SurgeWatch

STORM EVENT

4th January 1998

1,000 persons isolated at Selsey following a breach in coastal defences

Severity Ranking

		3			

Social	Loss of life	*
	Residential property	Around 100 chalets and caravans were flooded in Medmerry, Sussex
	Evacuation & rescue	No reports of evacuated persons although 1,000 persons were isolated by floodwaters on Selsey Peninsula
Economic	Cost	*
	Ports	
	Transport	Roads flooded in Southsea, Portsmouth
	Energy	*
	Public services	*
	Water & wastewater	*
	Livestock	*
	Agricultural land	*
Environmental	Coastal erosion	*
	Natural environment	*
	Cultural heritage	*
	Coastal defences	Breach in defences at Selsey and Medmerry (Sussex)

**No known sources of information available*

Source	The storm developed over Nova Scotia, Canada on 2nd January 1998 and moved westwards towards the UK. On 4th January, the storm deepened to a central pressure of below 970 mbar. This resulted in strong westerly winds over southern England and the English Channel. The storm later crossed the UK over northern England. Sea level heights exceeded the 1 in 5 year return period threshold at 1 site within the National Tide Gauge Network. The highest return period water level at Portpatrick was 1 in 10 years. We are unaware of any sources describing the wave conditions during this event.
Pathway	Defences are reported to have badly breached in some locations in Selsey and Medmerry (Sussex). We are unaware of any further specific information concerning the flood pathways during this event.
Receptor & Consequence	The extensive damages and flooding in Portsmouth during this event were described as the worst conditions in 8 years (Ruocco *et al*., 2011). In Selsey, close to 1,000 persons on the peninsula were left isolated once sea defences here were "ripped" apart, whilst at nearby Medmerry, defences were breached in two points which caused flooding to over 100 chalets and caravans. Some residential properties in Hayling Island avoided inundation having pre-emptively deployed sandbags. Local roads in Southsea (Portsmouth) were closed as a result of overtopping, among other roads flooded in other locations. A few days after this event, during 7th–8th January, a tornado swept through Selsey and left the town largely devastated with damages totalling several millions (Burrell, 1998).

Table 1: High water levels (m CD) recorded at the UK National Tide Gauge sites that reached or exceeded a 1 in 5 year return level during the event.

Tide gauge Site	Date and time (GMT)	Return period (years)	Water level (m CD)	Astronomical tide (m CD)	Skew surge (m)
Newhaven	04/01/98 15:00	<1	7.05	6.41	0.64
Portsmouth	04/01/98 15:00	<1	5.29	4.57	0.73
Bournemouth	04/01/98 14:00	<1	2.75	2.14	0.61
Weymouth	04/01/98 10:30	<1	2.67	2.16	0.51
Devonport	04/01/98 09:45	<1	6.02	5.33	0.69
Newlyn	03/01/98 07:45	<1	5.94	5.52	0.42
St. Mary's	03/01/98 07:45	<1	5.94	5.6	0.34
Hinkley Point	04/01/98 10:45	<1	12.45	11.1	1.35
Avonmouth	04/01/98 11:15	<1	14.08	12.48	1.6
Newport	04/01/98 11:15	<1	12.96	11.31	1.65
Mumbles	04/01/98 10:15	<1	10.37	9.11	1.26
Milford Haven	04/01/98 09:45	<1	7.75	6.76	0.99
Fishguard	03/01/98 10:15	<1	5.47	4.86	0.6
Barmouth	03/01/98 11:00	2	5.99	5.23	0.76
Holyhead	03/01/98 13:15	2	6.43	5.75	0.68
Llandudno	03/01/98 13:45	<1	8.46	7.76	0.7
Liverpool	03/01/98 14:00	<1	10.42	9.33	1.09
Workington	03/01/98 14:30	2	9.4	8.5	0.9
Portpatrick	03/01/98 14:45	10	4.89	4.12	0.77
Port Ellen	03/01/98 08:00	2	1.79	0.88	0.92
Tobermory	03/01/98 08:30	3	5.52	4.72	0.8
Stornoway	03/01/98 09:45	<1	5.33	4.96	0.36
Ullapool	03/01/98 10:00	<1	5.7	5.28	0.42
Kinlochbervie	03/01/98 10:30	<1	5.43	5.02	0.41
Lerwick	03/01/98 14:00	<1	2.65	2.35	0.3
Wick	03/01/98 14:30	<1	3.94	3.68	0.25
Aberdeen	04/01/98 17:15	<1	4.67	4.27	0.4
Leith	04/01/98 18:30	<1	5.95	5.38	0.58
North Shields	04/01/98 19:30	<1	5.45	4.96	0.49
Whitby	02/01/98 18:15	<1	6.15	5.63	0.52
Immingham	02/01/98 20:15	<1	7.94	7.22	0.71
Cromer	02/01/98 20:45	<1	5.56	5.05	0.51
Lowestoft	02/01/98 23:30	<1	3.27	2.59	0.68
Sheerness	03/01/98 02:45	<1	6.1	5.61	0.49
Dover	03/01/98 01:45	<1	7.15	6.76	0.39

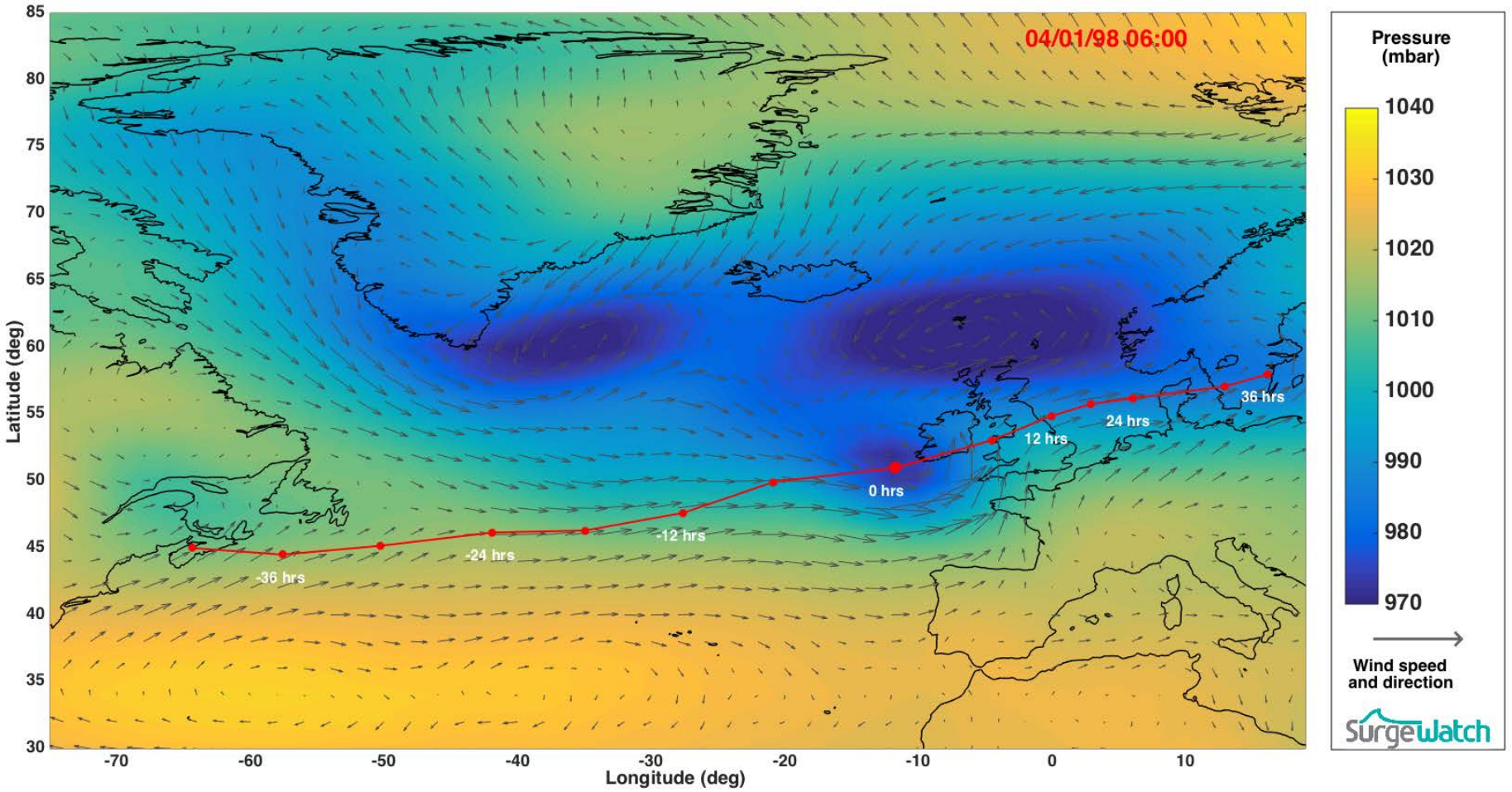

Figure 1: Meteorological conditions at time of maximum water level overlaid by the storm track

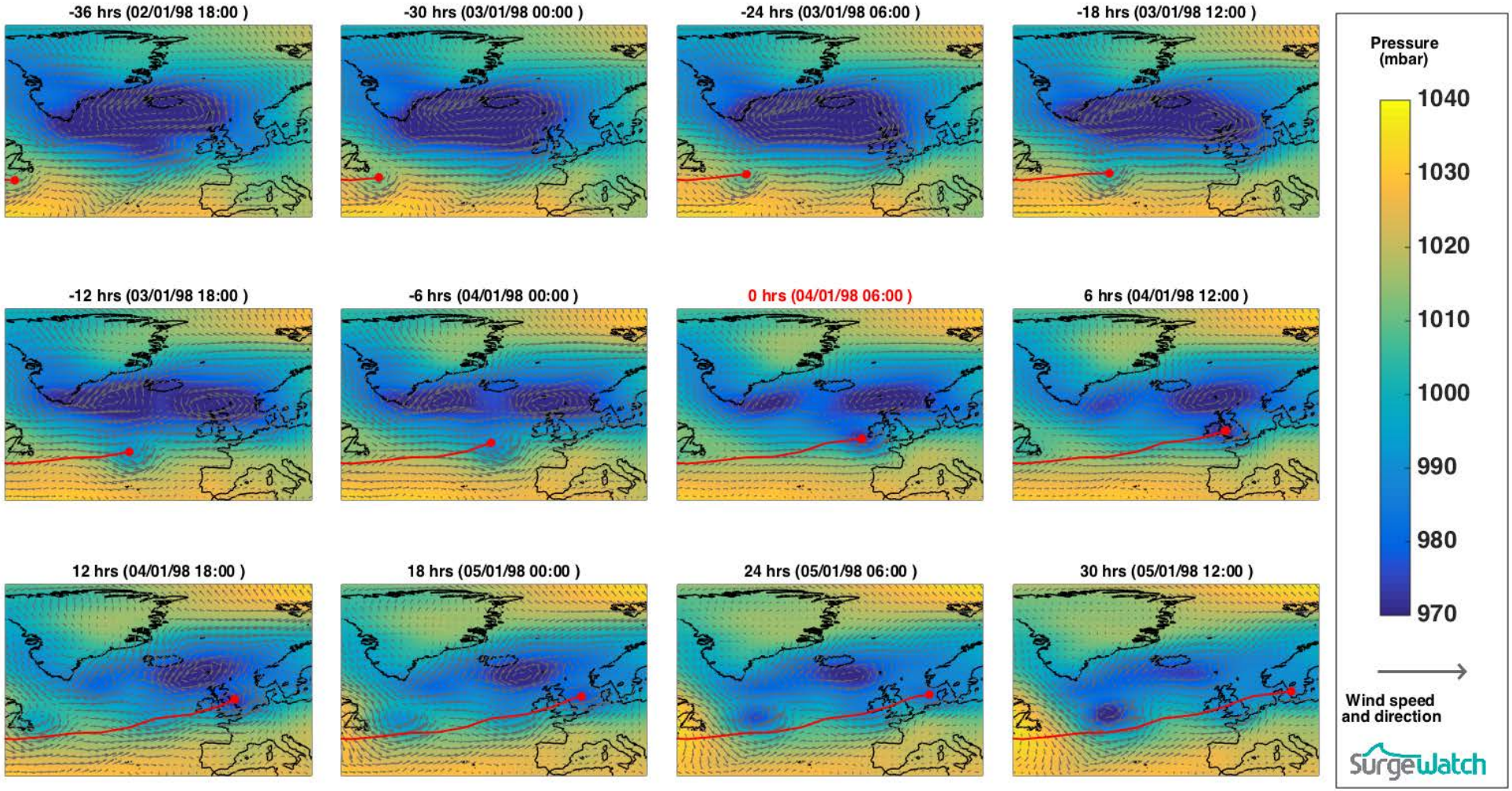

Figure 2: Meteorological conditions during event

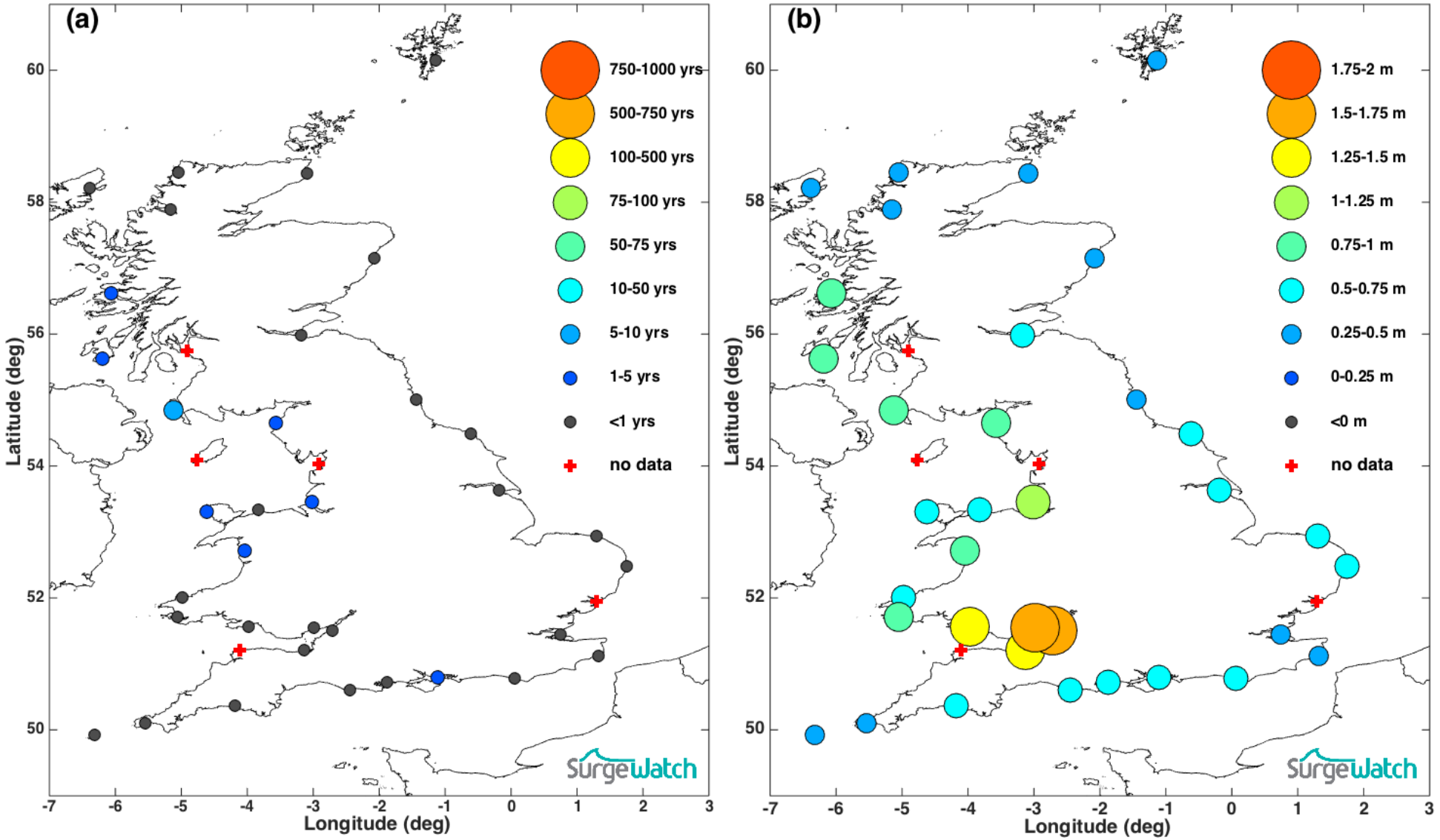

Figure 3: (a) Water level return period; (b) Skew surge levels

References

Ruocco, A.C. et al., 2011. Reconstructing coastal flood occurrence combining sea level and media sources: a case study of the Solent, UK since 1935. *Natural Hazards*, 59(3), pp.1773–1796. Available at: http://link.springer.com/10.1007/s11069-011-9868-7 [Accessed March 27, 2015].

Burrell, I., 1998. The night the Selsey twister wrecked a town. *The Independent.* London, England. Available at: http://www.independent.co.uk/news/the-night-the-selsey-twister-wrecked-a-town-1137509.html. [Accessed: 11/10/2014]

Additional sources of information

Bradshaw, K., 2012. ITN report on the Selsey Tornado of 8th January 1998. *YouTube*. Available at: https://www.youtube.com/watch?v=pnDJjI5zmJ4. [Accessed: 10/11/2014]