

Herne Bay Tide Gauge

Location

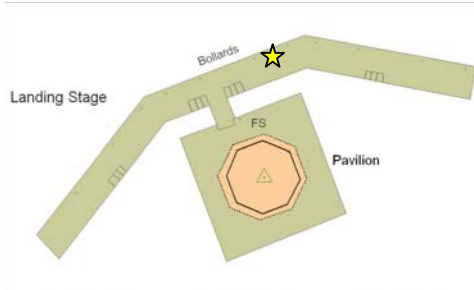
OS: 616895E 169377N

WGS84 *Latitude:* 51° 22.919196' N *Longitude:* 01° 6.9335907' E

NE front of Herne Bay Pier

Instrument Type

Etrometa Step Gauge



Benchmarks

Benchmark	OS Co-ordinates	Description
TGBM	616894.912E 169376.689N	5.524 OD Steel pin

TGZ = -3.510m above Ordnance Datum Newlyn

TGZ = -0.790m above Admiralty Chart Datum

TGZ = 9.034m below TGBM

Datum information

All data are to Ordnance Datum Newlyn. The height of Chart Datum relative to Ordnance Datum at Herne Bay is -2.72m.

Survey information

The site was last surveyed on 26 November 2004. All data prior to this date were re-adjusted to the new level.

Site characteristics

The old pier is now detached from the shore. Some wave reflection from the dolphin legs can occur. There are no nearby estuaries. Spring tidal range is 4.9m.

Measurements

The step gauge measuring burst is 10 minutes at 2.56Hz, every 10 minutes. The time stamp for the 10 minute average is at the centre of the burst.

Data Quality

C1(%)	Sample interval	Missing data
97	10 minutes	6-7 & 19-21 Feb, 30 Jun

Residuals and Elevations

Residuals and Elevations (OD and CD) for the whole year are shown in Figures 1 to 3 respectively.

Statistics

All times GMT

Month	Surge maxima		Surge minima	
	Value (m)	Date/Time	Value (m)	Date/Time
January	1.37	12-Jan-2007 01:00	-1.97	11-Jan-2007 13:00
February	1.54	22-Feb-2007 00:00	-2.35	22-Feb-2007 04:00
March	1.32	18-Mar-2007 20:00	-1.12	06-Mar-2007 10:00
April	0.57	19-Apr-2007 21:00	-0.54	21-Apr-2007 12:00
May	1.10	02-May-2007 21:00	-0.49	10-May-2007 00:00
June	0.71	26-Jun-2007 13:00	-0.45	29-Jun-2007 07:00
July	0.75	10-Jul-2007 10:00	-0.89	10-Jul-2007 05:00
August	0.75	22-Aug-2007 13:00	-0.44	03-Aug-2007 23:00
September	1.12	10-Sep-2007 19:00	-0.40	23-Sep-2007 06:00
October	0.54	17-Oct-2007 23:00	-0.64	28-Oct-2007 08:00
November	2.52	09-Nov-2007 06:00	-0.70	18-Nov-2007 13:00
December	0.92	07-Dec-2007 19:00	-0.83	29-Dec-2007 00:00

Month	Extreme maxima		Extreme minima	
	Elevation (OD)	Date/Time	Elevation (OD)	Date/Time
January	3.09	18-Jan-2007 23:00	-2.94	11-Jan-2007 11:50
February	2.76	18-Feb-2007 12:00	-2.43	22-Feb-2007 07:20
March	3.24	20-Mar-2007 13:00	-2.68	06-Mar-2007 08:30
April	3.06	20-Apr-2007 01:00	-2.63	19-Apr-2007 07:30
May	2.72	20-May-2007 02:00	-2.48	18-May-2007 19:20
June	2.67	16-Jun-2007 00:00	-2.13	16-Jun-2007 19:20
July	2.65	30-Jul-2007 12:00	-2.33	17-Jul-2007 20:30
August	2.78	31-Aug-2007 14:00	-2.44	03-Aug-2007 21:40
September	3.12	28-Sep-2007 12:00	-2.39	28-Sep-2007 19:10
October	2.74	30-Oct-2007 14:00	-2.45	28-Oct-2007 19:40
November	3.36	25-Nov-2007 12:00	-2.79	24-Nov-2007 17:40
December	2.56	25-Dec-2007 00:00	-2.51	27-Dec-2007 08:30

Month	Mean Sea Level	
	No. of days	MSL (OD)
January	31	0.178
February	23	0.118
March	31	0.160
April	30	0.080
May	31	0.154
June	29	0.185
July	31	0.161
August	31	0.196
September	30	0.246
October	31	0.188
November	30	0.245
December	31	0.117

10 Highest Values in 2007			
Surge		Extreme	
Value (m)	Date/Time	Elevation (OD) (surge component)	Date/Time
2.52	09-Nov-2007 06:50	3.36 (0.74)	25-Nov-2007 12:00
1.54	22-Feb-2007 00:00	3.27 (0.98)	08-Nov-2007 23:40
1.37	12-Jan-2007 01:30	3.24 (0.39)	20-Mar-2007 13:10
1.32	18-Mar-2007 20:10	3.21 (0.68)	18-Mar-2007 23:40
1.26	18-Mar-2007 19:20	3.20 (0.63)	18-Mar-2007 11:20
1.21	23-Nov-2007 06:10	3.12 (0.42)	28-Sep-2007 12:50
1.19	23-Nov-2007 05:50	3.09 (0.90)	18-Jan-2007 23:20
1.13	20-Mar-2007 09:20	3.08 (0.46)	22-Jan-2007 14:10
1.12	20-Mar-2007 09:10	3.06 (0.20)	20-Apr-2007 01:30
1.12	25-Nov-2007 08:10	3.05 (0.79)	11-Nov-2007 12:40

Year	Annual surge maxima		Annual extreme maxima		Annual Mean Sea Level (OD)	Recovery rate (C1)
	Value (m)	Date	Elevation (OD) (surge component)	Date		
1996	1.294	12-Sep-1996 20:30	3.11 (0.539)	13-Nov-1996 00:50	0.116	60%
1997	1.226	18-Feb-1997 17:40	3.16 (0.663)	11-Apr-1997 15:00	0.073	88%
1998	1.390	11-Mar-1998 18:40	3.35 (0.519)	08-Oct-1998 13:40	0.123	90%
1999	1.869	05-Feb-1999 11:00	3.15 (0.554)	27-Nov-1999 14:50	0.124	76%
2000	1.782	30-Jan-2000 03:40	3.20 (0.510)	22-Jan-2000 12:50	0.113	84%
2001	1.714	08-Nov-2001 14:30	3.28 (0.649)	08-Feb-2001 12:00	0.163	91%
2002	1.680	27-Oct-2002 22:10	3.14 (0.385)	07-Nov-2002 01:10	0.142	99%
2003	1.607	30-Jan-2003 18:00	3.09 (0.614)	08-Oct-2003 23:30	0.172	100%
2004	1.814	08-Feb-2004 21:10	3.35 (0.771)	13-Nov-2004 00:20	0.153	96%
2005	1.782	25-Nov-2005 01:10	3.35 (1.187)	16-Dec-2005 12:40	0.140	84%
2006	1.948	31-Oct-2006 22:20	3.18 (0.397)	07-Oct-2006 11:40	0.143	87%
2007	2.515	09-Nov-2007 06:50	3.36 (0.738)	25-Nov-2007 12:00	0.170	97%
2008						

General

The time series of 10 minute tidal elevations for one year is quality-checked, flagged and archived. The archived time series is continuous and monotonic, with missing data given as 9999. The missing data shown are days where the entire 24 hours of data are missing.

Monthly **extreme maxima/minima** are the maximum and minimum water levels from all measured data for that month. Monthly **surge maxima/minima** (residuals) are calculated in a similar manner from the time series of residuals. Residuals are derived as the measured tidal elevation minus the predicted tidal elevation.

Tidal predictions were produced using TASK2000. The monthly Mean Sea Level is calculated as the average of all readings for the given month. The annual MSL is the average of all readings for the given year. These average values should not be used for any purpose without consideration of the recovery rate.

The TGBM was surveyed on 26 November 2004 and the resulting elevation of the TGZ was found to be -3.510 OD, which is 0.050m lower than the TGZ which has been used since 1996. All tidal data from 1996 to 2005 inclusive were re-adjusted by -0.050m, to conform with the new TGZ.

Acknowledgements

Tidal predictions were produced using the TASK2000 software, kindly provided by the Permanent Service for Mean Sea Level (PSMSL), Proudman Oceanographic Laboratory.

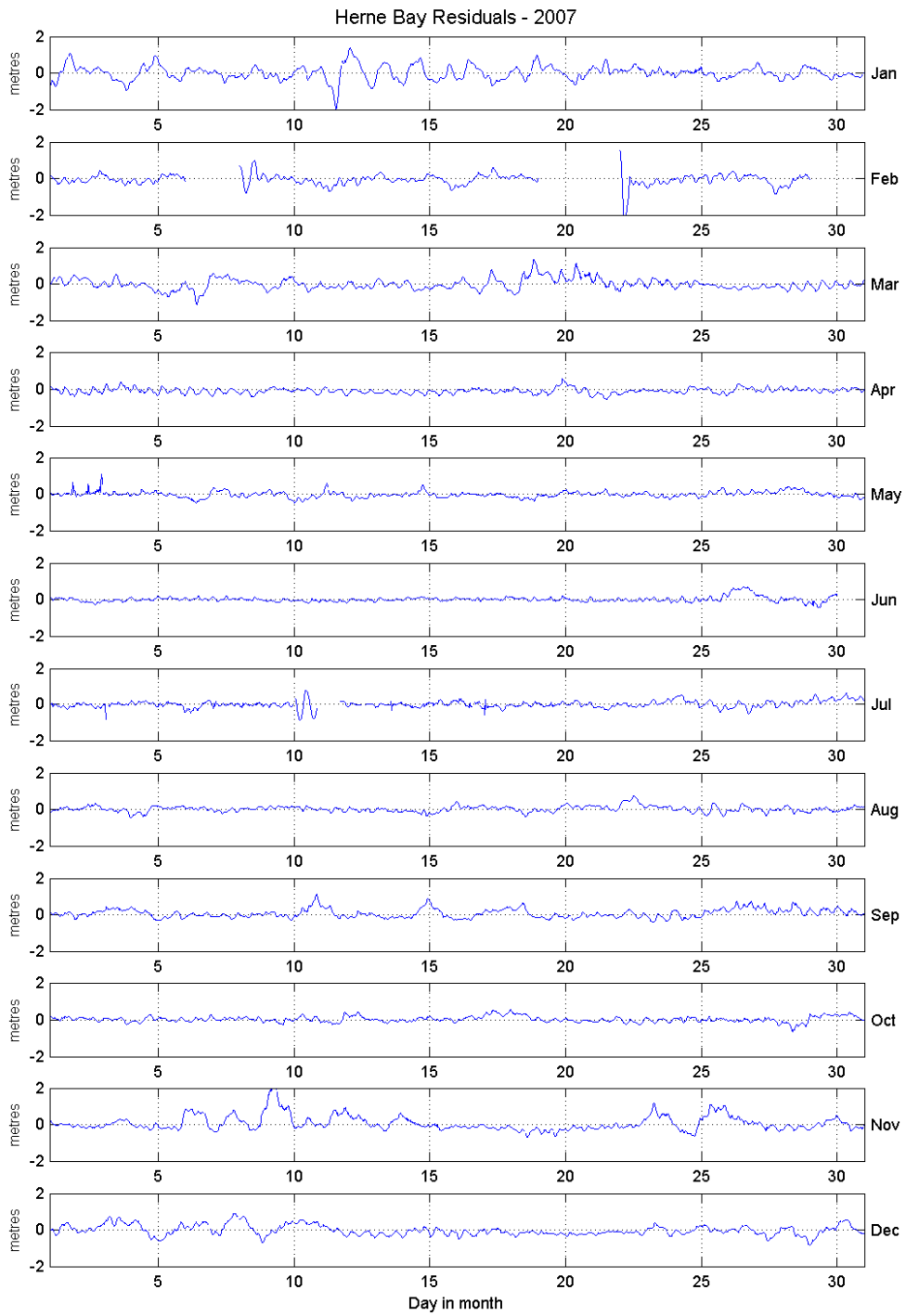


Figure 1 Residuals for 2007

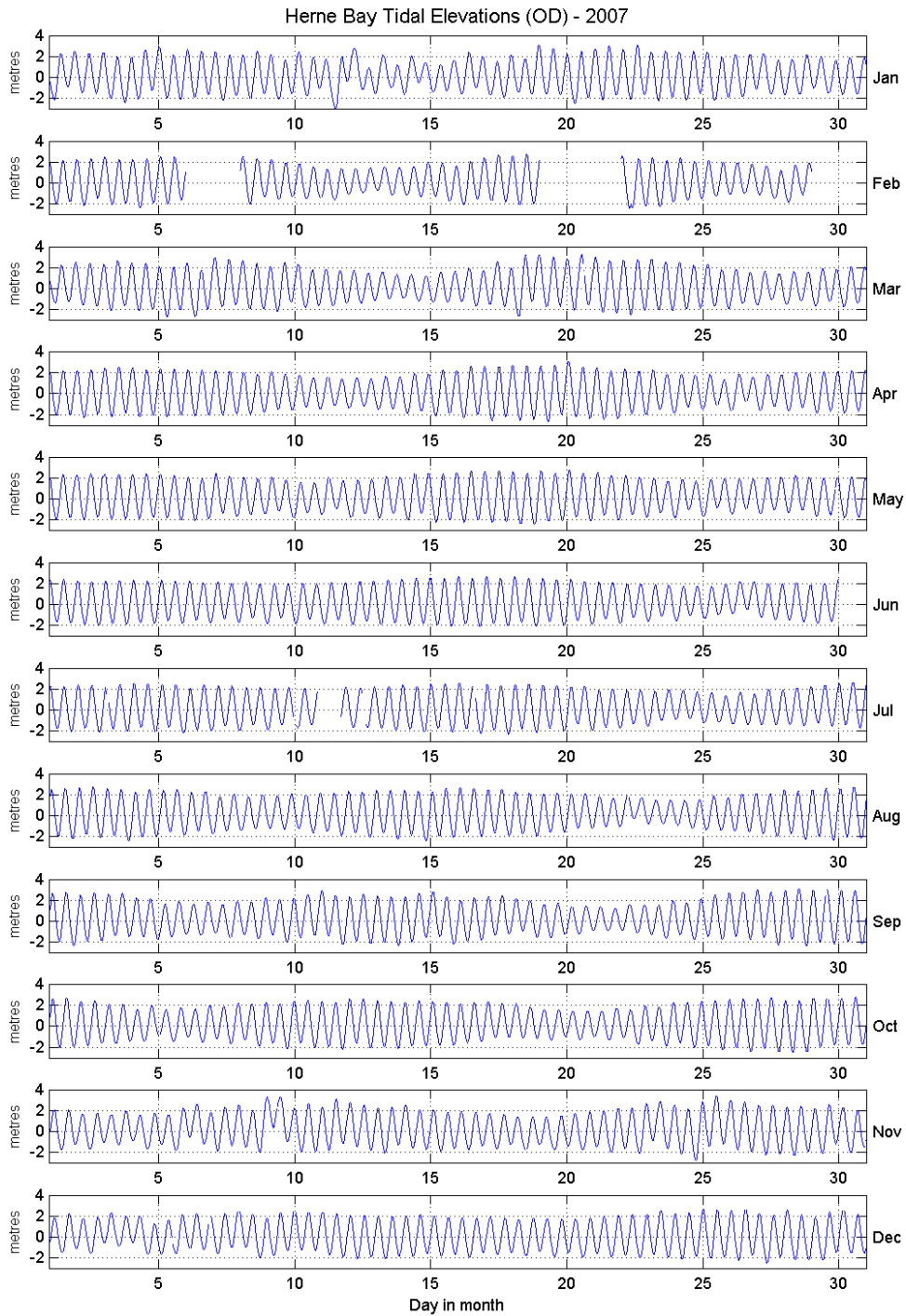


Figure 2 Tidal elevations relative to Ordnance Datum for 2007

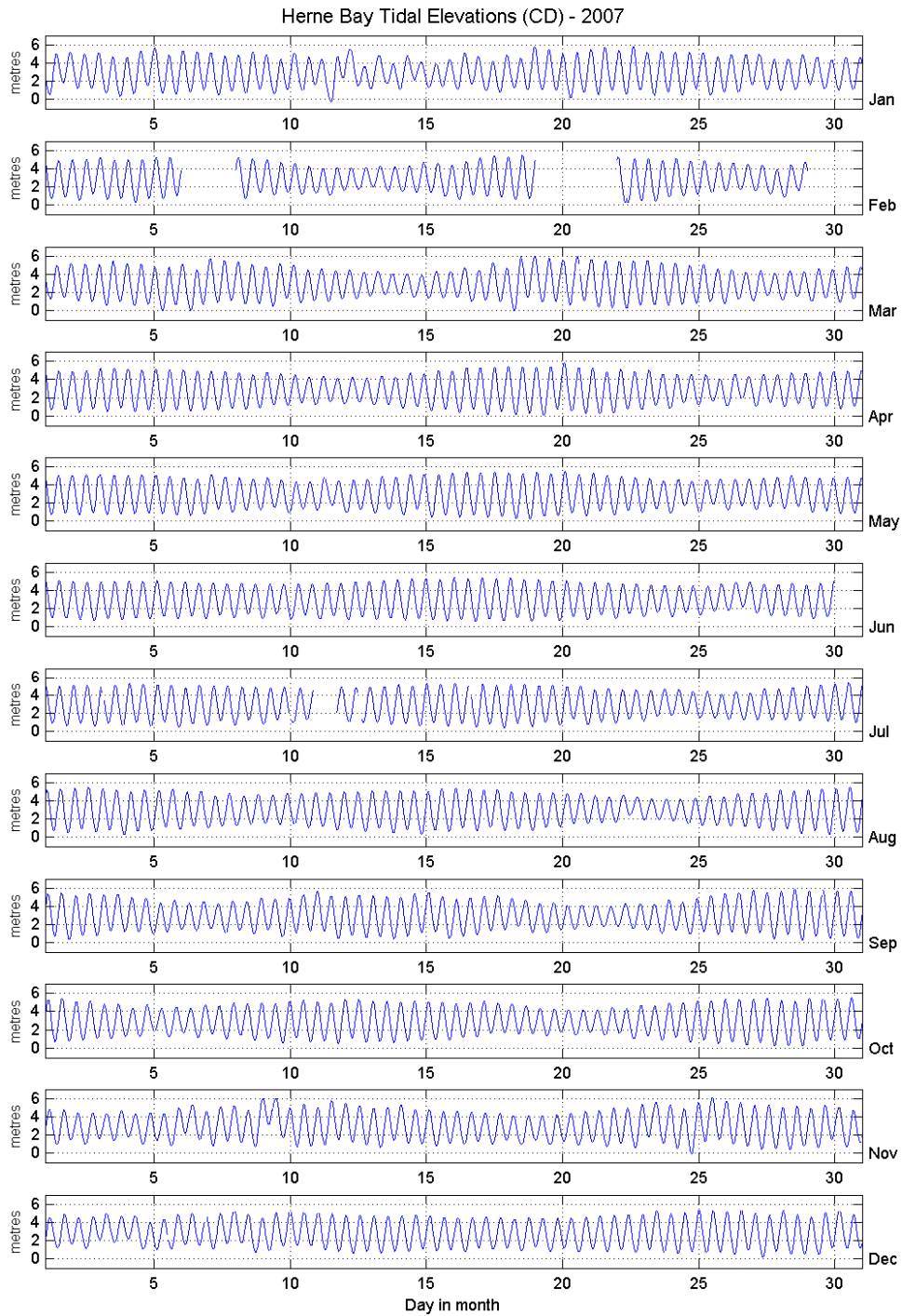


Figure 3 Tidal elevations relative to Chart Datum for 2007