

Deal Pier Tide Gauge

Location

OS: 638145E 152700N
 WGS84 *Latitude:* 51° 13.427' N *Longitude:* 001° 24.550' E

Instrument

Rosemount WaveRadar Rex



Site of Gauge

Front of Deal Pier, lower deck

Benchmarks

<i>Benchmark</i>	<i>OS Co-ordinates</i>	<i>Height</i>	<i>Description</i>
TGBM		3.893 OD	Top corner of NW leg of frame baseplate
Aux1	638119.760E 152660.266N	3.813 OD	Top of bolt

TGZ = 6.986m above Ordnance Datum Newlyn

TGZ = 10.386m above Admiralty Chart Datum

TGZ = 3.093m above TGBM

Datum information

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

Levelling information

The site was last surveyed on 25 August 2005 (when installed).

Site Characteristics

The Pier is on open coast, with no nearby estuaries. Spring tidal range is 5.4m. Some wave reflection from the Pier legs can occur.

Service history

No re-calibration of the instrument is required.

Data Quality

C1(%)	Sample interval	Missing days
97	10 minutes	05 – 07 May, 15 – 16 Dec

Residuals and Elevations

Residuals and Elevations (OD and CD) for the whole year are shown in Figures 1 to 3 respectively. Tidal elevations are derived as the one minute average of the 4Hz readings. The time stamp is the start of the measuring burst.

Statistics

All times GMT

Month	Surge maxima		Surge minima	
	Value (m)	Date/Time	Value (m)	Date/Time
January	1.10	12-Jan-2007 03:40	-1.17	11/01/2007 13:40
February	0.53	08-Feb-2007 12:10	-0.50	03/02/2007 22:00
March	1.04	18-Mar-2007 19:00	-0.94	06/03/2007 12:20
April	0.49	19-Apr-2007 20:50	-0.56	01/04/2007 20:40
May	0.52	11-May-2007 03:00	-0.37	10/05/2007 04:30
June	0.69	26-Jun-2007 12:50	-0.30	02/06/2007 09:10
July	0.54	24-Jul-2007 04:00	-0.42	06/07/2007 02:40
August	0.47	15-Aug-2007 23:20	-0.40	04/08/2007 02:20
September	0.77	10-Sep-2007 18:20	-0.38	23/09/2007 04:10
October	0.40	17-Oct-2007 07:00	-0.49	28/10/2007 11:50
November	1.87	09-Nov-2007 06:00	-0.56	18/11/2007 16:40
December	0.93	07-Dec-2007 20:00	-0.60	29/12/2007 02:20

Month	Extreme maxima		Extreme minima	
	Elevation (OD)	Date/Time	Elevation (OD)	Date/Time
January	3.26	04-Jan-2007 23:50	-2.69	23-Jan-2007 09:00
February	3.25	21-Feb-2007 01:20	-2.83	20-Feb-2007 08:10
March	3.73	18-Mar-2007 23:10	-2.88	22-Mar-2007 08:20
April	3.41	20-Apr-2007 00:20	-3.05	19-Apr-2007 07:20
May	2.91	16-May-2007 22:40	-2.80	18-May-2007 07:00
June	2.77	15-Jun-2007 23:20	-2.39	16-Jun-2007 19:00
July	2.89	30-Jul-2007 11:20	-2.62	31-Jul-2007 19:30
August	3.13	31-Aug-2007 13:00	-2.73	29-Aug-2007 19:10
September	3.46	28-Sep-2007 11:50	-2.789	28-Sep-2007 19:30
October	3.16	29-Oct-2007 13:00	-2.83	27-Oct-2007 19:00
November	3.83	09-Nov-2007 10:40	-2.98	24-Nov-2007 17:30
December	2.92	24-Dec-2007 23:10	-2.75	27-Dec-2007 08:20

Month	Mean Sea Level	
	No. of days	MSL (OD)
January	31	0.233
February	28	0.182
March	31	0.155
April	30	0.035
May	28	0.142
June	30	0.192
July	31	0.192
August	31	0.185
September	30	0.218
October	31	0.173
November	30	0.241
December	29	0.209

10 Highest Values in 2007			
Surge		Extreme	
Value (m)	Date/Time	Elevation (OD) (surge component)	Date/Time
1.87	09/11/2007 06:00	3.83 (1.255)	09-Nov-2007 10:40
1.65	09/11/2007 06:50	3.74 (0.703)	25-Nov-2007 11:00
1.10	12/01/2007 03:40	3.73 (0.754)	18-Mar-2007 23:10
1.04	18/03/2007 19:00	3.46 (0.198)	28-Sep-2007 11:50
1.03	12/01/2007 00:10	3.45 (0.091)	21-Mar-2007 00:20
0.93	07/12/2007 20:00	3.42 (0.297)	20-Mar-2007 12:10
0.87	18/03/2007 21:50	3.41 (0.155)	20-Apr-2007 00:20
0.86	18/01/2007 19:50	3.40 (0.555)	25-Nov-2007 23:20
0.85	03/12/2007 03:40	3.39 (0.106)	29-Sep-2007 12:30
0.85	01/01/2007 17:00	3.33 (0.099)	19-Mar-2007 23:40

Year	Annual surge maxima		Annual extreme maxima		Annual Mean Sea Level (OD)	Recovery rate (C1)
	Value (m)	Date	Elevation (OD) (surge component)	Date		
2006	1.596	31-Oct-2006 22:10	3.581 (0.333)	07-Oct-2006 10:50	0.151	98%
2007	1.873	09-Nov-2007 06:00	3.832 (1.255)	09-Nov-2007 10:40	0.180	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.

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.

Acknowledgements

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

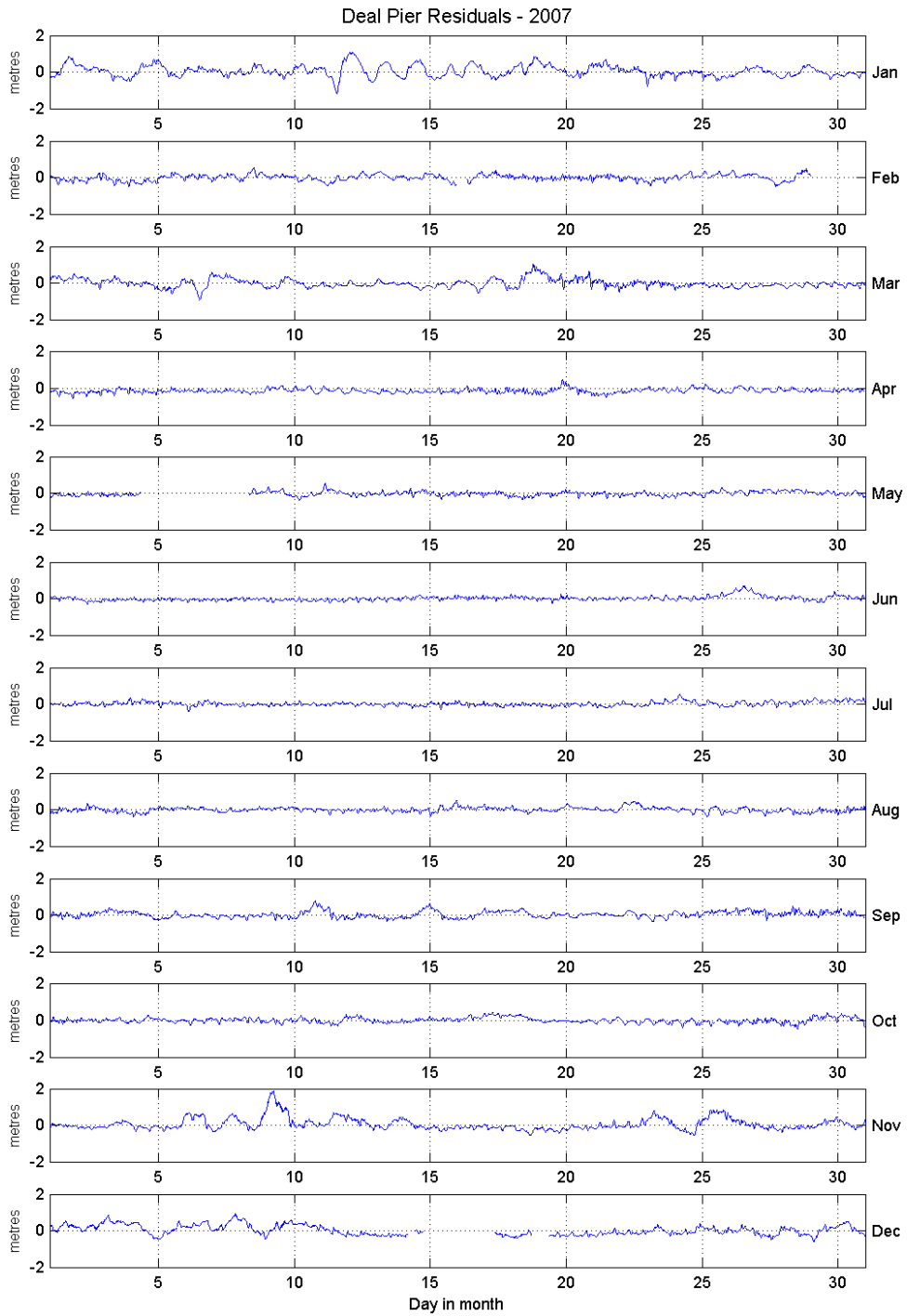


Figure 1 Residuals for 2007

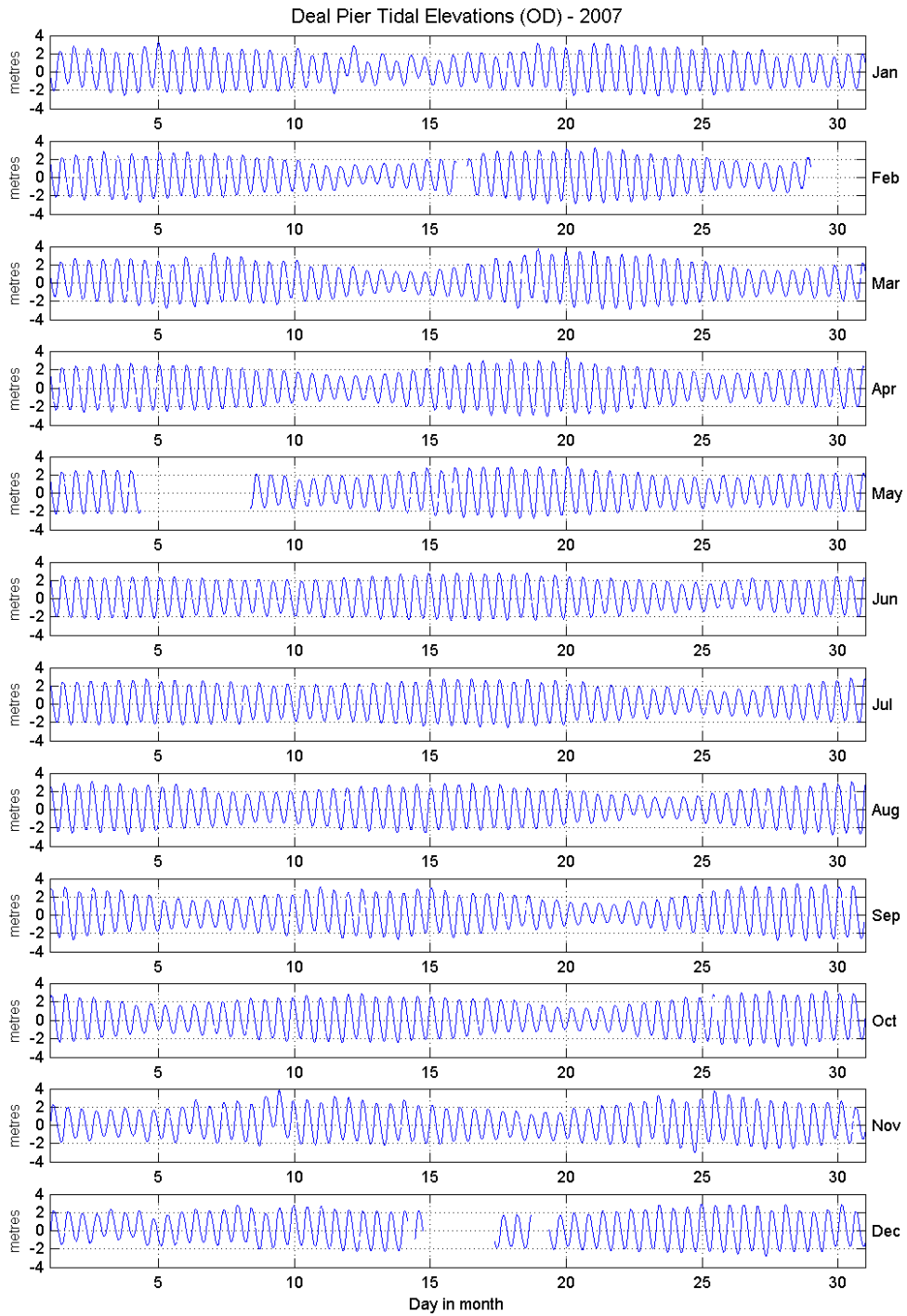


Figure 2 Tidal elevations relative to Ordnance Datum for 2007

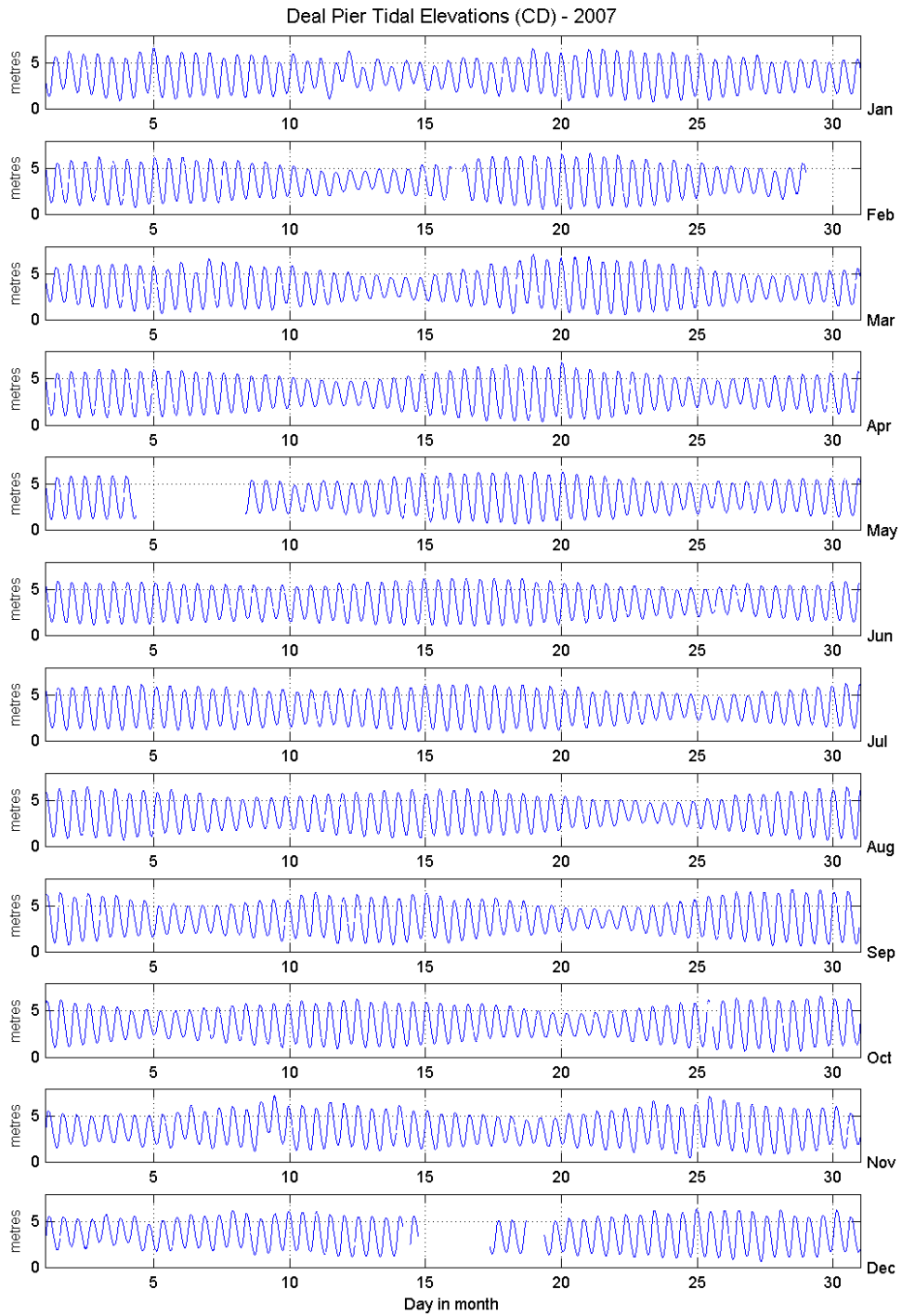


Figure 3 Tidal elevations relative to Chart Datum for 2007