

# Northern Beaches, Aramoana and Shelly Beach

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## Beach & Nearshore Surveys

May 2013

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This data builds on that first compiled in 2011 by Paterson Pitts Group and summarised in the report by Dr Martin Single dated April 2011 and titled *“Port Otago maintenance dredging consents – Beach morphology, Otago Harbour entrance to Karitane”*

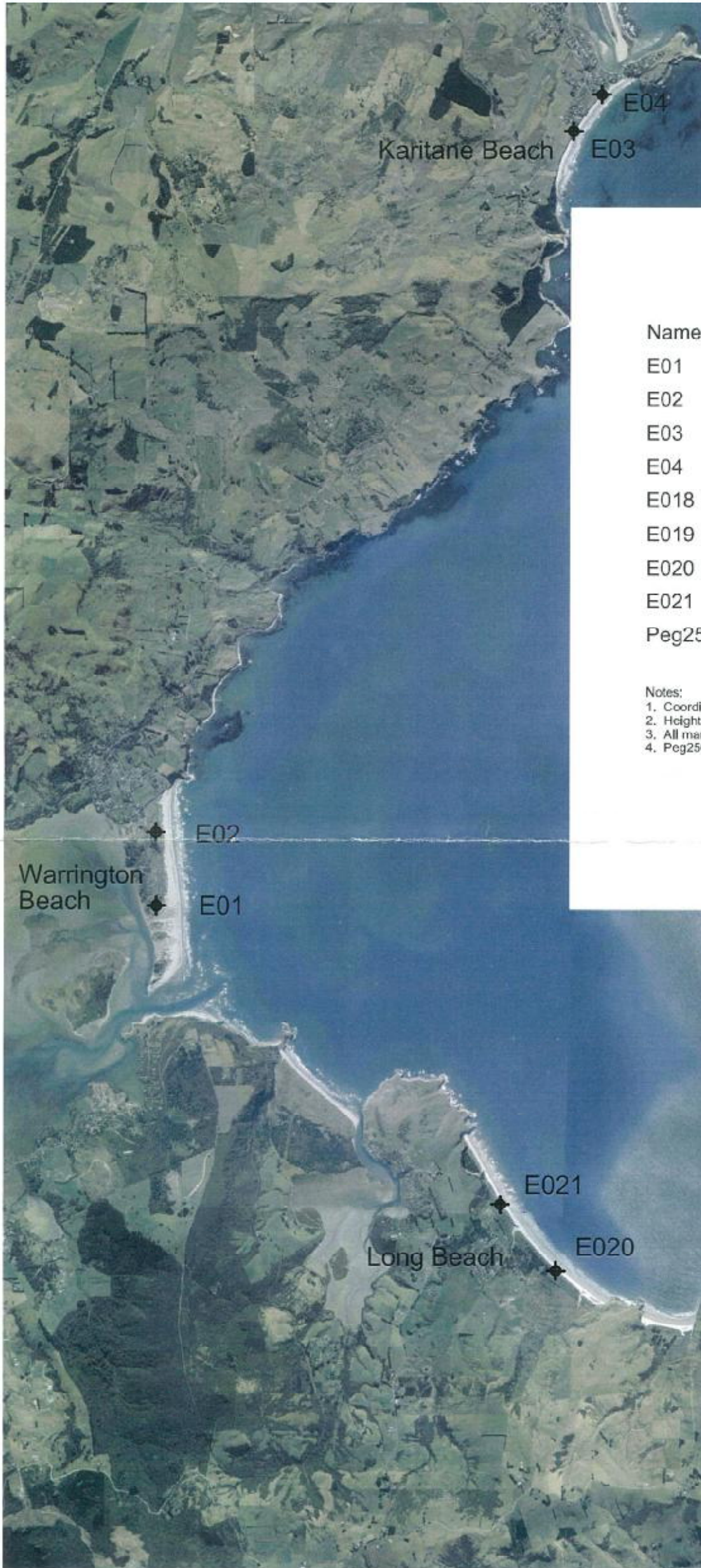
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**PATERSONPITTS**GROUP

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Purpose	Version	Date	Drawn by:	Job No.
Profile Location Plan	v01	16/03/11	KAB	13139
			Orig. Scale	Orig. Paper Size
			1:50,000	A3
			Sheet Number:	1 of 1



**MARK DETAILS**

Name	mN	mE	mH	
E01	815399.61	424620.22	105.34	85° 46' 25"
E02	816193.96	424614.74	104.77	86° 32' 00"
E03	823704.09	429060.73	111.85	116° 52' 45"
E04	824099.19	429364.28	105.04	134° 58' 30"
E018	809403.23	433241.59	106.60	17° 40'
E019	809602.67	432854.65	107.60	34° 28'
E020	811486.69	428897.03	104.37	54° 28' 40"
E021	812195.51	428301.17	103.93	43° 08' 15"
Peg250	808895.13	433278.32	104.03	

- Notes:
- Coordinates are in terms of North Tairāhī Geodetic 2000.
  - Heights are in terms of Mean Sea Level.
  - All marks except Peg250 are warratahs set in concrete.
  - Peg250 is not a permanent mark.

**PATERSON PITTS PARTNERS LTD**

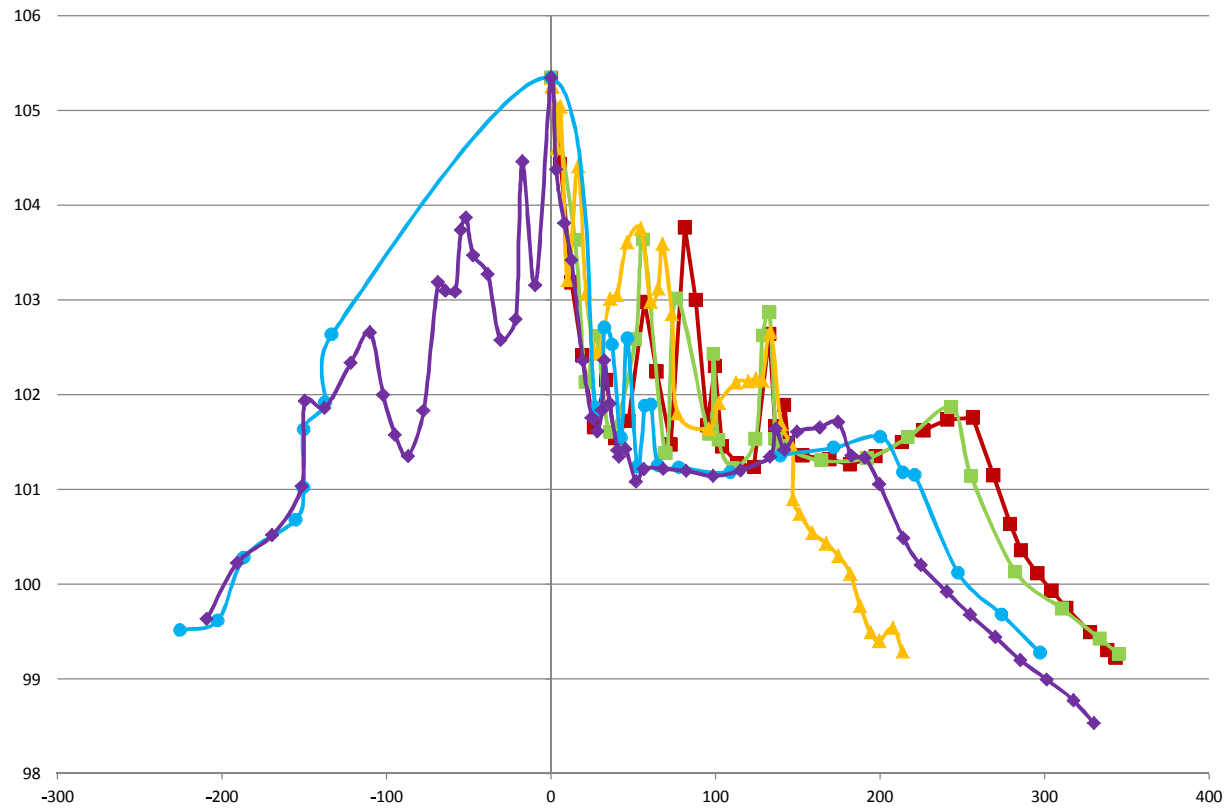
Dunedin - Mosgiel - Wanaka - Cromwell - Alexandra - Queenstown

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PORT OTAGO LIMITED  
NORTH COAST BEACH MONITORING PROGRAM  
PROFILE LOCATION PLAN

### E01 - WARRINGTON BEACH (SOUTH)



- 11/06/2013
- 07/03/2011
- ▲ 01/03/2008
- 28/05/1998
- ◆ 09/02/1990

#### Additional Data

##### Bottom of Dune

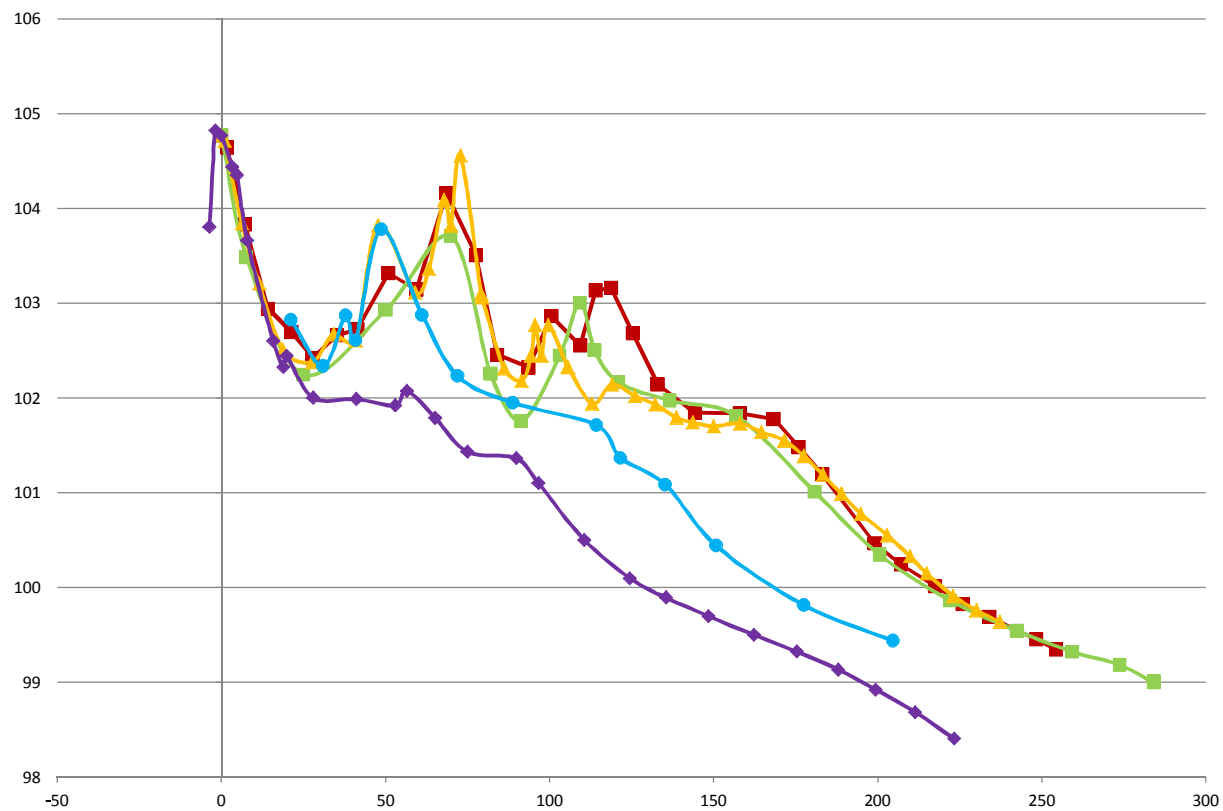
Date	Distance	Source
2004	90.800	Lidar

##### Vegetation Extents

Date	Distance	Source
1990	?	Survey
1998	60.744	Survey
2006	84.000	Photo
2008	146.840	Survey
2011	143.405	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position.

### E02 - WARRINGTON BEACH (NORTH)



#### Additional Data

##### Bottom of Dune

Date	Distance	Source
2004	84.600	Lidar

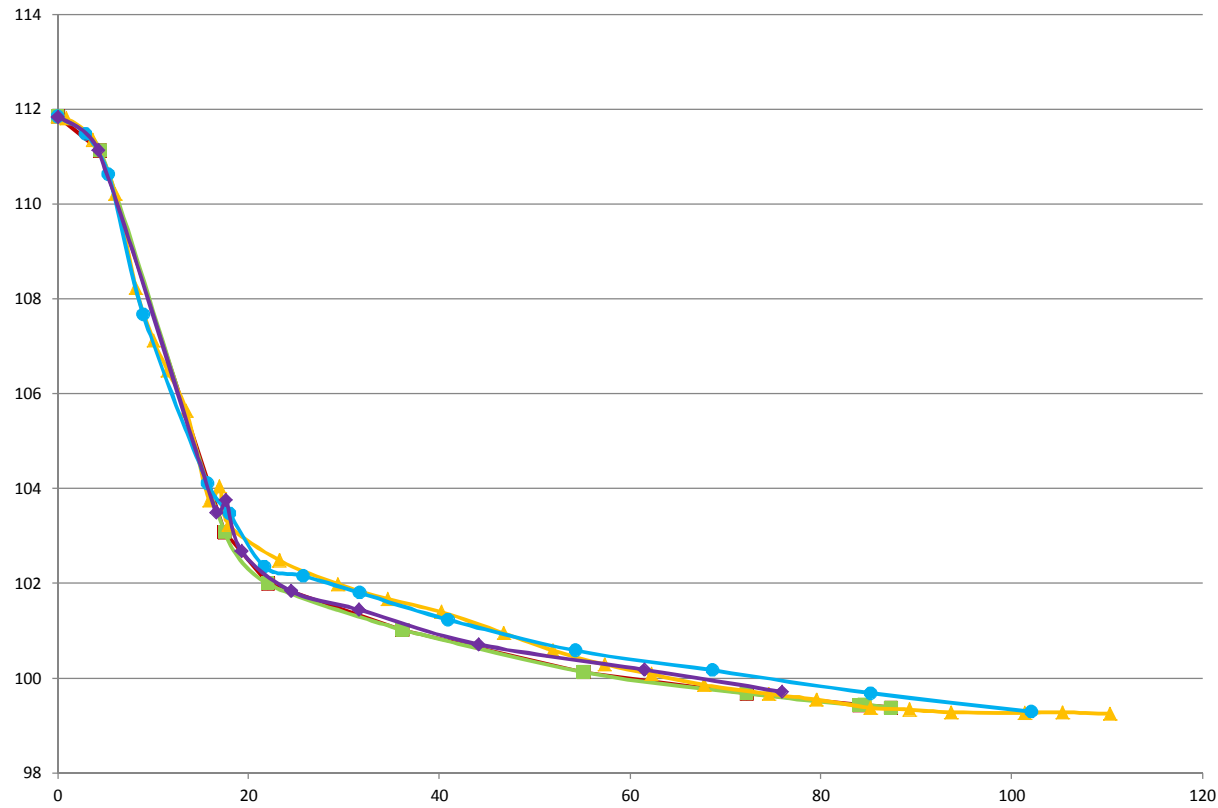
##### Vegetation Extents

Date	Distance	Source
1990	?	Survey
1998	61.161	Survey
2006	82.200	Photo
2008	105.390	Survey
2011	113.775	Survey

- 11/06/2013
- 07/03/2011
- ▲ 01/03/2008
- 28/05/1998
- ◆ 09/02/1990

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
 Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position.

### E03 - KARITANE BEACH (SOUTH)



#### Additional Data

##### Bottom of Dune

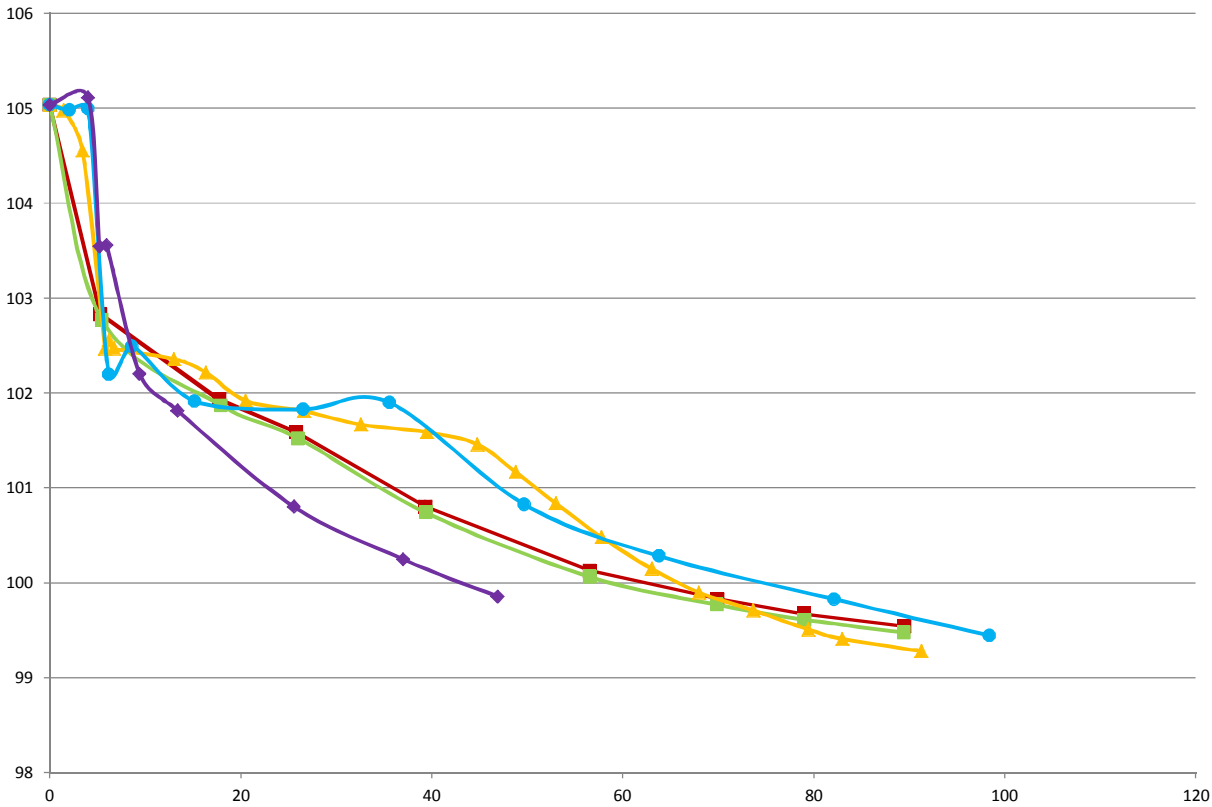
Date	Distance	Source
2004	15.100	Lidar

##### Vegetation Extents

Date	Distance	Source
1990	?	Survey
1998	17.978	Survey
2006	17.700	Photo
2008	16.940	Survey
2011	17.486	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### E04 - KARITANE BEACH (NORTH)



Additional Data

Bottom of Dune		
Date	Distance	Source
2004	6.700	Lidar

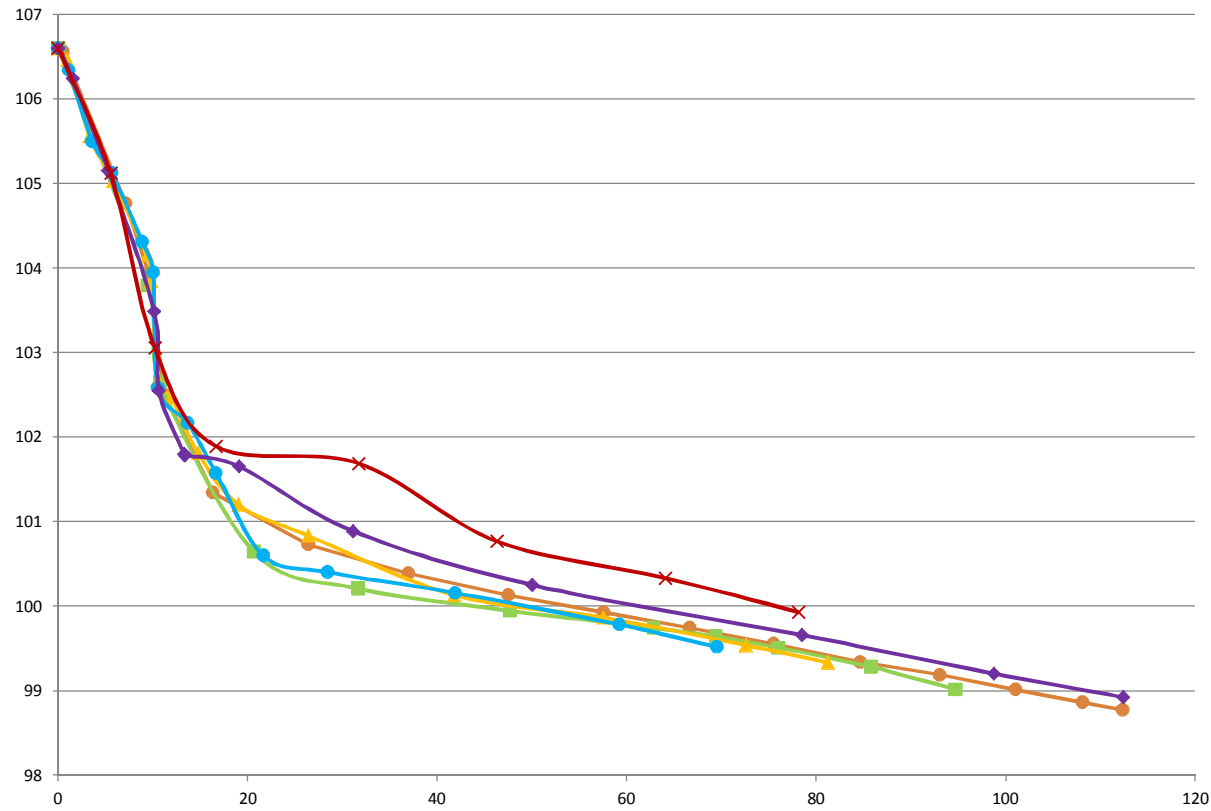
  

Vegetation Extents		
Date	Distance	Source
1990	?	Survey
1998	?	Survey
2006	8.500	Photo
2008	16.340	Survey
2011	5.487	Survey

- 07/05/2013
- 07/03/2011
- 01/03/2008
- 28/05/1998
- 09/02/1990

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
 Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### E018 - SPIT BEACH (SOUTH)



#### Additional Data

##### Bottom of Dune

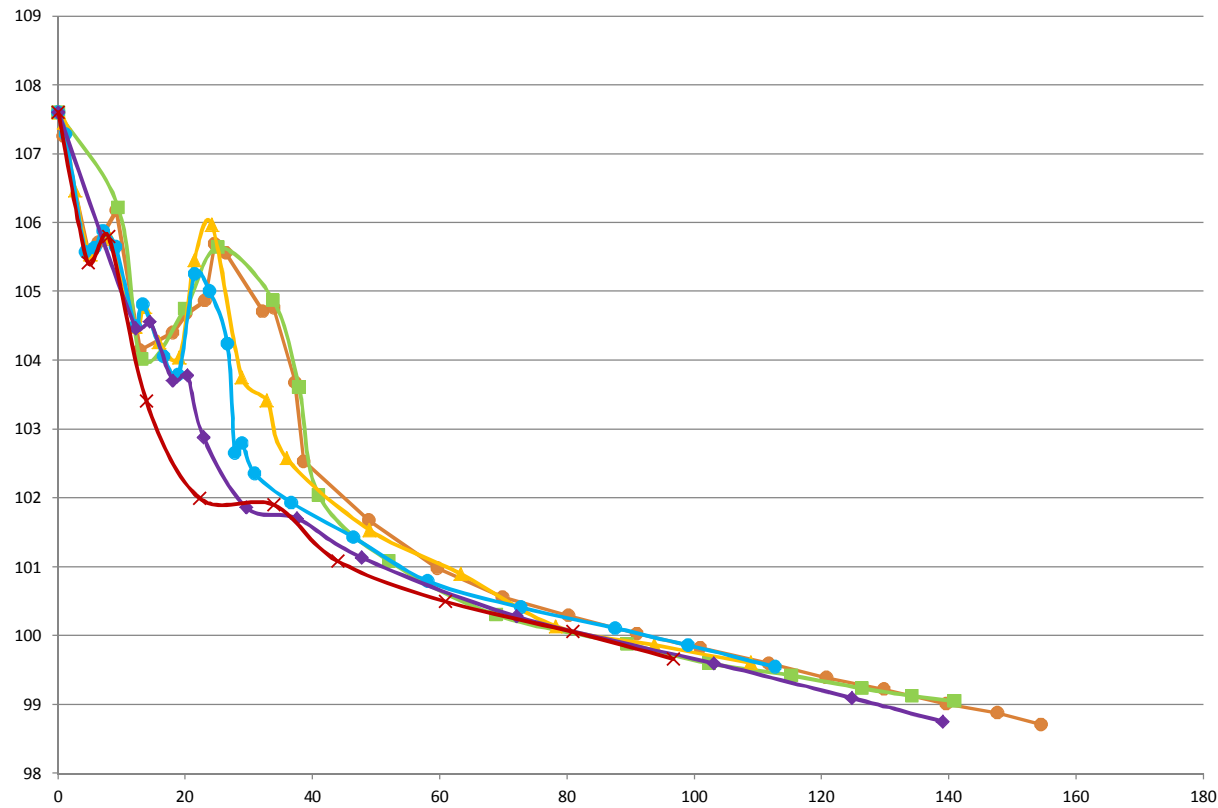
Date	Distance	Source
2004	16.500	Lidar

##### Vegetation Extents

Date	Distance	Source
1990	?	Survey
1996	10.129	Survey
2002	10.026	Survey
2005	10.471	Survey
2006	5.700	Photo
2011	20.653	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### E019 - SPIT BEACH (NORTH)



Additional Data

Bottom of Dune

Date	Distance	Source
2004	35.600	Lidar

Vegetation Extents

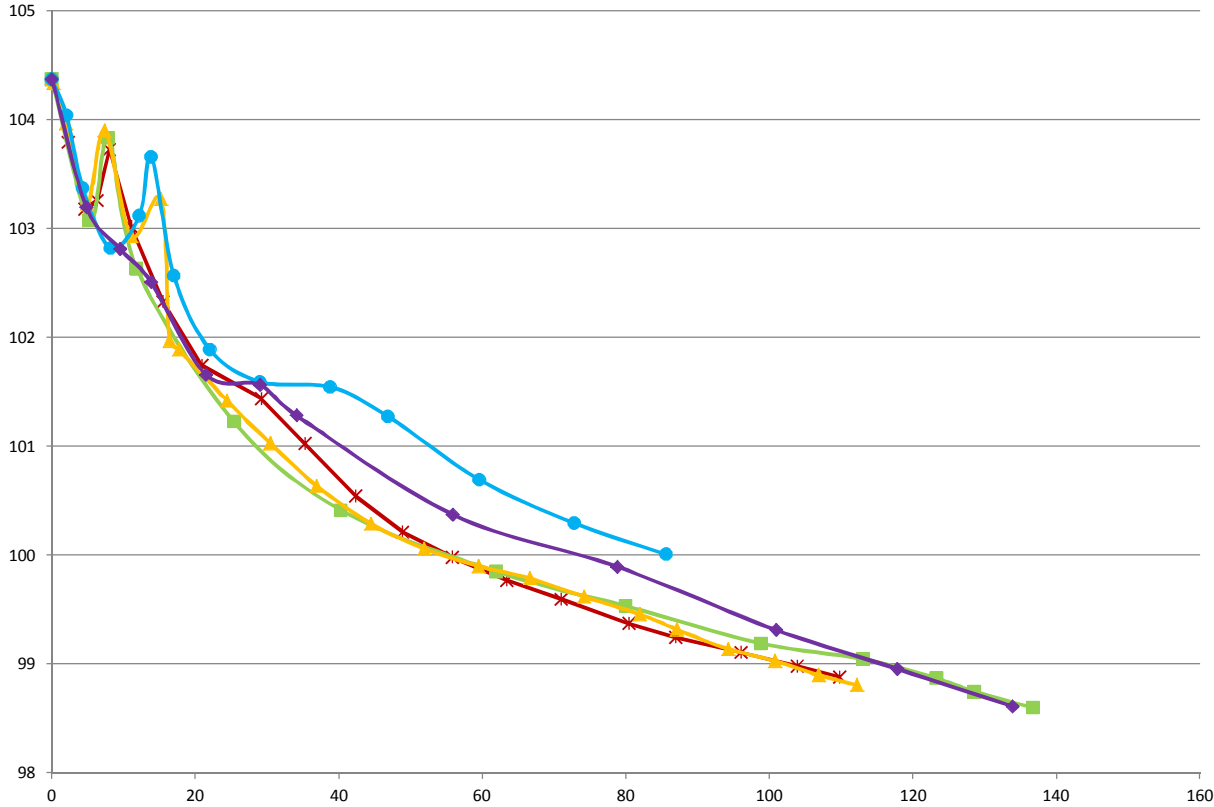
Date	Distance	Source
1990	?	Survey
1996	22.85	Survey
2002	27.761	Survey
2005	35.904	Survey
2006	20.600	Photo
2011	40.951	Survey

- 29/05/2013
- 07/03/2011
- ▲ 01/06/2005
- 19/06/2002
- ◆ 07/06/1996
- × 23/04/1990

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position



### E020 - LONG BEACH (SOUTH)



**Additional Data**

**Bottom of Dune**

Date	Distance	Source
2004	13.600	Lidar

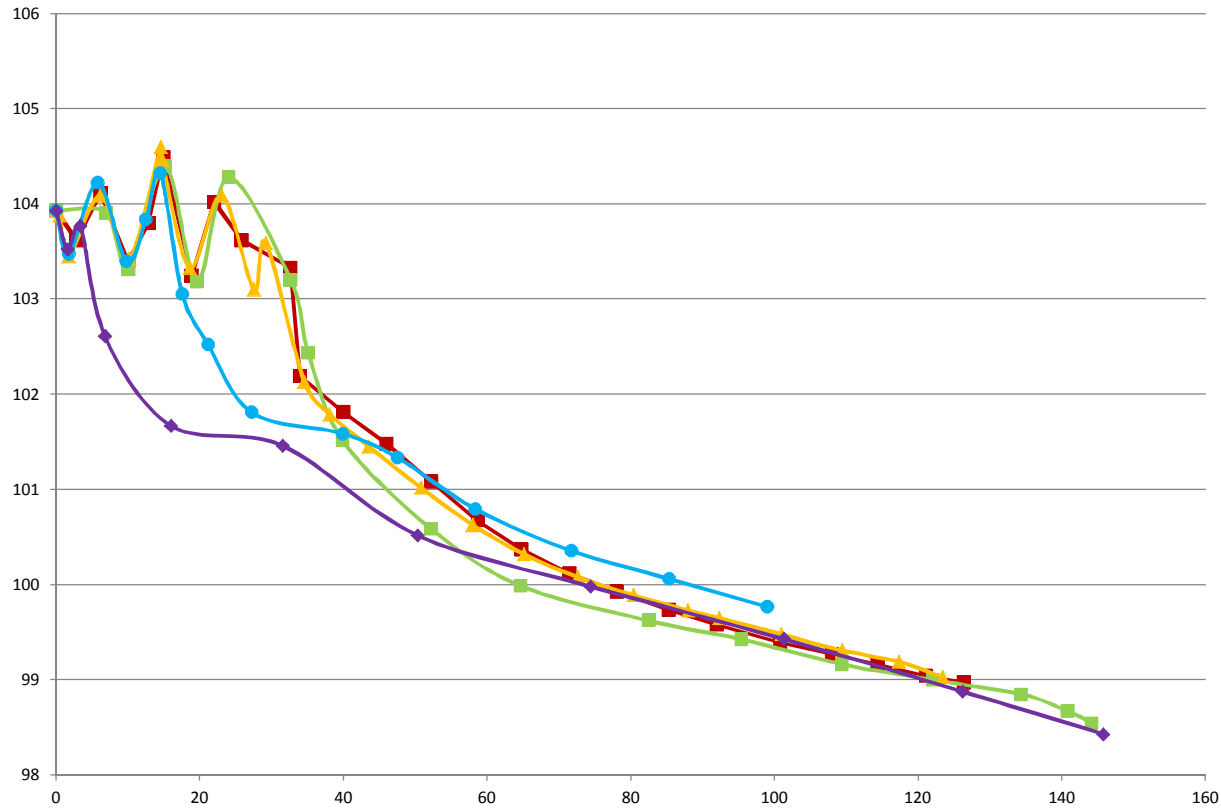
**Vegetation Extents**

Date	Distance	Source
1990	?	Survey
1998	17.014	Survey
2006	11.200	Photo
2008	15.190	Survey
2011	11.849	Survey

- ✱ 11/06/2013
- 07/03/2011
- ▲ 01/03/2008
- 28/05/1998
- ◆ 23/04/1990

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
 Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### E021 - LONG BEACH (NORTH)



#### Additional Data

##### Bottom of Dune

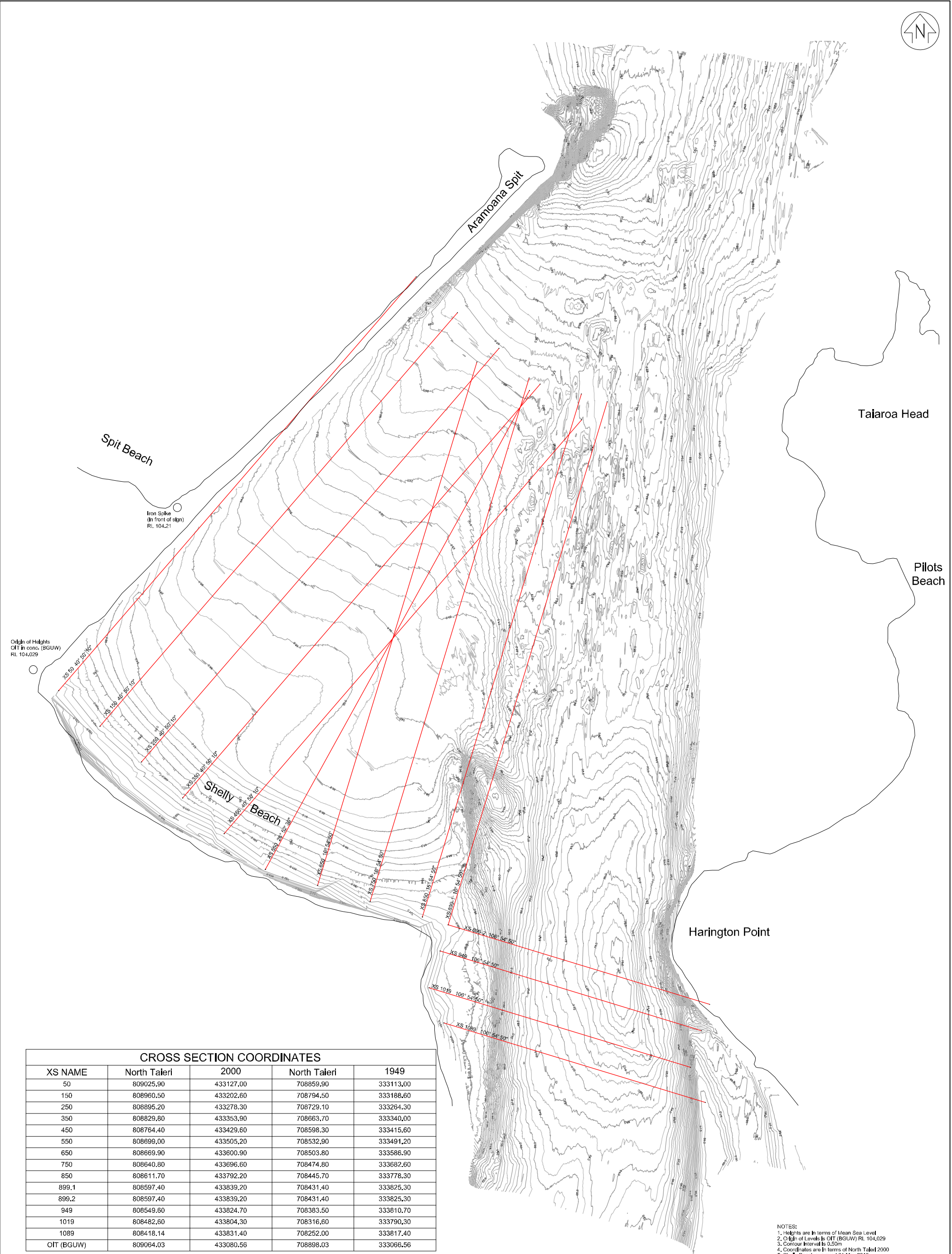
Date	Distance	Source
2004	30.300	Lidar

##### Vegetation Extents

Date	Distance	Source
1990	?	Survey
1998	21.202	Survey
2006	22.800	Photo
2008	34.540	Survey
2011	35.123	Survey

- 11/06/2013
- 07/03/2011
- ▲ 01/03/2008
- 28/05/1998
- ◆ 23/04/1990

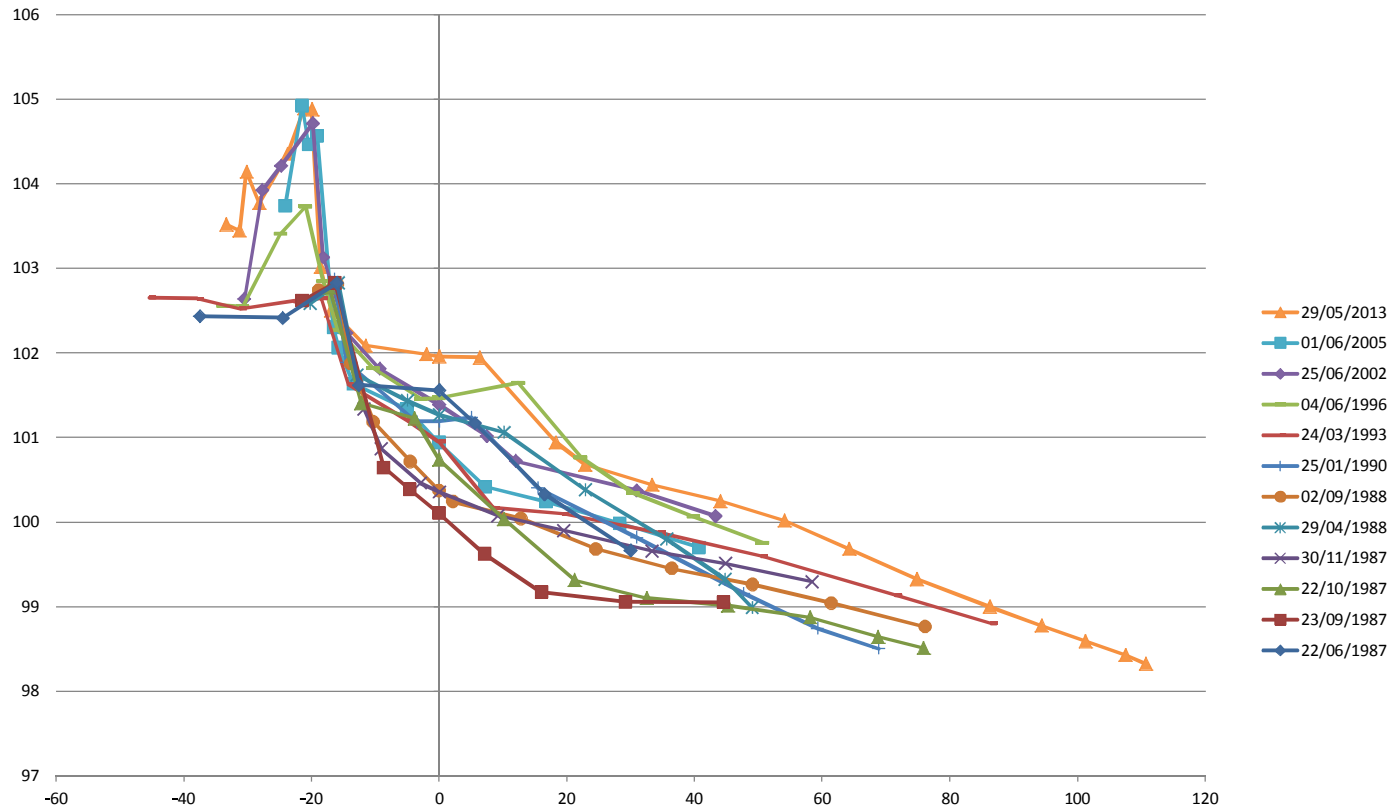
Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position



CROSS SECTION COORDINATES				
XS NAME	North Tairi	2000	North Tairi	1949
50	809025.90	433127.00	708859.90	333113.00
150	808960.50	433202.60	708794.50	333188.60
250	808895.20	433278.30	708729.10	333264.30
350	808829.80	433353.90	708663.70	333340.00
450	808764.40	433429.60	708598.30	333415.60
550	808699.00	433505.20	708532.90	333491.20
650	808633.60	433580.80	708467.50	333566.80
750	808568.20	433656.40	708402.10	333642.40
850	808502.80	433732.00	708336.70	333718.00
899.1	808437.40	433807.60	708271.30	333793.60
899.2	808372.00	433883.20	708205.90	333869.20
949	808306.60	433958.80	708140.50	333944.80
1019	808241.20	434034.40	708075.10	334020.40
1089	808175.80	434110.00	708009.70	334096.00
OIT (BGUW)	809064.03	433080.56	708898.03	333066.56

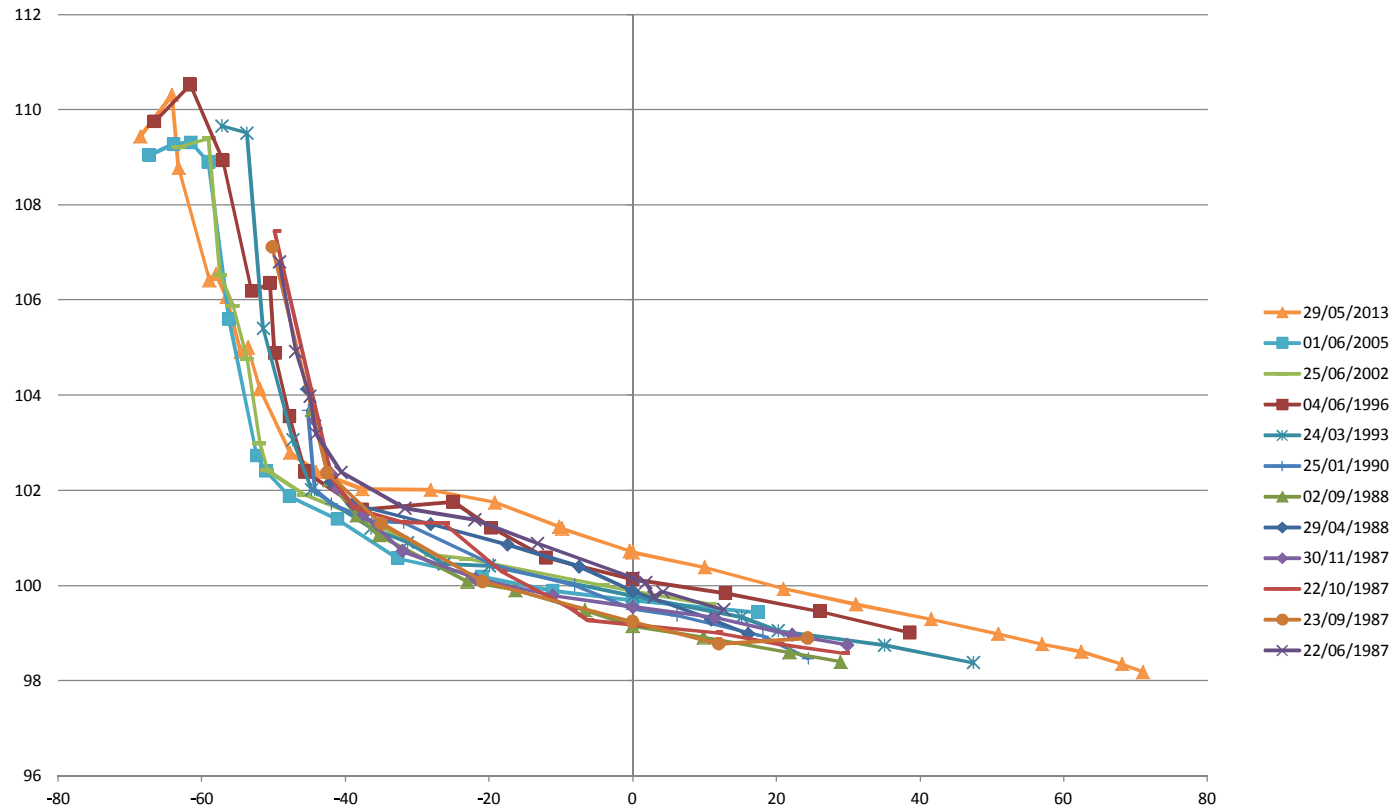
NOTES:  
 1. Heights are in terms of Mean Sea Level  
 2. Origin of Levels is OIT (BGUW) RL 104.029  
 3. Contour Interval is 0.50m  
 4. Coordinates are in terms of North Tairi 2000  
 5. Shelly Beach surveyed 31 May 2013

### Peg 50 - Shelly Beach



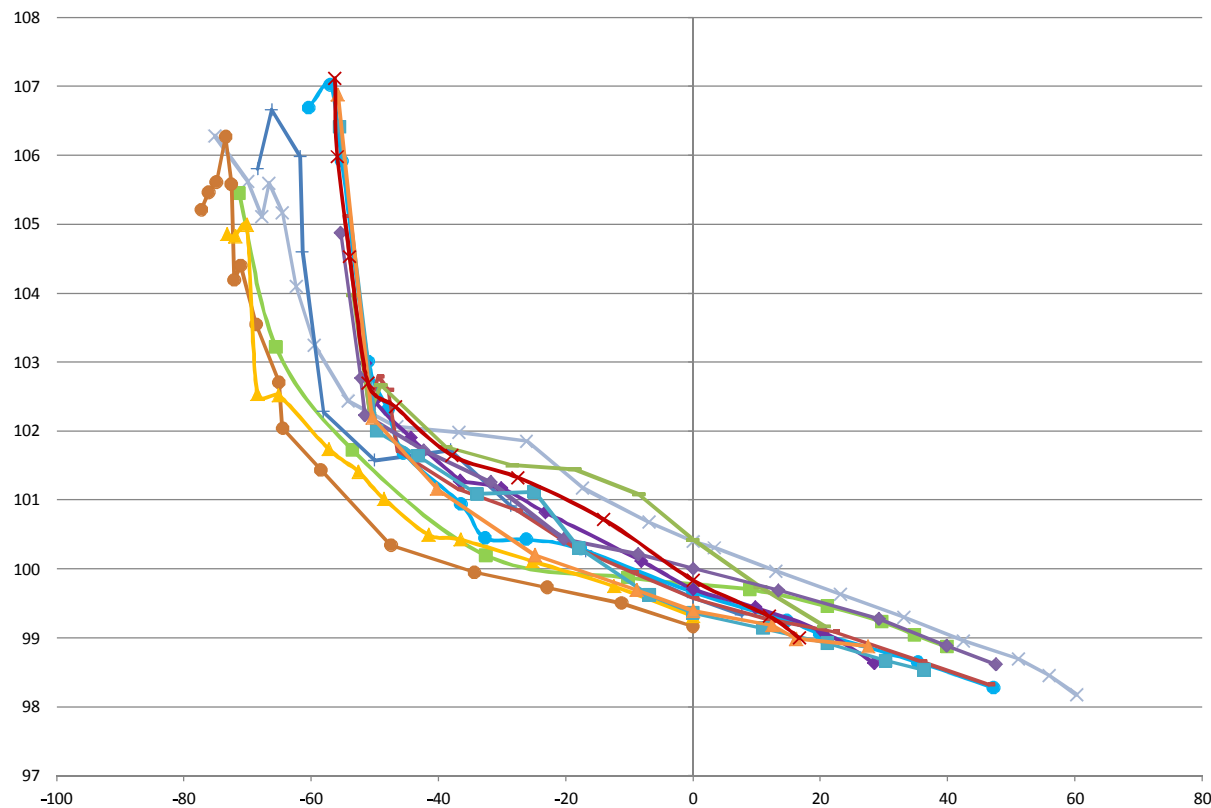
Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### Peg 150 - Shelly Beach



Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### PEG 250 - SHELLY BEACH

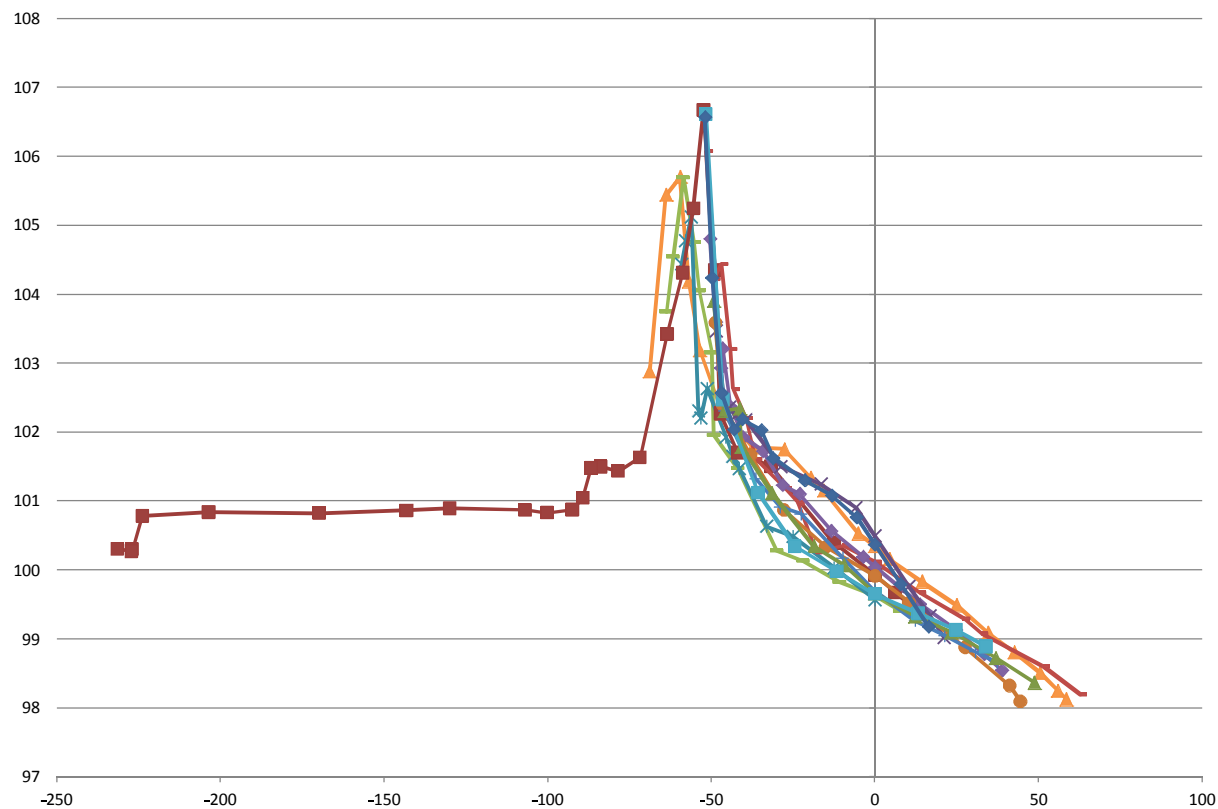


- 29/05/2013
- 07/03/2011
- 01/06/2005
- 25/06/2002
- 04/06/1996
- 24/03/1993
- 25/01/1990
- 02/09/1988
- 29/04/1988
- 30/11/1987
- 22/10/1987
- 23/09/1987
- 22/06/1987

Additional Data		
Bottom of Dune		
Date	Distance	Source
2004	-54.500	Lidar
Vegetation Extents		
Date	Distance	Source
1987	?	Survey
1990	?	Survey
1993	?	Survey
2002	#REF!	Survey
2006	-80.000	Photo
2011	#REF!	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### PEG 350 - SHELLY BEACH



- 29/05/2013
- 01/06/2005
- 25/06/2002
- 04/06/1996
- 24/03/1993
- 25/01/1990
- 29/09/1988
- 24/11/1987
- 22/10/1987
- 02/09/1988
- 23/09/1987
- 22/06/1987

#### Additional Data

##### Bottom of Dune

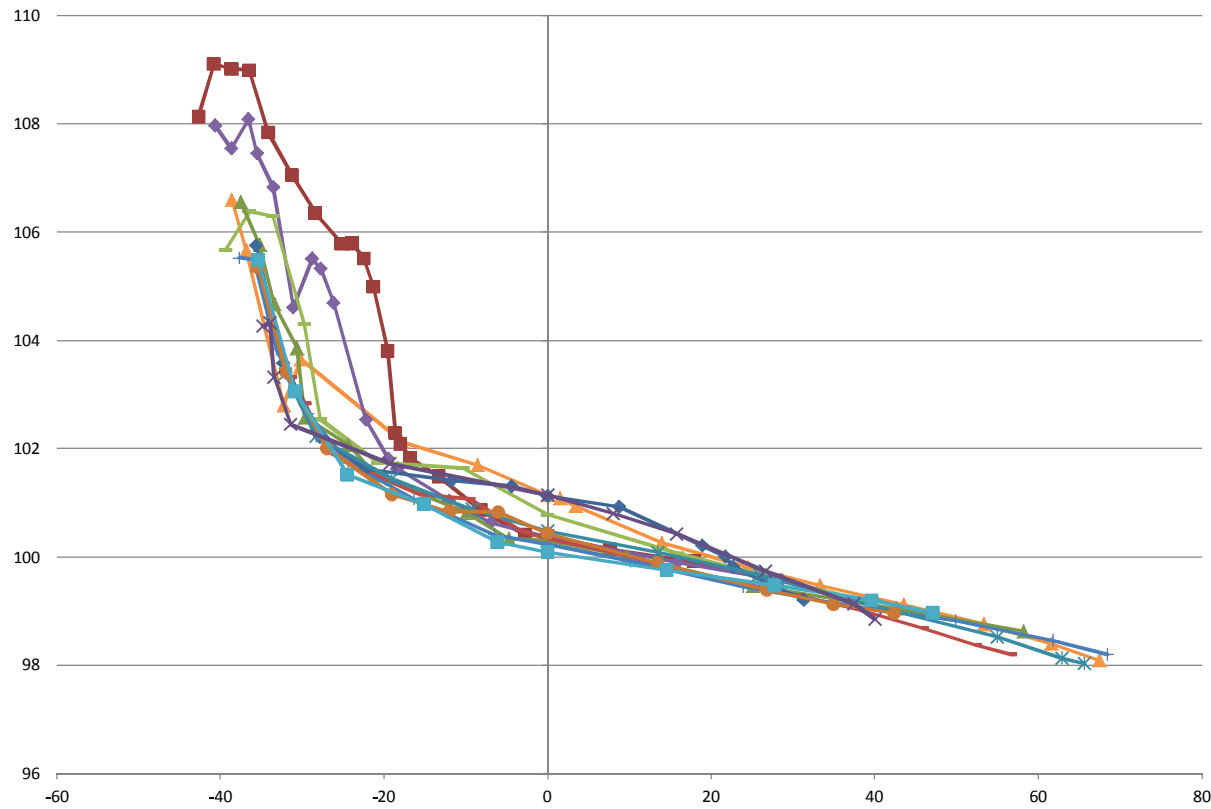
Date	Distance	Source
2004	-54.500	Lidar

##### Vegetation Extents

Date	Distance	Source
1987	?	Survey
1990	?	Survey
1993	?	Survey
2002	#REF!	Survey
2006	-80.000	Photo
2011	#REF!	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### PEG 450 - SHELLY BEACH



#### Additional Data

##### Bottom of Dune

Date	Distance	Source
2004	-54.500	Lidar

##### Vegetation Extents

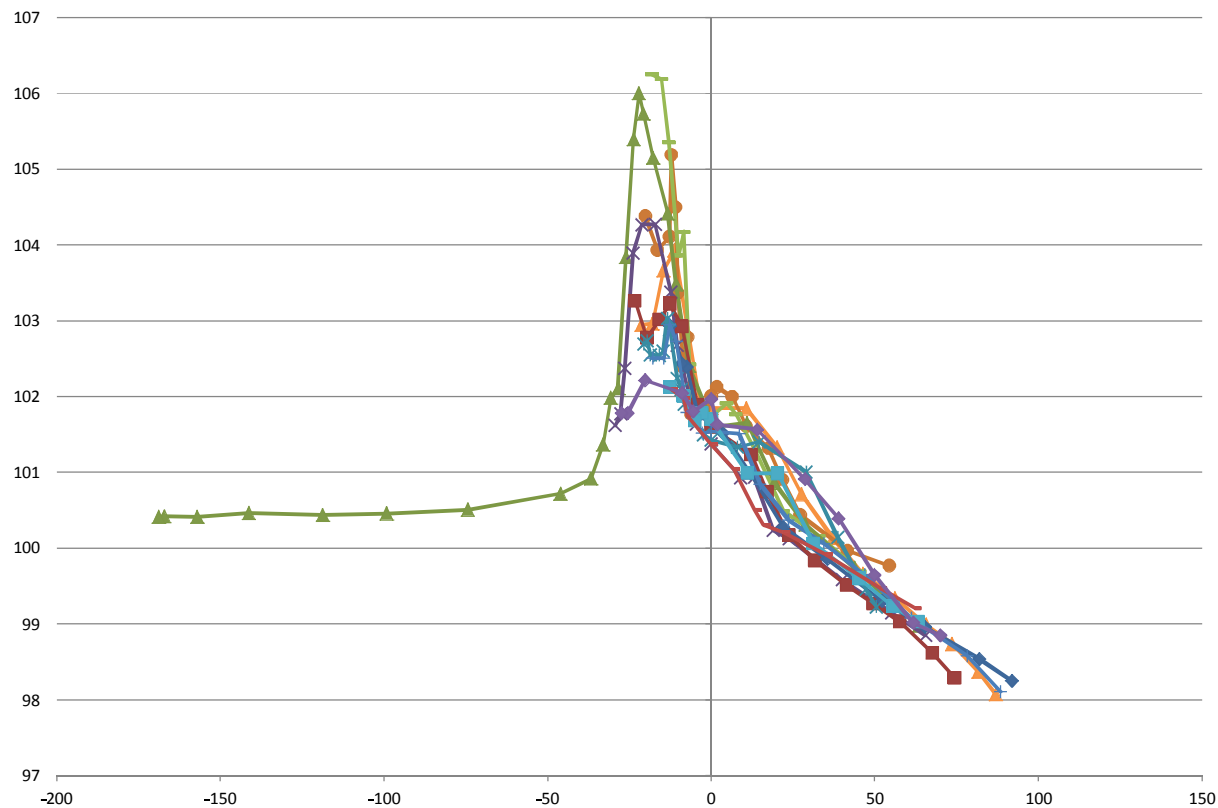
Date	Distance	Source
1987	?	Survey
1990	?	Survey
1993	?	Survey
2002	#REF!	Survey
2006	-80.000	Photo
2011	#REF!	Survey

- 29/05/2013
- 01/06/2005
- 25/06/2002
- 04/06/1996
- 24/03/1993
- 26/01/1990
- 02/09/1988
- 29/04/1988
- 24/11/1987
- 22/10/1987
- 23/09/1987
- 22/06/1987

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position



### PEG 550 - SHELLY BEACH



- 29/05/2013
- 01/06/2005
- 25/06/2002
- 04/06/1996
- 24/03/1993
- 26/01/1990
- 02/09/1988
- 29/04/1988
- 24/11/1987
- 22/10/1987
- 23/09/1987
- 22/06/1987

#### Additional Data

##### Bottom of Dune

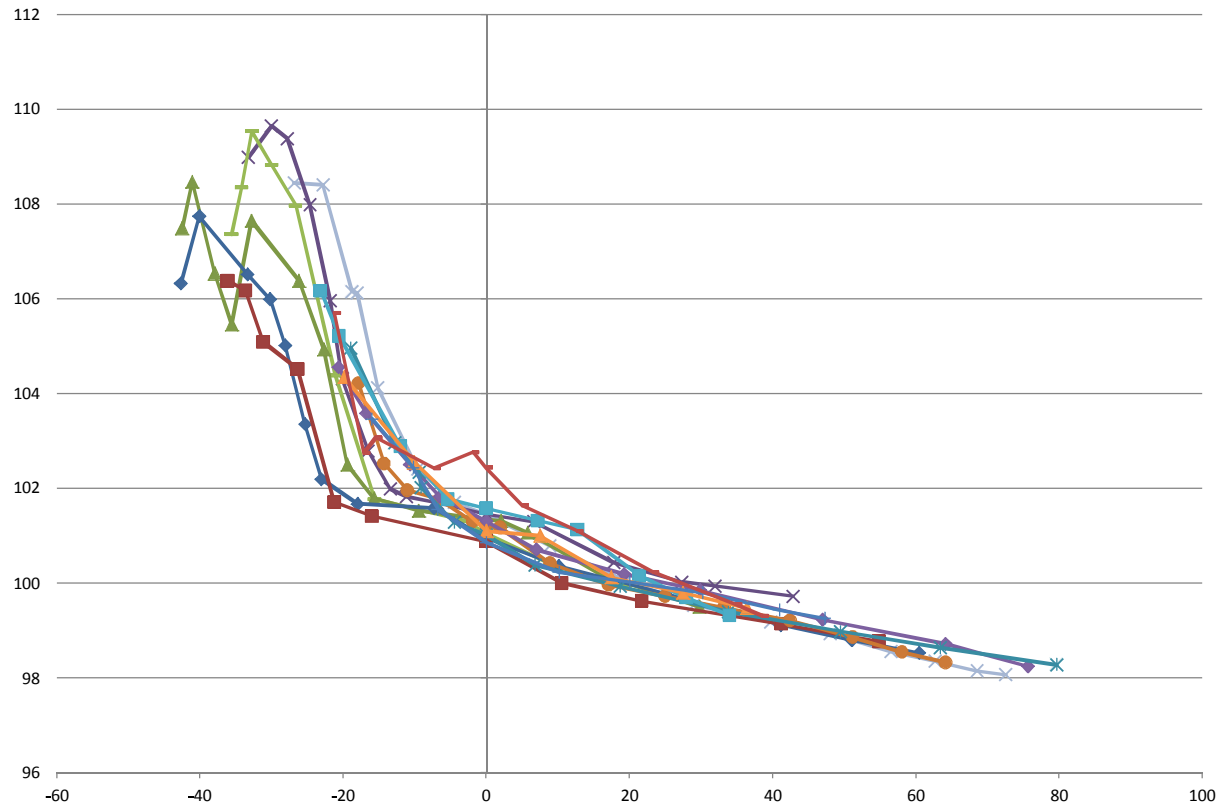
Date	Distance	Source
2004	-54.500	Lidar

##### Vegetation Extents

Date	Distance	Source
1987	?	Survey
1990	?	Survey
1993	?	Survey
2002	#REF!	Survey
2006	-80.000	Photo
2011	#REF!	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
 Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### PEG 650 - SHELLY BEACH



- 29/05/2013
- 01/06/2005
- 25/06/2002
- 29/11/2000
- 04/06/1996
- 24/03/1993
- 26/01/1990
- 24/11/1987
- 02/09/1988
- 29/04/1988
- 22/10/1987
- 23/09/1987
- 22/06/1987

#### Additional Data

##### Bottom of Dune

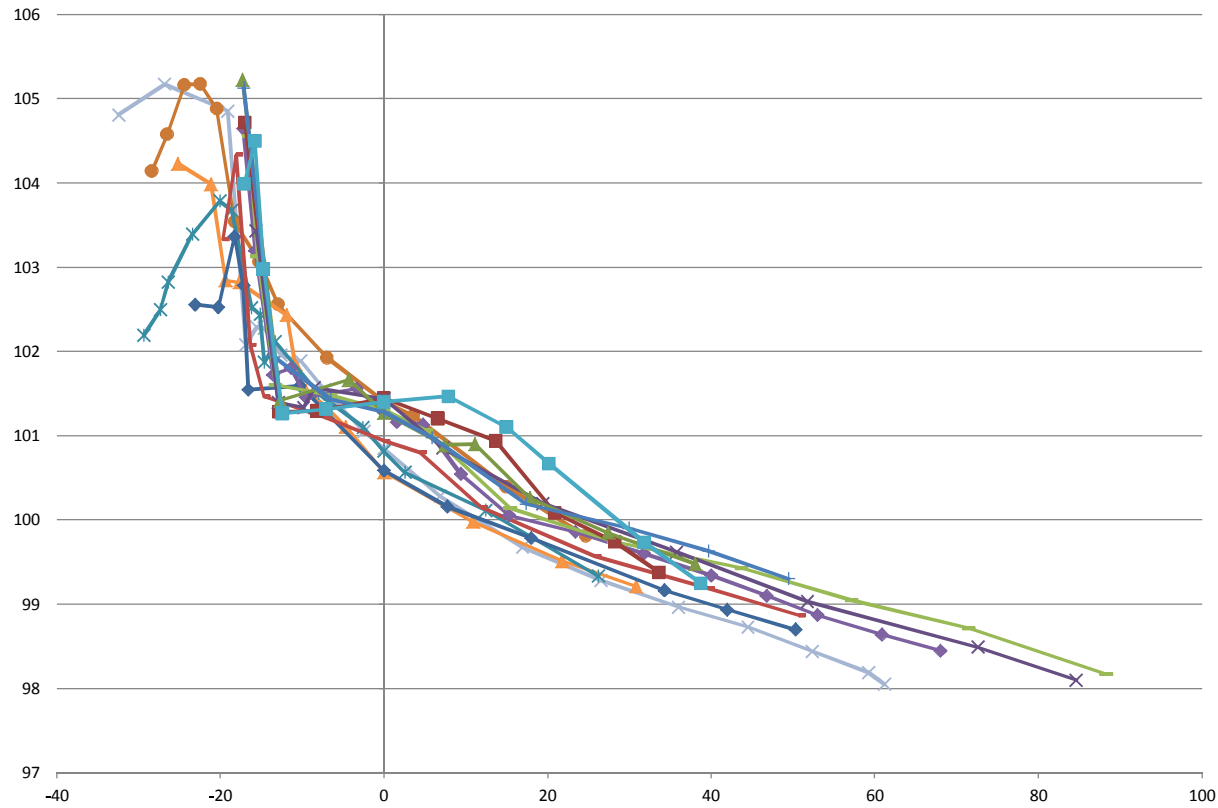
Date	Distance	Source
2004	-54.500	Lidar

##### Vegetation Extents

Date	Distance	Source
1987	?	Survey
1990	?	Survey
1993	?	Survey
2002	#REF!	Survey
2006	-80.000	Photo
2011	#REF!	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### PEG 750 - SHELLY BEACH



- 29/05/2013
- 01/06/2005
- 25/06/2002
- 29/11/2000
- 04/06/1996
- 24/03/1993
- 26/01/1990
- 02/09/1988
- 29/04/1988
- 24/11/1987
- 22/10/1987
- 23/09/1987
- 22/06/1987

#### Additional Data

##### Bottom of Dune

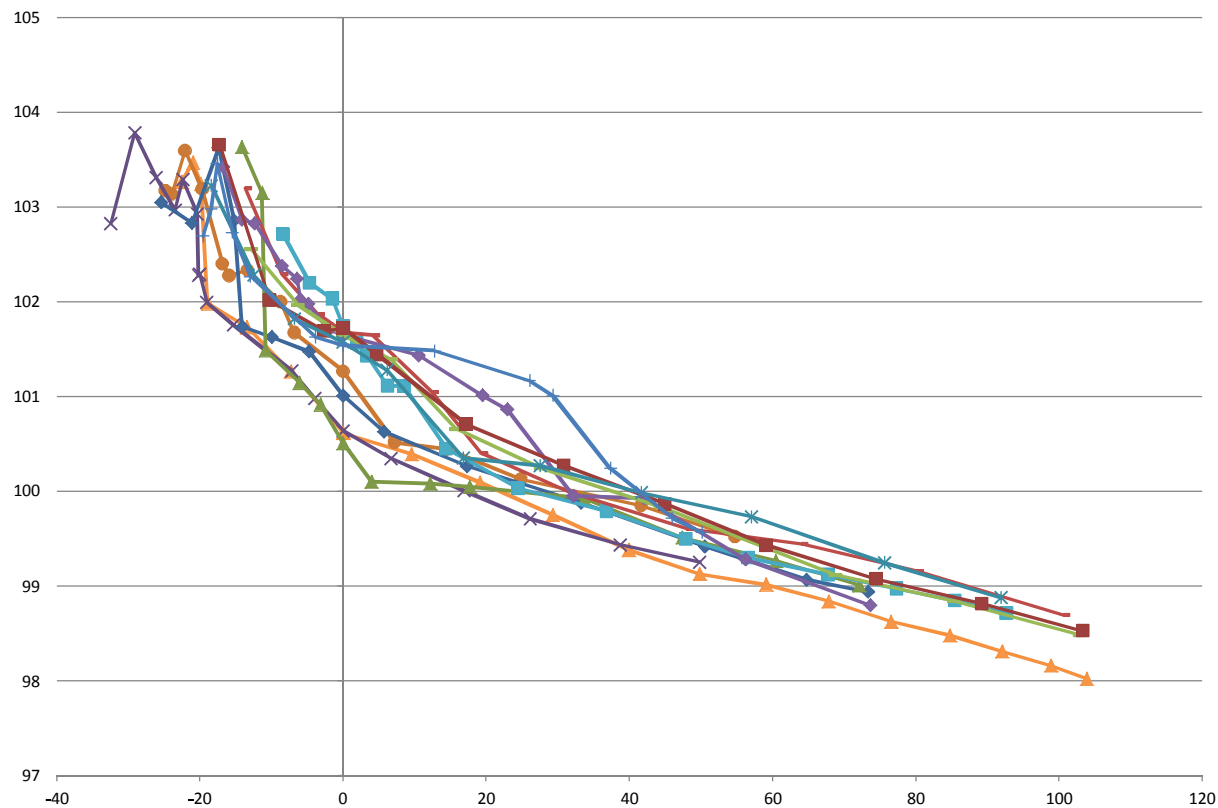
Date	Distance	Source
2004	-54.500	Lidar

##### Vegetation Extents

Date	Distance	Source
1987	?	Survey
1990	?	Survey
1993	?	Survey
2002	#REF!	Survey
2006	-80.000	Photo
2011	#REF!	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### PEG 850 - SHELLY BEACH



- 29/05/2013
- 01/06/2005
- 25/06/2002
- 04/06/1996
- 24/03/1993
- 26/01/1990
- 02/09/1988
- 29/04/1988
- 24/11/1987
- 22/10/1987
- 23/09/1987
- 22/06/1987

#### Additional Data

##### Bottom of Dune

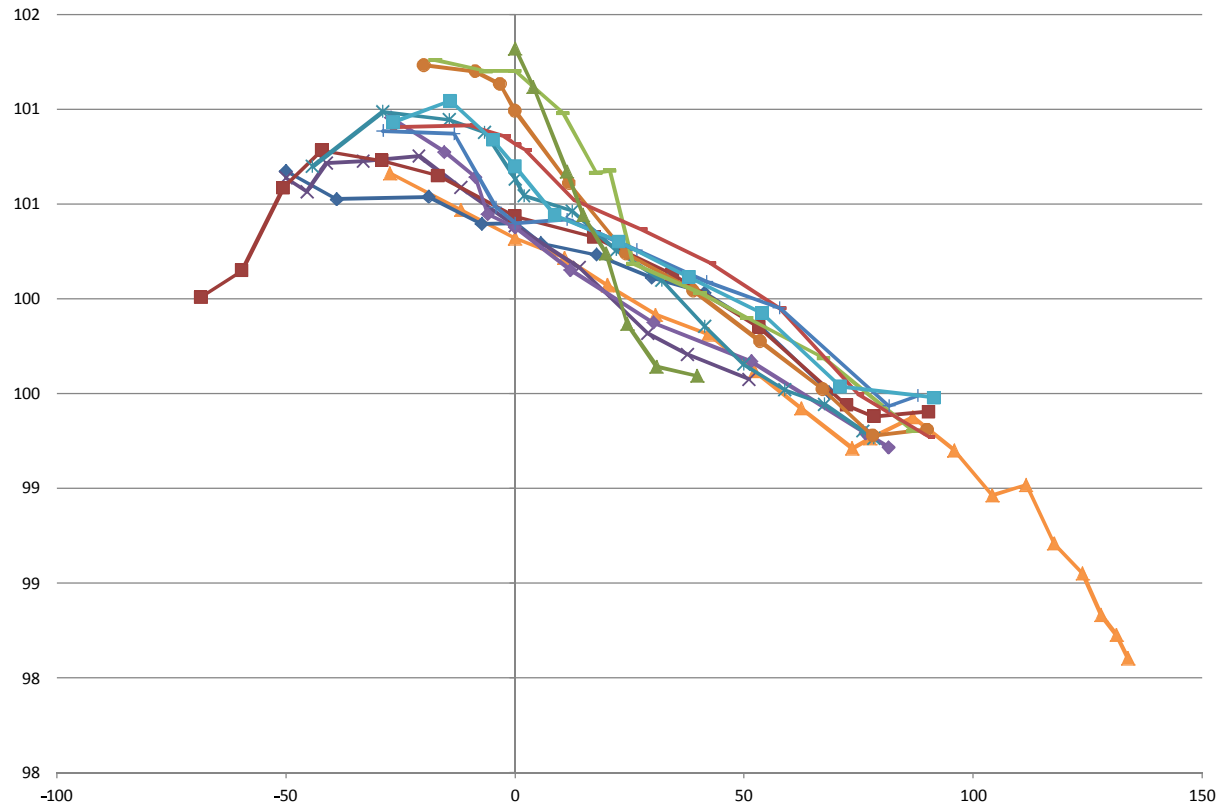
Date	Distance	Source
2004	-54.500	Lidar

##### Vegetation Extents

Date	Distance	Source
1987	?	Survey
1990	?	Survey
1993	?	Survey
2002	#REF!	Survey
2006	-80.000	Photo
2011	#REF!	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### PEG 899-1 - SHELLY BEACH



- 29/05/2013
- 01/06/2005
- 25/06/2002
- 04/06/1996
- 24/03/1993
- 26/01/1990
- 02/09/1988
- 29/04/1988
- 24/11/1987
- 22/10/1987
- 23/09/1987
- 22/06/1987

#### Additional Data

##### Bottom of Dune

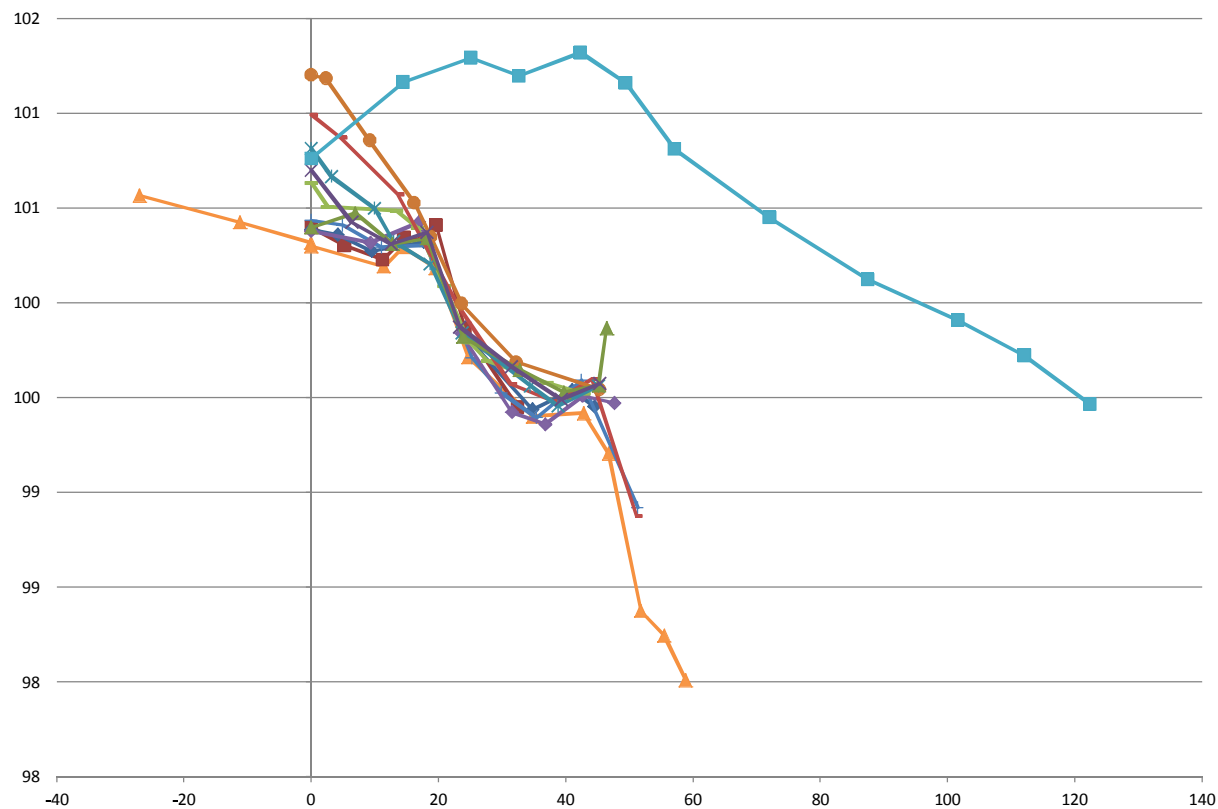
Date	Distance	Source
2004	-54.500	Lidar

##### Vegetation Extents

Date	Distance	Source
1987	?	Survey
1990	?	Survey
1993	?	Survey
2002	#REF!	Survey
2006	-80.000	Photo
2011	#REF!	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### PEG 899-2 - SHELLY BEACH



#### Additional Data

##### Bottom of Dune

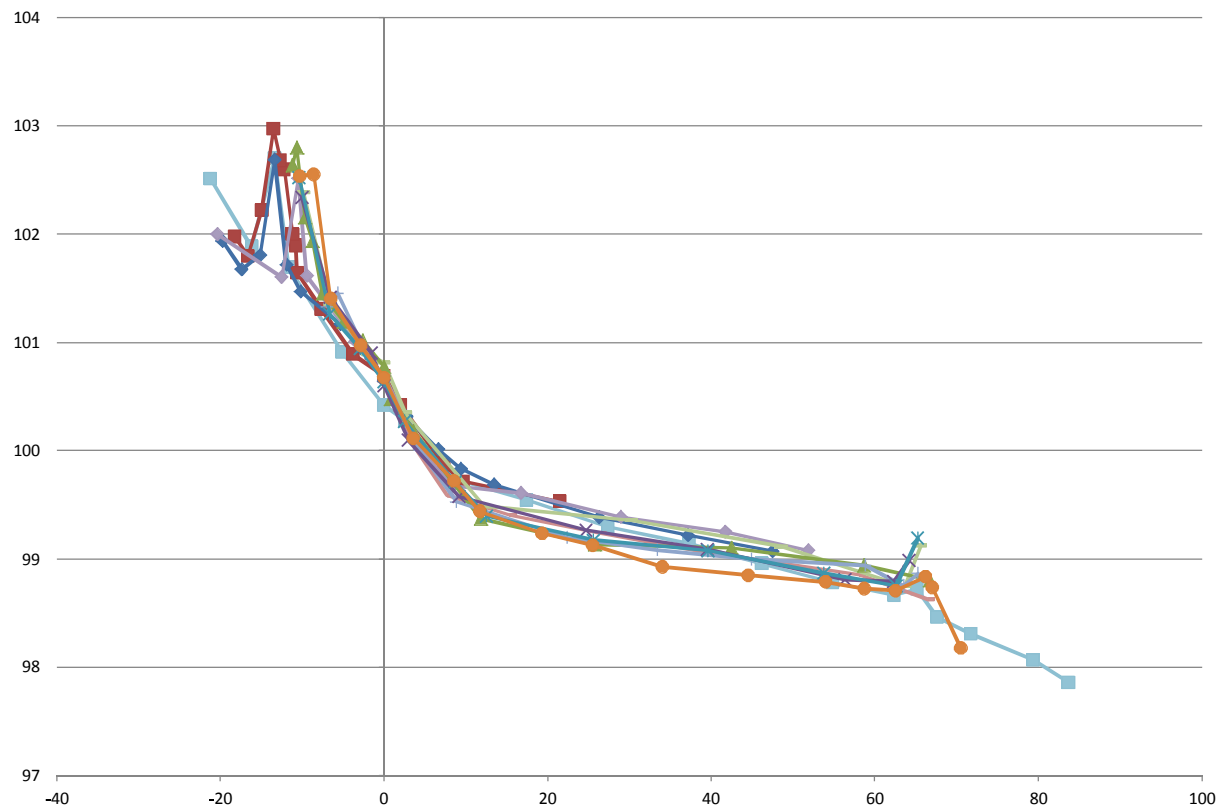
Date	Distance	Source
2004	-54.500	Lidar

##### Vegetation Extents

Date	Distance	Source
1987	?	Survey
1990	?	Survey
1993	?	Survey
2002	#REF!	Survey
2006	-80.000	Photo
2011	#REF!	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### PEG 949 - SHELLY BEACH



#### Additional Data

##### Bottom of Dune

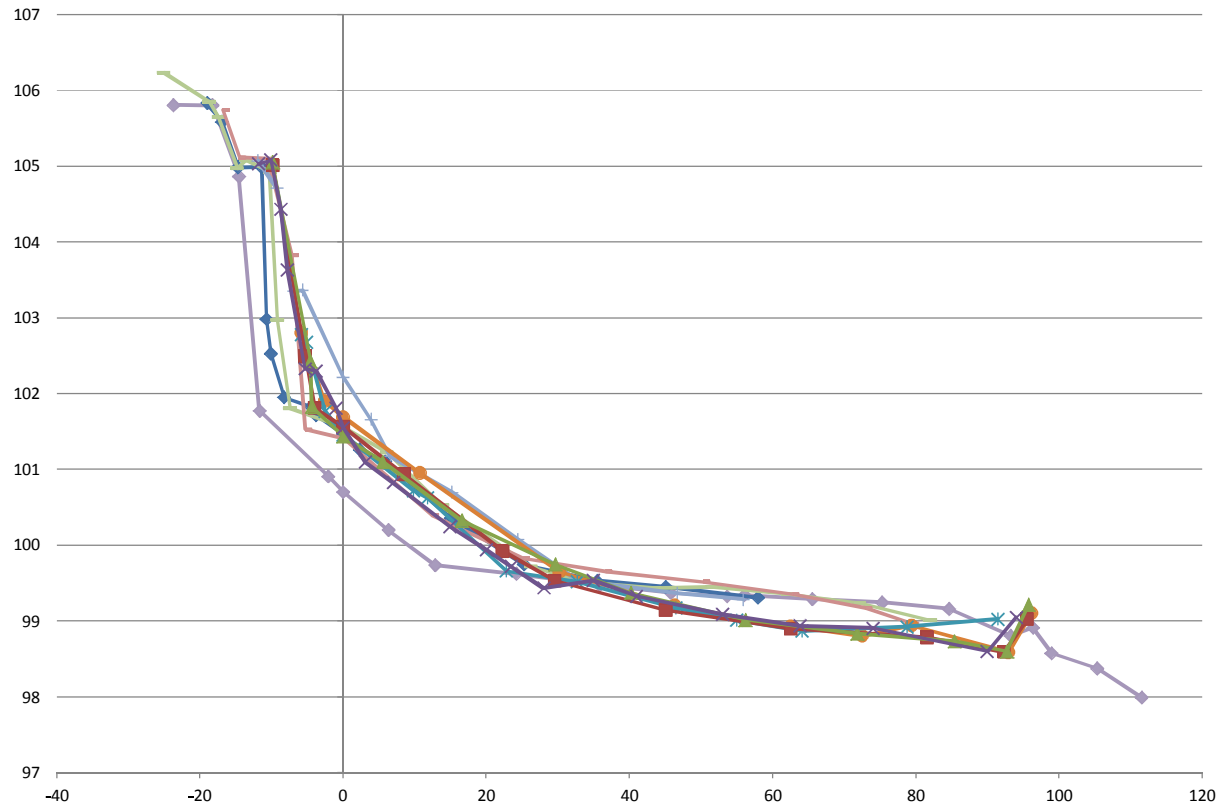
Date	Distance	Source
2004	-54.500	Lidar

##### Vegetation Extents

Date	Distance	Source
1987	?	Survey
1990	?	Survey
1993	?	Survey
2002	#REF!	Survey
2006	-80.000	Photo
2011	#REF!	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position

### PEG 1019 - SHELLY BEACH



- 29/05/2013
- 01/06/2005
- 25/06/2002
- 04/06/1996
- 24/03/1993
- 02/09/1988
- 29/04/1988
- 22/10/1987
- 23/09/1987
- 07/07/1987

Additional Data

Bottom of Dune

Date	Distance	Source
2004	-54.500	Lidar

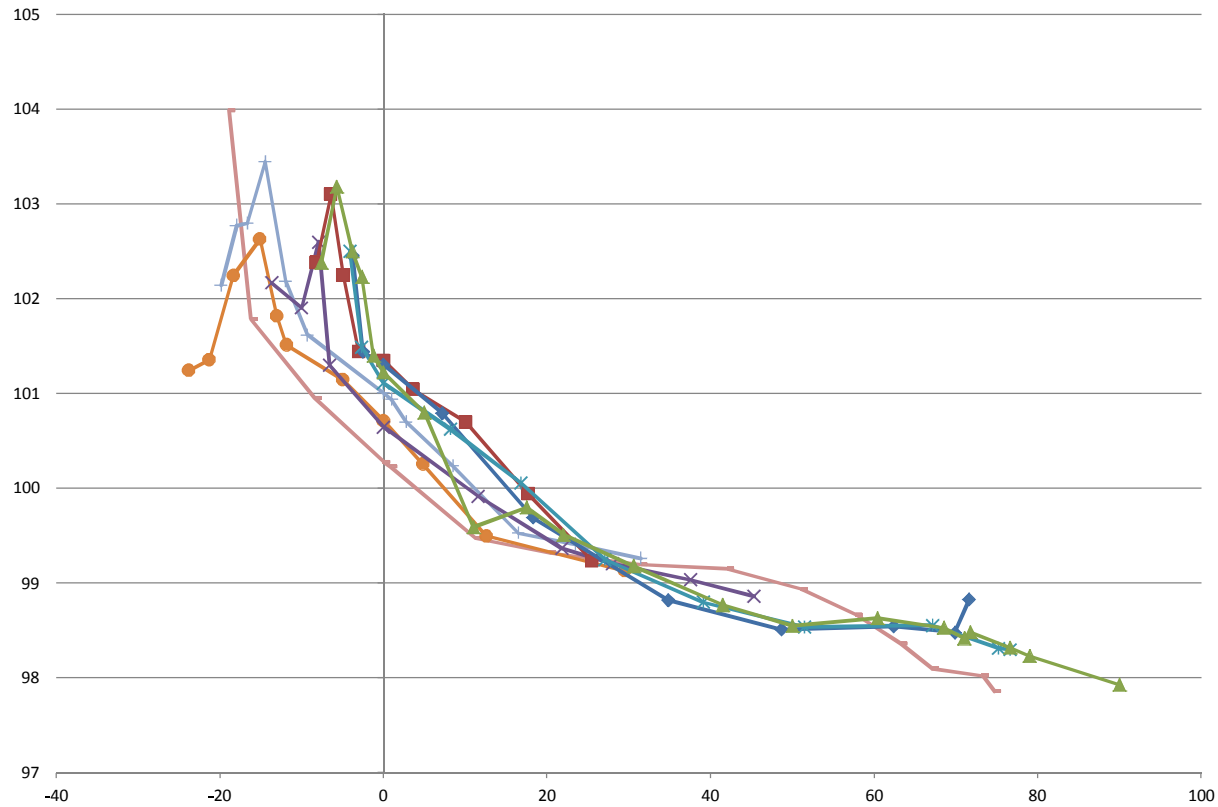
Vegetation Extents

Date	Distance	Source
1987	?	Survey
1990	?	Survey
1993	?	Survey
2002	#REF!	Survey
2006	-80.000	Photo
2011	#REF!	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
 Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position



### PEG 1089 - SHELLY BEACH



#### Additional Data

##### Bottom of Dune

Date	Distance	Source
2004	-54.500	Lidar

##### Vegetation Extents

Date	Distance	Source
1987	?	Survey
1990	?	Survey
1993	?	Survey
2002	#REF!	Survey
2006	-80.000	Photo
2011	#REF!	Survey

Notes: Heights on 'Y' axis are shown in meters. These are in terms of Mean Sea Level.  
Distances on 'X' axis are shown in meters. The '0' distance represents the benchmark position