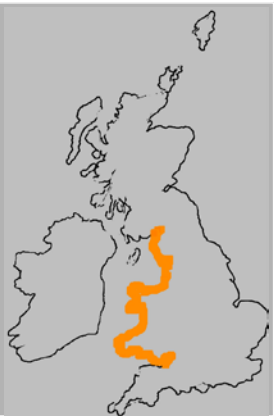
SurgeWatch

STORM EVENT

15th January 1938

Aberystwyth devastated by one of the worst storms in its history



Severity Ranking

		3			

Social	Loss of life	*
	Residential property	Seafront properties in Aberystwyth experienced severe damages
	Evacuation & Rescue	*
Economic	Cost	Damages in Aberystwyth totalled £70,000 (approximately £2.5 million in 2009 prices)
	Ports	*
	Transport	*
	Energy	*
	Public services	*
	Water & wastewater	*
	Livestock	*
	Agricultural land	*
Environmental	Coastal erosion	*
	Natural environment	*
	Cultural heritage	*
	Coastal defences	*

**No known sources of information available*

Source	The storm formed in the central North Atlantic at approximately 50^{o} N, 20^{o} W during 14th January 1938 and within 24 hours was centred west of Ireland with a central air pressure of approximately 960 mbar. This generated strong south-westerly winds on 15th January most notably over the Irish Sea, which were described as "severe" gales that "swept large parts of the UK" (Eden, 2008). Wind speeds [probably gusts] were reportedly around 78 knots [40 m/s] (BBC, 2009). We are unaware of any information regarding the sea level conditions during this event. Within the national tide gauge network, only the Newlyn tide gauge was operational at the time, but this was away from the region of influence. At Newlyn the water level return period was less than 1 year. The event occurred 2 days before peak spring tides. We are unaware of any sources of information describing the wave conditions during this event.
Pathway	We are unaware of any specific information regarding the flood pathways for this event.
Receptor & Consequence	The combination of high tides and a storm surge flooded parts of the Bristol Channel, Cardigan Bay, Lancashire and Cumbria (Eden, 2008). In an article published by the BBC (2009), a local historian describes accounts of a "tidal wave" striking the coast, which "devastated" residential properties on the seafront in Aberystwyth and shortened the pier by about 60 m. This event appears to have been associated with severe wave damages in addition to flooding, with front doors "smashed to matchwood" as they were "hurled" by boulders and paving slabs (BBC, 2009). One particular account describes how three persons fleeing their home were caught under their collapsed roof as waves crashed against it. All properties from the King's Hall north were damaged. The total cost of damages was reportedly £70,000, which equates to approximately £2.5 million in 2009 prices (BBC, 2009).

T**able 1:** High water levels (m CD) recorded at the UK National Tide Gauge sites that were available during the event.

Tide gauge Site	Date and time (GMT)	Return period (years)	Water level (m CD)	Astronomical tide (m CD)	Skew surge (m)
Newlyn	15/01/38 03:00	<1	5.61	5.26	0.35

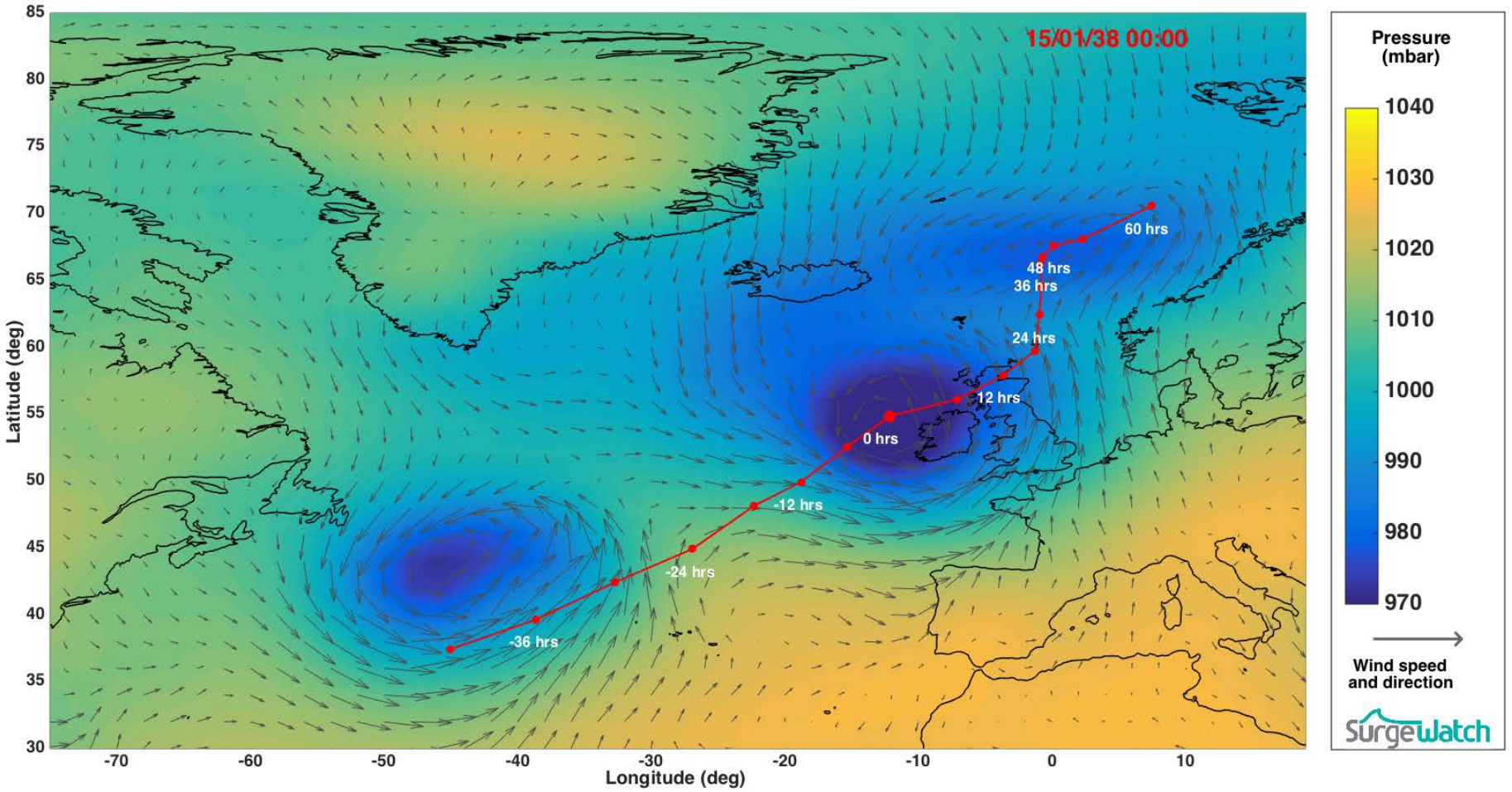


Figure 1: Meteorological conditions at time of maximum water level overlaid by the storm track

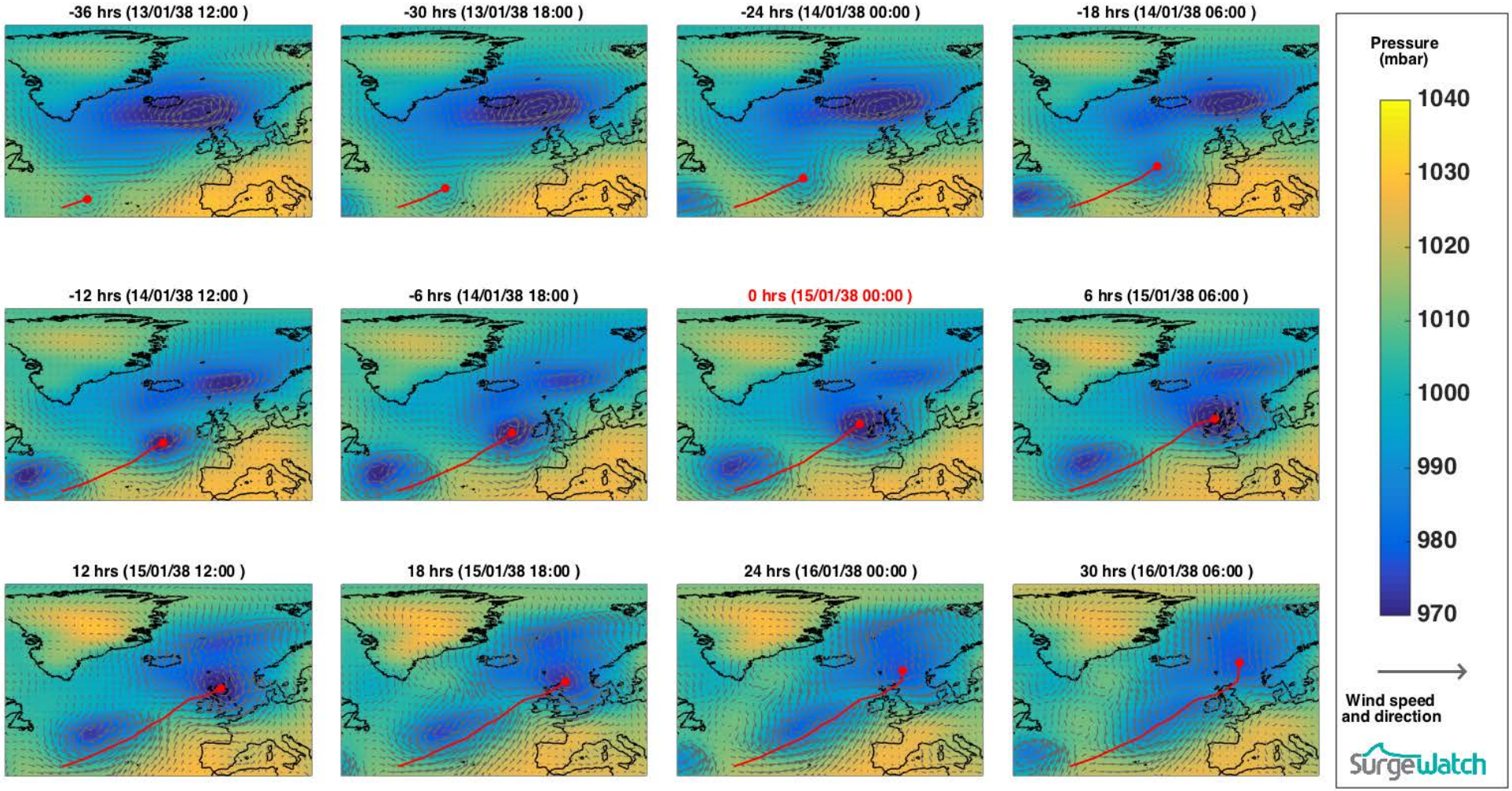


Figure 2: Meteorological conditions during event

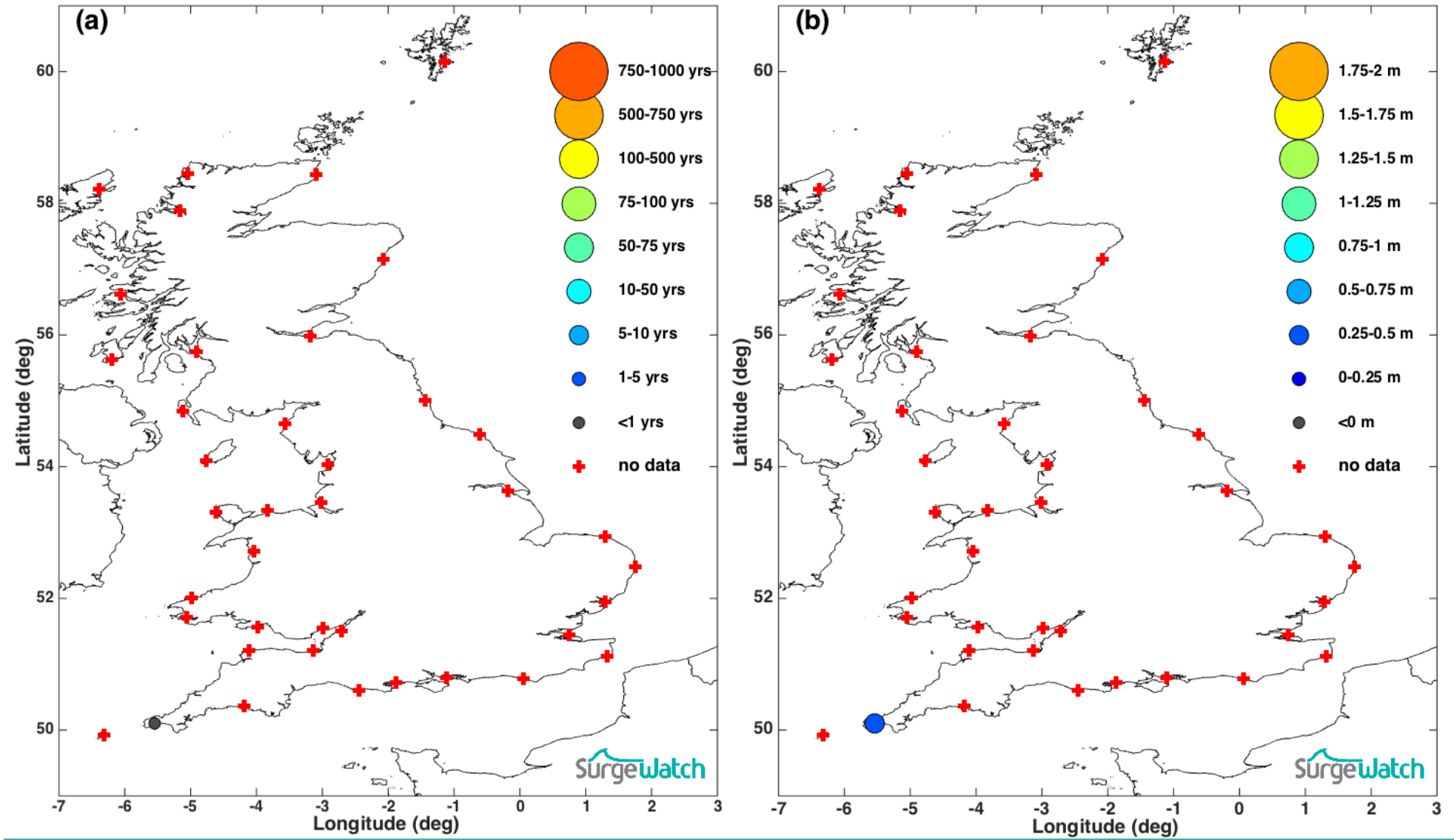


Figure 3: (a) Water level return period; (b) Skew surge levels

References

BBC, 2009. Aberystwyth's great storm of 1938. Available at: http://news.bbc.co.uk/local/midwales/hi/people_and_places/history/newsid_8305000/8305530.stm.

BBC, 2014. Aberystwyth storm aftermath of 1938 recorded by British Pathe. Available at: http://www.bbc.co.uk/news/uk-wales-25626261.

Eden, P., 2008. *Great British Weather Disasters*, London: Continuum UK.

Additional sources of information

Met Office, 1938. Monthly Weather Report of the Meteorological Office. *Monthly Weather Report*, 55(1). Available at: http://www.metoffice.gov.uk/learning/library/archive-hidden-treasures/monthly-weather-report-1930s.