

[Supplementary material]

A great wave: the Storegga tsunami and the end of Doggerland?

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Table S1 presents details of all Storegga deposits shown in Figure 1. This includes those from around the North Sea basin and southern Norwegian Sea; more extensive reviews can be found in Long (2018) and Bondevik (2019). A number of sites have not been included, either because they are beyond the limits of the map, or do not border on the North Sea or southern Norwegian Sea, including sites from Greenland (Wagner *et al.* 2007), the Faroe Islands (Grauert *et al.* 2001), northern Norway (Romundset & Bondevik 2011; Rasmussen *et al.* 2018) and the east coast of Denmark (Noe Nygaard *et al.* 2005). Furthermore, a number of places where Storegga has been attested comprise multiple discrete sampling points, e.g. Bjugn in Northern Norway (Bondevik *et al.* 1997: fig. 6), or Nordfjord (Vasskog *et al.* 2013). Finally, still other sites, e.g. Hålandsvannet and Braastadvann in Norway, have been excluded on the grounds that although Storegga deposits have been suggested (Prøsch-Danielsen 2006), the dating of these sites is unclear, and the deposits are noted as being unlike other documented Storegga facies—the ‘so-called’ Storegga deposit at the Stavanger Sola Airport is included here due to its possible association with archaeological materials, although the veracity of this site, along with Lego (I & II), remains unconfirmed (Prøsch-Danielsen 2006; Bang-Andersen 1995).

Table S1. Tsunami deposits shown in Figure 1. The relationship column refers to sites where tsunami deposits have been found at or near Mesolithic sites (C/U: Confirmed Underlying; C/O: Confirmed Overlying; C/A: Confirmed Association; U/A: Unconfirmed Association).

Site	Longitude*	Latitude*	Relationship	References
<i>Denmark</i>				
Rømø	8.5332	55.1566		(Fruergaard <i>et al.</i> 2015; Bondevik 2019)
Skagen Odde	10.416	57.665		(Noe Nygaard 2005)
<i>Norway</i>				
Austrheim	4.926	60.757		(Bondevik <i>et al.</i> 1997a; Bondevik 2019)
Bergsøy / Leinøy	5.655	62.322		(Svendsen 1985; Svendsen & Mangerud 1990; Bondevik <i>et al.</i> 1997a; Bondevik 2019)
Bjugn	9.837	63.822		(Bondevik <i>et al.</i> 1997a; Bondevik 2019)
Bømlo	5.173	59.691		(Bondevik <i>et al.</i> 1997a; Bondevik 2019)
Dysvikja	6.411	62.690	C/U	(Bondevik 2019)
Florø	5.031	61.596		(Aksdal 1986; Bondevik <i>et al.</i> 1997a; Bondevik 2019)
Harøy	6.464	62.763		(Bondevik 2003a; 2019)
Hommelstø	12.574	65.384		(Bondevik 2003b, 2019; Bondevik <i>et al.</i> 2012; Rydgren & Bondevik 2015;)
Kotedalen	4.916	60.739	U/A	(Warren 1995; 1994; S. Bondevik <i>pers. comm.</i>)
Lego	5.614	58.795	U/A	(Bang-Andersen 1995; Estèvez 2008)
Longva	6.276	62.662	C/O	(Bondevik <i>et al.</i> 2019)
Nordfjord	6.946	61.938		(Vasskog <i>et al.</i> 2013; Bondevik 2019)
Stavanger Sola	5.634	58.886	U/A	(Prøsch-Danielsen 2006)
Sula	6.247	62.431		(Bondevik <i>et al.</i> 1997a; Bondevik 2019)
<i>Britain</i>				
Barnyards	-4.4610	57.4621		(Haggart 1982; Long 2018)
Bellevue	-4.4417	57.4997		(Firth 1984; Long 2018)

Broomhouse Farm	-1.9411	55.7003		(Horton <i>et al.</i> 1999; Shennan <i>et al.</i> 2000; Long 2018)
Broughty Ferry	-2.8539	56.4710	U/A	(Hutcheson 1886; Lacaille 1954; Smith <i>et al.</i> 2004; Long 2018)
Burragarth	-0.9499	60.7138		(Smith 1993; Smith <i>et al.</i> 2004; Long 2018)
Castle St. Inverness	-4.2217	57.4786	C/U	(Wordsworth 1985; Dawson <i>et al.</i> 1990; Long 2018)
Cocklemill Burn	-2.8672	56.1977		(Tooley & Smith 2005; Long 2018)
Craigie	-2.8833	56.4070		(Haggart 1978; Long 2018)
Creich	-4.2777	57.8685		(Smith <i>et al.</i> 1992; Long 2018)
Dounie	-4.1971	57.8456		(Smith <i>et al.</i> 1992; Long 2018)
Dryleas	-2.4806	56.7363		(Smith & Cullingford 1985; Long 2018)
Dubton	-2.4904	56.7326		(Smith & Cullingford 1985; Long 2018)
Fullerton	-2.5307	56.6947		(Smith <i>et al.</i> 1980; Long 2018)
Garth Loch	-1.1504	60.2663		(Bondevik <i>et al.</i> 2005; Long 2018)
Garth's Voe	-1.2565	60.4492		(Long 2018)
Goodie Water	-4.2168	56.1764		(Holloway 2002; Long 2018)
Hedderwick	-2.5773	55.9999		(Long 2018)
Howick	-1.5917	55.4406	C/A	(Boomer <i>et al.</i> 2007; Long 2018)
Loch Eriboll	-4.7433	58.4485		(Long <i>et al.</i> 2016; Long 2018)
Loch of Benston	-1.1595	60.2645		(Bondevik <i>et al.</i> 2005; Long 2018)
Loch of Flugarth	-1.3399	60.5972		(Bondevik <i>et al.</i> 2002; Long 2018)
Lochhouses	-2.6162	56.0303		(Newey 1965; Smith <i>et al.</i> 1991; Long 2018)
Low Hauxley	-1.5542	55.4406	C/A	(Waddington 2014; Long 2018)
Maggie Kettle's Loch	-1.3326	60.4631		(Bondevik <i>et al.</i> 2002; 2003 Long 2018)
Maryton	-2.5177	56.7002		(Smith <i>et al.</i> 1980; Long 2018)
Mid Yell	-1.0849	60.6056		(Costa <i>et al.</i> 2015; Long 2018)
Moniack	-4.4308	57.4621		(Haggart 1982; Smith <i>et al.</i> 1985; Long 2018)
Munlochy Bay	-4.2609	57.5462		(Firth 1984; Long 2018)

Northton	-7.0596	57.7975	C/A	(Jordan <i>et al.</i> 2010; Gregory <i>et al.</i> 2005; Long 2018)
Norwick	-0.8035	60.8051		(Smith 1993; Smith <i>et al.</i> 2004; Long 2018)
Old Montrose	-2.5438	56.6992		(Smith & Cullingford 1985; Long 2018)
Otter Loch	-1.3168	60.4369		(Bondevik <i>et al.</i> 2002; Long 2018)
Over Easter Offerance	-4.2902	56.1373		(Sissons & Smith 1965; Long 2018)
Puggieston	-2.4937	56.7335		(Smith & Cullingford 1985; Long 2018)
Scatsta Voe	-1.2805	60.4367		(Birmie 1981; Smith 1993; Smith <i>et al.</i> 2004; Long 2018)
Silver Moss	-2.8847	56.4007		(Chisholm 1971; Long 2018)
Smithy House	-4.0100	57.9656		(Smith <i>et al.</i> 1992; Long 2018)
Snarravoe	-0.9579	60.6923		(Bondevik <i>et al.</i> 2005; Long 2018)
St Michael's Wood	-2.8864	56.4043		(Haggart 1978; Long 2018)
Strath Halladale	-3.9069	58.5377		(Dawson & Smith 1997; Dawson & Smith 2000; Long 2018)
Talisker Bay	-6.4574	57.2850		(Selby & Smith 2015; Long 2018)
Tarty Burn	-2.0299	57.3346		(Smith <i>et al.</i> 1999; Long 2018)
The Houb, Sullom Voe	-1.3364	60.4550		(Bondevik <i>et al.</i> 2002, 2003, 2005; Long 2018)
Tomich	-4.4611	57.4912		(Firth 1984; Long 2018)
Water of Philorth	-1.9765	57.6670		(Smith <i>et al.</i> 1982, 2004; Long 2018)
Waterside	-1.9884	57.3310		(Smith <i>et al.</i> 1983; Long 2018)
Whalefirth	-1.1193	60.6048		(Cascalho <i>et al.</i> 2016; Long 2018)
Wick River	-3.1276	58.4535		(Dawson & Smith 1997; Long 2018)

* Coordinates for sites from the UK are sourced from Long (2018), and for Rømø, from Fruergaard *et al.* (2015). All other coordinates are approximations based on location maps published in corresponding references.


Unit Number	Core
1A-1	
1A-2	
1A-3	
1A-4	
1A-5	
1A-6	
1A-7	

Figure S1. Core section for ELF001A. Accompanying core log details (unit depth and lithological description) presented in Table S2 (image courtesy of M. Bates).

Table S2. Core-Log for ELF001A (see Figure S1) showing 7 units spanning a depth of 3.50m (core terminus). Units 1A-5 and 1A-6 constitute the posited Storegga tsunami event, with a weighted combination optically stimulated luminescence (OSL) depositional age for Units 1A-5 and 1A-6: 8.14 ± 0.29 ka (lithological description courtesy of M. Bates; OSL dating courtesy of T. Kinnaird; For technical details and protocols, see Gaffney *et al.* (2020: supplementary material)).

Unit number	Depth below ground surface (m)	Lithological description
1A-1	0.00–0.21	Yellow shell gravel with whole and fragmented shell. Small sub-rounded to sub-angular gravel clasts (<10mm). Structureless and loose/unconsolidated. <i>(Sharp Contact)</i>
1A-2	0.21–0.67	Pale greyish yellow medium sand. Structureless. Occasional small (2–4mm) shell fragments. Some black flecks below 0.46m. <i>(Abrupt Contact)</i>
1A-3	0.67–0.90	Greyish yellow medium sand with common shell fragments. Some possibly articulated Mytilus shells. Some burrowing evident, possibly very crudely bedded. Loose and unconsolidated. Some small stones. <i>(Abrupt Contact)</i>
1A-4	0.90–1.09	Mid to dark grey, very well laminated fine sands and silts. Predominantly sub-horizontal laminations of 2–4mm thick. Occasional dipping laminations of sand. Occasional shell fragments. Moderately cohesive.

		<i>(Abrupt Contact)</i>
1A-5	1.09–1.19	Dark grey silty fine sand with common shell fragments. Shells are <4mm commonly but with occasional fragments >30mm. Shells are broken and sharp/fresh. Possibly some crude bedding. Moderately firm and compact. <i>(Diffuse Contact)</i>
1A-6	1.19–1.51	Grey medium sand with very common shells fragments including whole shells and freshly broken shell fragments. Small stones throughout unit. Loose, unconsolidated and structureless. OSL depositional age for Units 1A-5 and 1A-6: 8.14±0.29ka <i>(Sharp Contact)</i>
1A-7	1.51–3.50	Mid to dark grey finely laminated silts and fine sands. Sub-horizontal laminations from 2–3mm thick to 10mm thick. Occasional brown organic fragments. Moderately firm and compact. Occasional sand beds 20mm thick. Possibly becoming more silty with depth. <i>(Base)</i>

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