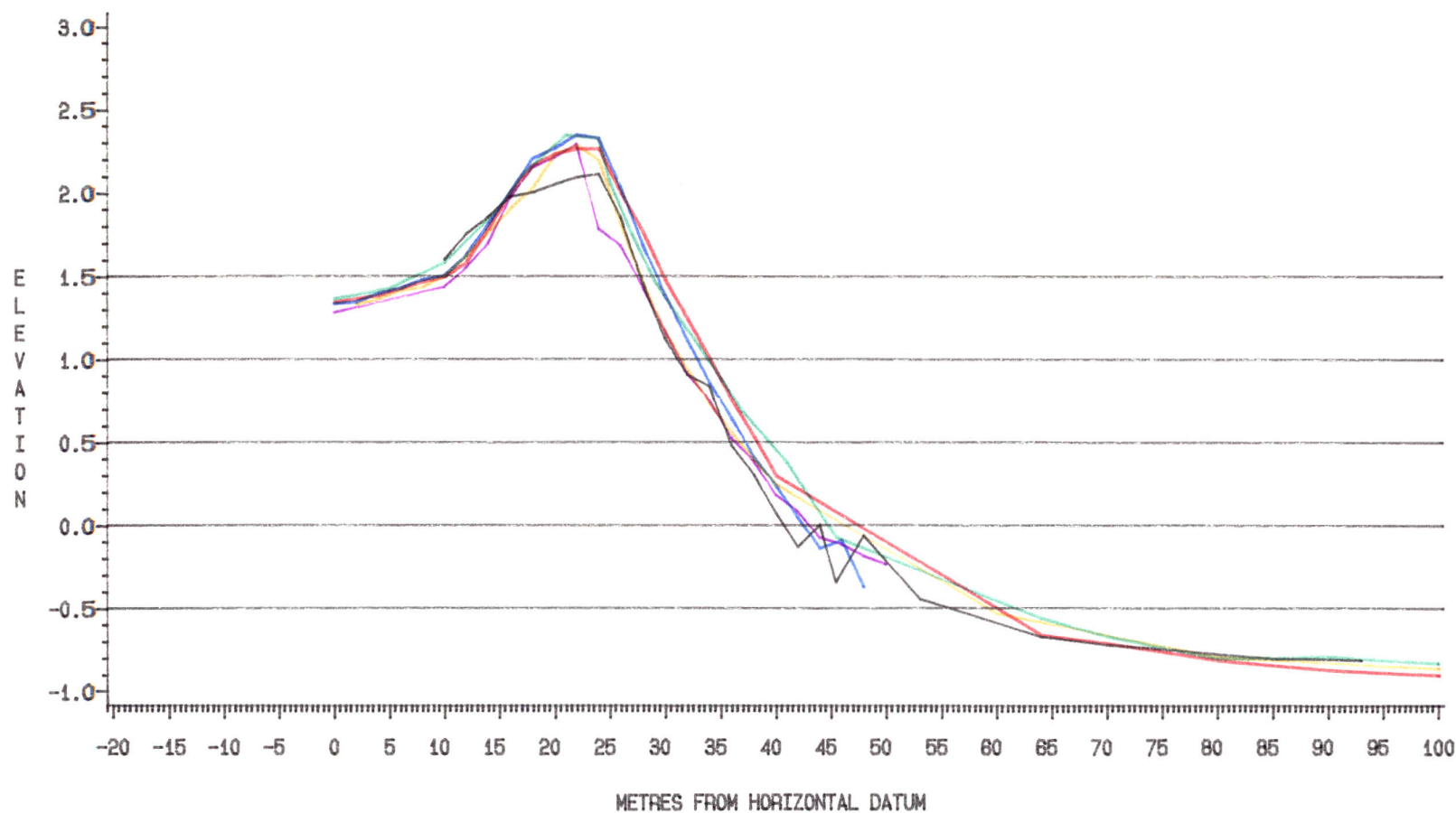
AUGUST 1984

JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BETIO 7

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

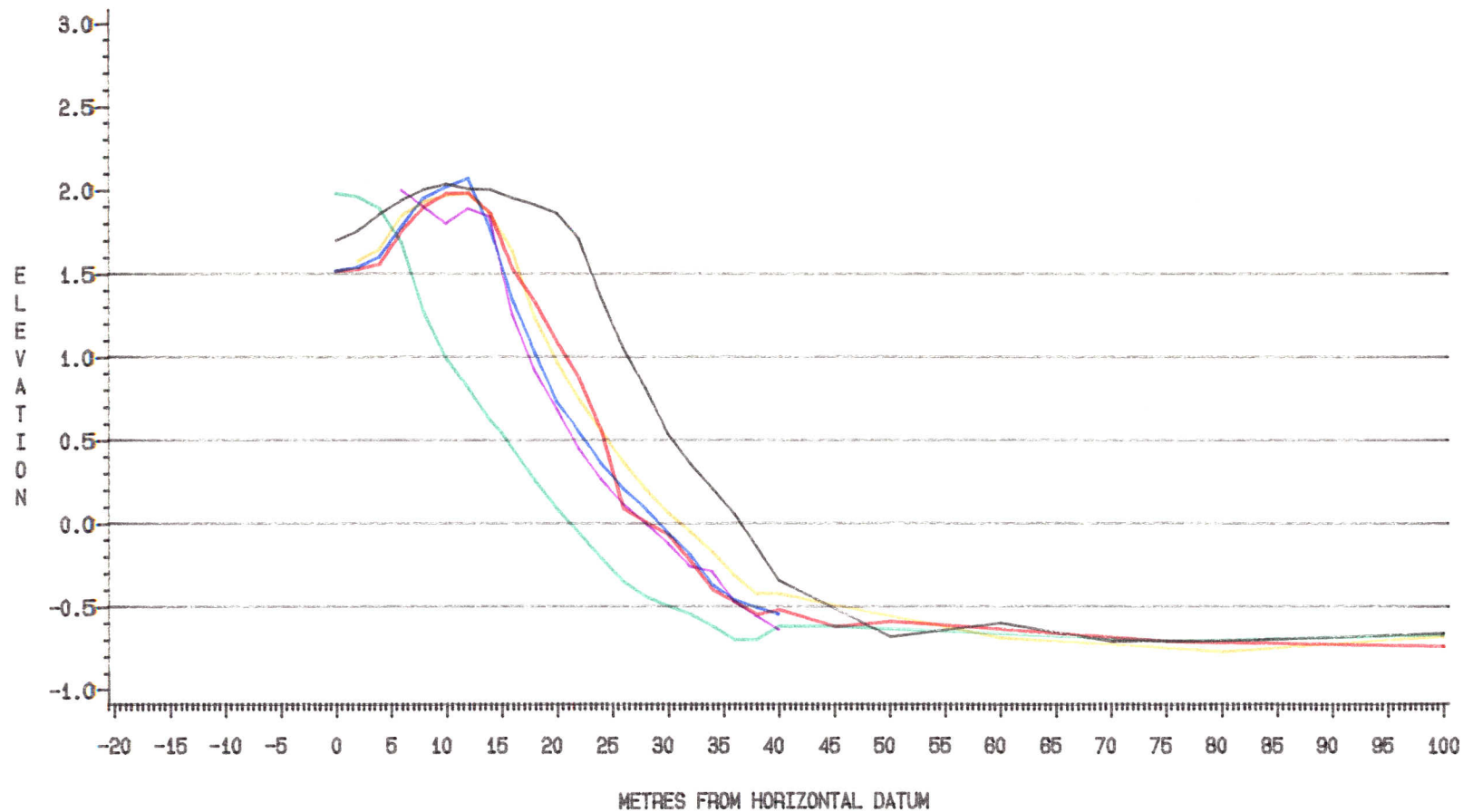
AUGUST 1984

JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BETIO 8

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

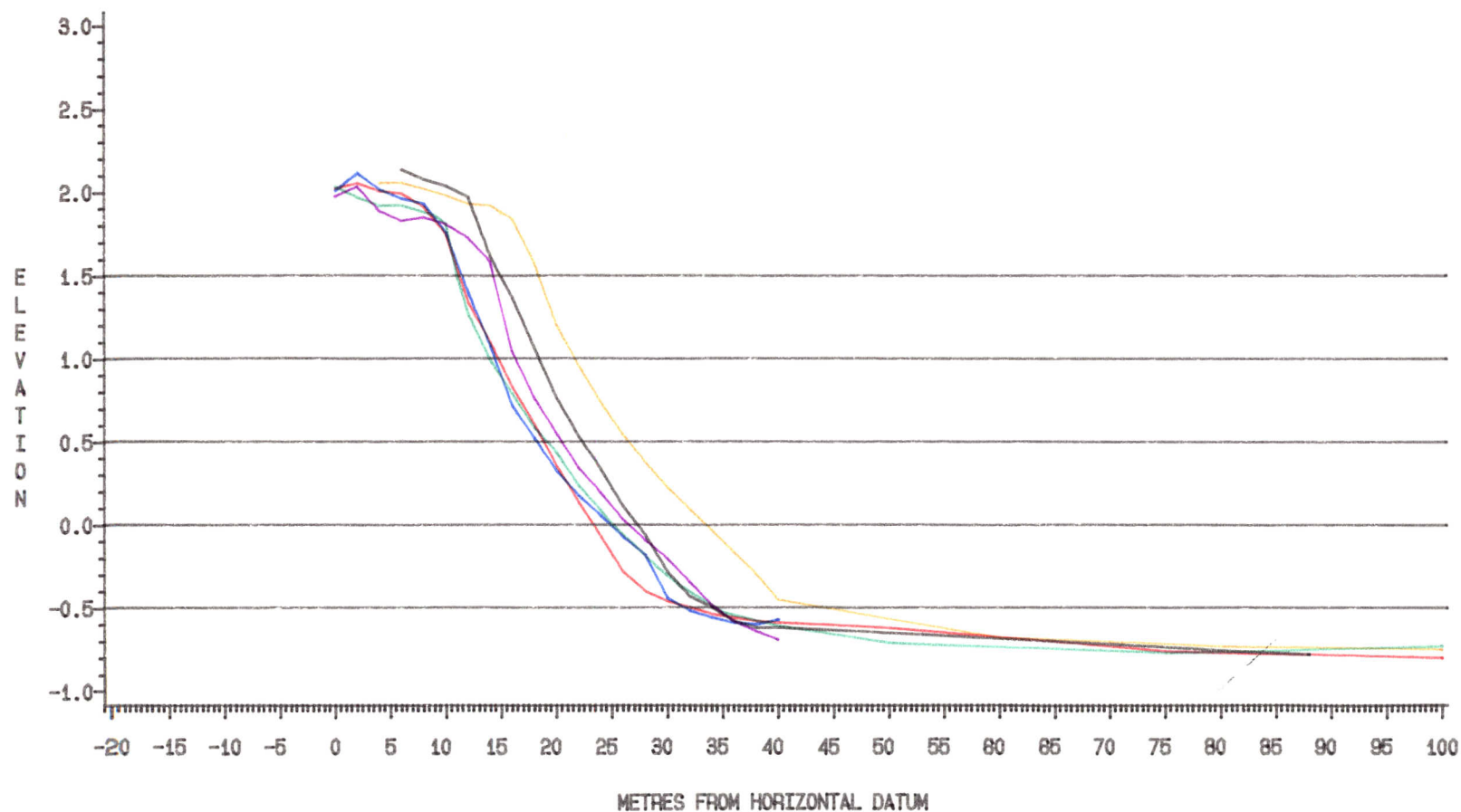
AUGUST 1984

JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BETIO 9

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

AUGUST 1984

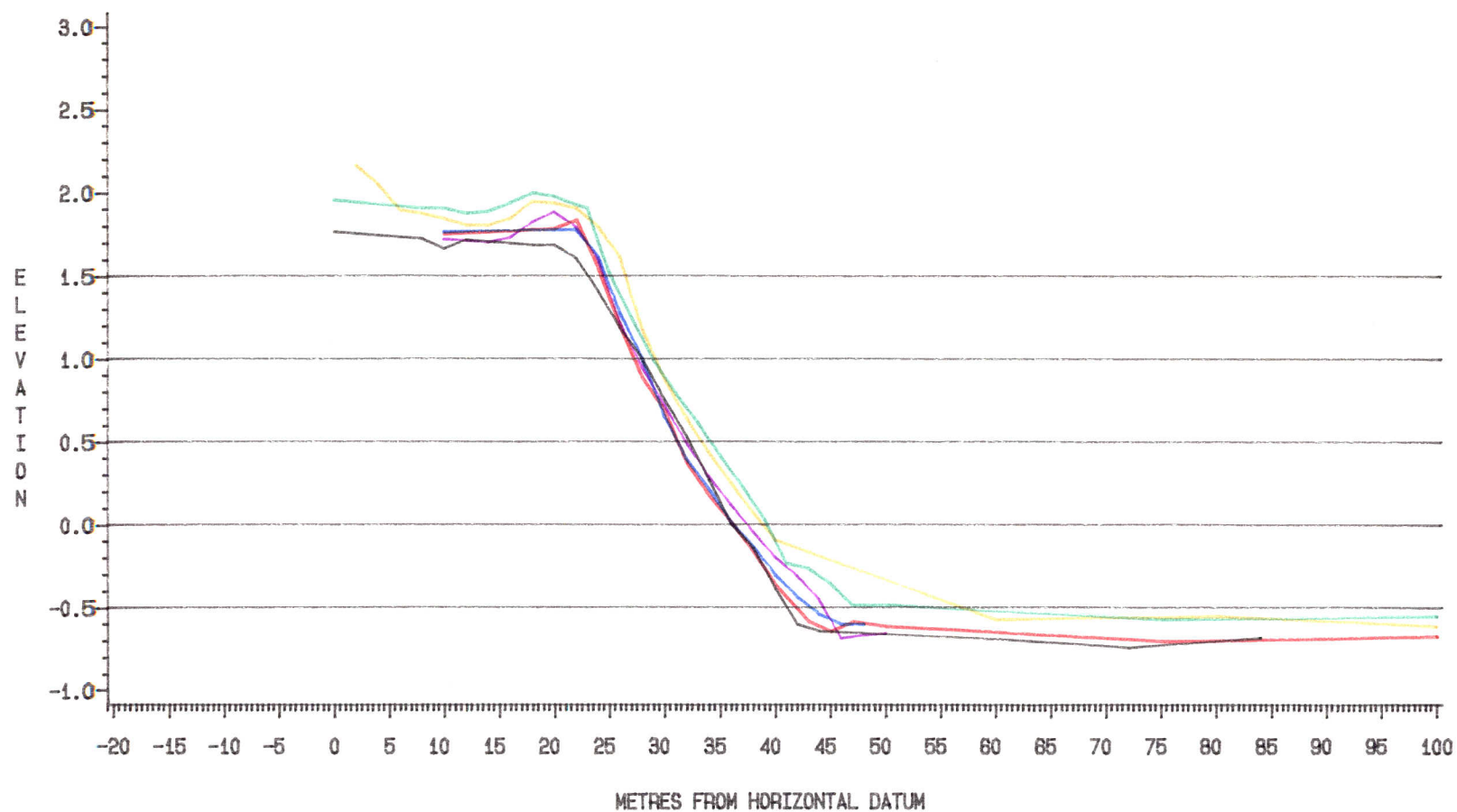
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI

BEACH PROFILE: BETIO 10

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

AUGUST 1984

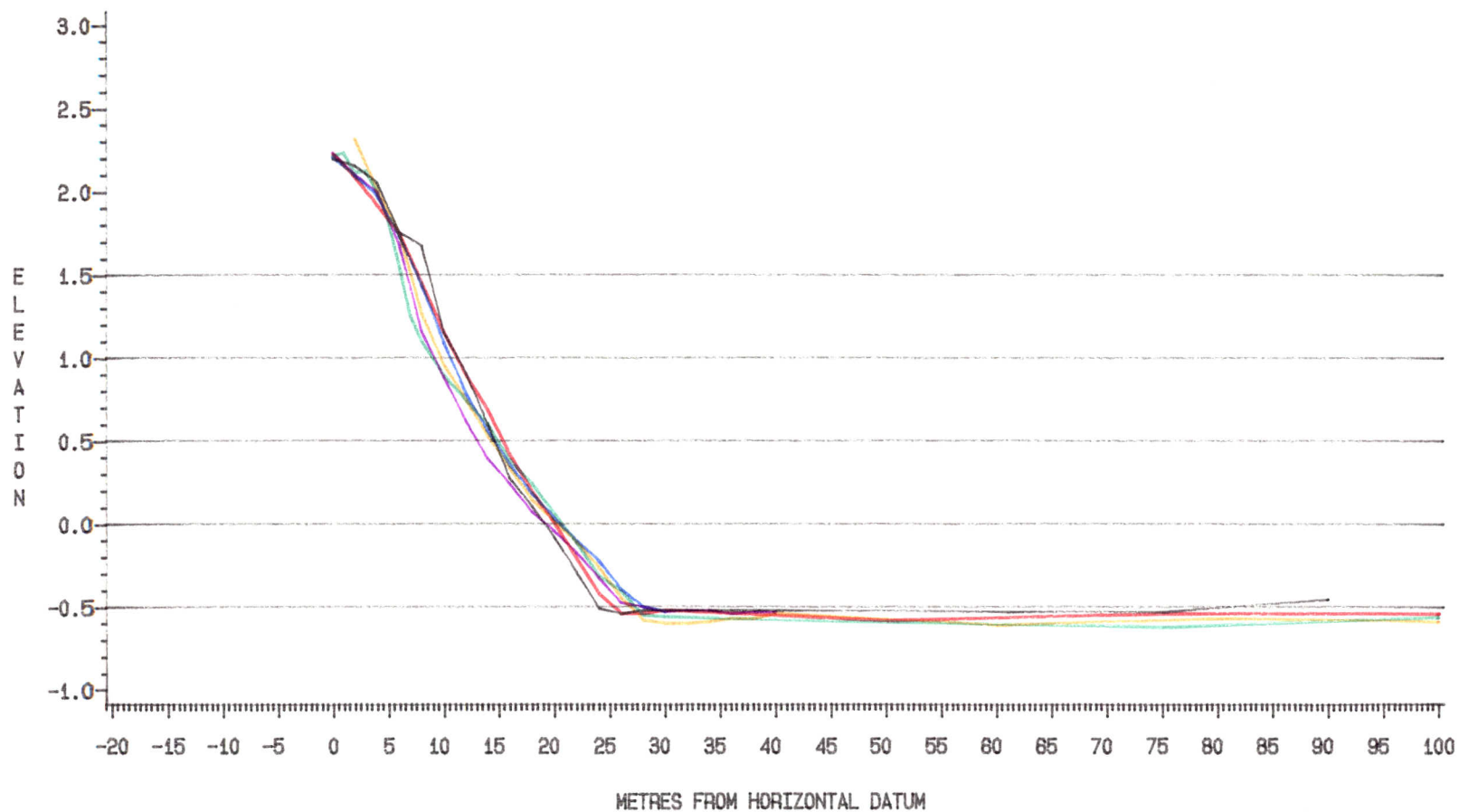
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI

BEACH PROFILE: BETIO 11

JANUARY 1982 – JULY 1985



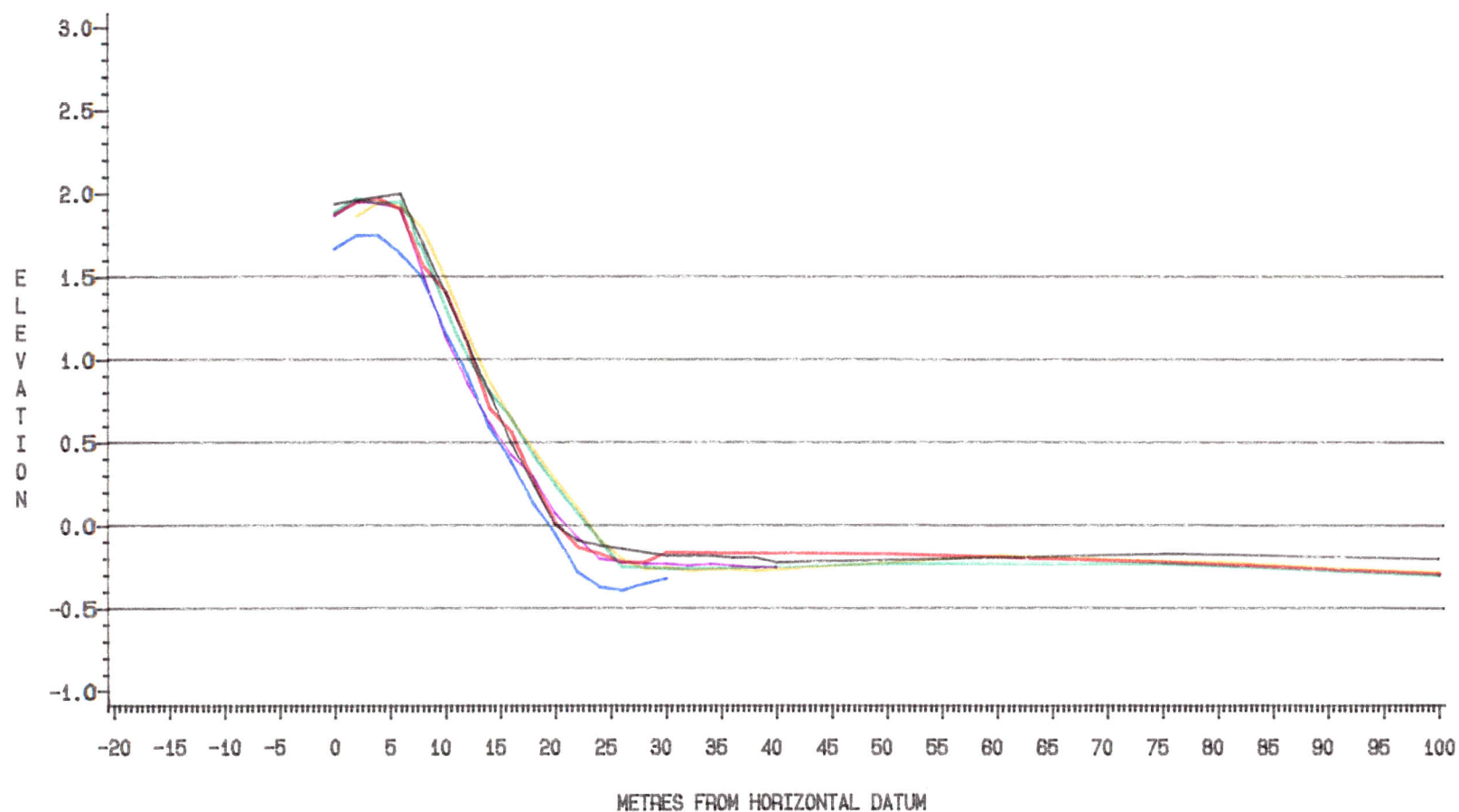
JANUARY 1982
JUNE 1982
JANUARY 1983
AUGUST 1983
AUGUST 1984
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI

BEACH PROFILE: BETIO 12

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

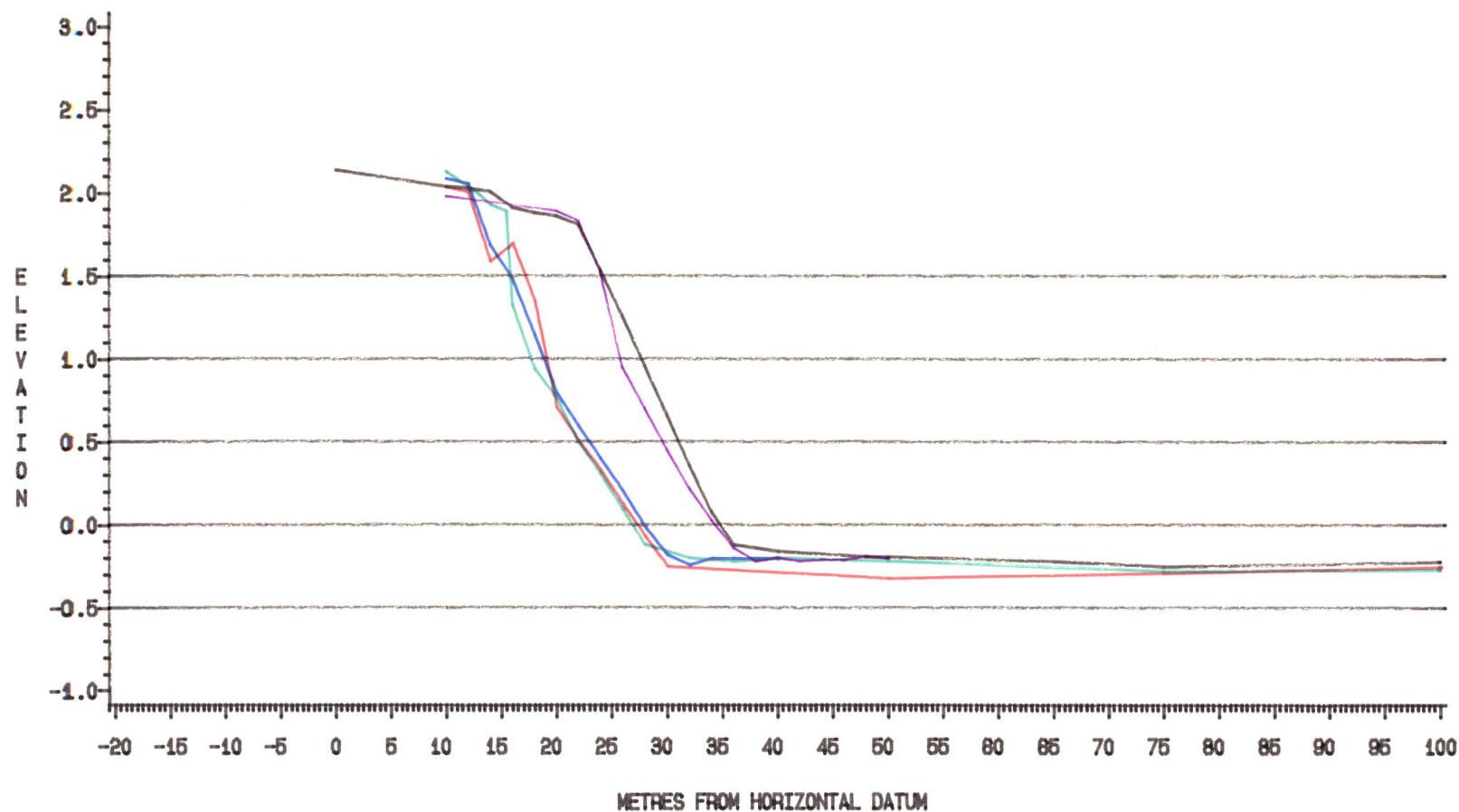
AUGUST 1984

JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BETIO 13

JANUARY 1982 - JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

AUGUST 1984

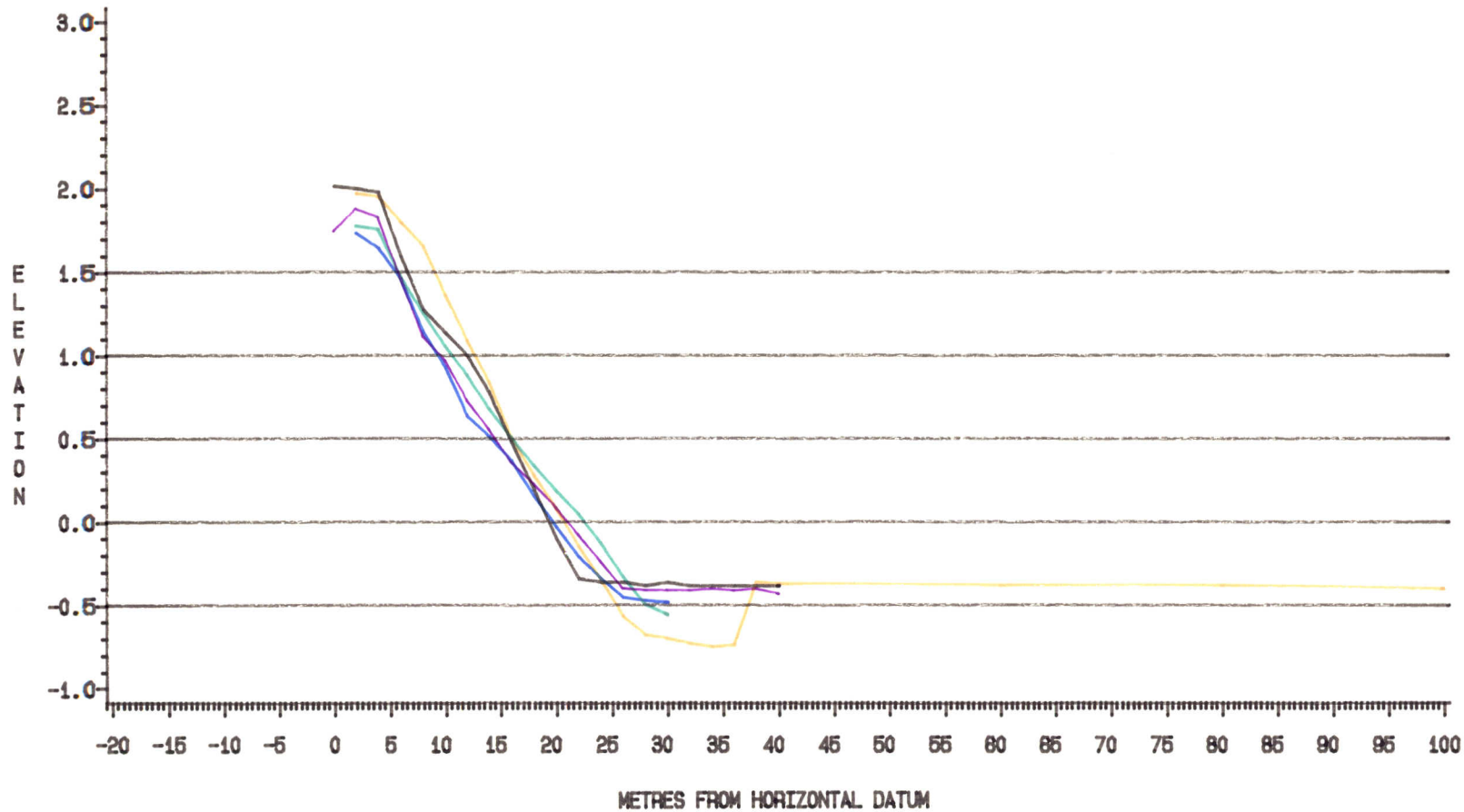
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI

BEACH PROFILE: BETIO 14

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

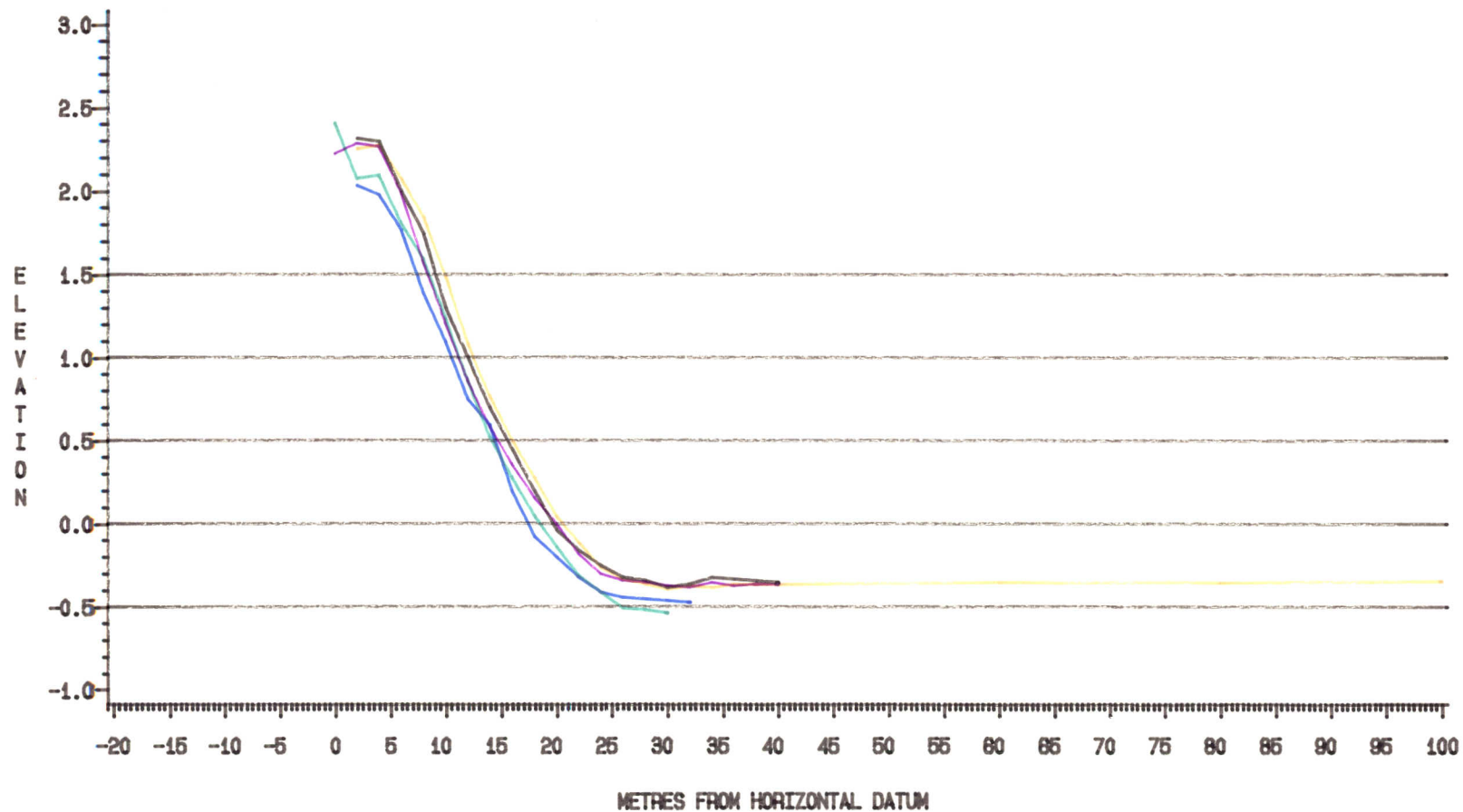
AUGUST 1984

JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BETIO 15

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

AUGUST 1984

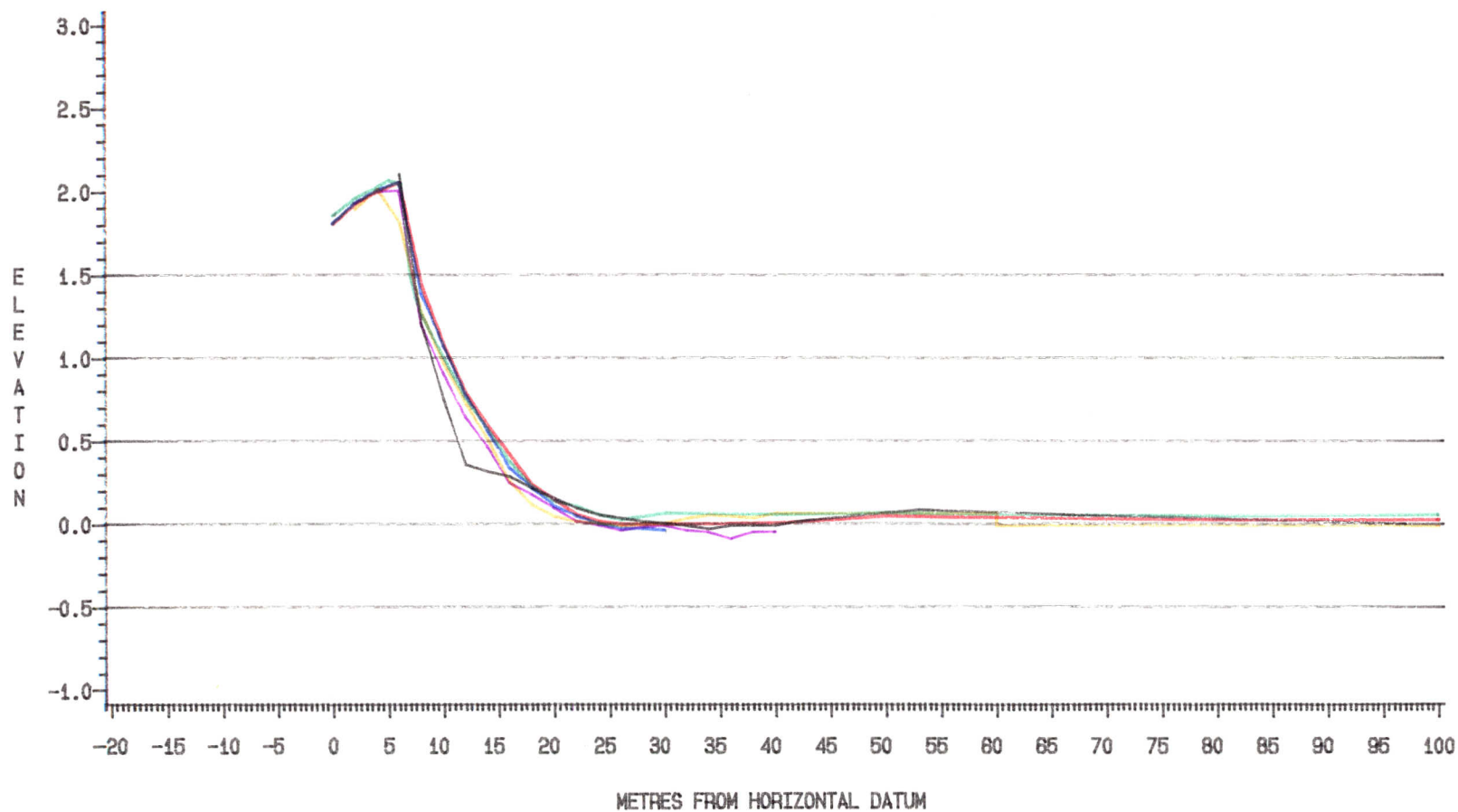
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI

BEACH PROFILE: BAIRIKI 1

JANUARY 1982 – JULY 1985



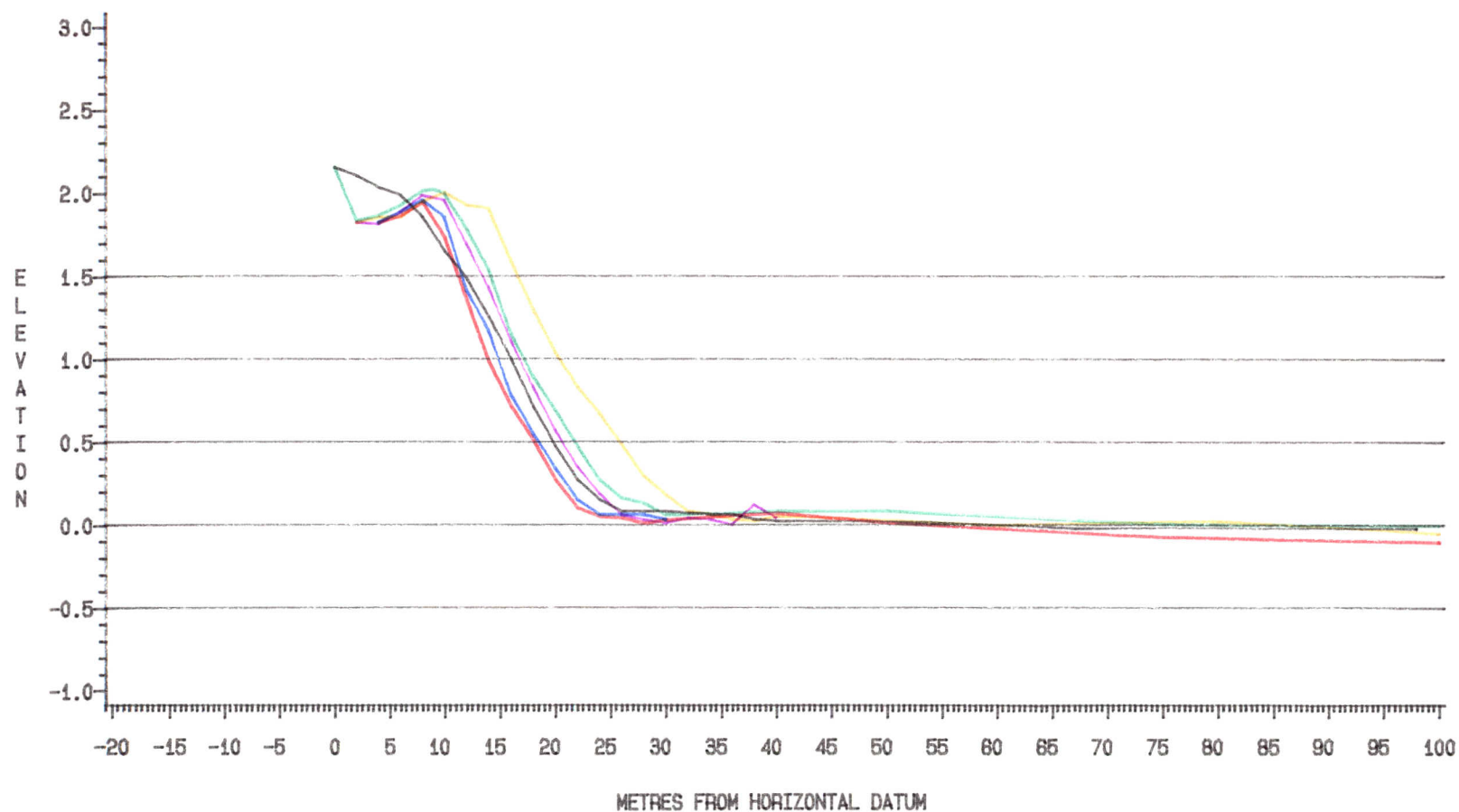
JANUARY 1982
JUNE 1982
JANUARY 1983
AUGUST 1983
AUGUST 1984
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI

BEACH PROFILE: BAIRIKI 2

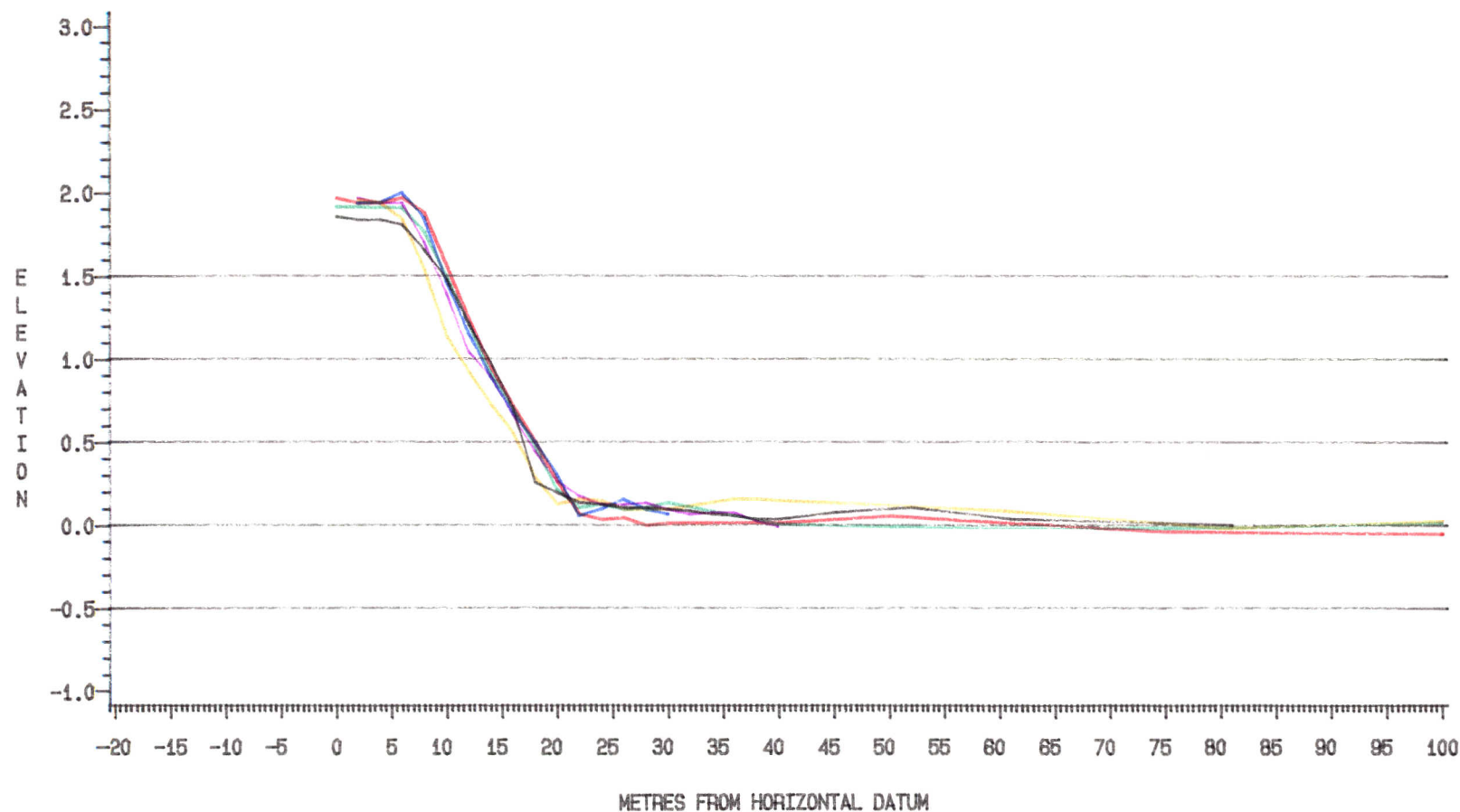
JANUARY 1982 – JULY 1985



JANUARY 1982
JUNE 1982
JANUARY 1983
AUGUST 1983
AUGUST 1984
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI
BEACH PROFILE: BAIRIKI 3
JANUARY 1982 – JULY 1985



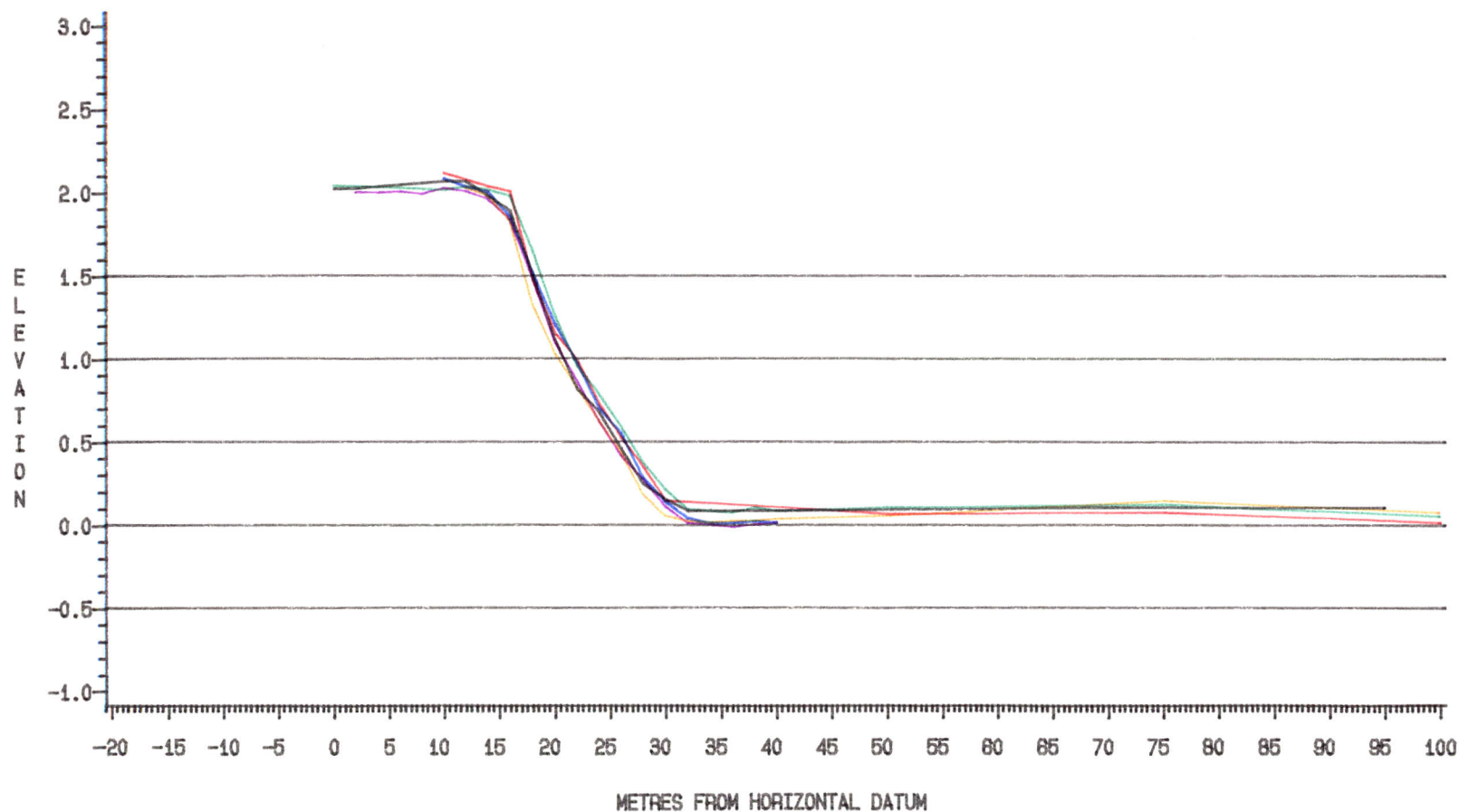
JANUARY 1982
JUNE 1982
JANUARY 1983
AUGUST 1983
AUGUST 1984
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI

BEACH PROFILE: BAIRIKI 4

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

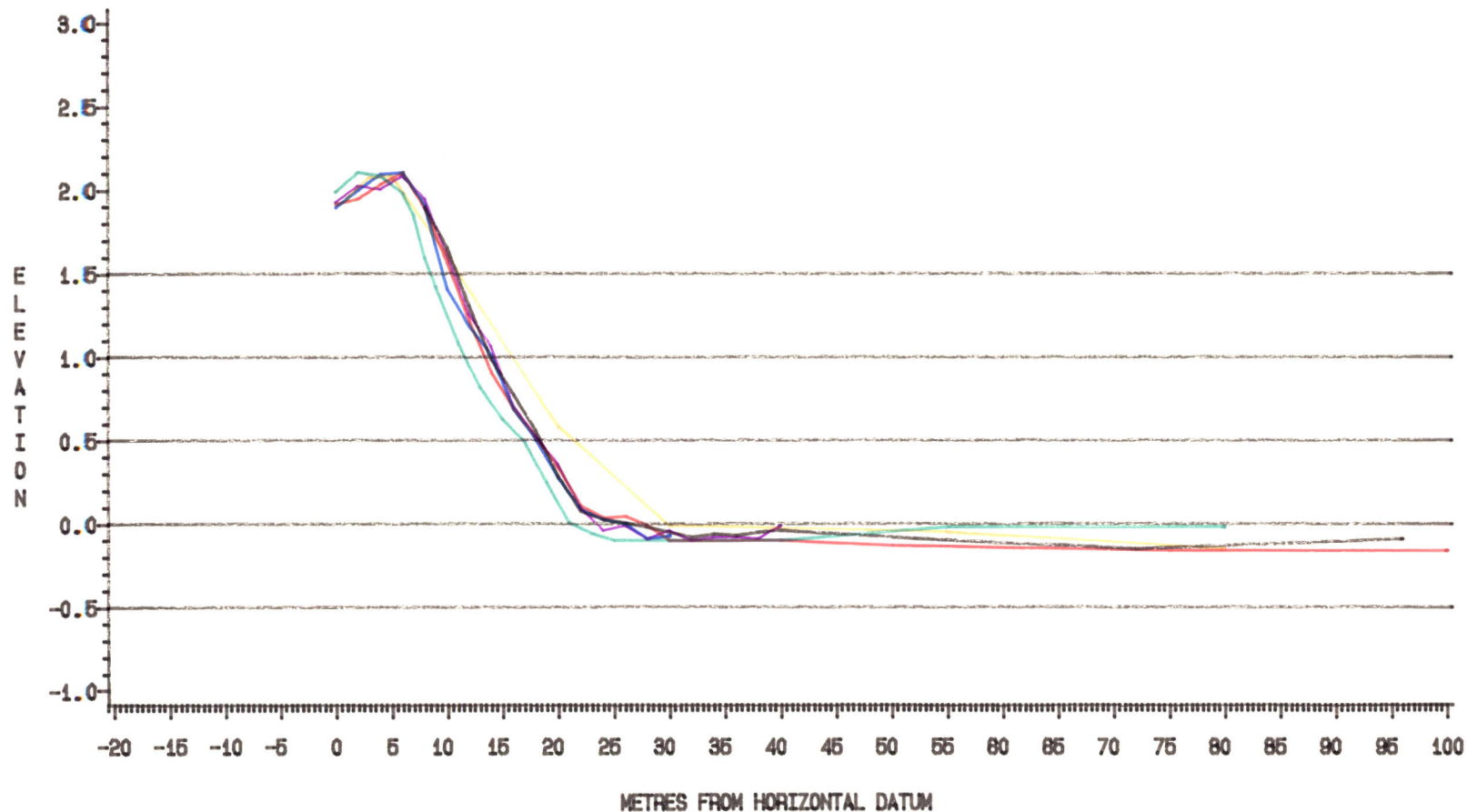
AUGUST 1984

JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BAIRIKI 5

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

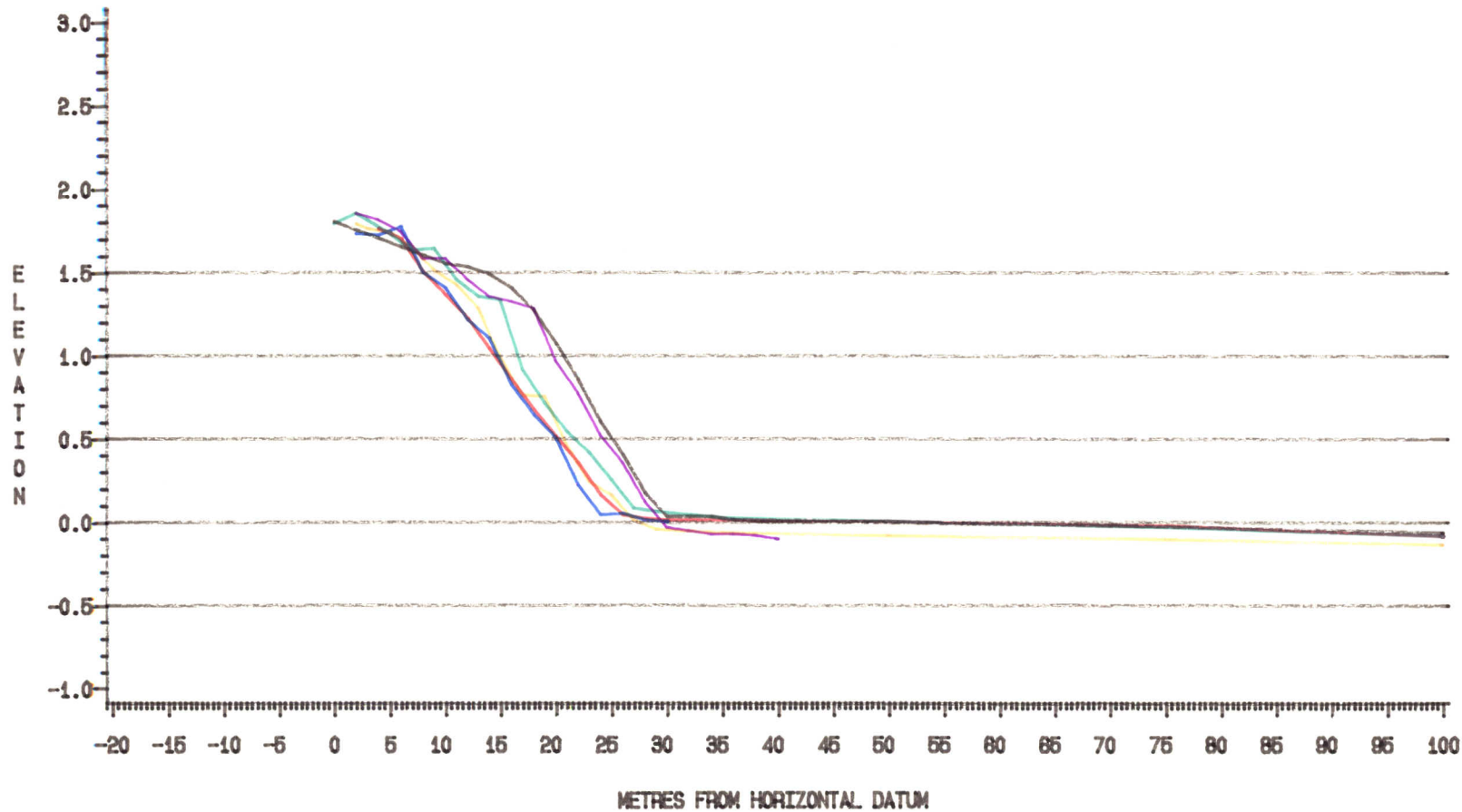
AUGUST 1983

AUGUST 1984

JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

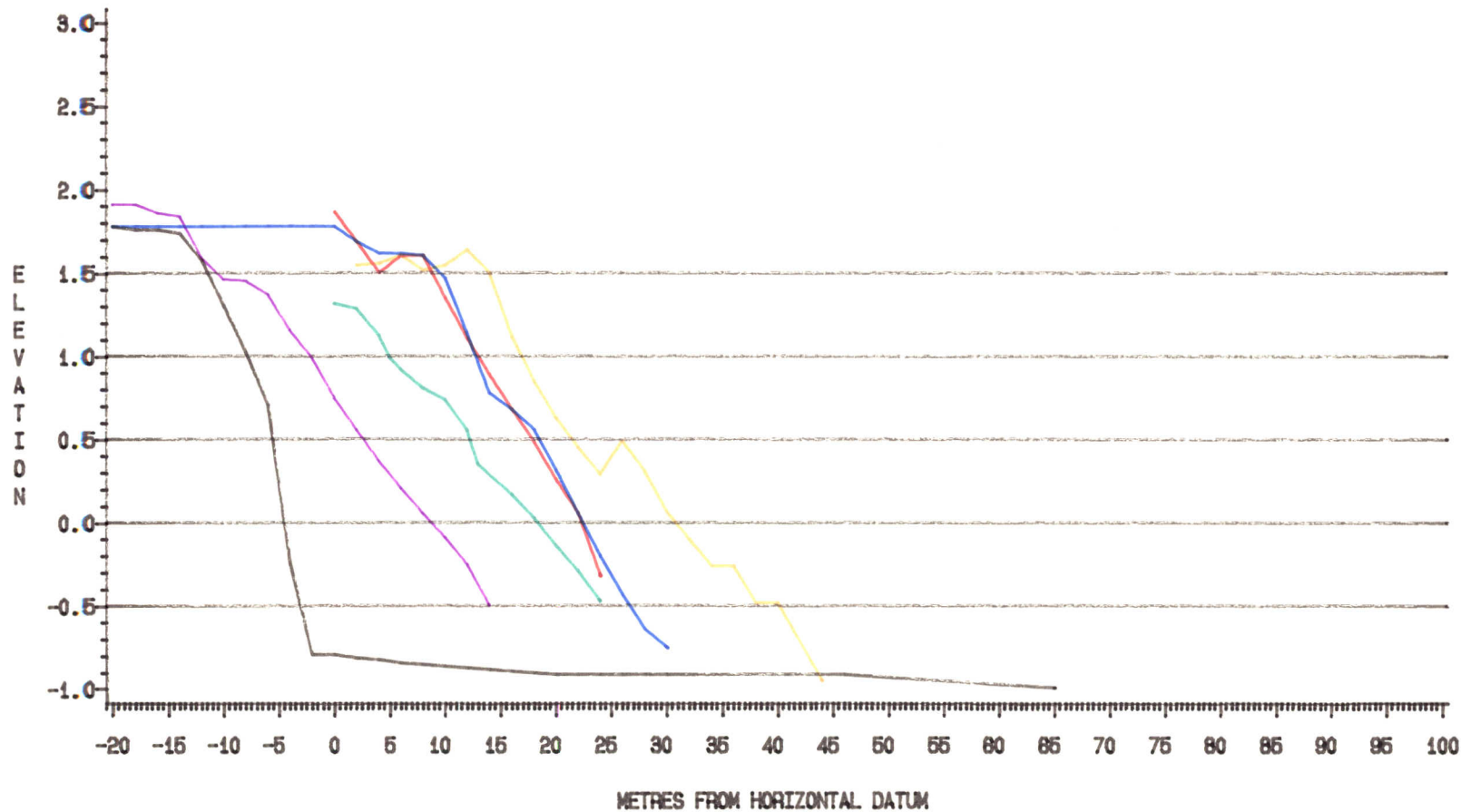
SOUTH TARAWA, KIRIBATI BEACH PROFILE: BAIRIKI 6 JANUARY 1982 – JULY 1985



JANUARY 1982
JUNE 1982
JANUARY 1983
AUGUST 1983
AUGUST 1984
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BAIRIKI 7 JANUARY 1982 – JULY 1985

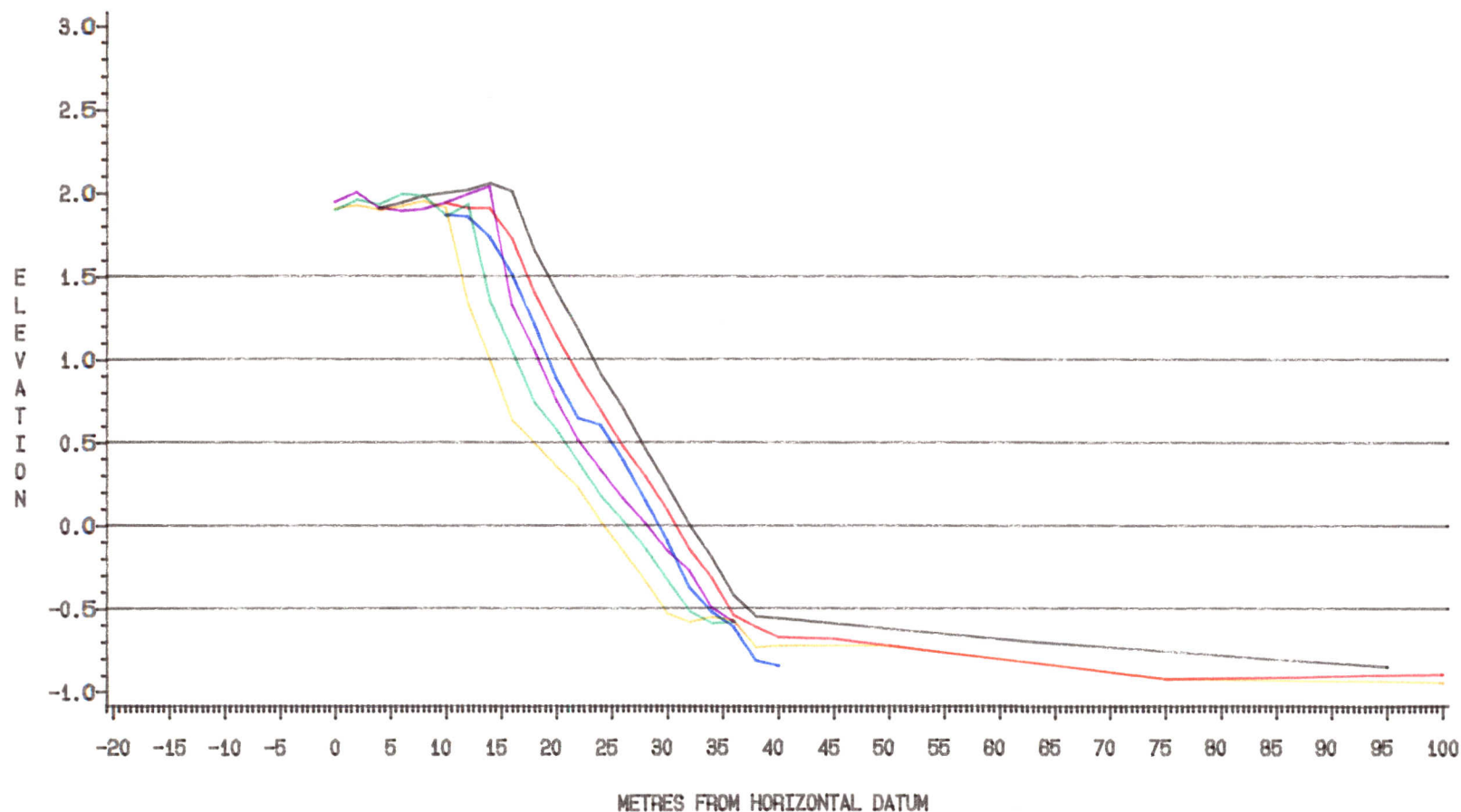


JANUARY 1982
JUNE 1982
JANUARY 1983
AUGUST 1983
AUGUST 1984
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BAIRIKI 8

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

AUGUST 1984

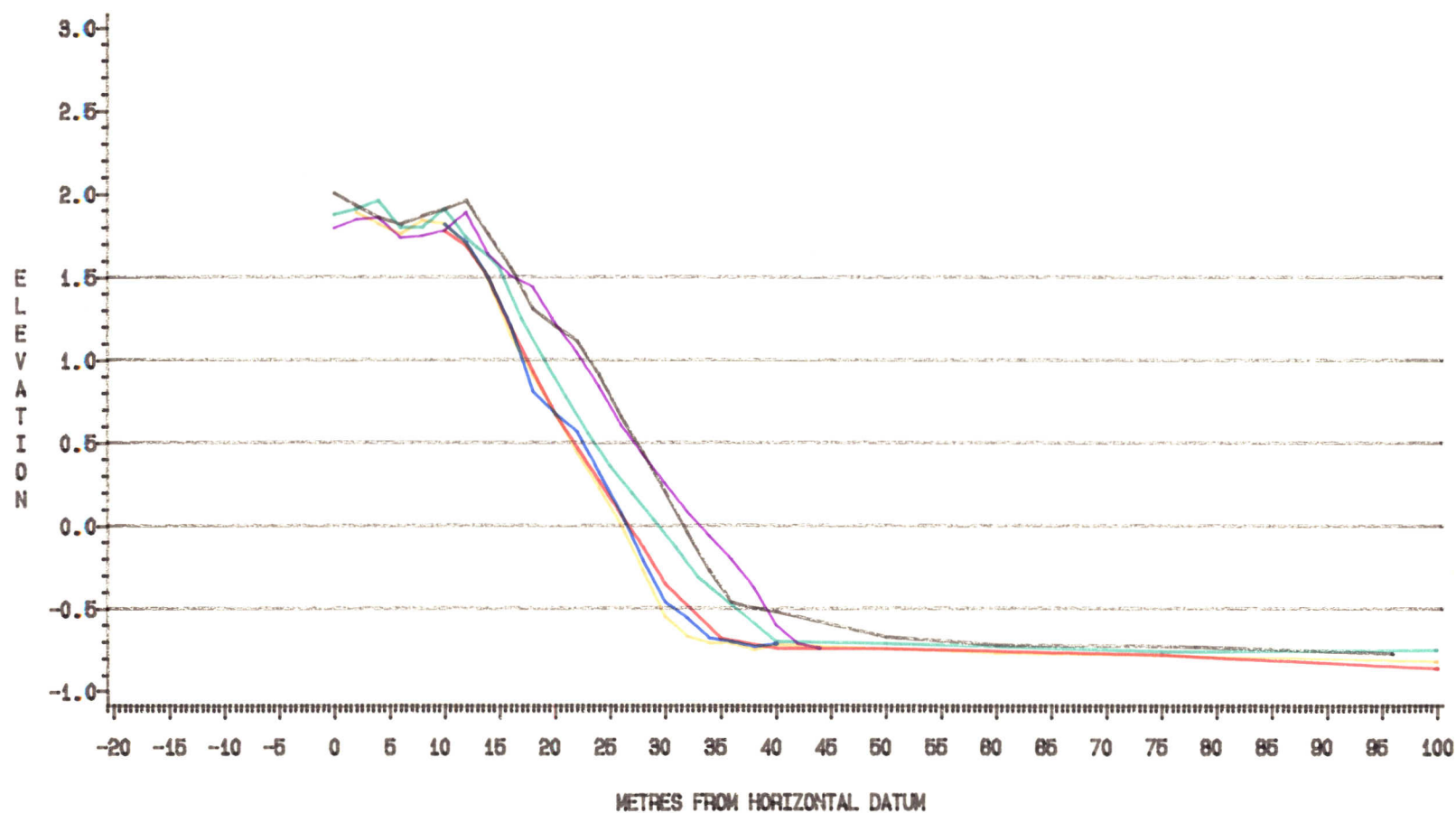
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI

BEACH PROFILE: BAIRIKI 9

JANUARY 1982 – JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

AUGUST 1984

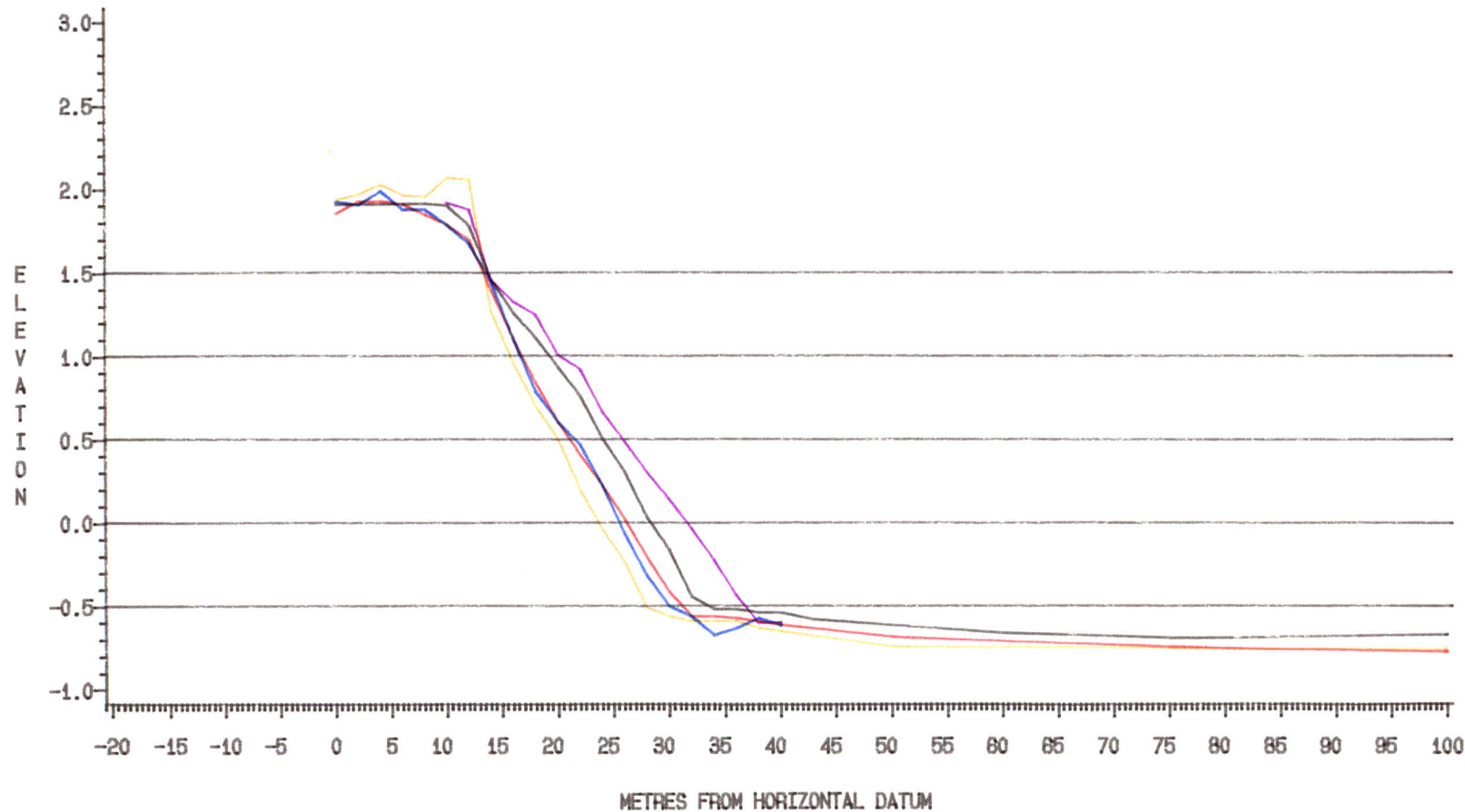
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI

BEACH PROFILE: BAIRIKI 10

JANUARY 1982 – JULY 1985

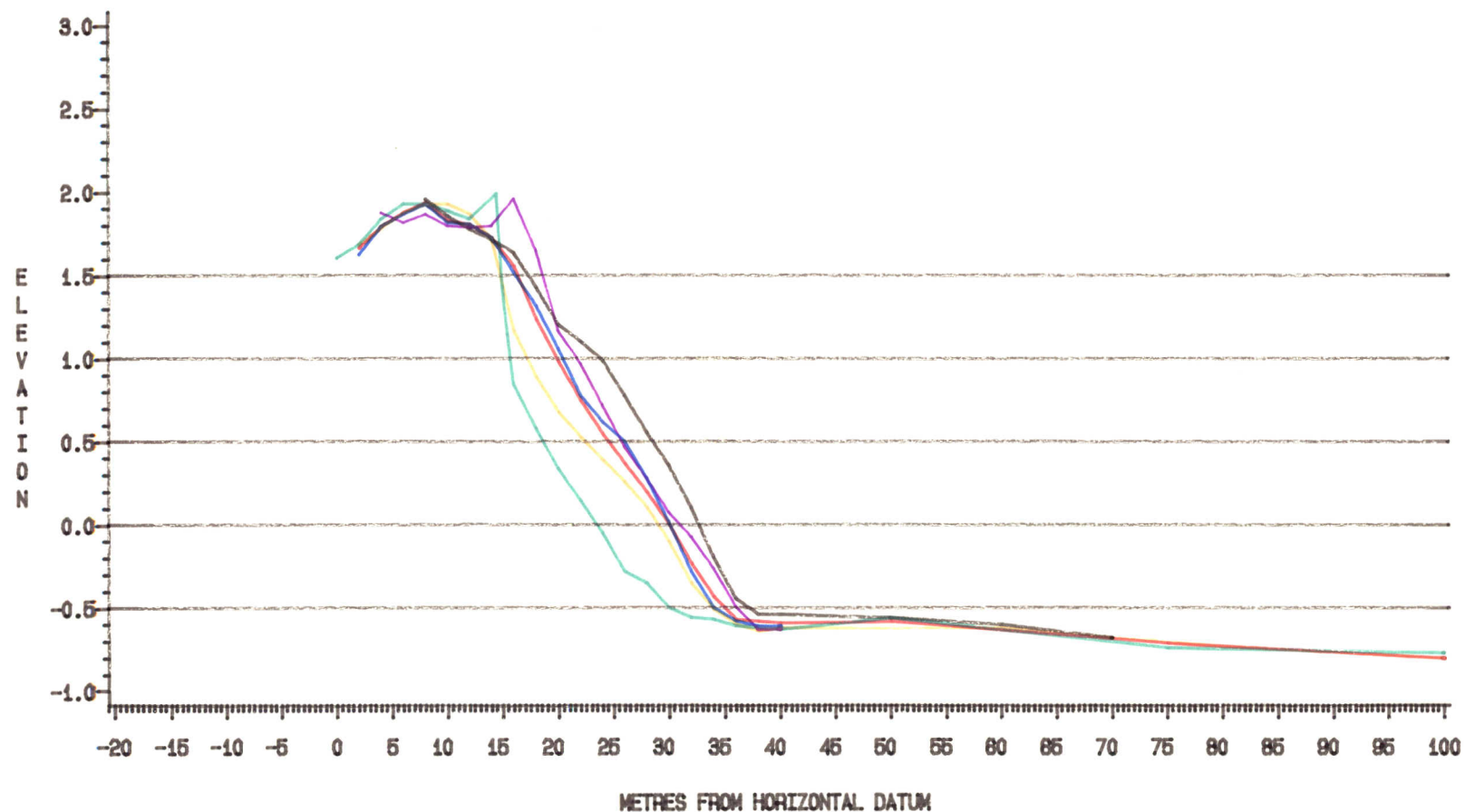


JANUARY 1982
JUNE 1982
JANUARY 1983
AUGUST 1983
AUGUST 1984
JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

SOUTH TARAWA, KIRIBATI BEACH PROFILE: BAIRIKI 11

JANUARY 1982 - JULY 1985



JANUARY 1982

JUNE 1982

JANUARY 1983

AUGUST 1983

AUGUST 1984

JULY 1985

ELEVATION = HEIGHT ABOVE MEAN SEA LEVEL

APPENDIX

Compilation of data for all beach profiles

Note that for each beach profile data is set out as follows:

- Column 1: Distance seaward of horizontal datum.
- 2: January 1982 survey.
 - 3: June 1982 survey.
 - 4: January 1983 survey.
 - 5: August 1983 survey.
 - 6: August 1984 survey.
 - 7: July 1985 survey.

All heights are given as metres above mean sea level.

BLP 13

BETIO PROFILE 1

0.0	2.04	2.06	2.08	2.01	2.08	.
0.5	.	.	.	.	2.06	.
1.0	.	.	.	.	2.01	.
2.0	1.77	1.86	1.61	1.58	1.81	1.48
2.5	.	.	.	.	1.74	.
3.0	.	.	.	.	1.59	.
4.0	1.45	1.44	1.26	1.27	.	1.20
5.0	.	.	.	.	1.19	.
6.0	1.11	1.18	0.89	0.93	.	0.89
7.0	.	.	.	.	0.92	.
8.0	0.78	0.83	0.58	0.63	.	0.63
9.0	.	.	.	.	0.66	.
10.0	0.53	0.63	0.36	0.42	.	0.42
11.0	.	.	.	.	0.46	.
12.0	0.33	0.35	0.18	0.24	.	0.18
13.0	.	.	.	.	0.27	.
14.0	0.07	0.12	0.00	0.04	0.19	0.01
15.0	.	.	.	.	0.11	.
16.0	-0.05	-0.04	-0.09	-0.13	0.02	-0.12
18.0	-0.15	-0.15	-0.19	-0.25	-0.19	-0.22
20.0	-0.24	-0.20	-0.24	-0.28	-0.33	-0.27
22.0	-0.29	-0.27	-0.26	-0.34	.	-0.32
24.0	-0.34	-0.32	-0.29	-0.34	.	-0.36
25.0	.	.	.	.	-0.38	.
26.0	-0.36	-0.33	-0.32	-0.34	.	-0.37
28.0	-0.37	-0.38	-0.34	-0.31	.	-0.37
30.0	-0.37	-0.38	-0.36	-0.36	-0.36	-0.36
32.0	.	.	-0.36	.	.	-0.37
34.0	.	.	-0.36	.	.	-0.38
35.0	-0.39	.	.	.	-0.35	.
36.0	.	.	-0.36	.	.	-0.38
38.0	.	.	-0.36	.	.	-0.38
40.0	.	.	-0.36	.	.	-0.38
45.0	-0.39	.	.	.	-0.39	.
60.0	-0.36	.	.	.	-0.35	-0.36
62.0	.	.	-0.32	.	.	.
80.0	-0.36	.	.	.	-0.34	-0.32
81.0	.	.	-0.35	.	.	.
97.0	.	.	-0.29	.	.	.
100.0	-0.33	.	.	.	-0.33	-0.34

BLP 14

BETIO PROFILE 2

0.0	2.00	1.90	1.86	1.72	1.78	.
2.0	2.11	2.02	1.91	1.84	1.82	.
4.0	2.11	2.04	1.98	1.97	1.98	.
6.0	2.26	2.13	2.11	1.99	2.04	.
8.0	2.03	1.96	2.06	1.99	2.00	.
9.0	.	.	.	.	1.81	.
10.0	1.52	1.47	1.84	1.93	1.67	.
11.0	.	.	.	.	1.58	1.93
12.0	1.25	1.17	1.41	1.25	1.45	.
13.0	.	.	.	.	1.29	1.62
14.0	0.91	0.86	1.11	0.95	.	.
15.0	.	.	.	.	0.95	1.32
16.0	0.54	0.53	0.81	0.68	.	.
17.0	.	.	.	.	0.68	0.93
18.0	0.29	0.31	0.66	0.38	.	.
19.0	.	.	.	.	0.41	0.61
20.0	0.06	0.09	0.41	0.17	.	.
21.0	.	.	.	.	0.20	0.33
22.0	-0.15	-0.15	0.23	-0.05	.	.
23.0	.	.	.	.	0.00	0.07
24.0	-0.26	-0.26	0.06	-0.22	.	.
25.0	.	.	.	.	-0.19	-0.15
26.0	-0.32	-0.33	0.01	-0.36	.	.
27.0	.	.	.	.	-0.34	-0.29
28.0	-0.42	-0.41	-0.04	-0.48	.	.
29.0	.	.	.	.	-0.47	-0.40
30.0	-0.46	-0.45	-0.11	-0.49	-0.50	.
31.0	.	.	.	.	.	-0.48
32.0	.	-0.49	-0.17	-0.55	.	.
33.0	.	.	.	.	.	-0.55
34.0	.	-0.52	-0.22	-0.53	.	.
35.0	-0.47	.	.	.	-0.56	-0.59
36.0	.	-0.54	-0.29	-0.55	.	-0.60
38.0	.	-0.52	-0.29	-0.55	.	-0.60
40.0	.	-0.52	-0.29	-0.53	.	-0.60
50.0	-0.47	.	.	.	-0.53	-0.54
52.0	.	.	-0.30	.	.	.
60.0	.	.	.	.	.	-0.56
64.0	.	.	-0.29	.	.	.
75.0	-0.53	.	.	.	-0.60	-0.64
82.0	.	.	-0.23	.	.	.
90.0	.	.	.	.	.	-0.60
95.0	.	.	-0.33	.	.	.
100.0	-0.56	.	.	.	-0.63	.

BLP 15

BETIO PROFILE 3

0.0	1.99	2.00	.	1.91	2.07	.
1.0	.	.	.	.	2.08	.
2.0	1.99	2.04	.	2.01	2.03	2.07
3.0	.	.	.	.	2.06	.
3.5	.	.	.	.	2.05	.
4.0	2.02	2.02	2.14	2.02	2.05	.
4.5	.	.	.	.	2.02	.
5.0	.	.	.	.	1.97	.
5.5	.	.	.	.	1.96	.
6.0	1.75	1.88	1.98	1.89	1.91	1.95
7.0	.	.	.	.	1.83	.
8.0	1.44	1.43	1.68	1.49	1.63	1.99
10.0	1.02	1.15	1.28	1.15	1.20	1.32
12.0	0.72	0.72	0.93	0.75	0.88	0.90
14.0	0.38	0.41	0.66	0.47	0.63	0.59
15.0	.	.	.	.	0.46	.
16.0	0.11	0.17	0.36	0.24	0.35	0.36
17.0	.	.	.	.	0.24	.
18.0	-0.07	-0.06	0.13	0.01	0.14	0.14
19.0	.	.	.	.	0.03	.
20.0	-0.17	-0.18	-0.06	-0.13	-0.02	0.08
22.0	-0.26	-0.25	-0.14	-0.24	-0.15	-0.18
24.0	-0.35	-0.32	-0.22	-0.33	-0.25	-0.24
26.0	-0.32	-0.34	-0.26	-0.35	-0.30	-0.29
28.0	-0.35	-0.34	-0.28	-0.31	.	-0.29
30.0	-0.38	-0.36	-0.31	-0.33	-0.26	-0.29
32.0	.	.	.	.	.	-0.25
34.0	.	.	.	.	.	-0.31
36.0	.	.	.	.	.	-0.23
38.0	.	.	.	.	.	-0.24
40.0	-0.29	.	-0.18	.	-0.21	-0.23
50.0	-0.29	.	.	.	-0.18	.
58.0	.	.	-0.12	.	.	.
60.0	.	.	.	.	.	-0.19
75.0	-0.35	.	.	.	-0.19	.
80.0	.	.	.	.	.	-0.26
86.0	.	.	-0.12	.	.	.
100.0	-0.32	.	-0.23	.	-0.25	-0.29

BLP 16

BETIO PROFILE 4

0.0	1.91	1.95	.	1.95	1.97	.
2.0	2.00	2.00	.	2.01	2.01	2.01
4.0	2.06	2.03	.	2.02	1.98	1.99
6.0	2.03	1.98	.	2.01	2.05	2.03
8.0	2.09	2.10	2.13	2.12	2.10	2.07
10.0	2.06	2.09	2.13	2.17	2.18	2.17
11.0	.	.	.	.	2.23	.
11.5	.	.	.	.	2.14	.
12.0	1.82	1.79	1.97	1.94	1.97	2.03
12.5	.	.	.	.	1.93	.
13.0	.	.	.	.	1.91	.
14.0	1.41	1.42	1.64	1.52	.	1.72
15.0	.	.	.	.	1.38	.
16.0	1.00	1.00	1.31	1.18	.	1.27
17.0	.	.	.	.	1.02	.
18.0	0.79	0.68	0.86	0.81	0.88	0.88
19.0	.	.	.	.	0.76	.
20.0	0.42	0.38	0.49	0.49	0.60	0.58
21.0	.	.	.	.	0.45	.
22.0	0.06	0.14	0.28	0.29	0.31	0.34
23.0	.	.	.	.	0.22	.
24.0	-0.06	-0.06	0.11	0.05	.	0.12
25.0	.	.	.	.	-0.05	.
26.0	-0.18	-0.19	-0.06	-0.12	.	-0.10
27.0	.	.	.	.	-0.14	.
28.0	-0.22	-0.22	-0.15	-0.13	.	-0.19
30.0	-0.19	-0.17	-0.14	-0.20	-0.18	-0.23
32.0	.	.	-0.14	-0.23	.	-0.25
34.0	.	.	-0.14	-0.26	.	-0.26
36.0	.	.	-0.14	-0.18	.	-0.20
38.0	.	.	-0.14	-0.19	.	-0.16
40.0	-0.15	.	-0.14	-0.17	.	-0.22
48.0	.	.	-0.31	.	.	.
50.0	-0.22	.	.	.	-0.21	.
53.0	.	.	-0.16	.	.	.
60.0	.	.	-0.27	.	.	-0.31
66.0	.	.	-0.33	.	.	.
71.0	.	.	-0.46	.	.	.
75.0	-0.34	.	.	.	-0.33	.
80.0	.	.	.	.	.	-0.32
81.0	.	.	-0.19	.	.	.
93.0	.	.	-0.33	.	.	.
100.0	-0.40	.	.	.	-0.44	-0.48

BLP 17

BETIO PROFILE 5

0.0	1.86	1.89	.	1.83	1.59	.
1.0	.	.	.	.	1.82	.
2.0	1.86	1.89	1.88	1.87	1.87	1.95
3.0	.	.	.	.	2.01	.
4.0	2.07	2.09	2.00	2.11	2.12	2.15
5.0	.	.	.	.	2.06	.
5.5	.	.	.	.	1.88	.
6.0	1.95	1.81	1.76	1.70	1.82	1.85
6.5	.	.	.	.	1.69	.
7.0	.	.	.	.	1.66	.
7.5	.	.	.	.	1.67	.
8.0	1.51	1.38	1.39	1.33	1.64	1.60
10.0	1.16	1.09	1.01	1.01	1.37	1.14
12.0	0.83	0.73	0.69	0.72	1.01	0.80
14.0	0.56	0.45	0.41	0.43	0.71	0.55
16.0	0.44	0.24	0.21	0.23	0.48	0.33
17.0	.	.	.	.	0.40	.
17.5	.	.	.	.	0.32	.
18.0	0.09	-0.05	0.01	0.04	.	0.11
19.0	.	.	.	.	0.15	.
20.0	-0.23	-0.26	-0.19	-0.21	0.05	-0.14
21.0	.	.	.	.	-0.05	.
22.0	-0.32	-0.37	-0.31	-0.36	.	-0.36
23.0	.	.	.	.	-0.27	.
24.0	-0.42	-0.42	-0.41	-0.37	.	-0.41
25.0	.	.	.	.	-0.40	.
26.0	-0.47	-0.45	-0.42	-0.40	.	-0.48
28.0	-0.47	-0.46	-0.43	-0.45	.	-0.45
30.0	-0.47	-0.48	-0.44	-0.47	-0.45	-0.47
32.0	.	.	.	.	.	-0.47
34.0	.	.	.	.	.	-0.50
36.0	.	.	.	.	.	-0.49
38.0	.	.	-0.45	.	.	-0.50
50.0	-0.47	.	.	.	-0.43	.
57.0	.	.	-0.37	.	.	.
60.0	.	.	.	.	.	-0.38
75.0	-0.44	.	.	.	-0.45	.
80.0	.	.	.	.	.	-0.36
89.0	.	.	-0.55	.	.	.
92.0	.	.	-0.40	.	.	.
100.0	-0.53	.	.	.	-0.45	-0.35

BLP 18

BETIO PROFILE 6

0.0	.	.	.	.	2.08	.
2.0	2.02	.	2.06	.	2.19	.
4.0	.	.	.	.	.	2.03
6.0	.	.	.	.	.	2.02
8.0	2.02	.	.	.	2.05	1.72
10.0	1.84	1.78	.	1.91	1.88	1.21
12.0	1.84	1.81	2.01	1.93	2.00	0.88
12.5	.	.	.	.	2.02	.
13.0	.	.	.	.	2.03	.
13.5	.	.	.	.	2.01	.
14.0	1.57	1.46	1.94	2.02	1.61	0.60
15.0	.	.	.	.	1.30	.
16.0	1.16	1.17	1.76	1.82	.	0.36
17.0	.	.	.	.	0.97	.
18.0	0.91	0.80	1.58	1.71	.	0.11
19.0	.	.	.	.	0.76	.
20.0	0.65	0.57	1.44	1.50	.	-0.08
21.0	.	.	.	.	0.57	.
22.0	0.35	0.34	1.26	1.12	0.41	-0.18
23.0	.	.	.	.	0.30	.
24.0	0.14	0.14	1.06	0.82	0.21	-0.25
25.0	.	.	.	.	0.14	.
26.0	-0.01	-0.06	0.91	0.59	0.06	-0.33
27.0	.	.	.	.	-0.01	.
28.0	-0.17	-0.16	0.73	0.43	.	-0.38
30.0	-0.32	-0.29	0.56	0.12	-0.19	-0.41
32.0	-0.34	-0.43	0.41	0.00	.	-0.45
34.0	-0.36	-0.46	0.21	-0.15	.	-0.44
36.0	-0.38	-0.43	-0.02	-0.26	.	-0.43
38.0	-0.40	-0.35	-0.26	-0.34	.	-0.47
40.0	-0.41	-0.33	-0.34	-0.36	-0.34	-0.36
42.0	.	.	.	-0.44	.	.
44.0	.	.	-0.31	-0.37	.	.
46.0	.	.	.	-0.38	.	.
48.0	.	.	-0.44	-0.37	.	.
50.0	-0.38	.	.	-0.45	-0.49	.
55.0	.	.	-0.42	.	.	.
60.0	.	.	.	.	.	-0.51
64.0	.	.	-0.33	.	.	.
70.0	.	.	-0.39	.	.	.
75.0	-0.47	.	.	.	-0.48	.
77.0	.	.	-0.33	.	.	.
80.0	.	.	.	.	.	-0.49
89.0	.	.	-0.53	.	.	.
100.0	-0.53	.	.	.	-0.53	-0.52

BLP 19

BETIO PROFILE 7

0.0	1.35	1.34	.	1.29	1.37	.
2.0	1.37	1.35	.	.	.	1.34
4.0	1.39	1.40	.	.	.	1.37
5.0	.	.	.	.	1.43	.
6.0	1.43	1.43	.	.	.	1.42
8.0	1.47	1.48	.	.	.	1.44
10.0	1.50	1.51	1.61	1.44	1.59	1.51
12.0	1.59	1.63	1.76	1.56	.	1.63
14.0	1.79	1.81	1.86	1.70	.	1.77
15.0	.	.	.	.	1.91	.
16.0	2.00	2.00	1.98	1.97	.	1.91
17.0	.	.	.	.	2.11	.
18.0	2.17	2.21	2.01	2.16	.	2.04
19.0	.	.	.	.	2.23	.
20.0	2.24	2.27	2.06	2.22	.	2.24
21.0	.	.	.	.	2.35	.
22.0	2.27	2.35	2.10	2.30	.	2.29
24.0	2.27	2.33	2.12	1.79	2.33	2.20
25.0	.	.	.	.	2.08	.
26.0	2.01	2.04	1.86	1.69	.	1.82
27.0	.	.	.	.	1.76	.
28.0	1.77	1.69	1.46	1.44	.	1.46
29.0	.	.	.	.	1.48	.
30.0	1.48	1.39	1.13	1.18	.	1.17
31.0	.	.	.	.	1.28	.
32.0	1.25	1.12	0.91	0.92	.	0.94
33.0	.	.	.	.	1.09	.
34.0	1.01	0.86	0.84	0.76	.	0.74
35.0	.	.	.	.	0.89	.
36.0	0.76	0.65	0.48	0.53	.	0.56
37.0	.	.	.	.	0.69	.
38.0	0.54	0.41	0.31	0.39	.	0.40
39.0	.	.	.	.	0.54	.
40.0	0.30	0.24	0.08	0.19	.	0.25
41.0	.	.	.	.	0.38	.
42.0	.	0.05	-0.13	0.09	.	.
44.0	.	-0.14	0.01	-0.07	.	.
45.5	.	.	-0.34	.	-0.07	.
46.0	.	-0.09	.	-0.11	.	.
48.0	.	-0.37	-0.06	-0.18	.	.
50.0	.	.	.	-0.23	.	.
53.0	.	.	-0.44	.	.	.
60.0	.	.	.	.	.	-0.53
64.0	-0.66	.	-0.67	.	-0.56	.
70.0	-0.71	.	-0.72	.	-0.67	.
80.0	-0.81	.	.	.	-0.80	-0.79
85.0	.	.	-0.80	.	.	.
90.0	-0.87	.	.	.	-0.79	.
93.0	.	.	-0.81	.	.	.
100.0	-0.90	.	.	.	-0.83	-0.86

BLP 20

BETIO PROFILE 8

0.0	1.52	1.52	1.70	.	1.98	.
2.0	1.53	1.54	1.76	.	1.96	1.58
4.0	1.56	1.60	1.86	.	1.89	1.65
6.0	1.76	1.78	1.94	2.00	1.69	1.85
8.0	1.90	1.95	2.01	1.90	1.27	1.93
10.0	1.98	2.02	2.04	1.80	0.99	1.97
12.0	1.98	2.07	2.01	1.89	0.81	1.98
14.0	1.86	1.77	2.00	1.84	0.62	1.86
15.0	.	.	.	.	0.55	.
16.0	1.53	1.35	1.95	1.26	.	1.64
18.0	1.33	1.03	1.91	0.92	0.26	1.24
20.0	1.09	0.73	1.86	0.69	0.09	0.97
22.0	0.87	0.55	1.71	0.45	-0.06	0.75
24.0	0.56	0.36	1.36	0.27	-0.21	0.56
26.0	0.09	0.21	1.06	0.12	-0.35	0.37
28.0	0.01	0.09	0.81	0.00	-0.44	0.21
30.0	-0.07	-0.06	0.54	-0.12	-0.50	0.07
32.0	-0.23	-0.19	0.36	-0.26	-0.55	-0.05
34.0	-0.40	-0.37	0.21	-0.29	-0.62	-0.17
36.0	-0.47	-0.46	0.06	-0.47	-0.70	-0.31
38.0	-0.55	-0.51	-0.14	-0.56	-0.70	-0.42
40.0	-0.52	-0.55	-0.34	-0.64	-0.62	-0.42
45.0	-0.62	.	.	.	-0.62	.
50.0	-0.59	.	-0.68	.	.	.
60.0	.	.	-0.60	.	.	-0.69
70.0	.	.	-0.71	.	.	.
75.0	-0.71	.	.	.	-0.71	.
80.0	.	.	.	.	.	-0.77
83.0	.	.	-0.70	.	.	.
100.0	-0.74	.	-0.66	.	-0.67	-0.68

BLP 21

BETIO PROFILE 9

0.0	2.03	2.02	.	1.98	2.04	.
2.0	2.06	2.12	.	2.04	1.97	.
4.0	2.01	2.02	.	1.89	1.92	2.06
6.0	1.99	1.96	2.14	1.83	1.92	2.06
8.0	1.91	1.93	2.08	1.85	.	.
9.0	.	.	.	.	1.86	.
10.0	1.75	1.76	2.04	1.81	1.81	1.98
11.0	.	.	.	.	1.50	.
12.0	1.34	1.40	1.97	1.73	1.27	1.93
14.0	1.10	1.08	1.62	1.59	0.99	1.92
16.0	0.83	0.72	1.37	1.05	0.79	1.84
18.0	0.61	0.53	1.07	0.77	0.59	1.58
20.0	0.36	0.33	0.77	0.56	0.44	1.21
22.0	0.14	0.18	0.54	0.35	0.24	0.96
24.0	-0.07	0.06	0.34	0.20	0.09	0.74
25.0	.	.	.	.	0.01	.
26.0	-0.28	-0.07	0.12	0.04	.	0.55
27.0	.	.	.	.	-0.12	.
28.0	-0.40	-0.18	-0.06	-0.09	.	0.38
29.0	.	.	.	.	-0.25	.
30.0	-0.46	-0.44	-0.28	-0.20	.	0.23
31.0	.	.	.	.	-0.36	.
32.0	-0.50	-0.52	-0.43	-0.34	.	0.10
34.0	-0.54	-0.56	-0.50	-0.48	.	-0.03
35.0	.	.	.	.	-0.53	.
36.0	-0.56	-0.59	-0.58	-0.58	.	-0.16
38.0	-0.58	-0.60	-0.62	-0.64	.	-0.29
40.0	-0.59	-0.57	-0.62	-0.69	-0.61	-0.45
50.0	-0.62	.	.	.	-0.71	.
53.0	.	.	-0.66	.	.	.
60.0	.	.	.	.	.	-0.68
70.0	.	.	-0.72	.	.	.
75.0	-0.76	.	.	.	-0.77	.
80.0	.	.	.	.	.	-0.73
88.0	.	.	-0.78	.	.	.
100.0	-0.80	.	.	.	-0.73	-0.75

BLP 22

BETIO PROFILE 10

0.0	.	.	1.77	.	1.96	.
2.0	.	.	1.76	.	.	2.17
4.0	.	.	1.75	.	.	2.06
6.0	.	.	1.74	.	.	1.90
8.0	.	.	1.73	.	1.91	1.88
10.0	1.76	1.77	1.67	1.73	1.91	1.85
12.0	.	.	1.72	1.72	1.88	1.81
14.0	.	.	1.71	1.71	1.89	1.81
16.0	.	.	1.70	1.74	1.94	1.85
18.0	.	.	1.69	1.83	2.00	1.95
20.0	1.79	1.78	1.69	1.89	1.98	1.94
22.0	1.84	1.78	1.61	1.80	1.93	1.91
23.0	.	.	.	.	1.91	.
24.0	1.55	1.62	1.41	1.61	1.71	1.80
25.0	.	.	.	.	1.53	.
26.0	1.20	1.28	1.19	1.23	.	1.62
27.0	.	.	.	.	1.26	.
28.0	0.89	1.01	1.01	0.96	.	1.19
29.0	.	.	.	.	1.00	.
30.0	0.69	0.66	0.76	0.73	.	0.89
31.0	.	.	.	.	0.80	.
32.0	0.38	0.40	0.54	0.50	.	0.65
33.0	.	.	.	.	0.62	.
34.0	0.18	0.22	0.28	0.30	.	0.44
35.0	.	.	.	.	0.42	.
36.0	0.02	0.02	0.01	0.13	.	0.26
37.0	.	.	.	.	0.24	.
38.0	-0.16	-0.13	-0.14	-0.04	.	0.08
39.0	.	.	.	.	0.04	.
40.0	-0.36	-0.30	-0.38	-0.19	.	-0.09
41.0	.	.	.	.	-0.23	.
42.0	.	-0.43	-0.60	-0.30	.	.
43.0	-0.58	.	.	.	-0.26	.
44.0	.	-0.54	-0.64	-0.44	.	.
45.0	-0.64	.	.	.	-0.35	.
46.0	.	-0.60	.	-0.68	.	.
47.0	-0.58	.	.	.	-0.48	.
48.0	.	-0.60	.	-0.66	.	.
50.0	-0.61	.	.	-0.65	-0.48	.
60.0	.	.	.	.	.	-0.57
63.0	.	.	-0.70	.	.	.
72.0	.	.	-0.74	.	.	.
75.0	-0.70	.	.	.	-0.57	.
80.0	.	.	.	.	.	-0.55
84.0	.	.	-0.68	.	.	.
100.0	-0.67	.	.	.	-0.55	-0.61

BLP 23

BETIO PROFILE 11

0.0	2.23	2.21	2.20	2.24	2.22	.
1.0	.	.	.	.	2.24	.
2.0	2.09	2.10	2.16	2.11	2.12	2.32
3.0	.	.	.	.	2.13	.
4.0	1.92	1.98	2.06	2.00	2.01	2.02
5.0	.	.	.	.	1.84	.
6.0	1.75	1.74	1.76	1.69	1.56	1.75
7.0	.	.	.	.	1.26	.
8.0	1.45	1.44	1.68	1.17	1.11	1.27
10.0	1.16	1.10	1.16	0.89	0.90	0.96
12.0	0.90	0.79	0.91	0.63	0.75	0.75
14.0	0.69	0.57	0.61	0.40	0.61	0.54
16.0	0.42	0.36	0.28	0.25	0.39	0.34
18.0	0.20	0.19	0.11	0.08	0.25	0.15
20.0	0.01	0.04	-0.08	-0.04	0.07	0.02
22.0	-0.21	-0.10	-0.29	-0.17	-0.11	-0.11
24.0	-0.42	-0.22	-0.51	-0.32	-0.31	-0.26
26.0	-0.54	-0.39	-0.54	-0.47	-0.40	-0.44
28.0	-0.54	-0.50	-0.52	-0.50	-0.55	-0.58
30.0	-0.52	-0.53	-0.52	-0.53	-0.56	-0.60
32.0	.	.	-0.52	-0.52	.	-0.60
34.0	.	.	-0.52	-0.52	.	-0.59
36.0	.	.	-0.52	-0.54	.	-0.57
38.0	.	.	-0.52	-0.53	.	-0.57
40.0	.	.	-0.52	-0.53	.	-0.54
50.0	-0.58	.	.	.	-0.59	.
60.0	.	.	.	.	.	-0.61
61.0	.	.	-0.53	.	.	.
75.0	-0.54	.	-0.53	.	-0.62	.
80.0	.	.	.	.	.	-0.57
90.0	.	.	-0.45	.	.	.
100.0	-0.54	.	.	.	-0.56	-0.59

BLP 24

BETIO PROFILE 12

0.0	1.88	1.67	1.94	1.87	1.89	.
2.0	1.95	1.75	1.96	1.95	1.97	1.87
4.0	1.97	1.75	1.98	1.94	1.94	1.95
6.0	1.90	1.64	2.00	1.91	1.95	1.92
6.5	.	.	.	.	1.89	.
7.0	.	.	.	.	1.85	.
7.5	.	.	.	.	1.72	.
8.0	1.57	1.49	1.71	1.53	1.67	1.79
9.0	.	.	.	.	1.50	.
10.0	1.41	1.17	1.41	1.15	1.32	1.49
11.0	.	.	.	.	1.16	.
12.0	1.10	0.91	1.11	0.86	1.03	1.16
14.0	0.71	0.60	0.81	0.63	0.81	0.87
16.0	0.57	0.39	0.51	0.43	0.65	0.65
18.0	0.27	0.14	0.26	0.30	0.43	0.46
20.0	0.02	-0.05	0.01	0.08	0.25	0.28
22.0	-0.13	-0.28	-0.09	-0.07	0.08	0.11
24.0	-0.17	-0.37	-0.12	-0.20	-0.09	-0.09
26.0	-0.22	-0.39	-0.14	-0.22	-0.25	-0.20
28.0	-0.22	-0.35	-0.16	-0.23	-0.25	-0.26
30.0	-0.16	-0.32	-0.18	-0.23	-0.26	-0.25
32.0	.	.	-0.18	-0.24	.	-0.27
34.0	.	.	-0.18	-0.23	.	-0.26
36.0	.	.	-0.19	-0.24	.	-0.26
38.0	.	.	-0.19	-0.25	.	-0.27
40.0	.	.	-0.22	-0.25	.	-0.26
50.0	-0.17	.	.	.	-0.23	.
55.0	.	.	-0.20	.	.	.
60.0	.	.	.	.	.	-0.18
75.0	-0.22	.	-0.17	.	-0.23	.
80.0	.	.	.	.	.	-0.22
100.0	-0.29	.	-0.20	.	-0.30	-0.28

BLP 25

BETIO PROFILE 13

0.0	.	.	2.14	.	.	.
2.0	.	.	.	.	.	.
4.0	.	.	.	.	.	.
6.0	.	.	.	.	.	.
8.0	.	.	.	.	.	.
10.0	2.04	2.09	2.04	1.98	2.13	.
12.0	2.01	2.06	2.03	.	2.04	.
13.0	.	.	.	.	1.99	.
14.0	1.59	1.69	2.01	.	1.93	.
15.5	.	.	.	.	1.89	.
16.0	1.70	1.48	1.91	.	1.33	.
18.0	1.35	1.15	1.88	.	0.94	.
20.0	0.71	0.80	1.86	1.89	0.77	.
22.0	0.51	0.60	1.81	1.83	0.50	.
24.0	0.33	0.40	1.54	1.53	0.31	.
26.0	0.13	0.21	1.26	0.95	0.10	.
28.0	-0.07	-0.01	0.96	0.70	-0.12	.
30.0	-0.25	-0.18	0.66	0.45	-0.16	.
32.0	.	-0.24	0.36	0.22	-0.20	.
34.0	.	-0.20	0.08	0.03	-0.21	.
36.0	.	-0.20	-0.12	-0.14	-0.22	.
38.0	.	-0.20	-0.14	-0.22	.	.
40.0	.	-0.20	-0.16	-0.20	-0.20	.
42.0	.	.	.	-0.22	.	.
44.0	.	.	.	-0.21	.	.
46.0	.	.	.	-0.21	.	.
48.0	.	.	-0.19	-0.19	.	.
50.0	-0.32	.	.	-0.20	-0.22	.
65.0	.	.	-0.22	.	.	.
75.0	-0.29	.	-0.25	.	-0.28	.
100.0	-0.25	.	-0.22	.	-0.27	.

BETIO PROFILE 14

0.0	.	.	2.02	1.75	.	.
2.0	.	1.74	2.00	1.88	1.78	1.97
4.0	.	1.65	1.98	1.83	1.76	1.95
6.0	.	1.46	1.60	1.46	1.47	1.80
8.0	.	1.15	1.28	1.12	1.26	1.66
10.0	.	0.93	1.14	0.97	1.06	1.36
12.0	.	0.64	1.00	0.73	0.88	1.09
14.0	.	0.52	0.78	0.56	0.68	0.84
16.0	.	0.37	0.48	0.36	0.51	0.50
18.0	.	0.16	0.20	0.23	0.34	0.28
20.0	.	-0.03	-0.10	0.09	0.19	0.08
22.0	.	-0.21	-0.34	-0.08	0.05	-0.15
24.0	.	-0.34	-0.36	-0.24	-0.13	-0.35
26.0	.	-0.45	-0.36	-0.40	-0.33	-0.57
28.0	.	-0.47	-0.38	-0.41	-0.50	-0.68
30.0	.	-0.48	-0.36	-0.41	-0.56	-0.70
32.0	.	.	-0.38	-0.41	.	-0.73
34.0	.	.	-0.38	-0.40	.	-0.75
36.0	.	.	-0.38	-0.41	.	-0.74
38.0	.	.	-0.38	-0.40	.	-0.36
40.0	.	.	-0.38	-0.43	.	-0.37
60.0	.	.	.	.	.	-0.38
80.0	.	.	.	.	.	-0.38
100.0	.	.	.	.	.	-0.40

BETIO PROFILE 15

0.0	.	.	2.23	2.41	.
2.0	.	2.04	2.32	2.29	2.08
4.0	.	1.98	2.30	2.27	2.10
6.0	.	1.77	2.00	1.99	1.81
8.0	.	1.39	1.75	1.58	1.60
10.0	.	1.10	1.30	1.21	1.24
12.0	.	0.75	1.00	0.86	0.86
14.0	.	0.60	0.70	0.59	0.53
16.0	.	0.20	0.45	0.36	0.28
18.0	.	-0.08	0.20	0.16	0.05
20.0	.	-0.20	-0.04	0.00	-0.14
22.0	.	-0.32	-0.16	-0.18	-0.31
24.0	.	-0.41	-0.25	-0.30	-0.41
26.0	.	-0.44	-0.32	-0.34	-0.51
28.0	.	-0.45	-0.34	-0.35	-0.52
30.0	.	-0.46	-0.38	-0.37	-0.54
32.0	.	-0.47	-0.36	-0.38	.
34.0	.	.	-0.32	-0.35	.
36.0	.	.	-0.33	-0.37	.
38.0	.	.	-0.34	-0.36	.
40.0	.	.	-0.35	-0.36	.
60.0	.	.	.	.	-0.35
80.0	.	.	.	.	-0.35
100.0	.	.	.	.	-0.34

BAIRIKI PROFILE 1

BLP 1

	1	2	3	4	5	6
0.0	1.81	1.81	.	.	1.86	.
2.0	1.93	1.93	.	1.93	1.96	1.90
4.0	2.00	2.01	.	2.00	2.03	2.02
5.0	.	.	.	.	2.07	.
6.0	2.06	2.06	2.11	2.01	.	1.82
6.2	.	.	.	.	2.05	.
7.0	.	.	.	.	1.50	.
7.5	.	.	.	.	1.37	.
8.0	1.44	1.39	1.21	1.21	1.27	1.28
10.0	1.09	1.08	0.76	0.91	1.01	0.97
12.0	0.79	0.78	0.36	0.65	0.76	0.73
14.0	0.60	0.57	0.32	0.47	0.58	0.52
16.0	0.42	0.34	0.29	0.25	0.38	0.26
18.0	0.24	0.22	0.22	0.18	0.23	0.12
20.0	0.15	0.11	0.16	0.10	0.14	0.05
22.0	0.06	0.05	0.10	0.02	0.11	0.02
24.0	0.02	0.00	0.06	-0.01	0.06	0.01
26.0	0.00	-0.03	0.04	-0.04	0.03	-0.01
28.0	0.00	-0.03	0.02	-0.02	.	0.00
30.0	0.00	-0.04	0.01	-0.01	0.07	0.01
32.0	.	.	-0.01	-0.04	.	0.04
34.0	.	.	-0.03	-0.05	.	0.06
36.0	.	.	-0.01	-0.09	.	0.05
38.0	.	.	-0.01	-0.05	.	0.04
40.0	0.01	.	-0.01	-0.05	0.06	0.07
42.0	.	.	0.02	.	.	.
50.0	0.05	.	.	.	0.07	.
53.0	.	.	0.09	.	.	.
60.0	.	.	.	.	.	0.07
66.0	.	.	0.06	.	.	.
75.0	0.03	.	.	.	0.05	.
60.0	.	.	.	.	.	-0.01
97.0	.	.	0.00	.	.	.
100.0	0.03	.	.	.	0.06	-0.01

BLP 2
BAIRIKI PROFILE 2

0.0	.	.	2.16	.	2.16	.
2.0	.	.	2.11	1.83	1.84	1.83
4.0	1.83	1.83	2.04	1.82	1.87	1.86
6.0	1.87	1.89	1.99	1.89	1.93	1.86
8.0	1.95	1.96	1.86	1.99	2.02	1.95
9.0	.	.	.	.	2.03	.
10.0	1.74	1.86	1.66	1.96	2.00	2.01
12.0	1.36	1.42	1.49	1.70	1.79	1.93
14.0	0.99	1.18	1.26	1.44	1.55	1.91
16.0	0.72	0.79	1.01	1.12	1.16	1.60
18.0	0.52	0.56	0.72	0.84	0.90	1.31
20.0	0.28	0.35	0.48	0.58	0.70	1.05
22.0	0.11	0.16	0.28	0.36	0.48	0.84
24.0	0.06	0.07	0.16	0.20	0.28	0.68
26.0	0.05	0.07	0.09	0.07	0.17	0.49
28.0	0.02	0.07	0.09	0.04	0.14	0.30
30.0	0.04	0.04	0.09	0.02	0.07	0.19
32.0	.	.	0.08	0.05	.	0.09
34.0	.	.	0.07	0.04	.	0.07
36.0	.	.	0.07	0.01	.	0.04
38.0	.	.	0.04	0.13	.	0.03
40.0	0.08	.	0.03	0.05	0.09	0.06
50.0	0.02	.	.	.	0.09	.
54.0	.	.	0.02	.	.	.
60.0	.	.	.	.	.	0.00
67.0	.	.	-0.02	.	.	.
75.0	-0.07	.	.	.	0.01	.
80.0	.	.	.	.	.	0.03
98.0	.	.	-0.02	.	.	.
100.0	-0.10	.	.	.	0.00	-0.05

BLP 3
BAIRIKI PROFILE 3

0.0	1.97	.	1.86	.	1.92	.
2.0	1.94	1.94	1.84	1.97	.	1.96
4.0	1.94	1.94	1.84	1.94	.	1.94
6.0	1.97	2.00	1.81	1.94	1.91	1.84
8.0	1.88	1.85	1.66	1.71	1.77	1.54
10.0	1.57	1.47	1.48	1.40	1.50	1.14
12.0	1.24	1.16	1.21	1.05	1.22	0.92
14.0	0.96	0.90	0.98	0.90	0.92	0.73
16.0	0.72	0.68	0.71	0.67	0.71	0.56
18.0	0.51	0.51	0.26	0.45	0.48	0.29
20.0	0.27	0.31	0.20	0.27	0.22	0.13
22.0	0.07	0.06	0.14	0.18	0.11	0.16
24.0	0.04	0.10	0.13	0.13	0.13	0.15
26.0	0.05	0.16	0.11	0.13	0.10	0.10
28.0	0.00	0.10	0.11	0.14	0.11	0.10
30.0	0.02	0.07	0.10	0.10	0.14	0.10
32.0	.	.	0.09	0.07	.	0.12
34.0	.	.	0.07	0.08	.	0.14
36.0	.	.	0.06	0.08	.	0.16
38.0	.	.	0.04	0.03	.	0.16
40.0	0.02	.	0.04	-0.01	0.01	0.15
45.0	.	.	0.08	.	.	.
50.0	0.06	.	.	.	-0.01	.
52.0	.	.	0.11	.	.	.
60.0	.	.	.	.	.	0.09
61.0	.	.	0.04	.	.	.
75.0	-0.04	.	.	.	-0.02	.
80.0	.	.	.	.	.	-0.02
81.0	.	.	0.00	.	.	.
100.0	-0.05	.	.	.	0.02	0.03

BLP 4

BAIRIKI PROFILE 4

0.0	.	.	2.03	.	2.05	.
2.0	.	.	2.03	2.01	.	.
4.0	.	.	2.04	2.00	.	.
6.0	.	.	2.05	2.01	.	.
8.0	.	.	2.06	1.99	.	.
10.0	2.12	2.09	2.07	2.03	2.02	.
12.0	2.08	2.04	2.07	2.01	2.04	2.03
14.0	2.04	2.01	1.98	1.96	2.02	1.98
16.0	2.01	1.86	1.89	1.84	1.98	1.83
18.0	1.48	1.53	1.51	1.49	1.66	1.33
20.0	1.16	1.22	1.12	1.11	1.27	1.04
22.0	0.99	0.98	0.82	0.87	0.96	0.83
24.0	0.73	0.71	0.68	0.63	0.79	0.63
26.0	0.53	0.56	0.46	0.42	0.60	0.44
28.0	0.35	0.29	0.25	0.28	0.38	0.19
30.0	0.15	0.15	0.16	0.12	0.22	0.06
32.0	.	0.05	0.09	0.02	0.10	0.03
34.0	.	0.02	0.09	0.01	0.09	0.02
36.0	.	0.02	0.09	-0.01	0.08	0.03
38.0	.	0.03	0.09	0.01	0.11	0.03
40.0	.	0.02	0.09	0.02	0.09	0.04
50.0	0.07	.	.	.	0.11	0.06
65.0	.	.	.	.	.	.
69.0	.	.	0.11	.	.	.
75.0	0.08	.	.	.	0.13	0.15
90.0	.	.	.	.	.	.
95.0	.	.	0.11	.	.	.
100.0	0.02	.	.	.	0.06	0.08

BLP 5

BAIRIKI PROFILE 5

0.0	1.92	1.90	.	1.93	1.99	.
1.0	.	.	.	.	.	1.95
2.0	1.95	2.00	.	2.03	2.11	.
3.0	.	.	.	.	.	2.08
4.0	2.04	2.10	.	2.01	2.09	.
5.0	.	.	.	.	.	2.09
6.0	2.11	2.11	.	2.09	1.98	.
7.0	.	.	.	.	1.85	.
8.0	1.89	1.91	1.90	1.95	1.60	.
9.0	.	.	.	.	1.42	.
10.0	1.57	1.41	1.66	1.62	.	1.62
11.0	.	.	.	.	1.09	.
12.0	1.22	1.19	1.31	1.26	.	.
13.0	.	.	.	.	0.82	.
14.0	0.91	1.02	0.99	1.07	.	.
15.0	.	.	.	.	0.63	.
16.0	0.69	0.69	0.78	0.71	.	.
17.0	.	.	.	.	0.49	.
18.0	0.52	0.51	0.56	0.53	.	.
19.0	.	.	.	.	0.25	.
20.0	0.34	0.28	0.29	0.36	.	0.59
21.0	.	.	.	.	0.01	.
22.0	0.11	0.09	0.08	0.10	.	.
23.0	.	.	.	.	-0.06	.
24.0	0.04	0.03	0.03	-0.04	.	.
25.0	.	.	.	.	-0.10	.
26.0	0.05	0.00	0.01	-0.01	.	.
28.0	-0.01	-0.09	-0.02	-0.09	.	.
30.0	-0.10	-0.07	-0.05	-0.04	-0.10	-0.01
32.0	.	.	-0.08	-0.10	.	.
34.0	.	.	-0.06	-0.08	.	.
36.0	.	.	-0.07	-0.08	.	.
38.0	.	.	-0.05	-0.09	.	.
40.0	-0.10	.	-0.04	-0.01	-0.10	.
50.0	-0.13	.	.	.	.	.
52.0	.	.	-0.09	.	.	.
55.0	.	.	.	.	-0.02	-0.05
72.0	.	.	-0.15	.	.	.
75.0	-0.16	.	.	.	.	.
80.0	.	.	.	.	-0.02	-0.15
96.0	.	.	-0.09	.	.	.
100.0	-0.16	.	.	.	.	.

BAIRIKI PROFILE 6

0.0	.	.	1.81	.	1.80	.
2.0	.	1.74	1.76	1.86	1.86	1.80
3.0	.	.	.	.	1.82	1.77
4.0	1.77	1.73	1.71	1.82	.	.
5.0	.	.	.	.	1.74	1.75
6.0	1.71	1.78	1.66	1.75	.	.
7.0	.	.	.	.	1.64	1.66
8.0	1.51	1.50	1.61	1.59	.	.
9.0	.	.	.	.	1.65	1.52
10.0	1.37	1.41	1.56	1.59	.	.
11.0	.	.	.	.	1.46	1.43
12.0	1.23	1.22	1.54	1.46	.	.
13.0	.	.	.	.	1.36	1.29
14.0	1.05	1.11	1.49	1.36	.	.
15.0	.	.	.	.	1.34	0.99
16.0	0.86	0.83	1.41	1.33	.	.
17.0	.	.	.	.	0.92	0.77
18.0	0.68	0.65	1.28	1.29	.	.
19.0	.	.	.	.	0.72	0.76
20.0	0.52	0.51	1.08	0.97	.	.
21.0	.	.	.	.	0.55	0.46
22.0	0.36	0.23	0.86	0.78	.	.
23.0	.	.	.	.	0.42	0.25
24.0	0.17	0.05	0.61	0.53	.	.
25.0	.	.	.	.	0.26	0.17
26.0	0.05	0.06	0.41	0.36	.	.
27.0	.	.	.	.	0.09	0.02
28.0	0.03	0.02	0.18	0.13	.	.
29.0	.	.	.	.	0.07	-0.04
30.0	0.02	0.01	0.04	-0.03	.	.
32.0	.	.	0.04	-0.05	.	.
34.0	.	.	0.04	-0.07	.	.
35.0	0.02	.	.	.	0.03	-0.06
36.0	.	.	0.02	-0.07	.	.
38.0	.	.	0.01	-0.08	.	.
40.0	.	.	0.01	-0.10	.	.
50.0	0.01	.	.	.	0.01	-0.08
70.0	.	.	-0.02	.	.	.
75.0	-0.02	.	.	.	-0.03	-0.10
100.0	-0.08	.	-0.06	.	-0.08	-0.13

BAIRIKI PROFILE 7

-20.0	.	1.78	1.78	1.91	.	.
-18.0	.	1.78	1.76	1.91	.	.
-16.0	.	1.78	1.76	1.86	.	.
-14.0	.	1.78	1.74	1.84	.	.
-12.0	.	1.78	1.58	1.59	.	.
-10.0	.	1.78	1.31	1.46	.	.
-8.0	.	1.78	1.03	1.45	.	.
-6.0	.	1.78	0.71	1.37	.	.
-4.0	.	1.78	-0.24	1.16	.	.
-2.0	.	1.78	-0.79	0.99	.	.
0.0	1.87	1.78	-0.79	0.75	1.32	.
2.0	1.69	1.69	-0.81	0.56	1.29	1.55
4.0	1.50	1.62	-0.82	0.37	1.13	1.56
5.0	.	.	.	.	0.99	.
6.0	1.61	1.62	-0.84	0.21	0.92	1.61
8.0	1.61	1.61	-0.85	0.06	0.81	1.52
10.0	1.35	1.47	-0.86	-0.09	0.74	1.55
12.0	1.11	1.14	-0.87	-0.25	0.56	1.64
13.0	.	.	.	.	0.35	.
14.0	0.89	0.78	-0.88	-0.50	.	1.50
16.0	0.68	0.68	-0.89	.	0.17	1.12
18.0	0.48	0.56	-0.90	.	0.03	0.85
20.0	0.26	0.32	-0.91	.	-0.14	0.63
22.0	0.06	0.06	-0.91	.	-0.29	0.45
24.0	-0.32	-0.20	-0.91	.	-0.47	0.29
26.0	.	-0.43	-0.91	.	.	0.49
28.0	.	-0.64	-0.91	.	.	0.31
30.0	.	-0.75	-0.91	.	.	0.07
32.0	.	.	.	.	.	-0.10
34.0	.	.	.	.	.	-0.26
36.0	.	.	.	.	.	-0.26
38.0	.	.	.	.	.	-0.48
40.0	.	.	.	.	.	-0.48
46.0	.	.	-0.91	.	.	.
44.0	.	.	.	.	.	-0.95
48.0	.	.	.	.	.	-1.02
65.0	.	.	-0.99	.	.	.
68.0	.	.	.	.	.	-1.02

BAIRIKI PROFILE 10

0.0	1.86	1.93	1.91	.	.	1.94
2.0	1.93	1.91	1.91	.	.	1.97
4.0	1.93	1.99	1.91	.	.	2.03
6.0	1.91	1.88	1.91	.	.	1.96
8.0	1.85	1.88	1.91	.	.	1.95
10.0	1.79	1.79	1.90	1.92	.	2.07
12.0	1.70	1.68	1.78	1.88	.	2.06
14.0	1.40	1.45	1.46	1.46	.	1.27
16.0	1.11	1.11	1.26	1.33	.	0.96
18.0	0.84	0.79	1.11	1.25	.	0.70
20.0	0.61	0.61	0.93	1.01	.	0.50
22.0	0.41	0.47	0.76	0.92	.	0.20
24.0	0.23	0.23	0.51	0.67	.	-0.04
26.0	0.03	-0.06	0.31	0.49	.	-0.23
28.0	-0.20	-0.31	0.04	0.31	.	-0.51
30.0	-0.41	-0.50	-0.16	0.15	.	-0.56
32.0	-0.56	-0.56	-0.44	-0.03	.	-0.59
34.0	-0.56	-0.67	-0.52	-0.22	.	-0.59
36.0	-0.57	-0.63	-0.52	-0.43	.	-0.59
38.0	-0.59	-0.57	-0.54	-0.60	.	-0.63
40.0	-0.61	-0.61	-0.54	-0.60	.	-0.65
43.0	.	.	-0.58	.	.	.
50.0	-0.68	.	.	.	.	-0.74
60.0	.	.	-0.66	.	.	.
75.0	-0.74	.	-0.69	.	.	-0.75
100.0	-0.77	.	-0.67	.	.	-0.76

BAIRIKI PROFILE 11

0.0	.	.	.	.	1.61	.
2.0	1.67	1.63	.	.	1.69	1.69
4.0	1.80	1.80	.	1.88	1.84	1.79
6.0	1.88	1.87	.	1.82	1.93	1.88
8.0	1.94	1.93	1.96	1.87	1.93	1.93
10.0	1.83	1.82	1.86	1.80	1.89	1.93
12.0	1.81	1.81	1.78	1.79	1.84	1.87
14.0	1.73	1.73	1.72	1.80	.	1.72
14.5	.	.	.	.	1.99	.
15.0	.	.	.	.	1.43	.
15.5	.	.	.	.	1.15	.
16.0	1.56	1.52	1.64	1.96	0.85	1.17
18.0	1.24	1.32	1.43	1.65	0.58	0.89
20.0	0.98	1.06	1.21	1.17	0.34	0.68
22.0	0.75	0.78	1.11	0.97	0.15	0.53
24.0	0.55	0.62	0.99	0.72	-0.05	0.39
26.0	0.37	0.50	0.78	0.47	-0.28	0.26
28.0	0.20	0.28	0.56	0.28	-0.35	0.11
30.0	0.01	0.02	0.36	0.08	-0.50	-0.10
32.0	-0.23	-0.28	0.11	-0.07	-0.56	-0.35
34.0	-0.43	-0.50	-0.19	-0.26	-0.57	-0.51
36.0	-0.57	-0.58	-0.44	-0.49	-0.61	-0.60
38.0	-0.58	-0.61	-0.54	-0.63	.	-0.64
40.0	-0.59	-0.61	-0.54	-0.63	-0.63	-0.62
50.0	-0.58	.	-0.56	.	-0.56	.
60.0	.	.	-0.60	.	.	-0.62
70.0	.	.	-0.68	.	.	.
75.0	-0.71	.	.	.	-0.74	.
.	.	.	.	.	.	-0.73
100.0	-0.80	.	.	.	-0.77	-0.80

BAIRIKI PROFILE 8

0.0	.	.	.	1.95	1.90	1.91
2.0	.	.	.	2.01	1.96	1.93
4.0	.	.	1.91	1.91	1.93	1.90
6.0	.	.	1.94	1.89	1.99	1.92
8.0	.	.	1.98	1.90	1.98	1.95
10.0	1.94	1.87	2.00	1.94	1.86	1.91
12.0	1.91	1.86	2.02	1.99	1.93	1.34
14.0	1.91	1.74	2.06	2.04	1.35	1.00
16.0	1.73	1.52	2.01	1.33	1.05	0.64
18.0	1.41	1.22	1.66	1.06	0.74	0.50
20.0	1.15	0.89	1.41	0.76	0.58	0.36
22.0	0.91	0.65	1.18	0.52	0.38	0.23
24.0	0.70	0.61	0.91	0.34	0.18	0.03
26.0	0.48	0.40	0.71	0.17	0.03	-0.15
28.0	0.30	0.16	0.46	0.02	-0.14	-0.33
30.0	0.10	-0.09	0.24	-0.15	-0.33	-0.53
32.0	-0.14	-0.37	0.01	-0.27	-0.52	-0.58
34.0	-0.31	-0.52	-0.19	-0.49	-0.59	-0.55
36.0	-0.54	-0.61	-0.42	-0.58	-0.58	-0.57
38.0	-0.61	-0.81	-0.55	.	.	-0.73
40.0	-0.67	-0.84	-0.56	.	.	-0.72
45.0	-0.68	.	.	.	.	.
50.0	-0.72	.	.	.	.	-0.72
63.0	.	.	-0.70	.	.	.
75.0	-0.92	.	.	.	.	-0.92
95.0	.	.	-0.85	.	.	.
100.0	-0.89	.	.	.	.	-0.94

BAIRIKI PROFILE 9

0.0	.	.	2.01	1.80	1.88	.
2.0	.	.	1.93	1.85	1.91	1.89
4.0	.	.	1.86	1.86	1.96	1.82
6.0	.	.	1.82	1.74	1.80	1.76
8.0	.	.	1.87	1.75	1.80	1.84
10.0	1.78	1.82	1.91	1.78	1.91	1.82
11.0	.	.	.	.	1.83	.
12.0	1.69	1.71	1.96	1.89	1.74	1.70
13.0	.	.	.	.	1.68	.
14.0	1.50	1.50	1.76	1.64	1.63	1.49
15.0	.	.	.	.	1.56	.
16.0	1.20	1.21	1.56	1.51	.	1.15
17.0	.	.	.	.	1.25	.
18.0	0.93	0.81	1.31	1.44	.	0.91
19.0	.	.	.	.	1.01	.
20.0	0.68	0.68	1.21	1.23	.	0.68
21.0	.	.	.	.	0.78	.
22.0	0.47	0.57	1.12	1.05	.	0.44
23.0	.	.	.	.	0.56	.
24.0	0.27	0.32	0.91	0.84	.	0.23
25.0	.	.	.	.	0.36	.
26.0	0.07	0.08	0.66	0.61	.	0.01
27.0	.	.	.	.	0.20	.
28.0	-0.13	-0.21	0.44	0.43	.	-0.27
29.0	.	.	.	.	0.04	.
30.0	-0.35	-0.46	0.21	0.26	.	-0.55
31.0	.	.	.	.	-0.13	.
32.0	.	-0.56	-0.04	0.09	.	-0.67
33.0	.	.	.	.	-0.31	.
34.0	.	-0.68	-0.27	-0.06	.	-0.71
35.0	-0.68	.	.	.	.	.
36.0	.	-0.70	-0.46	-0.20	.	-0.71
38.0	.	-0.73	-0.50	-0.37	.	-0.75
40.0	-0.74	-0.71	-0.52	-0.60	-0.70	-0.72
42.0	.	.	.	-0.71	.	.
44.0	.	.	.	-0.74	.	.
50.0	-0.74	.	-0.67	.	-0.71	.
60.0	.	.	-0.72	.	.	-0.77
75.0	-0.78	.	.	.	-0.76	.
78.0	.	.	-0.73	.	.	.
96.0	.	.	-0.77	.	.	.
100.0	-0.86	.	.	.	-0.75	-0.82

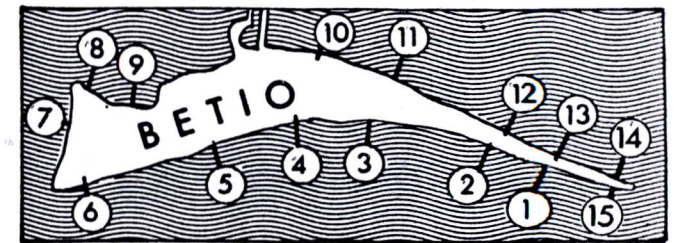


FIGURE 1: Location of beach profiles around Betio and Bairiki.