

Brighton Marina Tide Gauge

Location

OS: 533873E 103074N

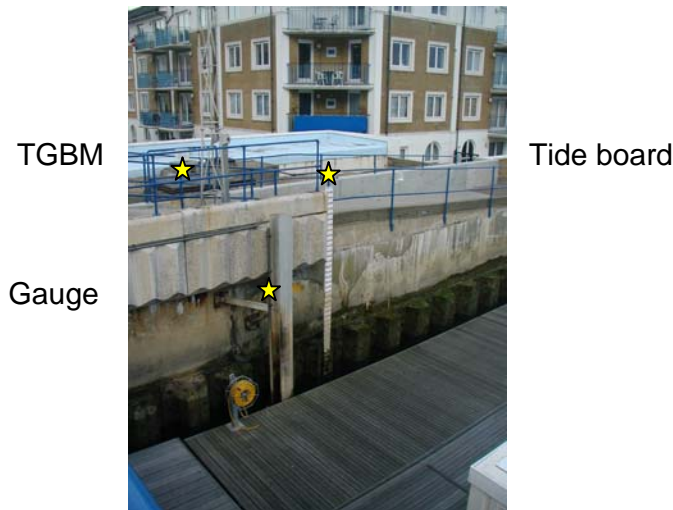
WGS84 Latitude: 50° 48.709786' N Longitude: 00° 6.069309' W

Instrument Type

Valeport 740 tide gauge

Site of Gauge

Northern sea wall of Brighton Marina



Benchmarks

Benchmark	OS Co-ordinates			Description
TGBM	533875.080E 103083.498N	5.198m OD		Edge of manhole cover
Aux1	- -	5.535m OD		Top of tide board
Aux2				

TGZ = -3.914m above Ordnance Datum Newlyn

TGZ = 0.514m above Admiralty Chart Datum

TGZ = 9.112m below TGBM

Datum information

All data are to Ordnance Datum Newlyn. The height of Chart Datum relative to Ordnance Datum at Brighton is -3.40m.

Survey information

The site was surveyed on 12 January 2006. The TGZ was reset at 13:45 on 09 Feb 2006. All data measured prior to this date have been readjusted to the new level.

Data Quality

C1(%)	Sample interval	Missing data
100	10 minutes	None

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	0.804	20-Jan-2005 18:00	-0.443	26-Jan-2005 15:40
February	0.496	13-Feb-2005 15:10	-0.534	25-Feb-2005 12:00
March	0.414	11-Mar-2005 19:50	-0.454	06-Mar-2005 07:20
April	0.385	29-Apr-2005 07:50	-0.271	09-Apr-2005 14:40
May	0.284	22-May-2005 02:50	-0.305	29-May-2005 02:50
June	0.184	24-Jun-2005 20:30	-0.357	08-Jun-2005 08:30
July	0.338	24-Jul-2005 08:40	-0.294	12-Jul-2005 11:30
August	0.473	25-Aug-2005 10:30	-0.256	30-Aug-2005 15:10
September	0.400	29-Sep-2005 20:00	-0.259	29-Sep-2005 02:40
October	0.543	29-Oct-2005 20:00	-0.246	02-Oct-2005 22:50
November	0.701	03-Nov-2005 10:10	-0.344	14-Nov-2005 07:30
December	0.761	02-Dec-2005 16:50	-0.370	13-Dec-2005 07:00

Month	Extreme maxima		Extreme minima	
	Elevation (OD)	Date/Time	Elevation (OD)	Date/Time
January	3.638	13-Jan-2005 00:50	-2.789	14-Jan-2005 20:20
February	3.627	11-Feb-2005 00:40	-2.871	10-Feb-2005 18:30
March	3.722	12-Mar-2005 00:30	-2.900	10-Mar-2005 17:30
April	3.444	08-Apr-2005 23:10	-2.846	09-Apr-2005 17:40
May	3.096	07-May-2005 22:50	-2.707	24-May-2005 05:00
June	3.128	24-Jun-2005 00:10	-2.773	26-Jun-2005 08:10
July	3.493	24-Jul-2005 13:30	-2.810	24-Jul-2005 07:10
August	3.407	22-Aug-2005 13:00	-3.023	22-Aug-2005 06:50
September	3.526	20-Sep-2005 12:20	-2.960	19-Sep-2005 05:40
October	3.383	19-Oct-2005 11:50	-2.878	17-Oct-2005 04:40
November	3.379	03-Nov-2005 11:40	-2.636	14-Nov-2005 15:50
December	3.254	02-Dec-2005 23:20	-2.730	03-Dec-2005 18:20

Month	Mean Sea Level	
	No. of days	MSL (OD)
January	31	0.114
February	28	0.022
March	31	0.083
April	30	0.111
May	31	0.098
June	30	0.097
July	31	0.175
August	31	0.171
September	30	0.194
October	31	0.241
November	30	0.254
December	31	0.192

10 Highest Values in 2005			
Surge		Extreme	
Value (m)	Date/Time	Elevation (OD) (surge component)	Date/Time
0.804	20-Jan-2005 18:00	3.722 (0.247)	12-Mar-2005 00:30
0.761	02-Dec-2005 16:50	3.638 (0.359)	13-Jan-2005 00:50
0.702	02-Dec-2005 20:30	3.627 (0.172)	11-Feb-2005 00:40
0.701	03-Nov-2005 10:10	3.538 (0.153)	12-Mar-2005 12:30
0.671	20-Jan-2005 15:50	3.526 (0.001)	20-Sep-2005 12:20
0.649	24-Nov-2005 23:50	3.493 (0.145)	24-Jul-2005 13:30
0.630	25-Nov-2005 03:40	3.462 (-0.091)	19-Sep-2005 12:00
0.616	03-Nov-2005 07:30	3.444 (0.094)	08-Apr-2005 23:10
0.591	02-Nov-2005 04:30	3.431 (-0.014)	13-Mar-2005 01:00
0.590	02-Dec-2005 04:30	3.424 (0.141)	13-Feb-2005 02:00

Year	Annual surge maxima		Annual extreme maxima		Annual Mean Sea Level (OD)	Recovery rate (C1)
	Value (m)	Date	Elevation (OD) (surge component)	Date		
2004						
2005	0.804	20-Jan-2005 18:00	3.722 (0.247)	12-Mar-2005 00:30	0.147	100%
2006						

General

The time series of measured tidal elevations for one year is quality-checked, flagged and archived. The original time series, at irregular 5 minute intervals, was re-sampled to 10 minute intervals using a piecewise cubic spline interpolation. The re-sampled 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.

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 12 January 2006 and the resulting elevation of the TGZ was found to be -3.914OD, which is 0.046m lower than the TGZ used since the gauge was installed in 2004. All tidal data from 12 July 2004 to 13:40 09 Feb 2006 inclusive have been re-adjusted by -0.046m, to conform with the new TGZ. Recorded data from 13:45 09 Feb 2006 will use the new TGZ and will require no re-adjustment.

Acknowledgements

The tide gauge is owned and operated by Brighton Marina, who have kindly granted permission for the Regional Monitoring Programme to make use of their data. Tidal predictions were produced using the TASK2000 software, kindly provided by the Permanent Service for Mean Sea Level (PSMSL), Proudman Oceanographic Laboratory.

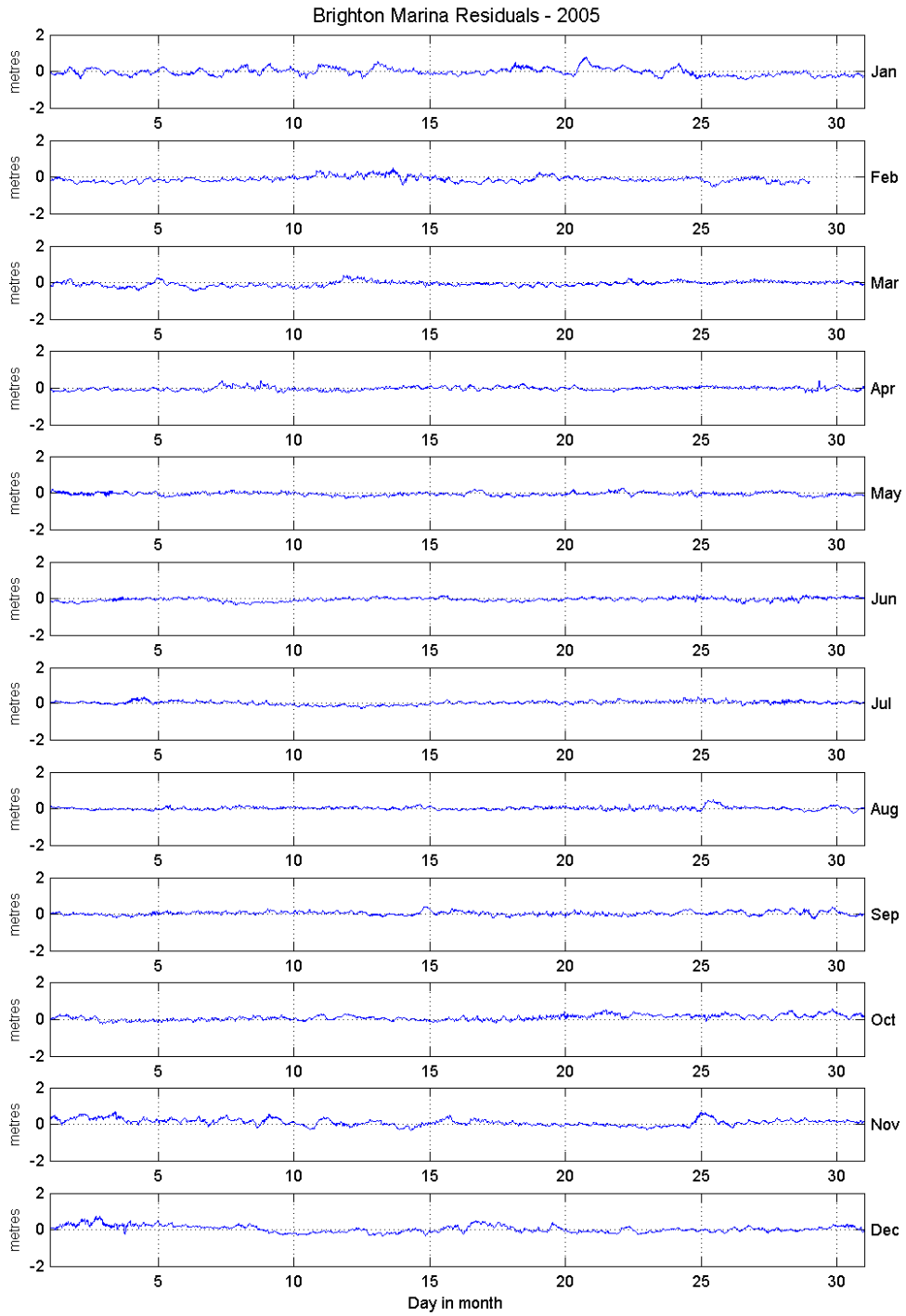


Figure 1 Residuals for 2005

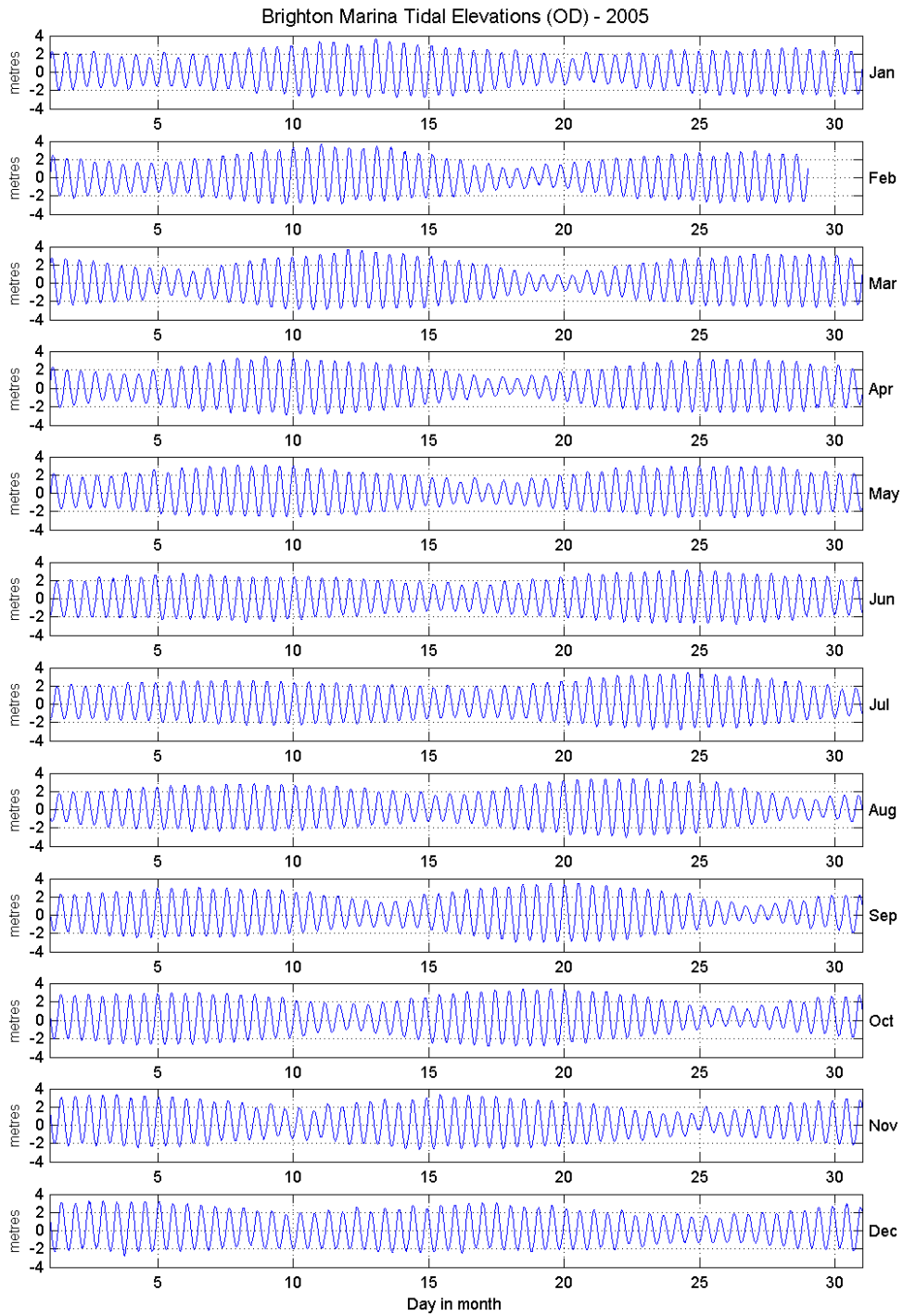


Figure 2 Tidal elevations relative to Ordnance Datum for 2005

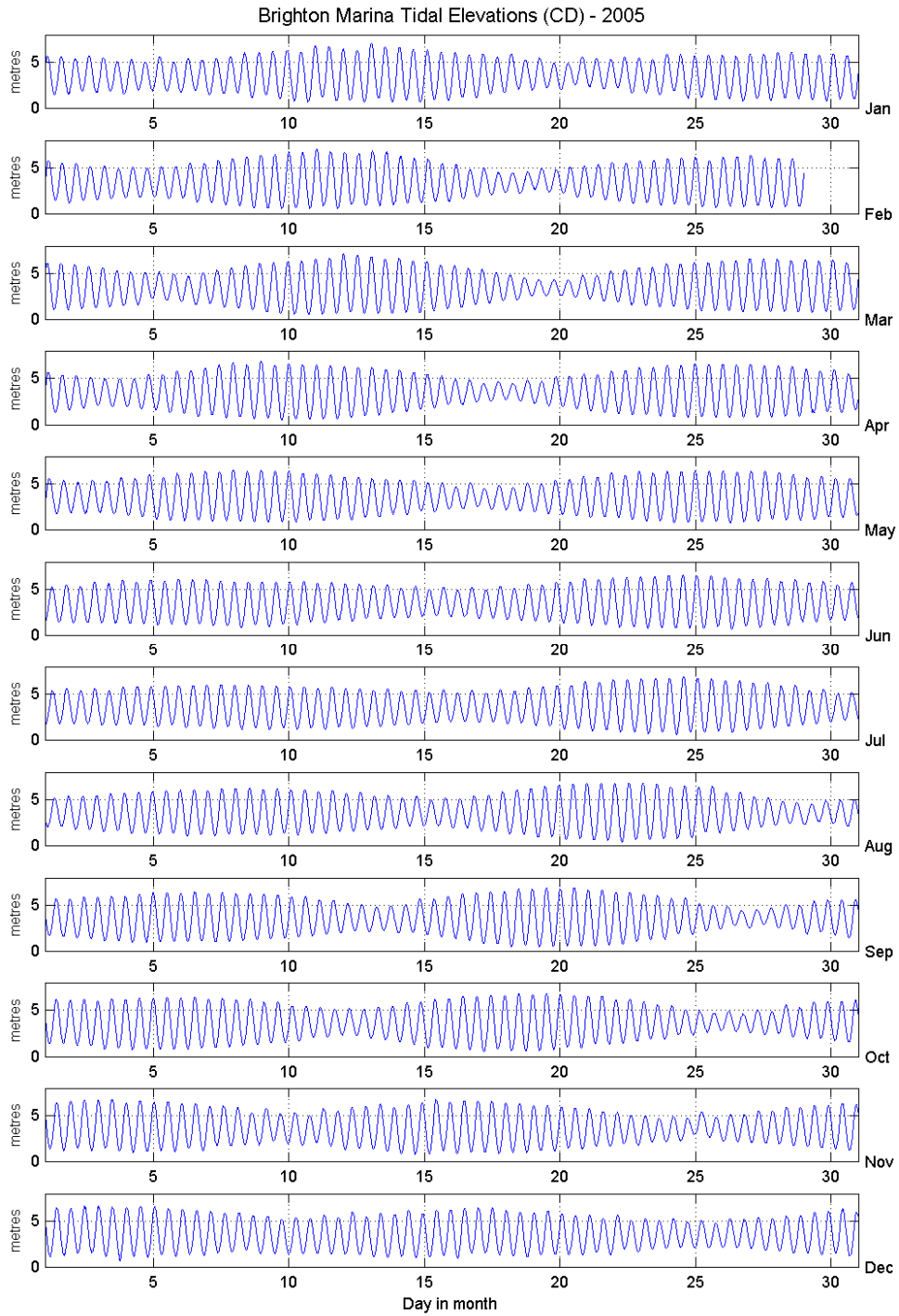


Figure 3 Tidal elevations relative to Chart Datum for 2005