Caerleon Road Flood Defence update

To mitigate against flooding at very high tides, Natural Resources Wales (NRW) has arranged to install, on a temporary basis during the few hours around the peak tide times, a flood defence barrier across Caerleon Road. During the implementation of this barrier, there will be road closures and traffic diversions in place.

Communication of road closures

NRW will communicate potential road closures through the flood alert and warning information on the NRW flood warnings website:

https://naturalresources.wales/flooding/check-flood-warnings/?lang=en

The flood alerts will alert people to the potential for Caerleon Road to be closed; these are usually issued 6 to 8 hours ahead of the high tide, with the flood warnings confirming the likely closures within 2 to 3 hours of the high tide.

NRW will work with Newport City Council to give as much prior notice as possible so that the traffic management, road closures and diversionary signage can be installed providing alternative routes for road users during the high tide event. Roads will reopen as soon as possible following the demounting of the barrier system near the river bridge.

Communication of the road closures will be displayed on Newport City Council's website in advance of the implementation of the flood defences.

Flood Defences

The flood defences that span Caerleon Road are deployed when we are forecasting a tidal level of 8.0 metres or higher at the Newport tidal gauge. The defences need to be erected before the tides begin to flood the fields on the left bank and the road will typically be closed over an hour ahead of the peak level and remain closed for an hour afterwards. The closure would be implemented south of the junction between Caerleon Road and New Road. The defences will be removed as soon as water recedes and no longer reaches the foot of the defence.

High Tides and River Levels

The following levels highlight the most likely times and dates for road closures in 2024. All the highlighted dates would require an additional storm surge (see below for explanation) in the region of half a metre and for the surge to coincide with the high tide period.

We recommend that you retain this leaflet for reference purposes.

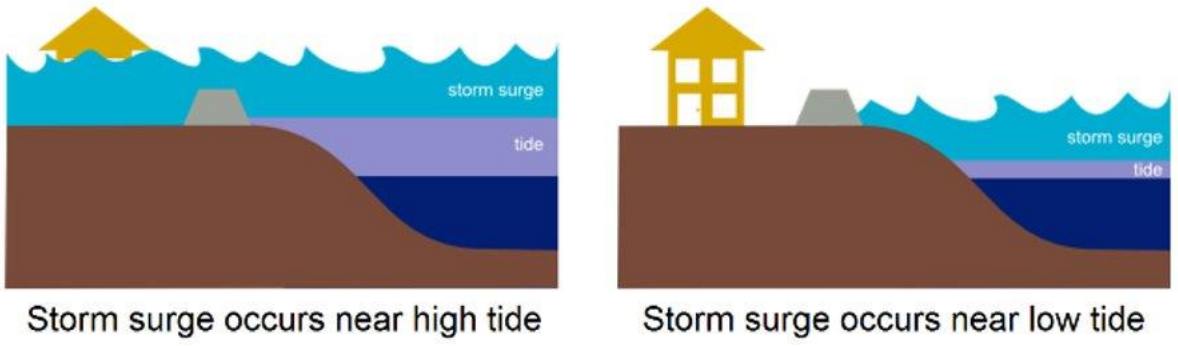
Newport gauge - Astronomical Peaks Greater than 7.0 Metres

Date	Time (**GMT**)	Newport (Gwent)
11/02/2024	08:09	7.14
11/02/2024	20:33	7
12/02/2024	08:53	7.37
12/02/2024	21:14	7.07
13/02/2024	09:34	7.31
13/02/2024	21:54	6.82
14/02/2024	10:14	6.89
10/03/2024	07:06	7
10/02/2024	19:30	6.99
11/03/2024	07:50	7.43
11/03/2024	20:12	7.28
12/03/2024	08:31	7.59
12/03/2024	20:51	7.3
13/03/2024	09:10	7.43
13/03/2024	21:27	6.99
14/03/2024	09:48	6.9
08/04/2024	06:41	6.99
08/04/2024	19:05	6.96
09/04/2024	07:25	7.3
09/04/2024	19:45	7.17
10/04/2024	08:05	7.35
10/04/2024	20:23	7.15
11/04/2024	08:44	7.13
11/04/2024	21:00	6.83
24/07/2024	21:27	6.8
20/08/2024	19:45	7.04
21/08/2024	08:08	6.89
21/08/2024	20:27	7.32
22/08/2024	08:48	7.04
22/08/2024	21:08	7.35
23/08/2024	09:28	6.91
23/08/2024	21:48	7.04
17/09/2024	18:38	6.97
18/09/2024	07:03	6.92
18/09/2024	19:23	7.42
19/09/2024	07:45	7.23
19/09/2024	20:04	7.6
20/09/2024	08:24	7.29
20/09/2024	20:44	7.5
21/09/2024	09:02	7.07

21/09/2024	21:23	7.05
16/10/2024	18:12	7
17/10/2024	06:36	6.93
17/10/2024	18:57	7.35
18/10/2024	07:18	7.18
18/10/2024	19:39	7.43
19/10/2024	07:57	7.2
19/10/2024	20:19	7.25
20/10/2024	08:36	6.96
16/11/2024	19:15	6.84

Nb all times are GMT – do not account for BST.
Orange shading indicates Flood Alerts likely as a minimum.

High storm surges are associated with areas of low pressure that bring poor weather typically over winter months. The main cause of a storm surge is high winds pushing the sea water towards the coast, causing it to pile up there. There is also a smaller contribution from the low pressure at the centre of the storm "pulling" the water level up, by about 1 cm for every 1 millibar change in pressure.
The diagram below shows the difference surge can make to the tide:



Past Events
In the past there have many significant tidal surges, which have not coincided with high tides and as such have not caused significant issues for the coastal area in South Wales. However, any of the surges below on top of a 7 metre tide would be likely to cause significant disruption and flood related issues.

Top 10 Surges in last 15 years

Date	*Surge (m)*
1997/02/24 20:45	1.747
2006/12/03 05:15	1.545
1998/01/04 11:15	1.468
1995/02/16 19:45	1.463
2005/01/08 04:45	1.180
2004/10/20 23:30	1.176
1999/01/03 07:45	1.116
1997/02/19 18:00	1.086
1996/10/28 20:15	1.075
1997/12/25 15:30	1.074

Going Forward

Tide times can be predicted in advance; therefore, this document will be provided annually highlighting the most likely times and dates for road closures. We recommend you keep hold of each document for reference.

Further information

Newport City Council: civil.contingencies@newport.gov.uk
Natural Resources Wales: Warning.Informing_South@cyfoethnaturiolcymru.gov.uk