


<b>Survey Unit</b>	5aSU06 & 5aSU07	
<b>Location</b>	Hayling Island	

## 1. Introduction

Date of survey	14/04/2018 to 21/04/2018
Reason for survey	No survey was carried out on the beach immediately following the storm conditions
Area surveyed	No survey was carried out
Flood warnings	No flood warnings were issued
Summary of beach operations	No beach operations were carried out
Areas flooded	Some flooding of beach huts occurred at West Beach, and small quantities of overtopping of the beach profile at Eastoke were noted. No properties were affected and the promenade was still passable



## 2. Survey results

### 2.1 Post-storm profiles

No survey data was collected following this event.

### 2.2 General observations

General observations		Comments
Recent-looking damage?	Some groynes along the Eastoke nourished frontage had wash out around the sides of the structures. The beach had narrowed at Eastoke Corner to approximately 8m in width.	
Exposure of threshold markers or old structures?	n/a	
Observed High Water mark?	The High Water mark was noted at the back of the crest at Eastoke, and along the top of the crest at West Beach, next to the beach huts	See photos 3, 4, 6 and 7
Evidence of overtopping?	Waves overtopped the beach at two locations along the Eastoke frontage, although the beach profile was unaffected	See photos 1, 2 and 5
Sand/shingle on prom?	There were small pockets of shingle along the promenade. However, this was still passable in most locations	See photos 2 and 5
Structure condition	The overall condition of all structures along the coastline remained the same	
Damage assessment	There was loss of beach width at approximately 5 groynes along the Eastoke frontage, although the beach is overall still healthy. At West Beach, the crest narrowed, and wave run-up led to some beach huts and the car park flooding	See photos 5 and 8



Photo 1: Overtopping of beach crest at Creek Road Car Park



Photo 2: Overtopping of beach crest at Bosmere Road



Photo 3: High water mark at Eastoke



Photo 4: High water mark at Eastoke



Photo 5: Shingle on the promenade at Eastoke Corner

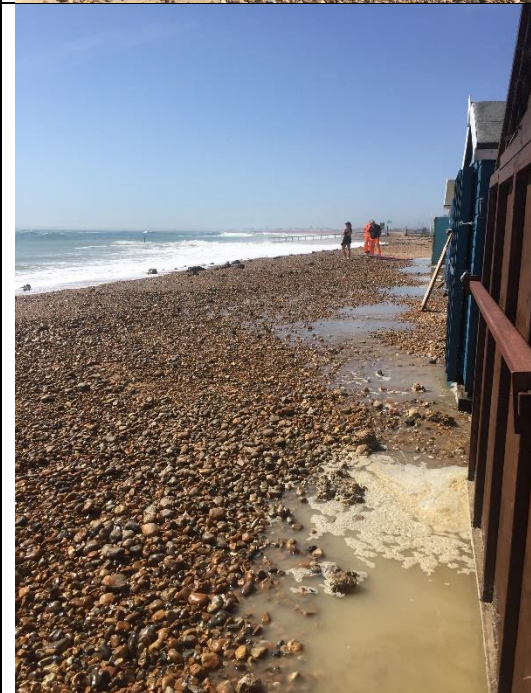


Photo 6: High water mark and flooding of the beach huts at West Beach, Hayling Island



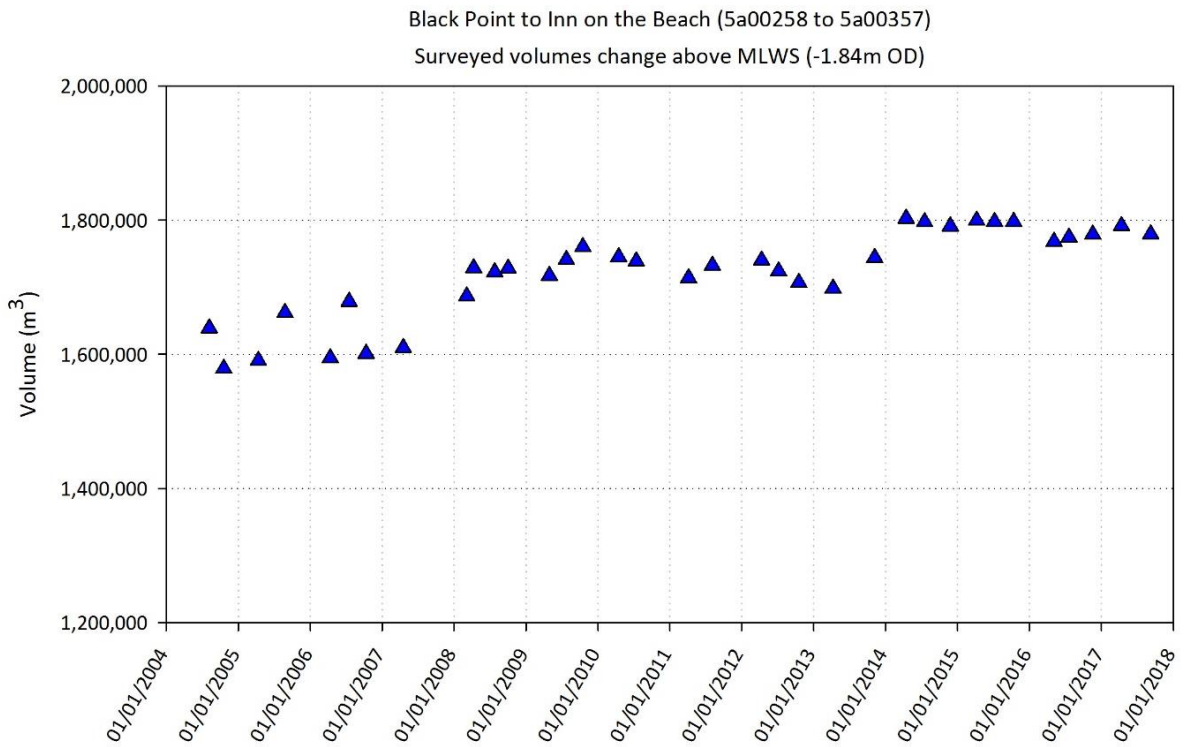
Photo 7: High water mark at Inn on the Beach, Hayling Island



Photo 8: Flooding of beach huts and car park behind at West Beach, Hayling Island

### 2.3 Whole beach volumes

Beach volumes are derived from profile surveys.



### 2.4 Design and/or crisis levels

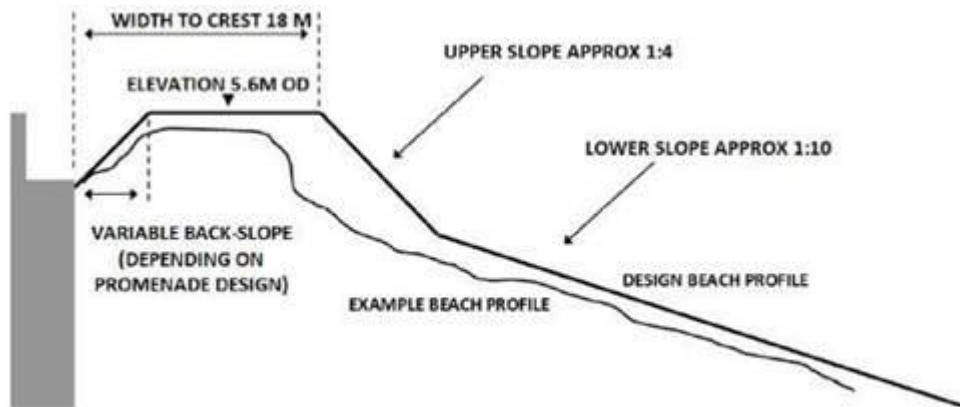


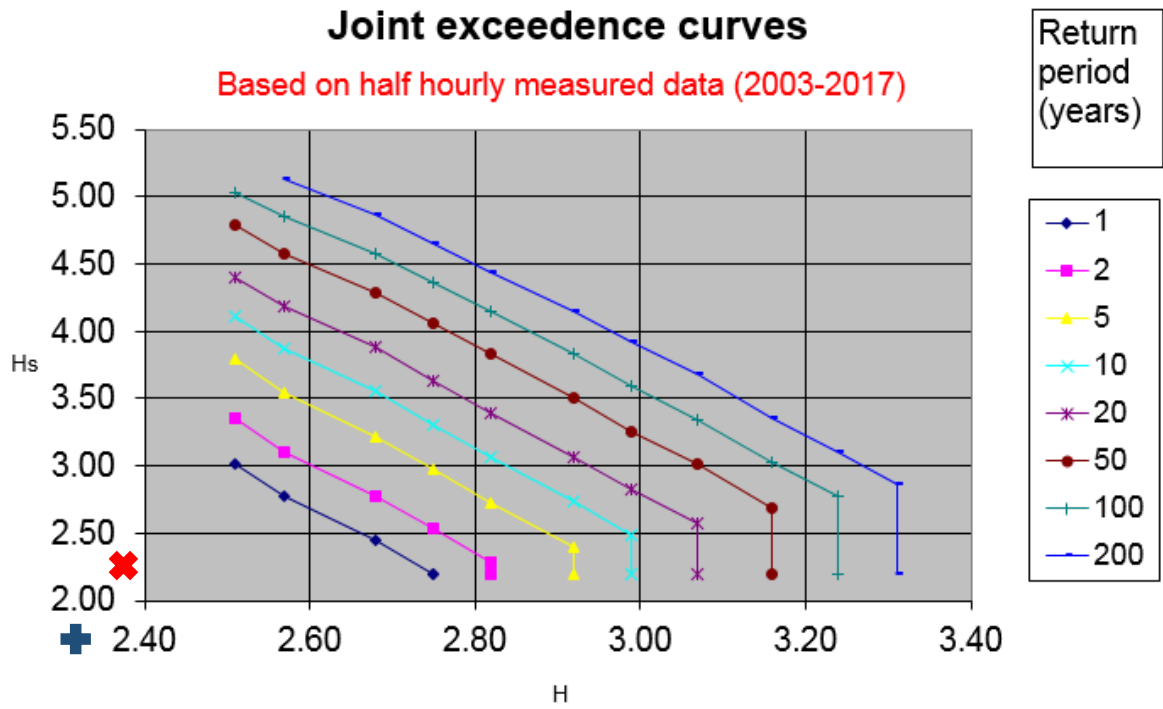
Figure 3.4 – Nourished beach design profile

### 3. Hydrodynamics

Shaded in amber are the highest measured wave heights during the severe 2013-2014 storm season. The highest waves measured during the week under discussion – 14/04/2018 to 21/04/2018 – occurred on 17 April and are shaded green.

Highest storms at Hayling Island		
Date	Wave height (m)	Return Period
28/03/2016	4.4	> 10 years
05/02/2014	4.1	5 years
15/02/2014	4.1	5 years
10/03/2008	3.8	2 years
13/12/2011	3.8	2 years
28/10/2013	3.7	1 year
20/11/2016	3.7	1 year
08/01/2004	3.6	1 year
13/12/2008	3.6	1 year
18/01/2007	3.6	1 year
02/12/2005	3.5	> 0.25 years
17/04/2018	2.3	< 0.25 years

### 3.1 Joint Return Periods

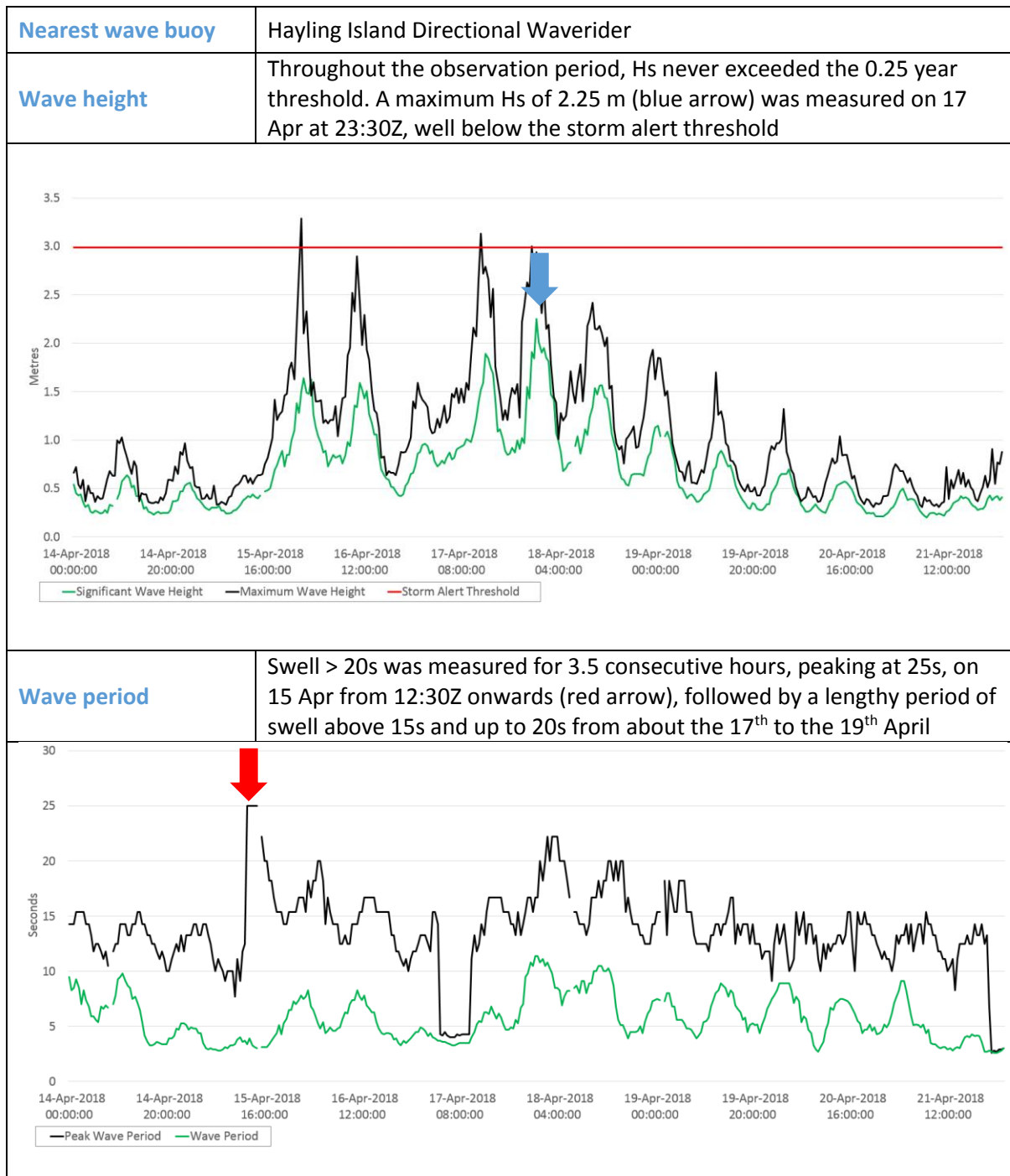


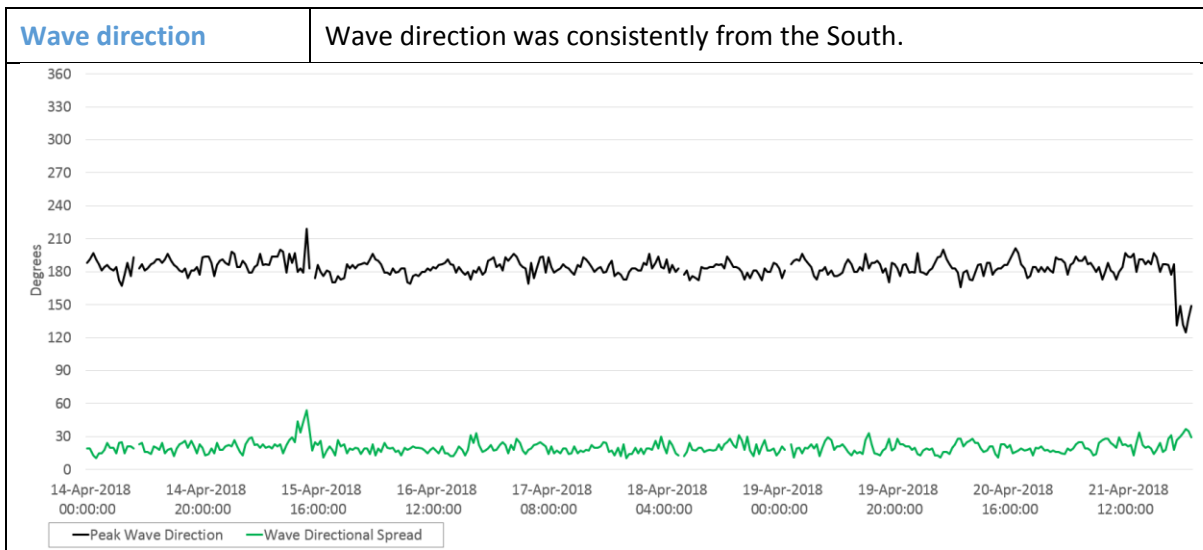
	Date/Time	Tidal elevation	Hs (m)	JRP
At time of maximum water elevation <span style="color: blue;">+</span>	17 Apr 2018 00:00Z	2.17 OD	0.95	< 1 year
At time of highest wave height <span style="color: red;">✕</span>	17 Apr 2018 23:30Z	2.02 OD	2.25	< 1 year

Note that the time of maximum water elevation and time of highest wave height do not feature on the graph and are well below < 1 year.

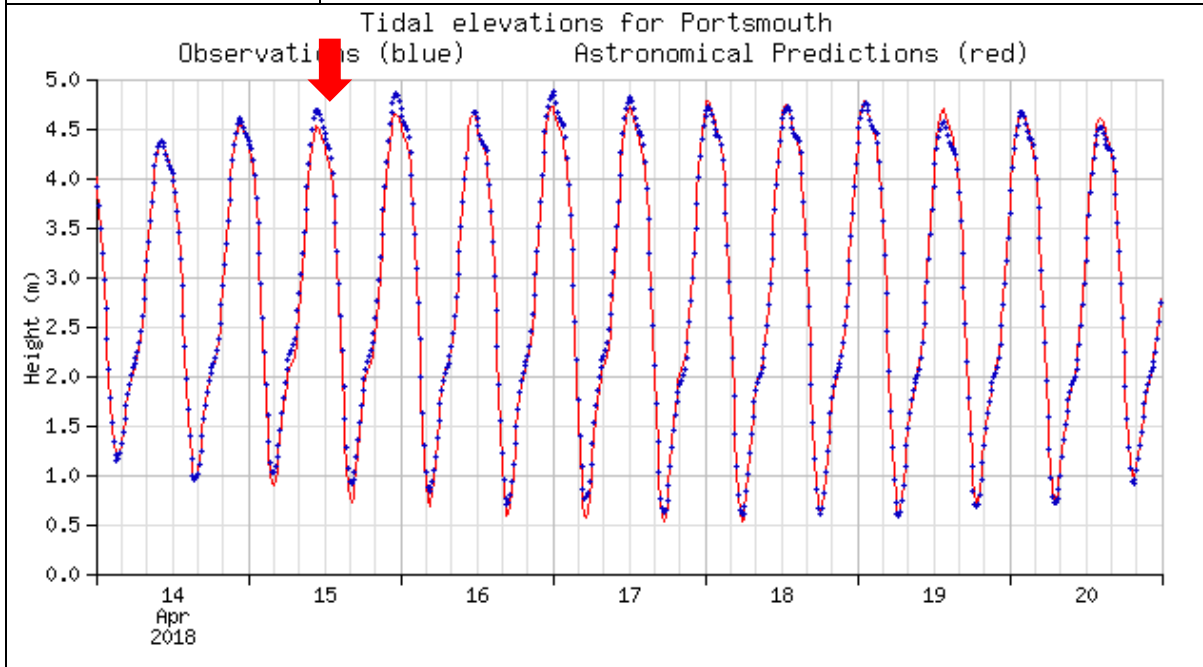


### 3.2 Ambient wave, tide and met conditions





<b>Nearest tide gauge</b>	Portsmouth Harbour (NTSLF)
<b>Tidal range</b>	The 25s swell occurred around HW 1.57 OD at 15 Apr 12:30Z and lasted until 14:30 when the tide reached about 0.27 OD (red arrow). Estimated tidal residual of 0.15 during the peak of the swell. Spring tides.



<p><b>Nearest met station</b></p>	<p>Sandown Pier</p>
<p><b>Wind speed and direction</b></p>	<p>Wind speed only just exceeded a Strong Breeze (14 m/s or 27 knots) and throughout the week gradually backed from SW to S to E</p>

