

Arun Platform Tide Gauge

Location

OS: 506423E 97778N
 WGS84: Latitude: 50°46'11.39042"N Longitude: 00°29'31.73595"W

Instrument

Valeport 730 (Druck Pressure Transducer)



Benchmarks

Benchmark		Description
TGBM	10.334m OD	Top of transducer pole

TGZ = -3.79m above Ordnance Datum

TGZ = 0.74m below Chart Datum

TGZ = 14.124m below TGBM

Datum information

All data are to Ordnance Datum Newlyn. The height of Chart Datum relative to Ordnance Datum at Littlehampton and Bognor Regis is -3.05m (Admiralty Tide Tables, Supplementary Table III).

Survey information

The site was surveyed, to E1 standard, on 09 October 2008.

Site characteristics

The Platform is approximately 3.7km offshore, with no other nearby structures. Spring tidal range is ~5m. The Platform leg is approximately 1.2m diameter and some wave reflection and other wave interference can occur.

Data Quality

C1 (%)	Sample interval	Missing data
99	10 minutes	01 Oct, 01 Dec

Residuals and Elevations

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

Service history

The radar became operational on 01 August 2008.

Measurements

The pressure transducer samples at 2Hz. Tidal elevations are derived, every 10 minutes, as the 40 second average of the 2Hz readings. The time stamp is the start of the measuring burst. Although the time stamp is accurate, the instrument has to be started manually after servicing and it is not always possible to start exactly on a 10 minute integer. Measurements are interpolated to the hour and 10 minute intervals if the original time series is not on the hour. Missing data exceeding 3 hours are not interpolated. All data measured prior to the gauge being fully surveyed were adjusted to the correct elevations.

Statistics

All times GMT

Month	Surge maxima		Surge minima	
	Value (m)	Date/Time	Value (m)	Date/Time
January	-	-	-	-
February	-	-	-	-
March	-	-	-	-
April	-	-	-	-
May	-	-	-	-
June	-	-	-	-
July	-	-	-	-
August	0.34	12-Aug-2008 09:10	-0.20	27-Aug-2008 16:30
September	0.52	05-Sep-2008 19:10	-0.31	26-Sep-2008 14:30
October	0.65	05-Oct-2008 12:30	-0.32	26-Oct-2008 02:40
November	0.53	21-Nov-2008 18:00	-0.52	24-Nov-2008 19:50
December	0.57	20-Dec-2008 16:40	-0.51	26-Dec-2008 20:30

Month	Extreme maxima		Extreme minima	
	Elevation (OD)	Date/Time	Elevation (OD)	Date/Time
January	-	-	-	-
February	-	-	-	-
March	-	-	-	-
April	-	-	-	-
May	-	-	-	-
June	-	-	-	-
July	-	-	-	-
August	3.01	04-Aug-2008 13:20	-2.47	31-Aug-2008 05:00
September	3.10	30-Sep-2008 11:40	-2.59	17-Sep-2008 06:00
October	3.20	16-Oct-2008 11:40	-2.45	17-Oct-2008 18:30
November	2.97	14-Nov-2008 11:10	-2.50	14-Nov-2008 17:30
December	2.85	14-Dec-2008 12:10	-2.68	13-Dec-2008 17:20

Month	Mean Sea Level	
	No. of days	MSL (OD)
January	-	-
February	-	-
March	-	-
April	-	-
May	-	-
June	-	-
July	-	-
August	31	0.216
September	30	0.192
October	30	0.247
November	30	0.225
December	30	0.141

10 Highest Values in 2008 (August to December)			
Surge		Extreme	
Value (m)	Date/Time	Elevation (OD) (surge component)	Date/Time
0.65	05-Oct-2008 12:30	3.20 (0.12)	16-Oct-2008 11:40
0.57	20-Dec-2008 16:40	3.10 (0.14)	30-Sep-2008 11:40
0.56	04-Dec-2008 08:40	3.09 (0.05)	17-Oct-2008 12:20
0.53	21-Nov-2008 18:00	3.08 (0.12)	17-Oct-2008 00:00
0.52	05-Sep-2008 19:10	3.04 (0.23)	30-Sep-2008 23:50
0.51	05-Dec-2008 08:30	3.03 (0.14)	01-Oct-2008 12:10
0.50	05-Oct-2008 10:40	3.01 (0.08)	04-Aug-2008 13:20
0.48	05-Sep-2008 23:30	3.01 (0.05)	15-Oct-2008 23:20
0.45	26-Oct-2008 17:00	3.00 (0.01)	01-Sep-2008 12:00
0.43	10-Nov-2008 13:10	3.00 (-0.04)	15-Oct-2008 11:10

Year	Annual surge maxima		Annual extreme maxima		Annual Mean Sea Level (OD)	Recovery rate (%)
	Value (m)	Date	Elevation (OD) (surge component)	Date		
2008	-	-	-	-	-	-
2009						

General

The time series of 10 minute tidal elevations for one year is quality-checked in accordance with ESEAS guidelines, 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.

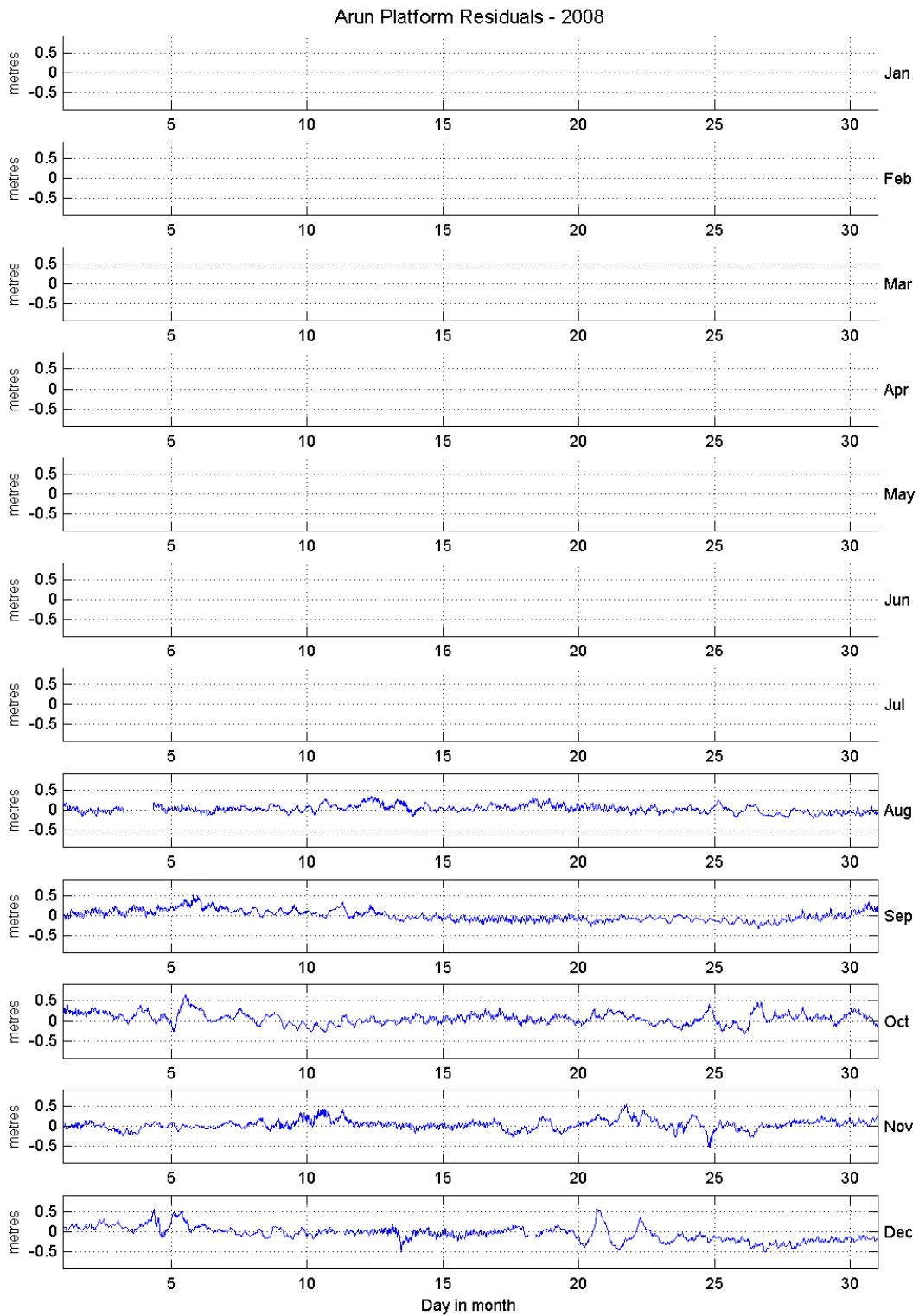


Figure 1 Residuals for 2008

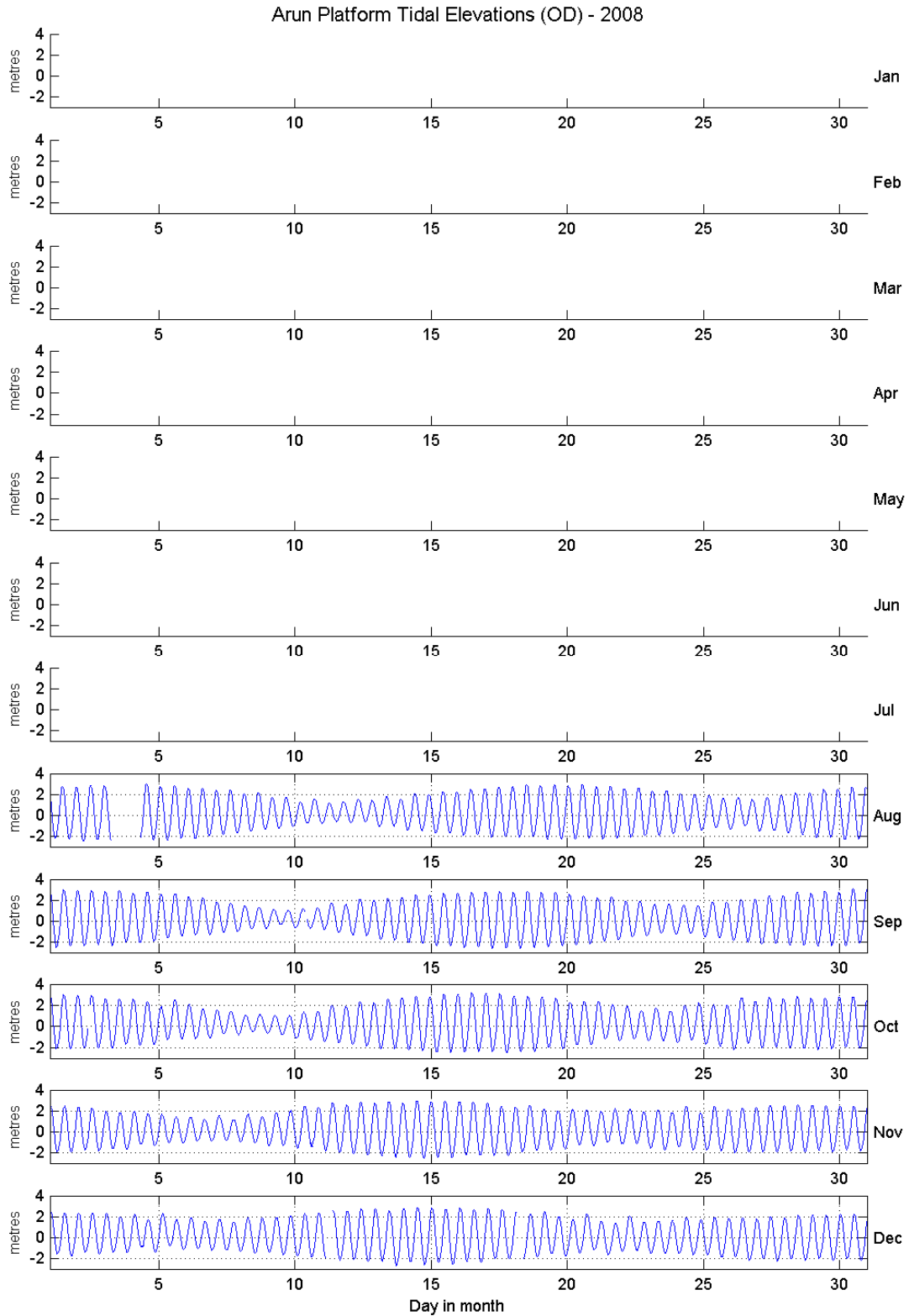


Figure 2 Tidal elevations relative to Ordnance Datum for 2008

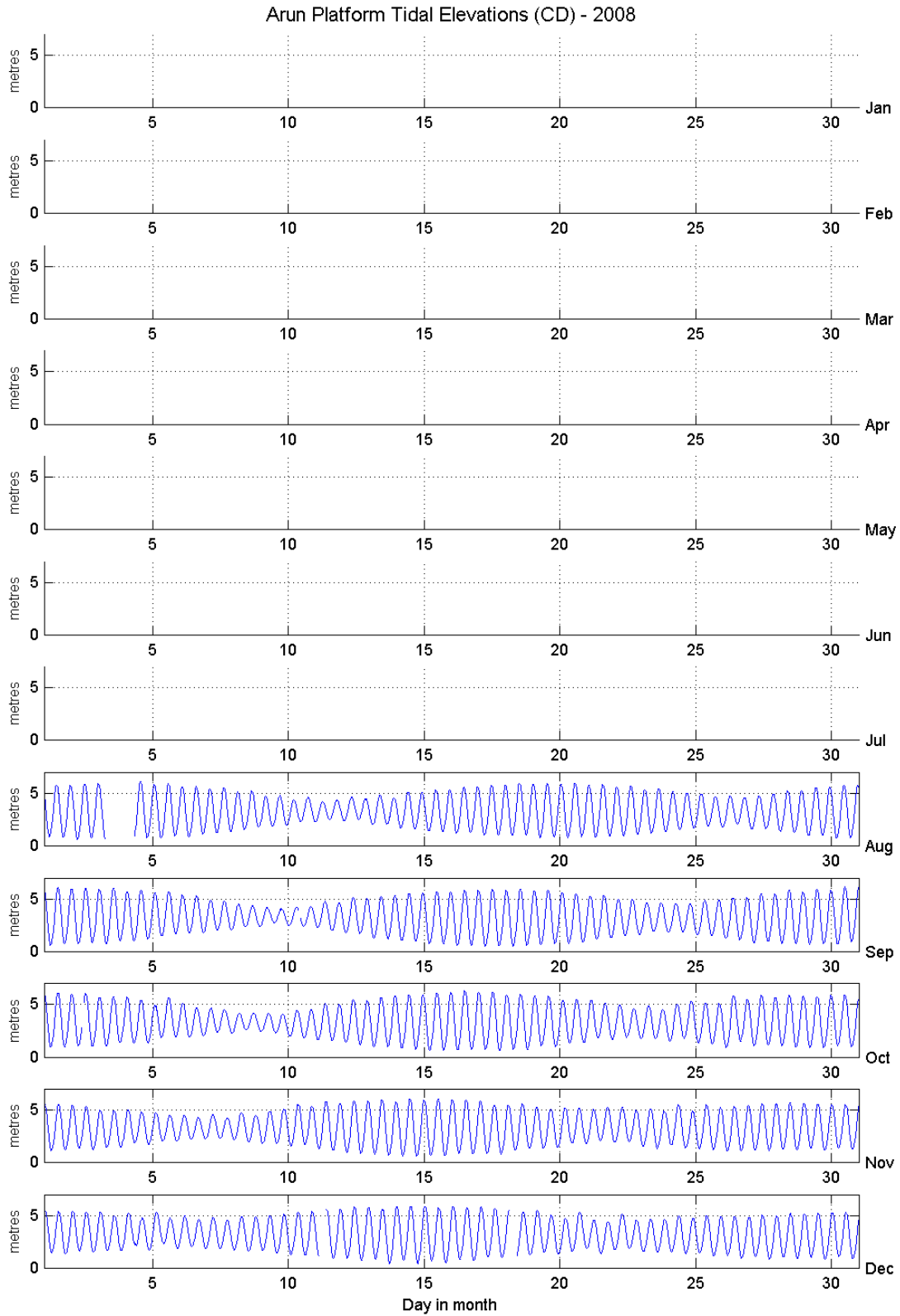


Figure 3 Tidal elevations relative to Chart Datum for 2008