

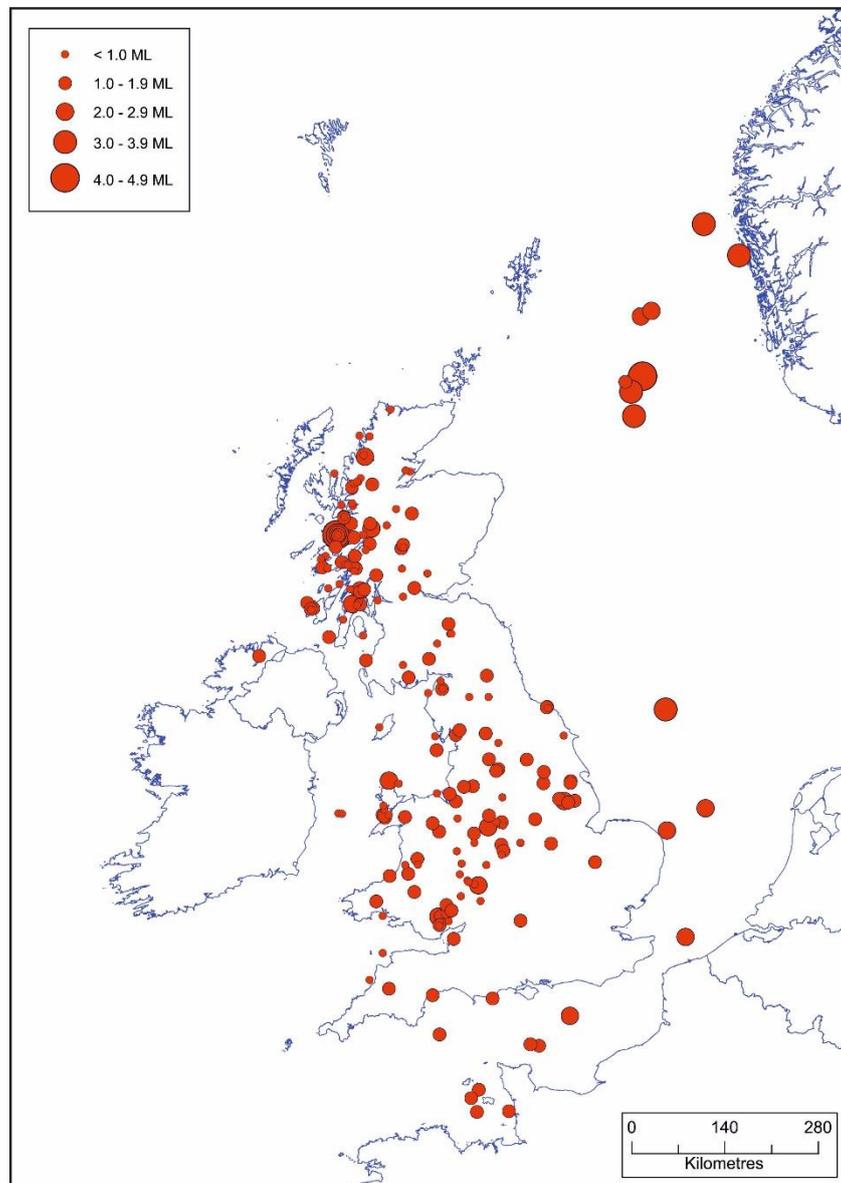
BRITISH GEOLOGICAL SURVEY

REPORT OR/18/015

# Bulletin of British Earthquakes 2017

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# 1 Introduction

The British Geological Survey's (BGS) Seismic Monitoring and Information Service operates a nationwide network of seismograph stations in the United Kingdom (UK). Earthquakes in the UK and coastal waters are detected within limits dependent on the distribution of seismograph stations. Location accuracy is improved in offshore areas through data exchange with neighbouring countries. This bulletin contains locations, magnitudes and phase data for all earthquakes detected and located by the BGS during 2017, listed in Tables 1 and 2. Maps showing seismic activity in 2017 (Figure 1), and the larger magnitude events since 1979 ( $ML > 2.5$ ) and since 1970 ( $ML > 3.5$ ) are also included. The bulletin covers all of the UK land mass and its coastal waters including the North Sea ( $11^{\circ}W$  to  $6^{\circ}E$  and  $48^{\circ}N$  to  $64^{\circ}N$ ).

All events believed to be of tectonic origin are included. Coalfield events are also included. Acoustic disturbances, such as sonic booms from supersonic aircraft, are included when they are felt. The airborne waves are readily identified by their slow travel time across an array but they are frequently mistaken as small earthquakes by the public. They are indicated by 'SONIC' in the locality column of Table 1.

Significant non-natural events, such as explosions, which received media attention or were greater than magnitude 2.5 ML or felt by local residents, are also included in Table 1. Smaller events that are known, or suspected to be of explosive origin are excluded from the bulletin where possible. These include explosions due to quarrying, mining, weapon testing or disposal, naval exercises, geophysical prospecting and civil engineering. Unfortunately, identification by record character, location and time of occurrence is not always conclusive and some man-made events may be included in the bulletin or, more rarely, a small natural event may have been excluded.

## 2 The BGS UK Seismograph Network

The UK seismograph network consists of 110 (78 permanent and 32 temporary) stations with broadband, short period and strong motion accelerometers. Of the permanent sites, some 44 are equipped with broadband seismometers and 29 have strong motion accelerometers, 23 of which are co-located with broadband sensors. The remaining 28 sites are equipped with short period seismometers. Data from all stations are transferred in near real-time to the BGS offices in Edinburgh for automatic processing, analysis and archiving. Seismic events are detected using automatic processing algorithms, but they can also be extracted manually from the archive of continuous data, then analysed to determine event types, locations and magnitudes. Operational BGS seismograph stations are shown in Figure 2.

The detection capabilities of a network depend upon station distribution, instrument sensitivity and background noise levels. Figure 2 also shows the magnitude detection thresholds for the seismograph stations operational during 2017. The contours illustrate the lower threshold magnitude for an earthquake to significantly exceed 4 nanometres of noise (average) at 10 Hz on at least four seismographs. These detection levels hold true only if data from all stations are continuously monitored. Smaller events may go undetected unless they are felt and reported to BGS by local inhabitants, in which case detection can be strongly dependent on the population density.

The whole of the UK is covered by the seismograph network for approximately magnitude 1.5 ML, and above, at times of average ambient noise levels. Noise sources such as wind, ocean waves and traffic vary considerably with time (typically 0.5 to 15 nanometres, at 10 Hz) causing the magnitude thresholds to increase or decrease. In conditions of high noise, 0.8 ML should be added to the contour values, causing the threshold to rise to about 2.3 ML. Normally, however, an

earthquake of this size would be felt, if not detected, in the areas of poorer instrumental coverage. The bulletin can, therefore, be assumed to be complete for all earthquakes of magnitude 2.3 ML and above.

Given the variability in the earthquake detection threshold, as governed by ambient noise conditions and the geometry of the observing network, the bulletin is biased towards certain localities. Figure 3 shows only earthquakes with magnitude 2.5 ML or above, in the period 1979 to 2017. The data set is considered complete for these magnitudes in all localities onshore. Seismicity for the period 1970 to 2017 is shown in Figure 4 with a threshold magnitude of 3.5 ML. This is the period covered by BGS instrumentation that, in the early years, only consisted of the network around Edinburgh (LOWNET) and Eskdalemuir (ESK) and a station near Kyle of Lochalsh (KYL). The data set is likely to be complete for such magnitudes.

## 3 Earthquake Parameters and Their Errors

### HYPOCENTRE LOCATION

By accurately timing the signal onsets at a minimum of three stations, a location can be found for an earthquake that satisfies the observed pattern of arrivals. Instrumental locations in the bulletin were obtained using the computer program HYPOCENTER (Lienert and Havskov 1995) that iteratively adjusts a trial hypocentre (latitude, longitude, depth, and origin time) until the observed and computed arrival times coincide closely.

The accuracy of locations is dependent on distances from the closest stations, the distribution of the stations around the epicentre, the resolution to which signal onsets can be timed from the records, and the accuracy with which the seismic wave velocities through the Earth are known.

The accurate determination of earthquake depth presents a more difficult problem, mainly because phase arrival patterns at the seismographs can still be satisfied for a large range of depths merely by adjusting the origin time to suit. Depth is usually only well constrained when there is a station very close to the epicentre.

The best depth determinations are obtained when an earthquake or earthquake series occurs almost beneath a network. For events at larger distances the depth errors can be many kilometres.

### MAGNITUDE

All earthquakes in the bulletin have been assigned a local magnitude (ML) as defined by Richter (1935):

$$ML = \log_{10} (A / A_0)$$

Where  $A$  is the maximum deflection (centre to peak in mm) registered on a Wood-Anderson seismograph and  $A_0$  is that for a 'standard' magnitude zero earthquake at the same distance. The  $A_0$  term is thus a distance correction factor, tabulated by Richter to 200 km, and later adjusted to include up to 600 km. Although Richter intended his method to be an approximate quantification of earthquake size and his attenuation term,  $A_0$ , strictly only applies to California, the formula is still used worldwide today. The ML magnitudes in this bulletin have been calculated according to Richter's formula after converting the output of the BGS instruments to an equivalent Wood-Anderson deflection. Ideally, the measurements are made on two horizontal instruments and averaged but, if this is not possible, the mean of the magnitudes from a number of verticals are used. Ground motion registered at a seismograph varies with site conditions, distance and direction from the earthquake, and the nature of the ray path. Consequently, it is important to take

the mean from a good distribution of stations. The resulting errors on magnitudes quoted in the bulletin will normally be less than 0.4 ML.

## **INTENSITY**

Intensity is a measure of the effect of the shaking produced by the earthquake on people, structures and objects. It decreases with distance from a maximum value ( $I_{\max}$ ) usually found close to the epicentre. The maximum felt intensity is quoted, where known, with reference to the European Macroseismic Scale (EMS), (Grünthal, 1998).

## **FOCAL MECHANISM**

Earthquake focal mechanisms provide information on the fault geometry and type of faulting that caused the earthquake, and can be used to better understand tectonic processes occurring within the Earth's crust. Calculating them involves mapping directions where the initial motion of the seismic waves is up (compressional) or down (dilatational) on a spherical projection. This results in distinctive "beach-ball" diagrams that show two shaded quadrants and two white quadrants that represent upward and downward initial motions. The dividing lines between the quadrants on the "beach-ball" define the orientation of the fault planes and the directions of slip. It is not possible to determine which of the two possible fault planes shown in the mechanism is the actual fault, so *a priori* information such as aftershock distribution is sometimes used to determine the causative fault. The strike and dip describe the orientation of the fault, and the rake describes the direction of slip ( $-90^\circ$  for thrust or reverse faulting,  $90^\circ$  for normal faulting and  $0^\circ$  or  $180^\circ$  for strike-slip). The axes of maximum and minimum compression are denoted by black and white squares, respectively. The grid search method of Snoke *et al.* (1984) is used to determine the best-fitting fault plane solutions.

## **4 Summary of 2017 Seismicity**

There were 224 earthquakes located by the BGS seismic monitoring network during the year, with 24 having magnitudes of 2.0 ML or above, eight having magnitudes of 3.0 ML or above and two having magnitudes of 4.0 ML or above. Some 14 events with a magnitude of 2.0 ML or above were reported felt, together with a further 14 smaller ones, bringing the total to 28 felt earthquakes in 2017.

The largest onshore earthquake of the year, with a magnitude of 4.0 ML and a focal depth of around 12 km, occurred on 4 August at 14:43 UTC and located on Moidart, Highland, approximately 50 km west of Fort William, 50 km NNW of Oban and 145 km northwest of Glasgow (Figure 5). It was the largest event to occur in Scotland since the magnitude 4.0 ML Arran earthquake on 4 March 1999, which was felt over an area of around 18,500 km<sup>2</sup>, with a maximum intensity of 4 EMS. The focal mechanism obtained for this event shows either right-lateral slip on a fault that strikes north-northwest south-southeast and dips at  $57^\circ$  to the west-southwest, or left-lateral slip on a fault that strikes approximately east-west and dips north at  $65^\circ$  (Figure 6). This is in good agreement with focal mechanisms calculated for other earthquakes across the region, which all show similar solutions. Data from over 350 questionnaires (Figure 7), collected online, were used to determine how widely the earthquake was felt. Analysis of these reports, received from members of the public, shows that it was felt widely across the region, from Inverness to the northeast, to Glasgow in the south and Islay to the west. Typical reports described "all our windows and doors rattled", "our whole house shook", "cups and saucers on the table all rattled", "a loud bang followed by a rumble, enough for us to go outside to see what had happened" and "everyone in the shop and people in surrounding shops noticed it". A maximum intensity of 5 EMS was assigned for this earthquake. It was followed two minutes later, at 14:45 UTC, by a

magnitude 3.4 ML earthquake, in the same location, which was also felt throughout the region with a maximum intensity of 4 EMS. A further three aftershocks were detected, all on 4 August, at 15:20 UTC, 16:07 UTC and 17:35 UTC, with magnitudes of 1.1 ML, 1.2 ML and 2.2 ML, respectively. The magnitude 2.2 ML event was felt by several residents on Moidart, with intensities of at least 3 EMS (Baptie et al, 2017).

The largest offshore earthquake of the year occurred in the Central North Sea, at 13:33 UTC on 30 June, with a magnitude of 4.7 ML and a focal depth of around 8 km (Figure 8). It located approximately 215 km southeast of Lerwick, Shetland Islands and 310 km northeast of Aberdeen. It was felt in Lerwick, Sumburgh and Fair Isle (Shetland Islands), in Sanday and Kirkwall (Orkney Islands), in Wick and Thurso (Highland), in Fraserburgh (Aberdeenshire) and in a few locations in western Norway. Reports described “we were sleeping on sofa and the rumbling noise awoke both of us”, “it felt like a heavy lorry drove by just outside our house”, “the windows rattled for a few seconds” and “the sliding doors vibrated”, indicating an intensity of at least 3 EMS. The epicentre of this earthquake is approximately 100 km southwest of the magnitude 5.7 event that occurred in the Viking Graben region of the North Sea on 24 January 1927, and which was felt throughout western Norway and down most of the east coast of Scotland. Another two earthquakes, with magnitudes greater than 3.0 ML, occurred in the same general region of the Central North Sea during the year. The first, with a magnitude of 3.6 ML, occurred at 01:42 UTC on 7 July and the second, with a magnitude of 3.3 ML, occurred at 08:14 UTC on 14 September. On 3 January, at 18:52 UTC, an earthquake with a magnitude of 3.8 ML was felt in Scarborough, with intensities of 2 EMS. It occurred in the Southern North Sea region, approximately 155 km east of Scarborough, North Yorkshire (Figure 9). A further nine events occurred in the North Sea during the year, with magnitudes ranging between 1.5 ML and 3.7 ML.

On 15 January, at 22:58 UTC, an earthquake with a magnitude of 1.0 ML, occurred near Beddgelert, Gwynedd. It was felt, with a maximum intensity of 3 EMS, by residents in Llanberis, Minffordd, Tremadog, Waunfawr, Pentir, Garndolbenmaen, Tregarth, Caernarfon, Penrhyndeudraeth, Blaenau Ffestiniog and Myndd Llandyai, Gwynedd.

A magnitude 1.2 ML earthquake occurred at 16:00 UTC on 21 January, near Kilmore, Argyll & Bute, approximately 8 km southeast of Oban. A single report was received from a resident in the nearby hamlet of North Connel, which described, “sounded like a goods train going past”, indicating an intensity of 2 EMS.

On 24 January, at 16:35 UTC, an earthquake with a magnitude of 2.4 ML, occurred near Lephinmore, Argyll & Bute. It was felt by a number of residents in the hamlets, villages and towns of Lochgilphead, Lochgair, Kilmory, Minard, Otter Ferry, Leckuary, Ardrishaig, Castleton, Ardfern, Ardtaraig, Tayvallich, Clachan of Glendaruel, Tighnabruaich, Kilfinan, Dunoon, Cairnbaan, Tarbert, Stronachullin, Kilmelford, Melldalloch and Colintrave, Argyll & Bute. Typical reports described “a thump followed by a rumble lasting at least two or three seconds”, “loud bang followed by a deep rumbling and slight shaking”, “whole house shook as if something had exploded nearby” and “it sounded very similar to rocks being tipped from a lorry”, indicating a maximum intensity of 3 EMS. It locates approximately 50 km southeast of the magnitude 4.1 ML Oban earthquake of 29 September 1986, which was felt over an area of around 30,000 km<sup>2</sup> with a maximum intensity of 5 EMS. It also locates approximately 14 km SSE of the magnitude 5.2 ML Argyll earthquake on 28 November 1880, the largest of all recorded Scottish earthquakes, which was felt all along the west coast of Scotland, east as far as Perthshire, throughout the Inner and Outer Hebrides and extensively in Northern Ireland. The following day, on 25 January at 16:32 UTC, an earthquake with a magnitude of magnitude 1.4 ML, occurred in the same region, near Lephinmore, and was felt by a single resident in Kilmory, Argyll & Bute.

An earthquake, with a magnitude of 2.6 ML, occurred on 3 March, at 09:28 UTC, near the market town of Stone, Staffordshire (Figure 10). It was felt by a single resident in the nearby village of Oakamoor. Earthquakes of this size are usually felt more when they occur onshore but enquiries to local Police stations and Post Offices revealed that no further felt reports were received. The

depth (13.1 km) may have contributed to the lack of felt effects. Historically, the largest earthquake to have occurred nearby, approximately 7 km to the SSW, was the magnitude 4.6 ML Stafford event that occurred on 14 January 1916. It was felt throughout the region from Lancaster in the north to Bristol in the south, and from Cardiff in the west to Norwich in the east and caused considerable damage to many buildings in and around Stafford.

Near Hinderwell, North Yorkshire, three events occurred on 20 March at 02:06 UTC, 02:16 UTC and 04:24 UTC, with magnitudes of 1.3 ML, 1.3 ML and 0.8 ML, respectively. Both the magnitude 1.3 ML events were felt, by several residents, in the villages of Hinderwell and Staithes, with intensities of 3 EMS. The magnitude 0.8 ML event was felt, by a single resident, in the village of Staithes.

On 19 May at 23:14 UTC, an earthquake with a magnitude of 1.8 ML, occurred on the Knoydart peninsula in the Scottish Highlands. It was felt by several residents from Inverie, the main village on the peninsula, who described, “the kitchen window rattled” and “there was a single big boom, like an explosion”, indicating an intensity of around 3 EMS. A further two events were detected in the region in the following days, at 03:51 UTC on 20 May and at 21:57 UTC on 22 May, with magnitudes of 0.6 ML and 1.1 ML, respectively.

A magnitude 2.0 ML earthquake occurred at 20:08 UTC on 2 June near Spean Bridge, Highland Region. It was felt in Spean Bridge and by several residents in the surrounding villages of Gairloch, Roybridge and Banavie, who described “was like a rock blast” and “sounded like an explosion with a rumble to match”, indicating an intensity of 3 EMS.

On 5 June at 13:17 UTC, a magnitude 2.1 ML earthquake occurred approximately 5 km northeast of Lincoln, Lincolnshire. It was felt in Reepham, Stainton by Langworth, Grantham, Grimsby and Sutton-on-Sea. One report described “thought it was rumbling from neighbouring washing machine, but much louder”. An intensity of 3 EMS was assigned to this earthquake. It is the largest event detected in the general area (within 25 km) since the magnitude 2.7 ML Gainsborough earthquake on 19 June 2010. It is also located approximately 17 km SSW of the magnitude 5.2 ML Market Rasen earthquake which occurred on 27 February 2008 and was felt throughout England with a maximum intensity of 6 EMS.

An earthquake, with a magnitude of 2.4 ML, and a depth of around 7 km, occurred at 23:05 UTC on 10 June, with a location near the spa town of Malvern, Worcestershire. It was felt by three residents in Malvern who described “small items on my dressing table fell over”, “very deep rumble, like the start of some thunder” and “an unusual sound, like a large object briefly brushing the house”, indicating an intensity of 3 EMS. Historically, the largest event to have occurred in this area was the magnitude 5.3 ML Hereford earthquake on 17 December 1896, which was felt throughout most of England and Wales. Significant damage was caused in Hereford and surrounding villages, where over 200 chimneys were damaged or twisted.

A magnitude 2.1 ML earthquake occurred at 10:28 UTC on 16 July, with an epicentre near the town of Bargoed, Caerphilly. No felt reports were received for this event. This is an area that has experienced many seismic events in the past. The event in 2017 locates in the same area as events on 10 October 2001, 18 October 2001 and 12 February 2002 with magnitudes of 3.1 ML, 2.5 ML and 3.0 ML, respectively, that were all felt with intensities of 4 EMS.

On 17 July, the BGS received several reports from residents in Jersey and Guernsey, Channel Islands of a possible event sometime around 21:00 UTC. Reports described “all doors in the house were shaking”, “we felt a faint rumble” and “the rattling of windows in their frames and a slight vibration, felt by person lying on floor”. Data from the BGS seismic networks in the region were examined and signals consistent with a possible sonic origin were recorded between 21:00:00s and 21:00:40s UTC, on several stations (namely JVM, JSA, JRS, JQE and JDC) on the BGS seismic network in Jersey.

At 07:58 UTC on 23 July, an earthquake, with a magnitude of 2.3 ML, occurred near the village of Badrallach, Highland. It was felt by residents in Badrallach and also by residents in the

surrounding towns and villages of Ullapool, Dundonnell, Acheninver, Achiltibue, Ardessie, Lochbroom, Loggie, Camusnagaul and Gruinard, who described “it felt like lorries passing the house”, “the walls visibly shook”, “the whole house shook and the windows rattled” and “the mirror rattled which is lying next to the wall”. An intensity of 3 EMS was assigned to this earthquake.

On 2 August, an earthquake with a magnitude of 1.4 ML, occurred approximately 2 km WNW of the seaside village of Rathmullan, County Donegal. The BGS received information from the local Media that it was felt by several residents in the Milford area on the Fanad peninsula, County Donegal.

An earthquake, with a magnitude of 1.5 ML, and a depth of around 7 km, occurred at 02:19 UTC on 4 August, with a location approximately 7 km NNW of Kingussie, Highland. It was felt by a couple of residents in the town of Kingussie and by another, single resident in the village of Kincaig. Reports described “felt like something impacting the house”, “the windows rattled”, “thought it might be burglars trying to break the door” and “felt like a heavy train passing by”, indicating an intensity of about 3 EMS.

An earthquake, with a magnitude of 2.0 ML, occurred on 9 August at 04:41 UTC with a location in the Irish Sea, approximately 12 km NNW of Amlwch, Anglesey and 12 km NNE of Wylfa Nuclear Power Station (Figure 11). It was felt, by a single resident, in Amlwch who described “a slight shaking and a faint rumble”.

An earthquake, with a magnitude of 2.0 ML, occurred at 15:34 UTC on 9 August in the English Channel region, approximately 55 km SSW of Brighton, East Sussex. Four other earthquakes occurred in the English Channel region during the year, with magnitudes ranging between 0.9 ML and 1.9 ML.

On 8 September at 20:47 UTC, a magnitude 1.3 ML earthquake occurred near the village of Langham, Rutland. It was felt by several residents in Langham, Oakham, Ashwell, Market Overton, Barleythorpe, Edith Weston, Cottesmore, Whissendine and Burley, who described “a very loud rumble”, “we thought it was thunder”, “there was a loud bang and the crockery shook in the cupboard”, “it sounded like a truck crashing” and “the curtains moved”, indicating an intensity of at least 3 EMS.

A magnitude 1.2 ML earthquake occurred at 01:37 UTC on 27 September, with an epicentre approximately 3 km NNE of the village of Ringford, Dumfries and Galloway. It was felt by a single resident in Dalbeattie, who described feeling a “slight tremor”.

On 4 October, the BGS received several reports (via Media sources in Suffolk and Norfolk) of a possible event felt by residents in several towns and villages across Suffolk, Norfolk and Essex, sometime around 07:30 UTC. Reports described “the whole house shook”, “the windows rattled and all the birds outside went crazy”, “we thought it was an explosion” and “there was a loud bang”. Data from the BGS seismic networks in the region were examined and a signal consistent with a possible sonic origin was recorded at 07:37 UTC on the BGS seismic station near Elmsett, Suffolk.

On 8 October, at 22:55 UTC, a magnitude 1.4 ML earthquake occurred around 2 km SSE of Oban, Argyll and Bute. It was felt by a single resident in Croggan, Isle of Mull, approximately 15 km west of the epicentre, who described “loud roar like a plane overhead but with no build up or fade away”.

An earthquake, with a magnitude of 2.6 ML, occurred at 20:59 UTC on 1 November, near the village of Tarbert, Argyll and Bute (Figure 12). It was felt by several residents in Tarbert, Tighnabruaich, Kilfinnan, Ardrishaig, Inverneill and Ormsary, Argyll and Bute. Reports described “there was a rumbling and a bang which was longer and louder than thunder and it frightened me”, “the windows rattled”, “the shaking lasted around 3 or 4 seconds” and “we thought it was a very large and heavy vehicle on the road outside”, indicating an intensity of at least 3 EMS.

Three earthquakes, within 15 minutes of each other, were detected on 13 December on the island of Islay, Argyll and Bute. They occurred at 02:01:29, 02:01:49 UTC, and 02:16 UTC with magnitudes of 0.9 ML, 0.8 ML and 1.1 ML, respectively. None were reported felt.

On 20 December at 08:15 UTC, an earthquake, with a magnitude of 1.5 ML, occurred on the Morvern peninsula in the Scottish Highlands. It was felt in Kilchoan, Highland, in Gruline, on the Island of Mull and in Clachan and Achnacroish, on the Island of Lismore, Argyll and Bute. An intensity of 3 EMS was assigned for this earthquake.

An earthquake, with a magnitude of 1.7 ML, occurred on 26 December at 22:40 UTC, on the Island of Mull, Argyll & Bute. It was felt by several residents on the islands of Mull and Lismore, Argyll & Bute and it was also felt on the mainland, in the township of Acharacle, Highland. Reports described, “a long extended rumble”, “sounded like a nearby quarry blast, but too unusual a date and time for this”, “loud roar for a few seconds, like previous earthquakes we have experienced” and “a noticeable rumbling for a few seconds”, indicating an intensity of at least 3 EMS. A further six events occurred on the Island of Mull during the year, with magnitudes ranging between 0.5 ML and 1.1 ML, of which none were reported felt.

## 5 UK Seismicity Statistics

In Figure 13, the histogram of earthquakes above magnitude 2.0 detected per year in different magnitude ranges, shows significant variation across the 48 years of modern instrumental monitoring. In the early years, the 1970s, instrumental coverage across the UK was sparse, and that influences the picture, although it was improving in the second half of the decade. The annual catalogues are thought to be complete at magnitude 3.5 ML or greater for 1970 to 1978, and for magnitude 2.5 ML and greater from 1979. Almost all of the earthquakes above 2.5 ML would be felt by people. Some of the peaks seen in Figure 13 have obvious explanations:

- In 1980, there was a continuing long aftershock sequence of the Carlisle earthquake of 26 December 1979 (4.7 ML). The largest two (both 3.8 ML) occurred in January and December 1980, the latter almost one year later than the mainshock. A local, temporary station was installed in a Longtown church three days after the mainshock, followed by three more distant stations in 1980.
- The largest onshore earthquake known in the UK’s history occurred on the Lley Peninsula, Gwynedd in 1984 (19 July) with a magnitude of 5.4 ML. A multi-station monitoring network was installed, shortly afterwards, across North Wales. The aftershock sequence continued for more than a year and confirmed that the activity was relatively deep for UK earthquakes, at around 20 km.
- The high peak in 2002 is dominated by an earthquake sequence near Manchester, which started on 19 October 2002 and continued until January 2003. Some 53 events above magnitude 2.0 ML were recorded and 37 were felt, the largest with a magnitude of 3.9 ML. Temporary stations were deployed to record the smaller events.
- The peak in 2014, is the result of an extended coal-mining induced series of earthquakes near New Ollerton, Nottinghamshire, which were studied with a temporary mobile network of monitoring stations. Some 65 events were felt, of which ten were magnitude 2.0 ML or greater.
- In 1974-75, there are clear peaks in earthquakes with magnitudes of 3.0 ML and greater during this period; around half of them were centred near Kintail, NW Scotland. There were few

monitoring stations in the UK at this time, so it is not known whether they were accompanied by many or a few smaller magnitude events.

- The Bishops Castle, Shropshire, earthquake in April 1990 (5.1 ML) and the Market Rasen, Lincolnshire earthquake in February 2008 (5.2 ML), both showed very limited aftershock sequences despite being well monitored. The former had seven aftershocks (all less than or equal to 1.5 ML and none felt) and the latter had eleven aftershocks, with magnitudes ranging between 0.6 ML and 2.8 ML, (the largest felt locally).
- The year 2016 is quite remarkable for producing the fewest earthquakes in the whole 48 year series, in all magnitude ranges above 2.0 ML, with a total of only three events in the 2.0 ML - 2.9 ML range and none above that.
- The largest earthquake in Scotland for 18 years, with a magnitude of 4.0 ML, occurred on Moidart, Highland in 2017 (4 August). Only five other earthquakes of this size or greater have been observed in Scotland, in the period of instrumental recording from 1970.

Figures 14 and 15 show the statistics for all earthquakes known to be felt from 1979 to 2017, including those below magnitude 2.0 ML. As might be expected, Figure 14 shows three of the same peaks as for the event occurrences seen in Figure 13; namely the 1984 Lleyn, 2002 Manchester and 2014 New Ollerton events. However, there were many events felt with magnitudes below 2.0 ML, and these were mainly related to coal mining.

Figure 15 shows the split between the number of felt events in coalfield areas (most of them mining-induced) and those which are natural earthquakes. It can be seen that the coalfield event distribution across the 39 years (1979 - 2017), largely mirrors the distribution of smaller events (2.0 ML or less) in Figure 14. As UK mining-induced events almost always occur within one km of the surface, they are felt at low magnitudes as they are close to the communities exposed. Natural earthquakes in the UK are generally in the depth range 3-20 km. By the year 2000, deep coal mining across the UK was tailing off and the upsurge in the mining-induced events in 2014 was associated with the Thoresby mine at New Ollerton, Nottinghamshire, which closed in 2015. The lack of mining events in 1984 is caused by the general miners' strike that year.

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University of Bergen (Bergen, Norway)  
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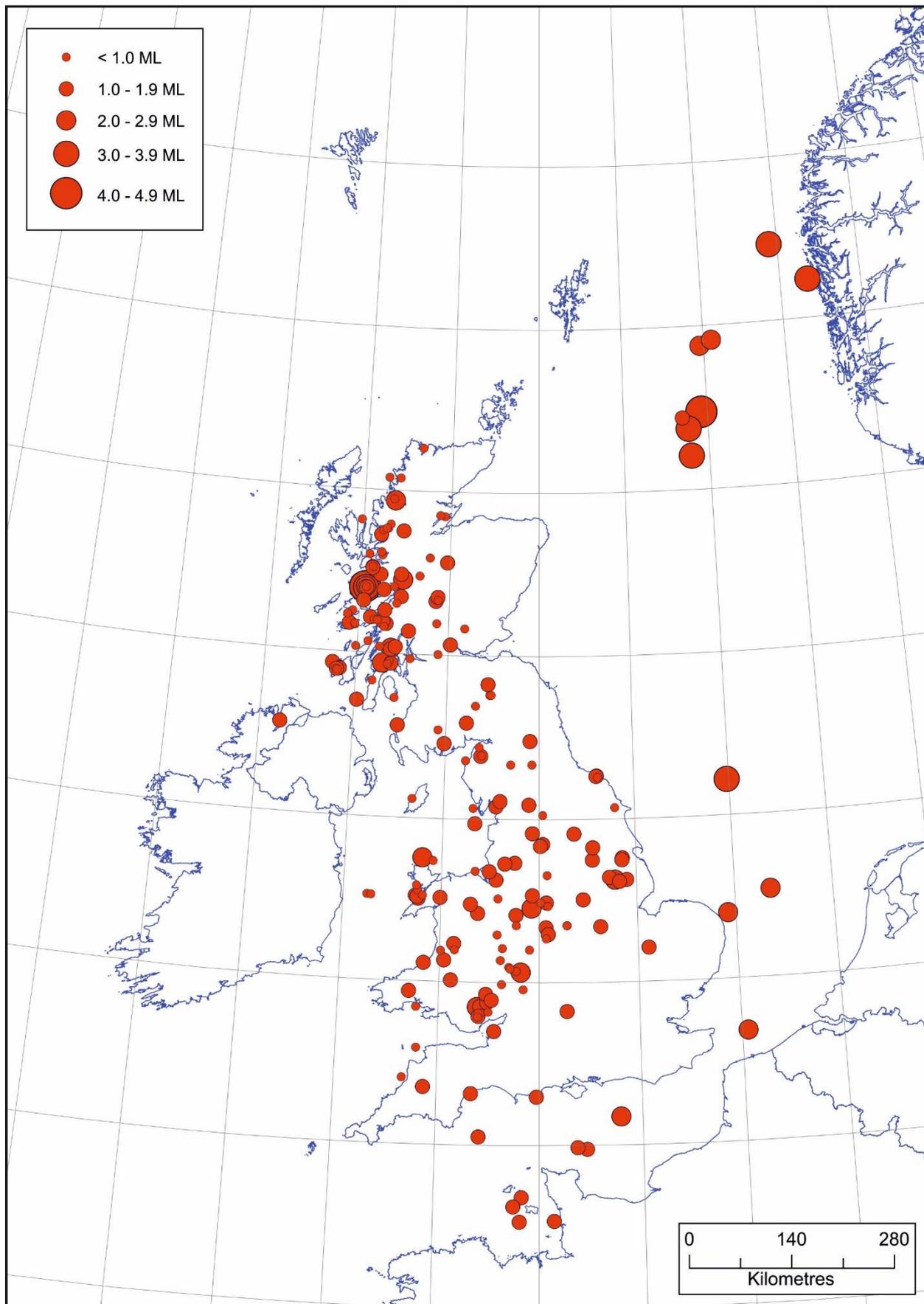
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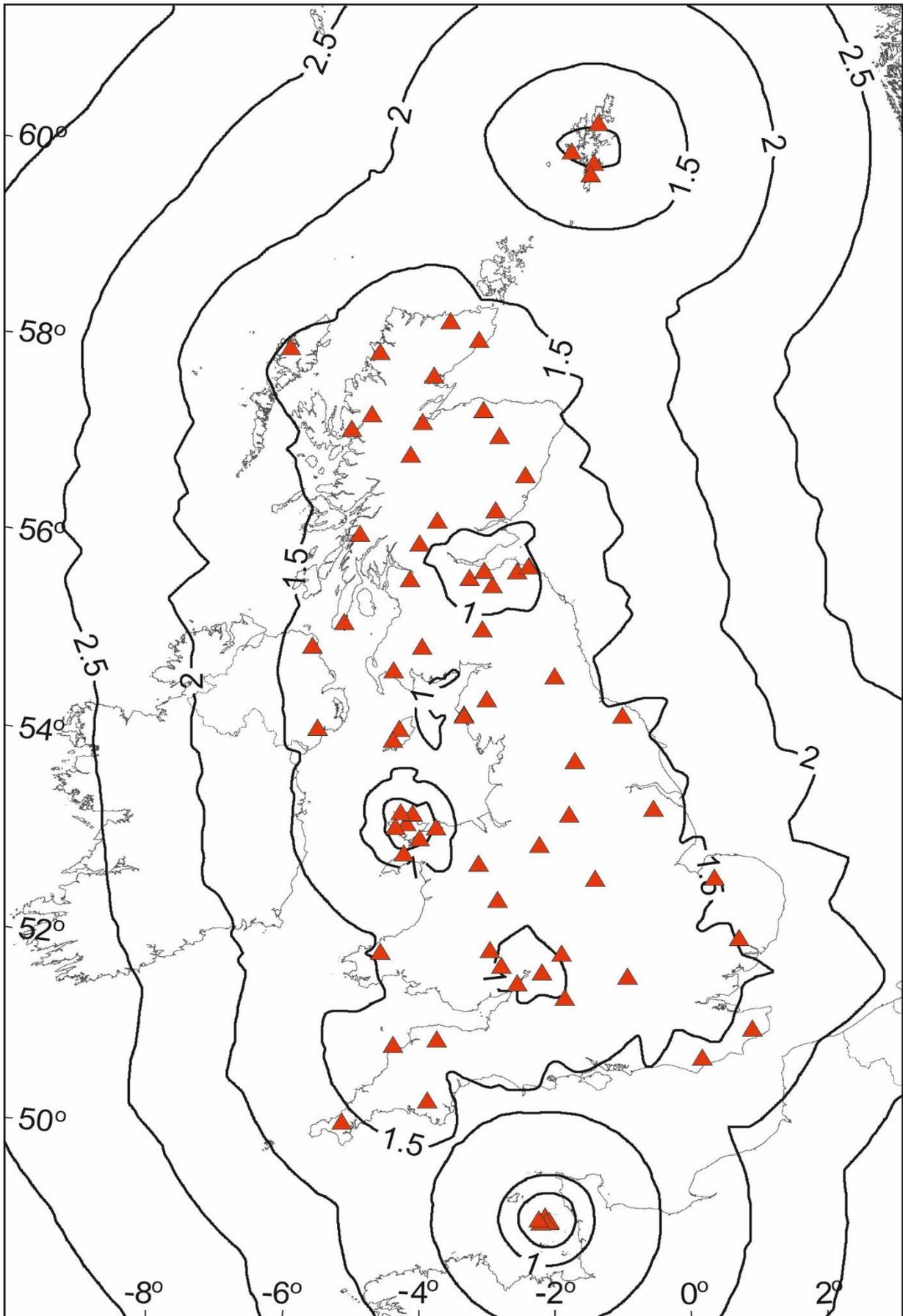
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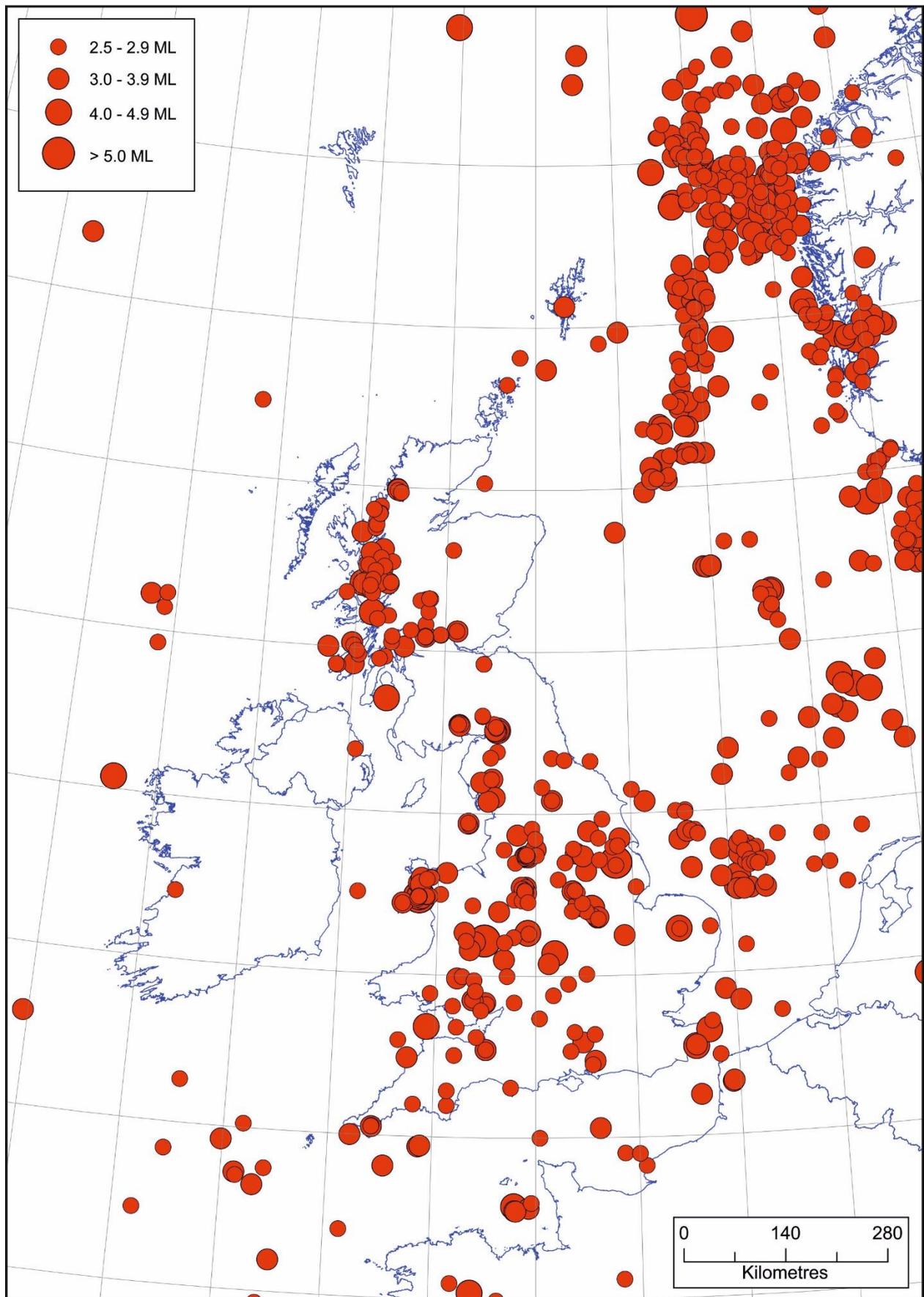
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**Figure 1. Epicentre map of earthquakes in 2017 as listed in Table 1.**



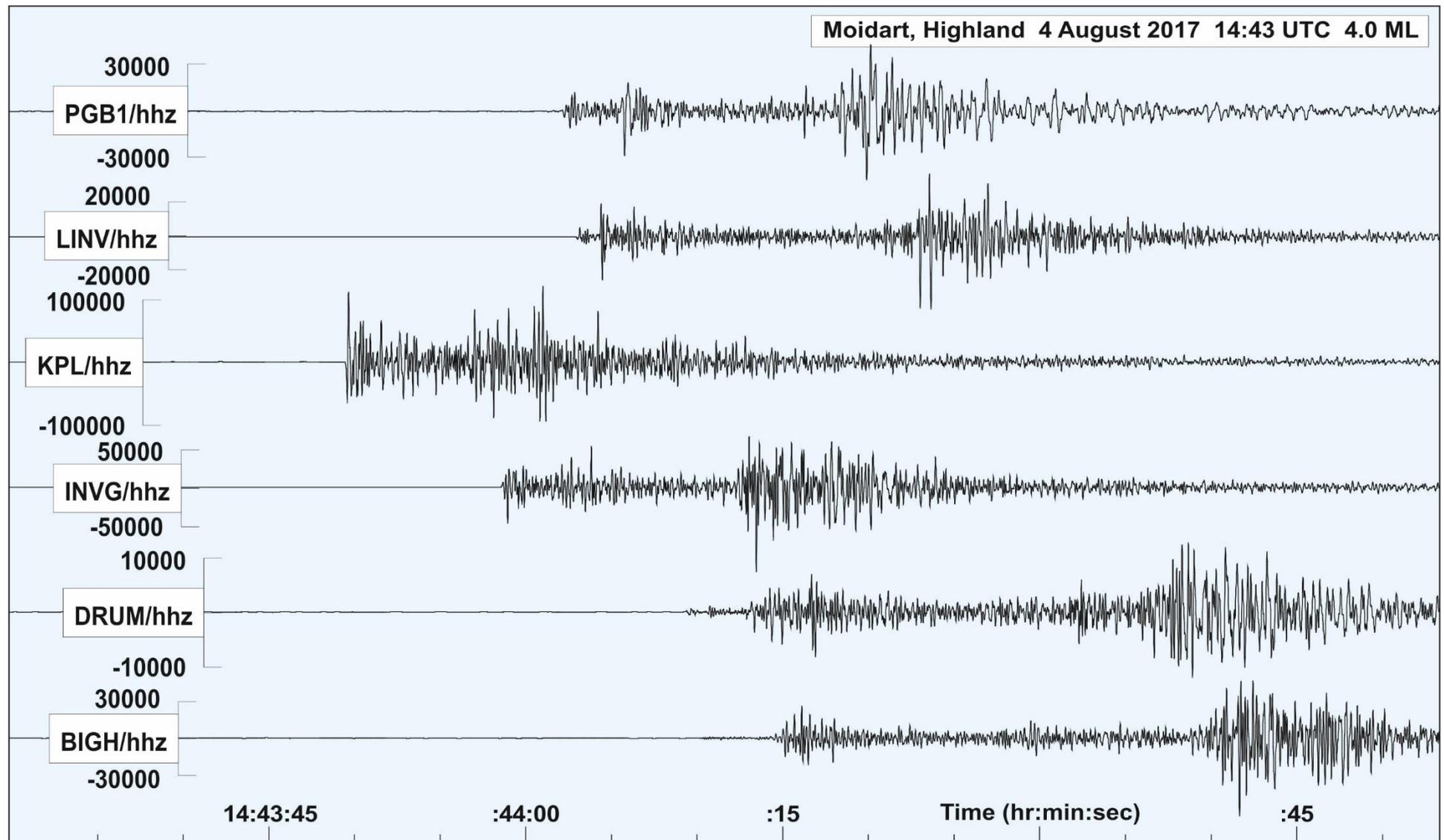
**Figure 2. Seismograph stations operated by BGS during 2017. The contours show earthquake detection capability in terms of Richter local magnitude (ML) calculated for average background noise conditions (4nm) where the detection criterion is that the signal has to exceed 4nm at 10Hz at 4 stations.**



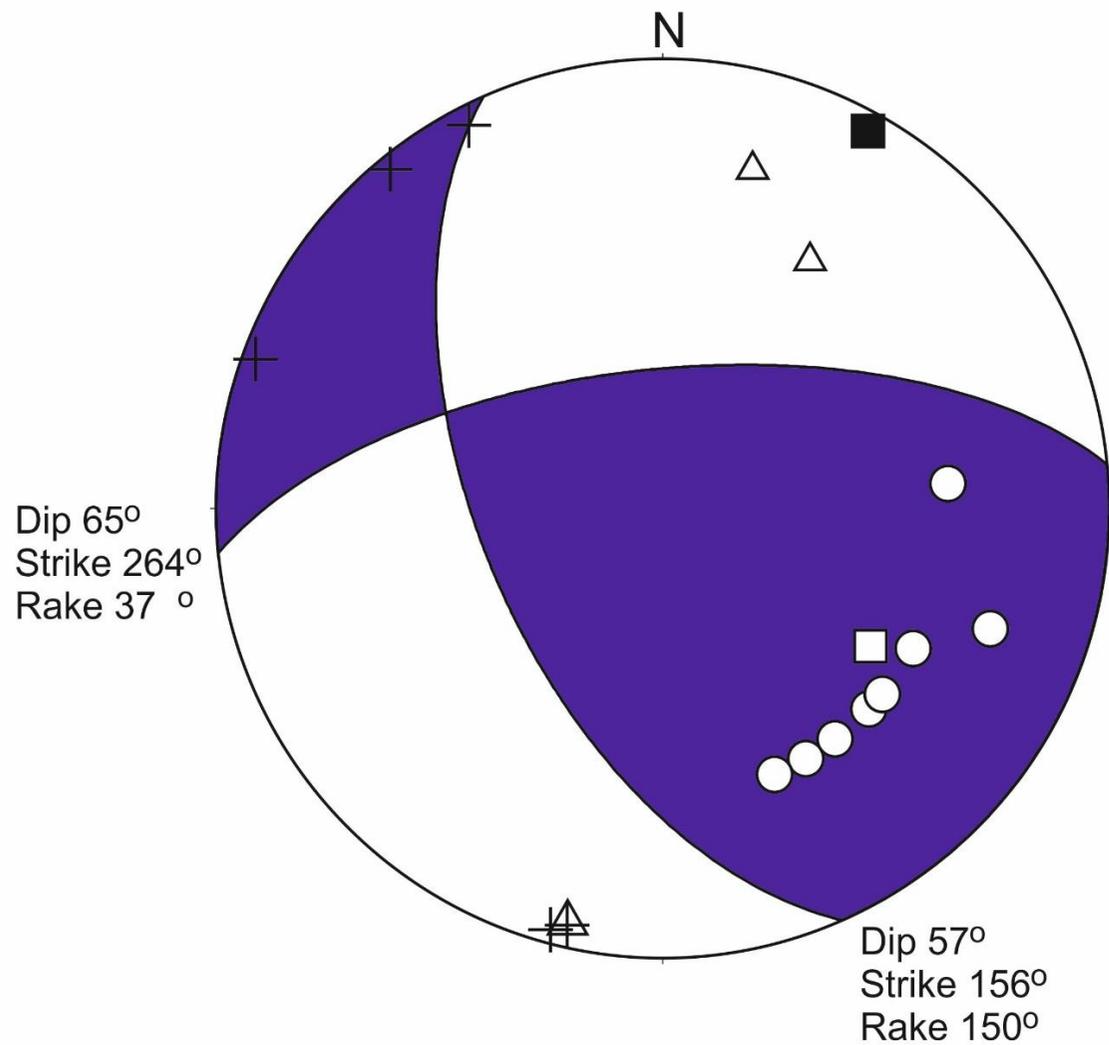
**Figure 3. Epicentres of earthquakes with magnitudes of 2.5 ML and above, in the period 1979 to 2017.**



**Figure 4. Epicentres of earthquakes with magnitudes of 3.5 ML and above, in the period 1970 – 2017.**



**Figure 5. Seismograms of the ground displacement from the magnitude 4.0 ML Moidart earthquake, 4 August 2017, recorded by BGS seismograph stations.**



**Figure 6. Lower hemisphere, equal projection of the focal mechanism for the Moidart earthquake on 4 August 2017. The blue shaded areas show areas of compressional first motion. The white circles and triangles show measured compressional and dilatational first motions, respectively. Black crosses show SH/V amplitude ratios. The black and white squares show the orientations of the axes of maximum (P) and minimum (T) compression, respectively (Snoke et al., 1984).**

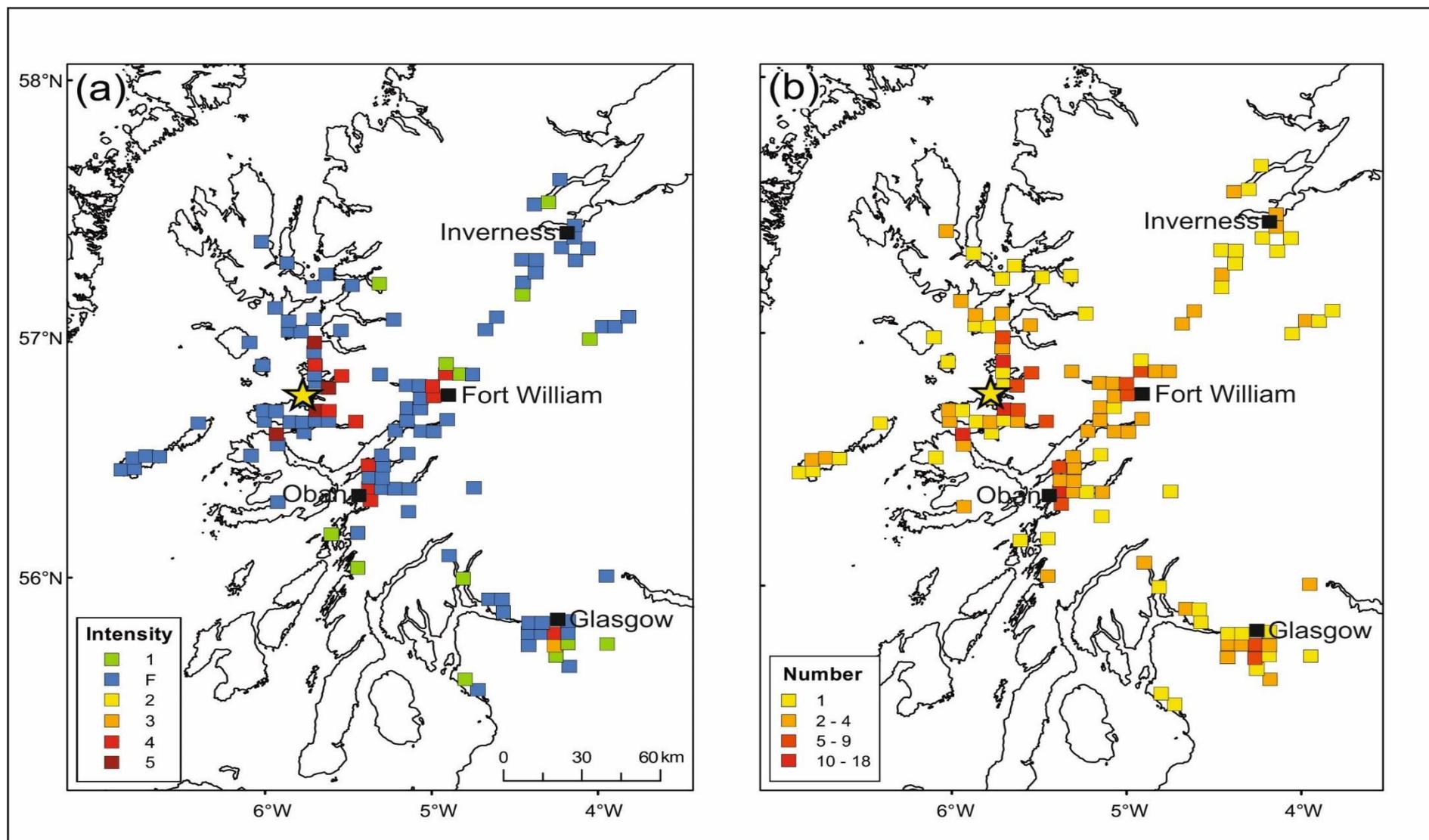


Figure 7. (a) Macroseismic intensities for the Moidart earthquake on 4 August 2017 calculated in 5 km grid squares. A minimum of five observations are required to calculate an intensity value. Squares are coloured by intensity. (b) Shows the number of observations to determine each intensity value.

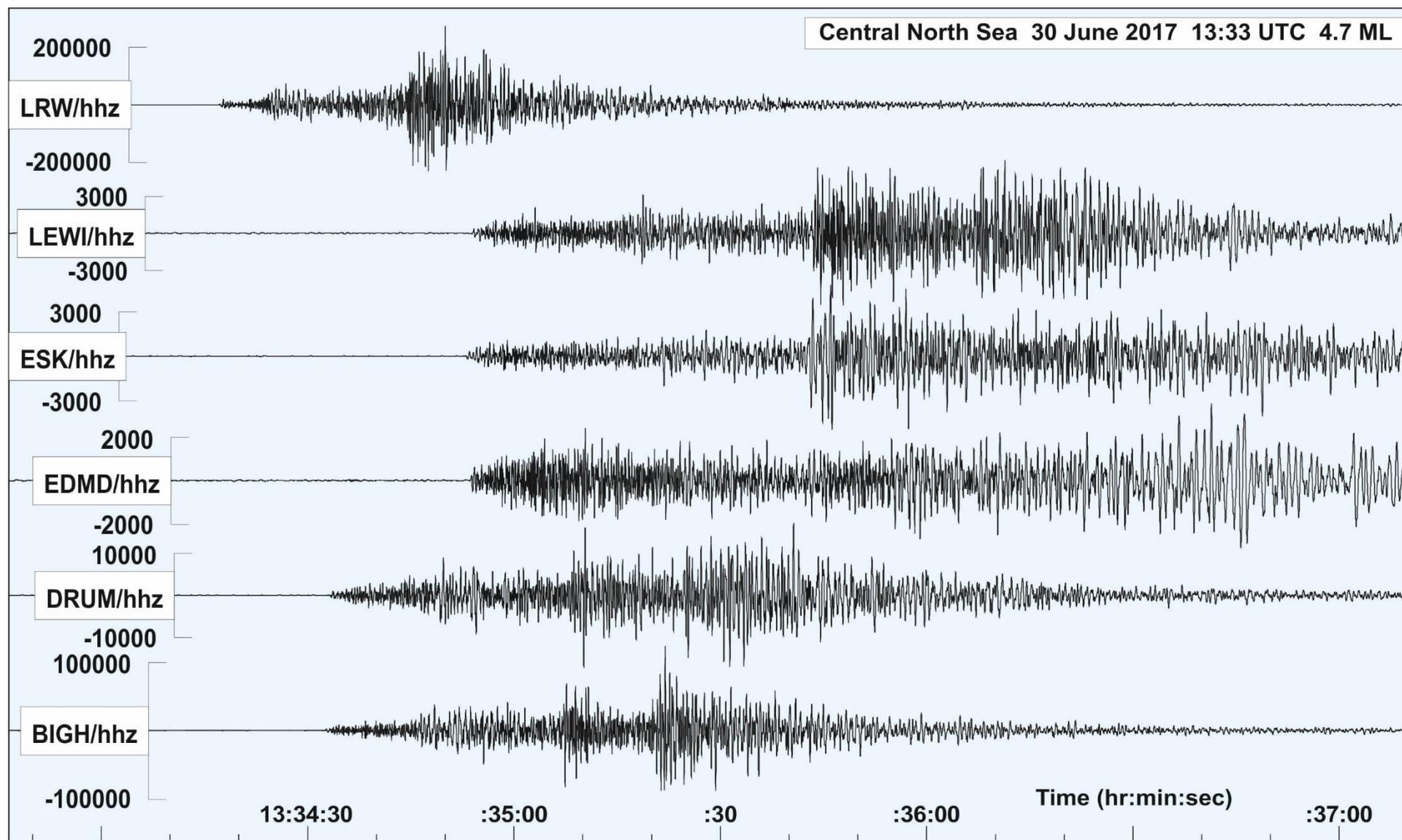
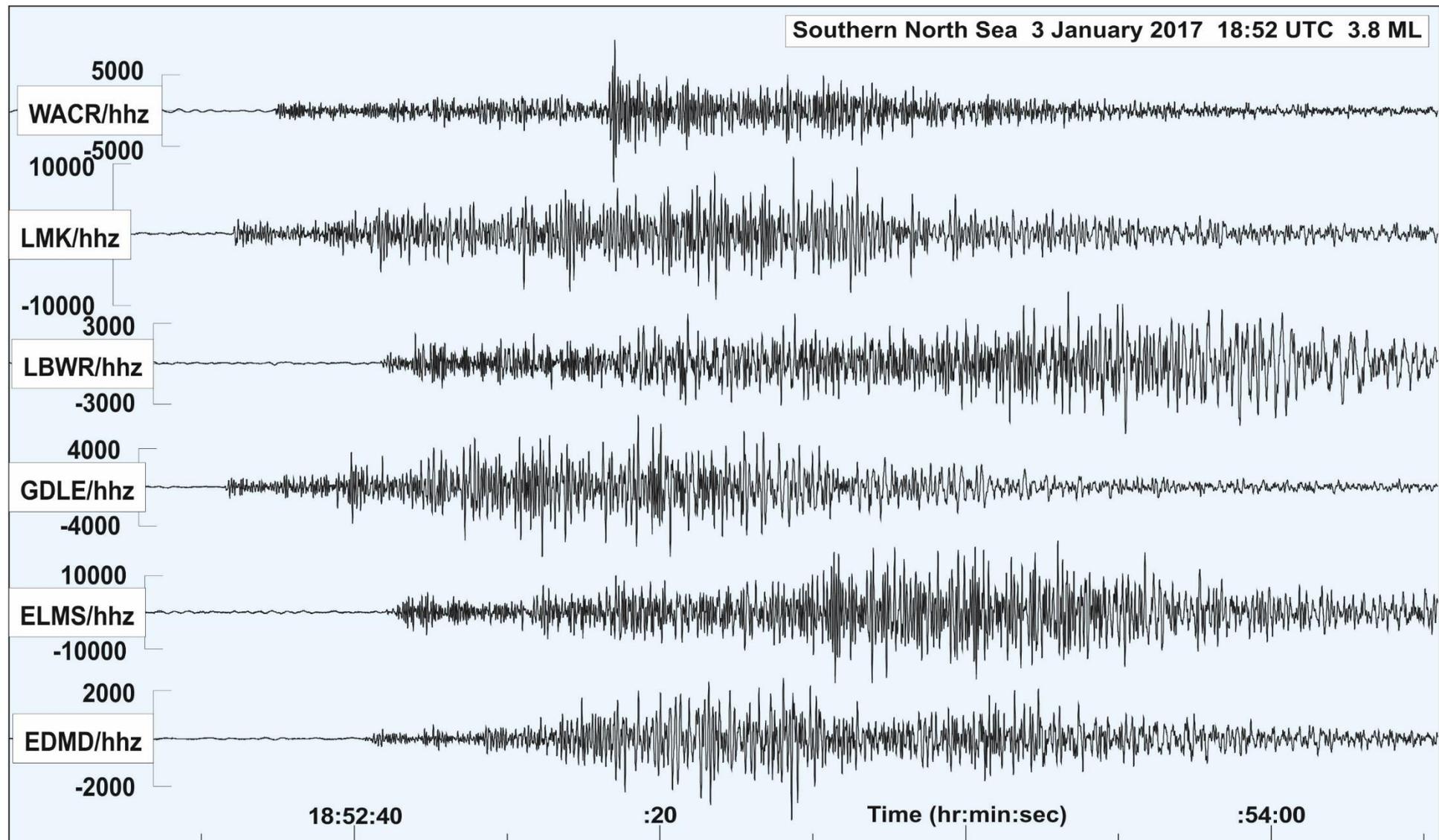


Figure 8. Seismograms of the ground displacement from the magnitude 4.7 ML Central North Sea earthquake, 30 June 2017, recorded by BGS seismograph stations.



**Figure 9. Seismograms of the ground displacement from the magnitude 3.8 ML Southern North Sea earthquake, 3 January 2017, recorded by BGS seismograph stations.**

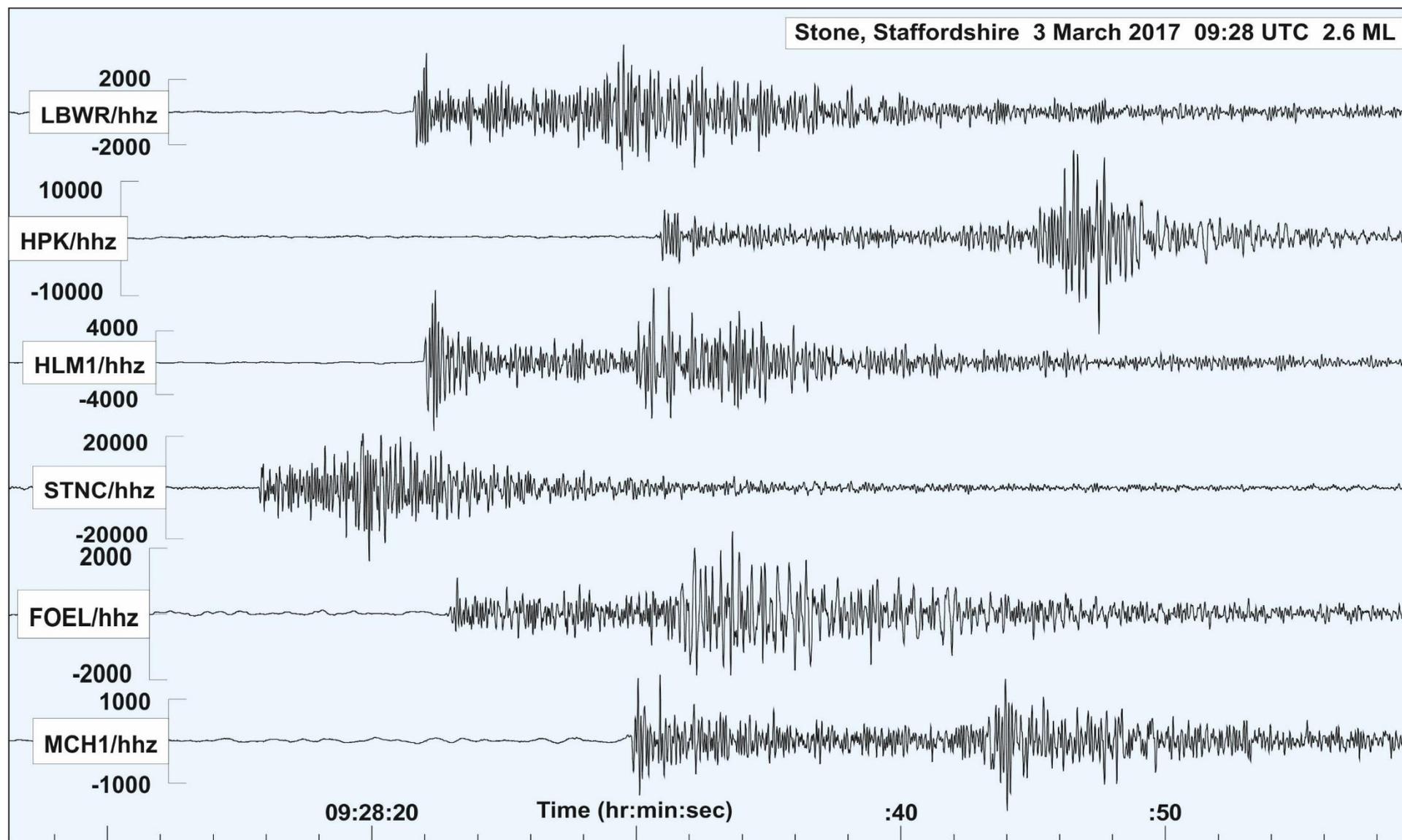


Figure 10. Seismograms of the ground displacement from the magnitude 2.6 ML Stone, Staffordshire earthquake, 3 March 2017, recorded by BGS seismograph stations.

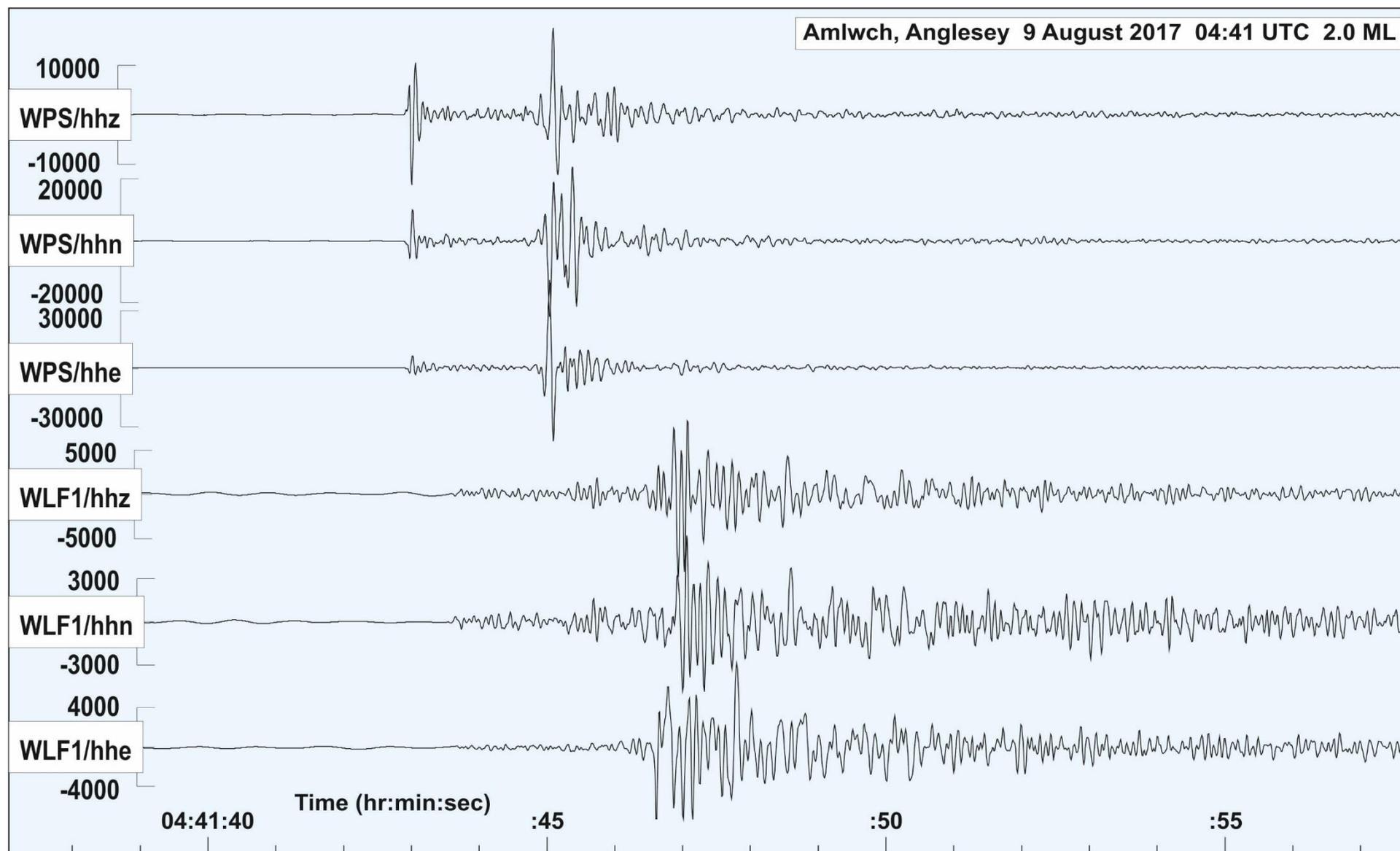


Figure 11. Seismograms of the ground displacement from the magnitude 2.0 ML Amlwch, Anglesey earthquake, 9 August 2017, recorded by BGS seismograph stations.

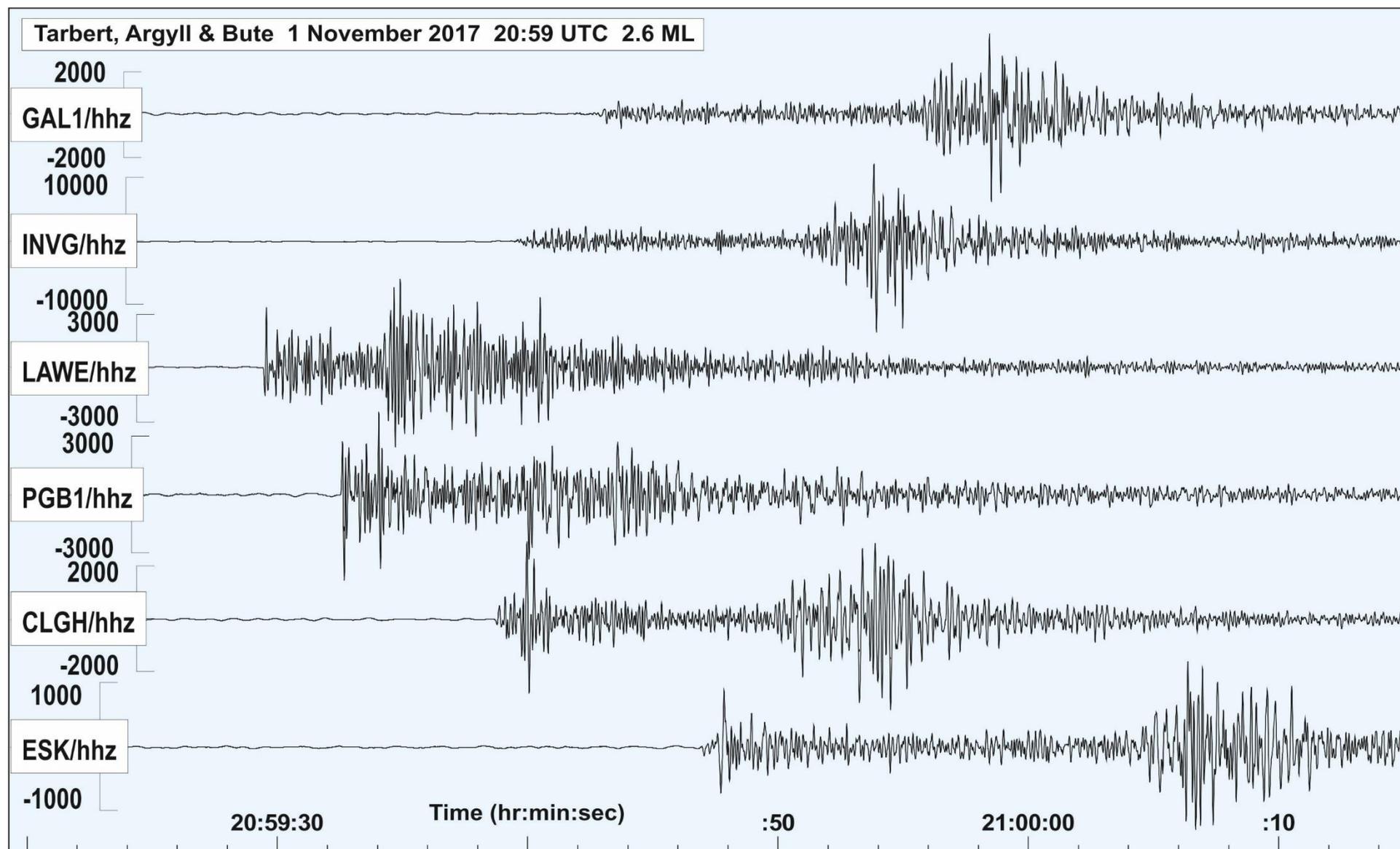


Figure 12. Seismograms of the ground displacement from the magnitude 2.6 ML Tarbert, Argyll & Bute earthquake, 1 November 2017, recorded by BGS seismograph stations.

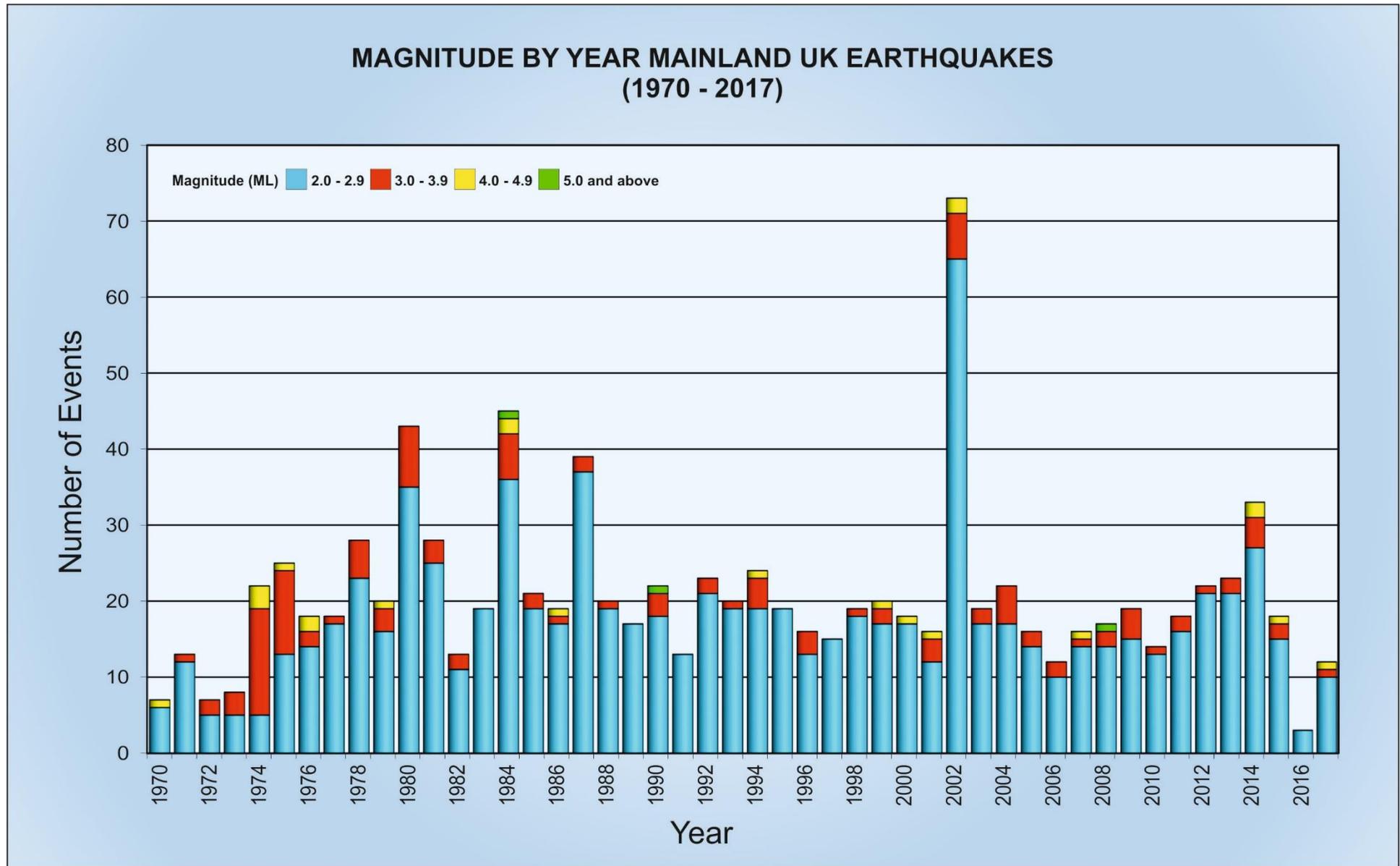
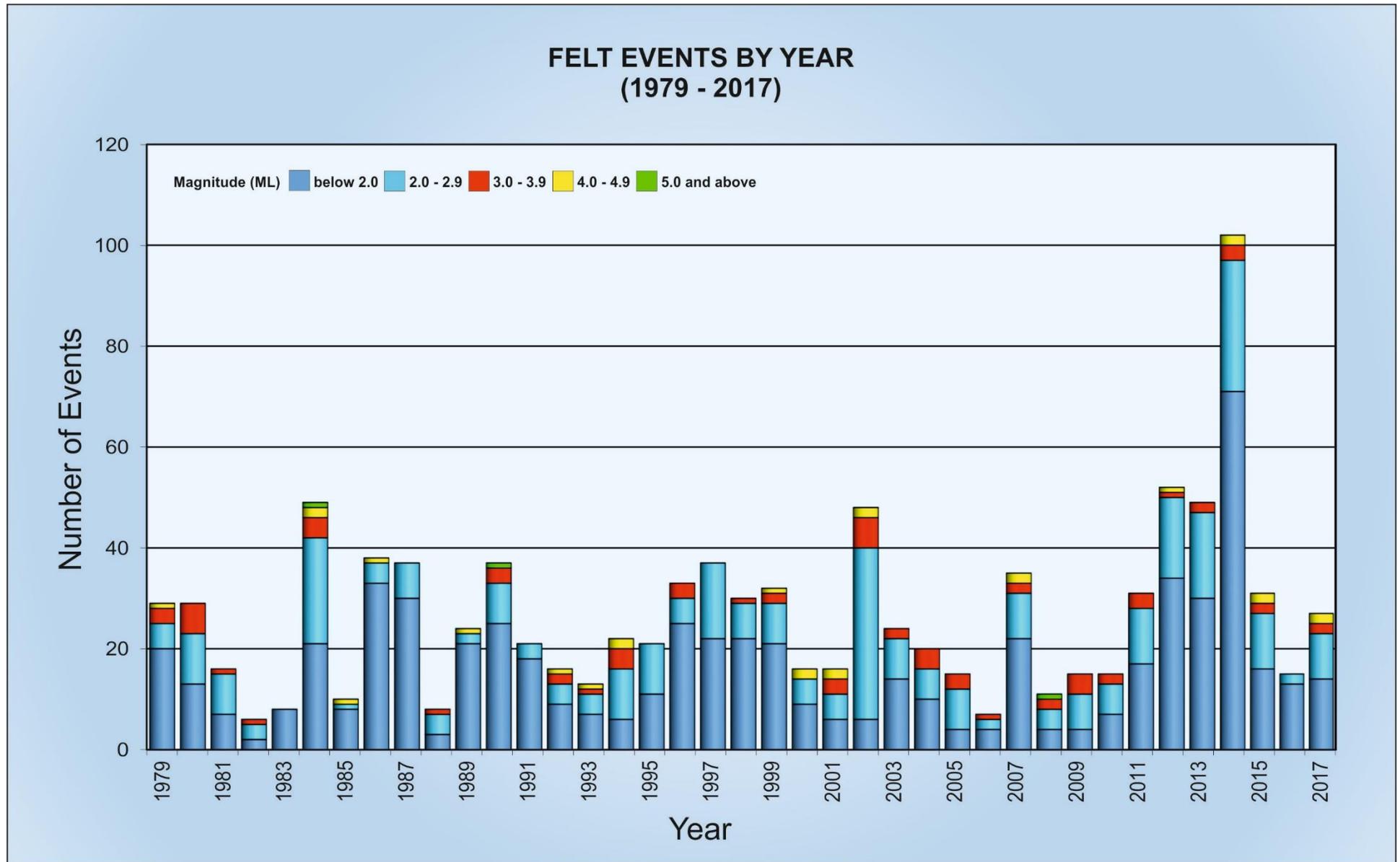


Figure 13. Histogram showing the number of events, magnitude 2.0 ML or greater, detected 1970-2017.



**Figure 14. Histogram showing the number of felt events, 1979-2017.**

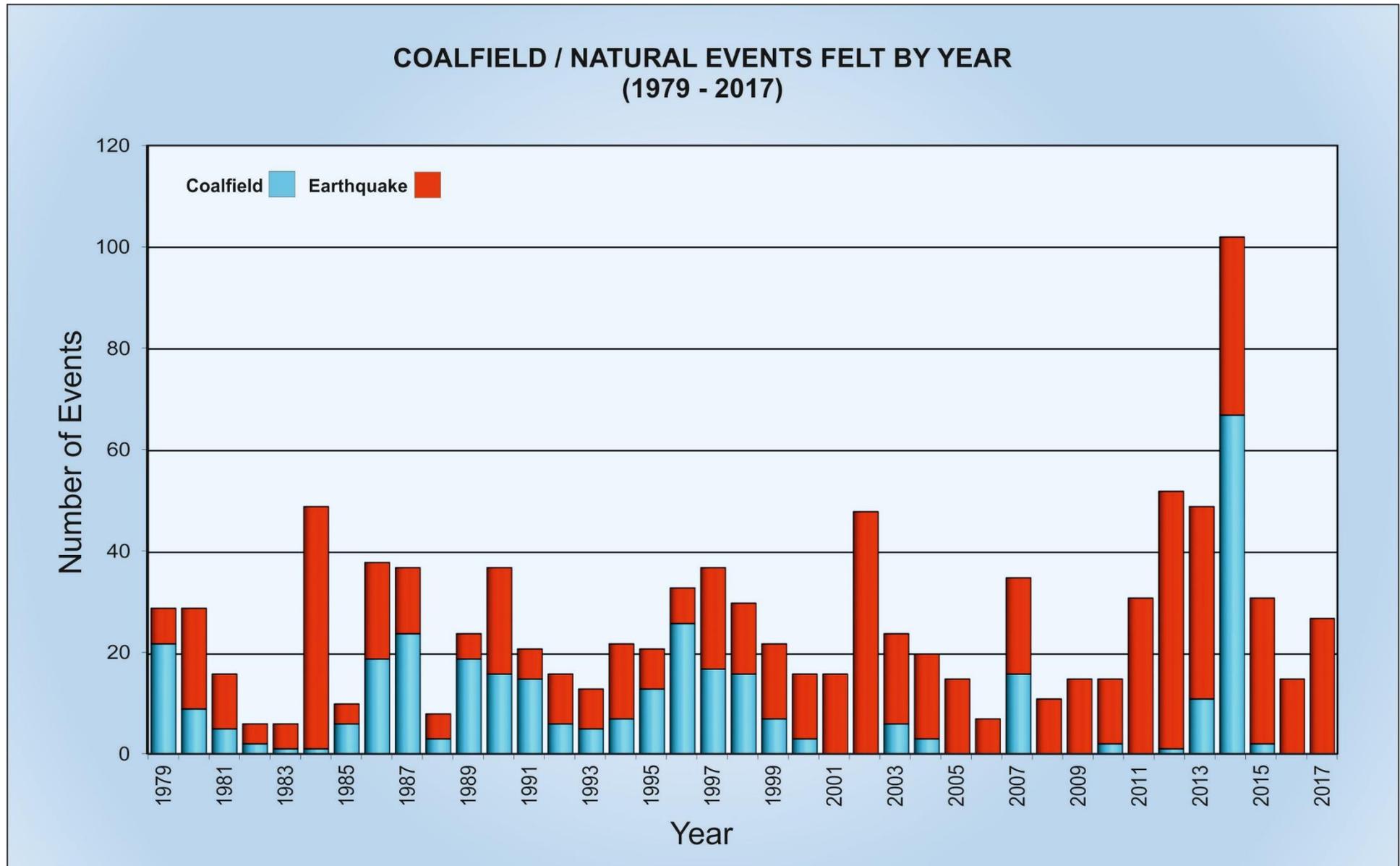


Figure 15. Histogram showing the split between the number of felt events in coalfield areas and those which are natural earthquakes, 1979-2017.

**TABLE 1 : CATALOGUE OF EVENTS : 2017**

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20170101	063205.4	52.41	-2.23	384.2	278.7	5.0	0.6	BLAKEDOWN, WORCS		4	212	0.10	5.10	7.30	
20170102	194007.7	54.88	-3.27	318.2	554.9	7.7	0.9	KIRKBRIDE, CUMBRIA		8	74	0.30	3.00	3.30	
20170103	185224.8	54.44	1.96	656.8	512.0	18.7	3.8	SOUTHERN NORTH SEA	2	24	96	0.30	7.41	1.90	FELT SCARBOROUGH
20170106	163334.3	57.20	-5.83	168.8	819.2	9.9	0.8	SKYE, HIGHLAND		4	202	0.10	4.25	3.30	
20170106	230901.7	51.62	-3.16	319.8	192.2	11.7	0.9	YNYSDDU, CAERPHILLY		9	106	0.30	3.58	5.20	
20170108	102645.1	51.65	-1.45	438.3	194.6	16.6	0.9	CHARNEY BASSETT, OXON		5	153	0.20	3.26	4.10	
20170112	135143.8	56.35	-6.20	140.8	725.7	7.2	1.1	MULL, ARGYLL & BUTE		4	166	0.10	1.96	1.30	OFFSHORE LOCATION
20170113	201508.1	54.67	-2.15	390.4	530.6	4.6	0.9	NEWBIGGIN, CO DURHAM		5	123	0.20	3.18	5.10	
20170113	225143.4	52.14	-2.45	369.2	249.1	8.5	0.8	CRADLEY, HEREFORDSHIRE		6	188	0.20	3.75	8.80	
20170115	225859.8	53.03	-4.01	265.0	350.1	7.7	1.0	BEDDGELERT, GWYNEDD	3	8	155	0.30	8.60	1.50	FELT LLANBERIS...
20170117	011623.1	51.63	-3.01	330.2	193.4	6.3	0.5	CWMBRAN, TORFAEN		6	174	0.30	8.79	5.50	
20170120	200930.8	54.71	-3.56	299.8	536.5	3.4	0.4	MARYPORT, CUMBRIA		6	118	0.30	2.98	6.20	
20170121	160047.3	56.36	-5.38	190.9	724.0	3.6	1.2	KILMORE, ARGYLL & BUTE	2	6	154	0.40	6.20	4.80	FELT NORTH CONNEL
20170121	215756.8	51.70	-3.17	318.9	201.0	22.7	1.1	BARGOED, CAERPHILLY		4	290	0.00	1.03	0.80	
20170122	143117.3	51.19	-4.41	231.3	145.9	13.9	0.6	BRISTOL CHANNEL		5	137	0.10	2.82	1.80	15KM WEST WOOLACOMBE
20170122	223306.5	53.70	-1.92	405.3	422.6	4.4	1.0	HALIFAX, WEST YORKSHIRE		9	105	0.20	3.20	2.70	
20170124	052747.3	55.86	-6.52	117.5	672.1	8.4	1.0	ISLAY, ARGYLL & BUTE		4	298	0.40	4.31	6.80	OFFSHORE LOCATION
20170124	163528.9	56.07	-5.25	197.7	690.7	11.0	2.4	LEPHINMORE, ARGYLL/BUTE	3	17	171	0.40	5.73	6.60	FELT LOCHGILPHEAD...
20170125	163215.4	56.05	-5.26	197.1	689.1	9.3	1.4	LEPHINMORE, ARGYLL/BUTE	2	9	133	0.50	0.88	4.40	FELT KILMORY
20170128	023109.1	55.46	-5.13	201.9	623.3	9.9	0.6	ARRAN, NORTH AYRSHIRE		6	113	0.40	4.79	2.40	
20170128	032150.0	56.96	-5.58	182.7	791.5	7.4	1.5	LOCH MORAR, HIGHLAND		9	158	0.70	7.85	4.90	
20170128	034351.0	55.38	-3.37	313.2	610.7	4.6	0.4	BODESBECK, D & G		4	243	0.10	8.46	2.30	
20170128	075051.9	50.81	-4.67	211.7	105.1	2.6	0.4	BUDE, CORNWALL		5	148	0.30	4.78	5.10	8KM WEST BUDE
20170129	004035.9	53.07	-2.13	391.0	352.2	7.5	1.1	ENDON, STAFFORDSHIRE		8	124	0.30	2.30	7.10	
20170131	050159.3	58.15	-5.20	211.6	922.7	14.1	0.5	LOCHINVER, HIGHLAND		4	153	0.10	2.16	1.00	
20170204	012457.9	53.67	-1.98	401.7	419.4	7.5	1.3	RISHWORTH, W YORKSHIRE		8	137	0.40	7.81	4.90	
20170209	092141.3	51.62	-3.20	316.9	192.1	7.5	0.7	YNYSDDU, CAERPHILLY		6	183	0.20	3.26	5.60	
20170210	021346.3	52.42	-2.73	350.1	280.2	7.7	0.3	LUDLOW, SHROPSHIRE		6	132	0.20	2.30	8.10	5KM NNW LUDLOW
20170210	060929.7	56.96	-4.68	237.2	788.5	12.6	0.5	GLEN ROY, HIGHLAND		4	159	0.10	1.66	3.20	
20170210	215506.5	57.70	-4.14	272.5	869.4	6.4	0.6	INVERGORDON, HIGHLAND		5	144	0.20	2.22	4.30	
20170214	230006.0	51.88	-4.59	221.5	223.4	8.1	1.4	LLANBOIDY, CARMARHTS		13	132	0.30	2.69	2.60	
20170216	023832.6	57.63	-6.04	158.7	866.7	7.4	0.2	SOUTH RONA, HIGHLAND		4	176	0.30	4.48	7.50	
20170217	053257.6	53.52	-0.28	514.1	404.6	16.3	1.5	CAISTOR, LINCOLNSHIRE		15	156	0.30	3.77	2.90	
20170217	053929.1	53.50	-0.29	513.2	401.6	17.7	1.3	CAISTOR, LINCOLNSHIRE		12	154	0.20	4.09	2.50	
20170217	211626.8	53.48	-4.18	255.3	400.3	7.4	0.9	AMLWCH, ANGLESEY		8	151	0.30	3.97	4.40	13KM NE AMLWCH
20170217	234113.8	56.82	-5.24	202.3	774.3	11.2	0.6	DUISKY, HIGHLAND		4	148	0.30	4.59	9.70	
20170218	004837.5	52.84	-3.25	315.8	328.3	11.1	1.3	LLANSILIN, POWYS		12	87	0.30	2.98	1.90	
20170218	023652.3	56.28	-4.88	221.5	713.6	4.6	1.7	CAIRNDOW, ARGYLL & BUTE		11	104	0.30	5.46	1.40	
20170218	131951.5	52.19	-2.60	358.6	254.7	6.6	0.6	PENCOMBE, HEREFORDSHIRE		7	173	0.10	1.39	3.30	
20170220	194103.9	53.12	-4.48	234.0	360.9	10.0	0.4	CAERNARFON BAY		7	239	0.30	0.58	3.90	8KM SSW ABERFFRAW
20170222	212023.0	55.90	-5.28	195.1	672.7	18.3	0.4	KAMES, ARGYLL & BUTE		6	139	0.30	5.41	5.40	
20170223	180904.3	57.51	-5.55	187.6	852.3	4.3	0.9	TORRIDON, HIGHLAND		6	114	0.20	3.64	3.80	

**TABLE 1 : CATALOGUE OF EVENTS : 2017**

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20170223	233842.4	56.70	-5.08	211.6	760.9	4.5	1.0	GLENCOE, HIGHLAND		6	132	0.30	4.22	3.50	
20170224	084808.8	54.67	-2.59	361.7	530.6	7.9	0.5	CULGAITH, CUMBRIA		5	185	0.20	3.18	3.90	
20170303	092811.0	52.91	-2.15	390.0	334.8	13.1	2.6	STONE, STAFFORDSHIRE	2	21	72	0.40	3.47	4.10	FELT OAKAMOR
20170304	054441.2	58.15	-5.46	196.6	923.5	2.7	0.8	LOCHINVER, HIGHLAND		4	157	0.20	5.28	6.80	12KM WEST LOCHINVER
20170304	195418.8	53.26	-0.20	520.2	375.1	15.5	1.7	HORNCastle, LINCOLNSHIRE		13	147	0.10	1.57	1.30	
20170309	054843.3	54.23	-4.67	226.2	484.9	2.0	0.4	ISLE OF MAN		4	203	0.10	2.77	1.30	
20170309	104734.7	52.70	-2.46	369.1	311.5	4.7	0.3	TELFORD, SHROPSHIRE		4	261	0.10	3.54	2.10	
20170310	050626.8	53.05	-5.51	165.0	356.0	9.2	0.6	IRISH SEA		7	134	0.40	5.50	1.70	
20170312	220754.8	56.61	-5.17	205.4	751.4	8.6	0.6	GLENCOE, HIGHLAND		4	141	0.30	2.95	9.20	
20170313	030712.5	49.95	-1.07	466.6	6.1	5.0	1.6	ENGLISH CHANNEL		9	176	0.20	6.22	0.00	75KM SSE VENTNOR
20170316	062520.3	56.38	-4.26	260.2	723.4	2.4	0.8	LOCHEARNHEAD, STIRLING		4	161	0.40	5.12	9.70	
20170320	020645.8	54.53	-0.79	478.4	516.0	1.8	1.3	HINDERWELL, N YORKSHIRE	3	17	214	0.30	4.56	0.00	FELT HINDERWELL...
20170320	021606.2	54.53	-0.79	478.1	515.5	1.9	1.3	HINDERWELL, N YORKSHIRE	3	15	219	0.40	7.51	0.00	FELT HINDERWELL...
20170320	042427.4	54.51	-0.77	479.8	513.5	1.7	0.8	HINDERWELL, N YORKSHIRE	2	5	293	0.20	7.61	0.00	FELT STAITHES
20170323	024736.4	51.91	-2.31	378.4	224.1	2.3	0.7	HIGHLEADON, GLOS		6	131	0.40	3.69	3.80	
20170328	061205.2	51.97	-2.74	348.9	230.9	3.9	0.8	HEREFORD, HEREFORDSHIRE		6	127	0.20	2.39	3.20	8KM SSW HEREFORD
20170328	091635.4	53.28	-0.56	496.3	377.3	17.1	1.7	SCAMPTON, LINCOLNSHIRE		11	92	0.10	1.57	2.60	
20170331	222443.8	59.75	1.90	619.3	1102.8	11.5	2.4	NORTHERN NORTH SEA		11	136	0.40	7.00	7.10	175KM ESE LERWICK
20170401	211534.8	57.35	-5.86	167.6	835.6	6.5	0.4	APPLECROSS, HIGHLAND		5	160	0.20	2.94	2.10	
20170402	204323.6	57.29	-5.66	179.5	827.9	3.0	0.6	BALMACARA, HIGHLAND		5	151	0.20	3.86	3.10	
20170405	155103.5	53.86	-3.68	289.5	441.9	1.9	0.9	IRISH SEA		7	139	0.20	2.12	1.80	40KM WEST BLACKPOOL
20170407	100458.9	53.07	2.73	717.0	363.4	10.0	2.7	SOUTHERN NORTH SEA		4	284	0.60	6.48	0.00	90KM NE LOWESTOFT
20170409	031646.0	56.47	-5.38	192.0	735.8	7.7	0.6	ACHNACAIRN, ARGYLL/BUTE		3	167	0.10	4.13	8.10	
20170410	044957.7	49.97	-1.25	453.6	8.3	5.0	1.4	ENGLISH CHANNEL		6	288	0.10	5.81	3.50	70KM SSW VENTNOR
20170410	182031.7	57.76	-5.72	179.0	880.3	7.5	0.8	GAIRLOCH, HIGHLAND		4	127	0.20	3.14	7.50	3KM NNW GAIRLOCH
20170411	031905.7	57.75	-5.70	179.7	879.8	7.5	0.7	GAIRLOCH, HIGHLAND		5	126	0.30	3.68	7.80	3KM NNW GAIRLOCH
20170411	160120.1	53.23	0.34	556.2	372.4	13.6	1.7	SKEGNESS, LINCOLNSHIRE		6	218	0.30	6.40	4.10	8KM NORTH SKEGNESS
20170414	002319.6	55.11	-3.65	294.8	581.2	4.3	0.6	DUMFRIES, D & G		5	140	0.30	6.49	5.10	
20170414	030329.8	49.07	-1.71	421.0	-91.8	7.0	1.2	JERSEY, CHANNEL ISLANDS		8	291	0.10	8.78	4.70	25KM SE JERSEY
20170416	143836.4	58.88	1.40	595.9	1004.6	10.2	1.7	CENTRAL NORTH SEA		5	174	0.40	0.30	2.80	200KM SE LERWICK
20170419	122752.9	57.13	-5.68	177.5	810.9	2.5	0.8	LOCH HOURN, HIGHLAND		5	158	0.30	7.89	6.10	7KM WEST ARNISDALE
20170420	022820.2	53.36	-0.62	491.6	385.6	2.2	0.8	SCAMPTON, LINCOLNSHIRE		5	153	0.20	2.42	1.60	13KM NNW LINCOLN
20170422	073412.9	52.34	-1.80	413.9	271.8	7.7	1.0	NUTHURST, WARWICKSHIRE		4	208	0.20	3.98	7.70	
20170427	103832.7	54.77	-3.24	320.4	542.7	4.1	1.7	ASPATRIA, CUMBRIA		9	83	0.20	1.92	5.20	6KM EAST ASPATRIA
20170428	132654.4	52.96	-3.39	306.4	341.1	7.1	1.3	CYNWYD, DENBIGHSHIRE		11	97	0.30	5.37	4.40	
20170503	212642.7	52.54	-1.85	410.2	293.3	7.7	0.7	ERDINGTON, WEST MIDLAND		6	136	0.20	2.47	2.90	
20170507	044741.3	52.98	-1.96	402.7	342.8	11.7	0.5	CHEADLE, STAFFORDSHIRE		6	103	0.10	1.64	2.70	
20170510	102243.3	51.35	2.12	686.8	169.7	6.5	2.0	SOUTHERN NORTH SEA		8	136	0.50	1.11	4.30	50KM EAST RAMSGATE
20170512	173612.3	53.18	-4.51	232.4	367.3	10.7	0.9	ABERFFRAW, ANGLESEY		9	145	0.40	6.26	4.60	
20170515	120430.1	54.78	-3.22	321.5	543.0	4.5	0.9	ASPATRIA, CUMBRIA		5	84	0.20	1.61	0.00	7KM EAST ASPATRIA
20170516	043039.7	53.83	-1.27	448.1	436.8	6.0	1.9	SAXTON, NORTH YORKSHIRE		14	90	0.10	1.39	1.70	
20170517	194427.4	49.67	-2.38	372.7	-25.6	9.0	1.0	ALDERNEY, CHANNEL ISLES		3	206	0.20	2.78	0.00	10KM WSW ALDERNEY

**TABLE 1 : CATALOGUE OF EVENTS : 2017**

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20170518	001406.8	56.34	-6.07	148.4	723.8	6.2	0.6	MULL, ARGYLL & BUTE		4	192	0.20	4.33	4.60	
20170518	230414.6	53.04	-5.43	170.1	354.9	13.9	0.9	IRISH SEA		8	223	0.30	9.18	7.50	40KM ENE WICKLOW
20170519	231423.5	57.05	-5.74	173.1	801.6	7.5	1.8	KNOYDART, HIGHLAND	3	10	145	0.30	6.57	7.70	FELT KNOYDART...
20170520	035158.1	57.05	-5.74	173.3	801.7	7.5	0.6	KNOYDART, HIGHLAND		5	165	0.30	8.42	9.70	
20170522	153331.6	53.50	-0.90	473.0	401.3	4.8	1.7	HAXEY, NORTH Lincs		12	101	0.30	2.55	6.30	
20170522	215752.6	57.04	-5.74	172.9	800.5	7.7	1.1	KNOYDART, HIGHLAND		10	166	0.40	8.08	6.50	
20170525	020954.7	52.67	-1.86	409.5	308.4	3.0	1.2	LICHFIELD, STAFFORDSHIRE		9	128	0.40	5.41	1.30	
20170526	212606.3	50.63	-3.32	306.4	82.2	8.4	1.2	EXMOUTH, DEVON		6	235	0.30	7.93	8.70	
20170526	215925.8	56.08	-6.03	149.6	694.3	2.5	0.7	JURA, ARGYLL & BUTE		3	239	0.20	0.85	2.20	OFFSHORE LOCATION
20170529	011002.9	53.01	-4.46	234.8	349.2	4.6	1.3	CAERNARFON BAY		9	155	0.40	4.62	5.10	
20170530	221535.9	56.40	-5.66	174.4	729.4	3.5	0.5	MULL, ARGYLL & BUTE		4	225	0.30	1.57	6.80	OFFSHORE LOCATION
20170531	062510.6	49.02	-1.70	422.1	-97.6	7.7	1.0	JERSEY, CHANNEL ISLANDS		3	343	0.00	1.92	0.40	30KM SE JERSEY
20170602	200846.1	56.91	-5.05	214.5	783.5	7.5	2.0	SPEAN BRIDGE, HIGHLAND	3	11	125	0.60	7.26	3.60	FELT SPEAN BRIDGE...
20170603	204450.7	53.36	-3.31	312.9	385.5	15.3	0.5	TALACRE, FLINTSHIRE		7	126	0.30	4.94	6.50	
20170605	131754.7	53.26	-0.44	504.1	374.4	2.7	2.1	LINCOLN, LINCOLNSHIRE	3	10	110	0.10	3.04	7.10	FELT REEPHAM...
20170606	000543.1	56.13	-3.94	279.1	694.5	7.5	1.0	STIRLING, STIRLING		10	70	0.50	4.75	4.10	
20170606	184848.8	52.47	-3.72	283.4	287.4	5.6	1.1	LLANGURIG, POWYS		10	103	0.30	2.01	9.40	10KM NW LLANGURIG
20170610	124639.8	51.40	-2.90	337.7	167.3	12.0	1.3	CLEVEDON, NORTH SOMERSET		9	134	0.10	1.57	1.60	
20170610	143718.2	57.53	-5.43	194.6	854.3	4.9	0.5	TORRIDON, HIGHLAND		5	106	0.10	1.90	1.70	
20170610	230506.7	52.12	-2.36	375.3	247.5	6.5	2.4	MALVERN, WORCESTERSHIRE	3	20	93	0.30	2.82	3.10	FELT MALVERN
20170617	060929.6	53.02	-1.10	460.4	346.8	9.6	1.0	ARNOLD, NOTTINGHAMSHIRE		6	223	0.10	2.73	1.90	
20170617	104751.6	57.45	-5.59	184.8	846.2	4.1	1.0	LOCHCARRON, HIGHLAND		6	119	0.20	3.38	3.40	8KM NW LOCHCARRON
20170625	115308.8	54.15	-2.90	341.3	473.5	5.0	1.7	KENTS BANK, CUMBRIA		20	47	0.20	1.80	4.40	
20170628	144847.1	53.26	-2.88	341.2	373.8	6.8	1.1	ELLESMERE PORT, CHESHIRE		6	106	0.20	1.86	3.70	
20170630	133345.2	58.95	1.87	622.3	1013.6	7.4	4.7	CENTRAL NORTH SEA	3	37	80	0.50	5.64	8.70	FELT LERWICK...
20170706	020920.7	50.00	-2.60	356.6	11.6	5.0	0.9	ENGLISH CHANNEL		5	218	0.70	3.53	0.00	80KM SE DARTMOUTH
20170707	014241.6	58.42	1.58	609.1	953.3	10.7	3.6	CENTRAL NORTH SEA		33	73	0.30	5.19	9.10	220KM ENE PETERHEAD
20170711	012357.7	51.75	-3.03	328.9	206.7	16.4	1.3	LLANOVER, MONMOUTHSHIRE		9	194	0.20	2.08	1.30	
20170711	043555.2	51.58	-3.20	316.9	187.6	12.6	1.1	BEDWAS, CAERPHILLY		7	219	0.20	3.56	3.30	
20170716	102848.7	51.70	-3.23	315.0	200.4	7.5	2.1	BARGOED, CAERPHILLY		12	117	0.20	2.00	5.10	
20170717	210000.0							SONIC-CHANNEL ISLANDS	3						FELT JERSEY/GUERNSEY
20170719	184639.7	52.23	-4.32	241.5	261.7	15.6	1.0	ABERAERON, CEREDIGION		8	131	0.40	4.29	2.00	5KM WEST ABERAERON
20170723	075848.2	57.88	-5.29	204.7	892.2	7.7	2.3	BADRALLACH, HIGHLAND	3	7	105	0.30	3.85	4.40	FELT BADRALLACH...
20170724	215902.5	51.57	-3.21	316.1	186.8	11.1	0.7	CAERPHILLY, CAERPHILLY		7	159	0.20	4.16	3.70	
20170726	200029.4	52.39	-3.70	284.6	278.7	4.3	0.5	LLANGURIG, POWYS		5	126	0.10	0.72	1.90	6KM WEST LLANGURIG
20170727	195526.9	53.03	-2.84	343.9	348.2	12.2	0.8	SHOCKLACK, CHESHIRE		6	134	0.30	3.14	4.30	
20170728	014116.2	54.05	-1.92	405.2	462.0	9.2	0.7	HEBDEN, NORTH YORKSHIRE		6	86	0.20	2.24	3.30	
20170728	171722.8	56.33	-3.64	298.6	716.5	12.1	0.9	ABERTHVEN, PERTH/KINROSS		6	119	0.40	5.10	7.00	
20170729	035405.1	55.88	-5.24	197.3	670.3	10.0	1.1	KAMES, ARGYLL & BUTE		7	135	0.30	4.11	0.80	
20170729	205152.7	52.27	-3.91	269.4	264.9	7.5	1.4	TREGARON, CEREDIGION		11	99	0.50	4.32	4.90	
20170802	021534.3	60.94	3.80	713.8	1242.1	13.9	3.1	NORTHERN NORTH SEA		7	217	0.40	5.96	3.80	285KM ENE LERWICK
20170802	054612.9	55.10	-7.56	45.5	592.3	2.0	1.4	CO DONEGAL, IRELAND	2	6	260	0.60	2.68	0.00	FELT MILFORD

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20170802	174352.4	56.98	-5.09	212.3	791.6	7.5	1.4	GAIROLOCHY, HIGHLAND		7	126	0.30	3.99	8.70	
20170804	021947.6	57.14	-4.07	274.9	806.9	6.6	1.5	KINGUSSIE, HIGHLAND	3	7	100	0.50	5.22	1.90	FELT KINGUSSIE...
20170804	144338.7	56.80	-5.89	162.7	774.9	12.2	4.0	MOIDART, HIGHLAND	5	26	153	0.40	6.60	4.50	FELT MOIDART...
20170804	144534.1	56.80	-5.87	163.8	774.0	10.6	3.4	MOIDART, HIGHLAND	4	11	178	0.30	6.89	4.70	FELT MOIDART...
20170804	152024.0	56.80	-5.87	163.7	774.7	8.8	1.1	MOIDART, HIGHLAND		5	181	0.30	4.57	3.60	
20170804	160726.5	56.79	-5.89	162.3	773.7	8.2	1.2	MOIDART, HIGHLAND		4	221	0.20	6.42	8.50	
20170804	173506.3	56.81	-5.87	163.5	775.1	10.1	2.2	MOIDART, HIGHLAND	3	11	178	0.30	8.54	5.90	FELT MOIDART...
20170805	004953.1	49.36	-2.34	375.5	-59.7	11.0	1.1	JERSEY, CHANNEL ISLANDS		3	191	0.10	8.56	8.00	10KM NW JERSEY
20170805	210502.8	52.27	-2.77	347.4	263.9	7.7	0.8	YARPOLE, HEREFORDSHIRE		7	145	0.30	2.86	3.20	
20170806	020823.7	54.02	0.86	587.4	461.8	10.0	1.5	SOUTHERN NORTH SEA		13	249	0.40	6.40	0.00	
20170809	044139.1	53.51	-4.40	240.7	404.4	9.5	2.0	AMLWCH, ANGLESEY	2	12	138	0.40	8.10	8.90	FELT AMLWCH
20170809	153432.0	50.35	-0.41	512.8	51.4	5.0	2.0	ENGLISH CHANNEL		6	173	0.20	7.05	0.00	55KM SSW BRIGHTON
20170810	124844.6	53.95	-3.34	312.1	450.7	2.5	1.7	IRISH SEA		16	62	0.30	2.50	2.90	20KM WNW FLEETWOOD
20170811	034408.7	53.23	-0.35	510.1	372.1	2.4	1.4	BARDNEY, LINCOLNSHIRE		7	226	0.40	4.52	7.60	
20170814	004335.2	49.25	-2.49	364.2	-72.3	10.1	1.6	JERSEY, CHANNEL ISLANDS		4	138	0.20	8.14	2.80	15KM WEST JERSEY
20170815	102017.5	56.40	-5.59	178.6	729.2	13.1	0.8	KERRERA, ARGYLL & BUTE		5	165	0.10	2.47	1.40	OFFSHORE LOCATION
20170816	022731.7	53.05	-4.52	231.0	353.4	3.0	1.0	CAERNARFON BAY		12	93	0.40	3.99	6.00	
20170820	014242.2	55.66	-5.63	171.5	647.3	12.2	0.7	TAYINLOAN, ARGYLL/BUTE		7	167	0.30	5.79	7.00	
20170825	205652.9	57.20	-5.53	186.7	817.6	4.5	0.6	GLENELG, HIGHLAND		5	148	0.10	2.89	1.70	
20170826	234741.3	59.82	2.20	635.3	1111.4	10.0	2.0	NORTHERN NORTH SEA		6	300	0.20	6.80	0.00	190KM ESE LERWICK
20170829	181041.2	55.79	-6.36	127.0	663.8	8.4	1.3	ISLAY, ARGYLL & BUTE		5	240	0.30	5.57	7.70	
20170830	024347.3	55.13	-5.04	206.0	585.6	7.5	1.1	BALLANTRAE, AYRSHIRE		8	104	0.40	3.74	8.40	OFFSHORE LOCATION
20170902	105730.0	56.08	-5.16	203.3	692.3	11.7	1.0	DUNANS, ARGYLL & BUTE		7	115	0.20	1.94	3.30	
20170907	120841.9	56.78	-5.47	188.1	770.8	11.6	1.3	GLENFINNAN, HIGHLAND		5	156	0.20	4.40	2.40	
20170908	204709.8	52.69	-0.75	484.7	310.5	2.7	1.3	LANGHAM, RUTLAND	3	7	150	0.40	3.86	4.90	FELT OAKHAM...
20170909	030611.1	56.08	-5.50	182.0	693.0	12.7	0.5	CAIRNBAAN, ARGYLL/BUTE		6	157	0.30	4.81	3.00	
20170910	054054.1	56.51	-6.14	145.4	742.7	12.4	0.9	MULL, ARGYLL & BUTE		5	226	0.40	7.62	8.30	
20170910	095245.4	51.69	-4.44	231.4	201.6	8.1	0.6	CARMARTHEN BAY		4	142	0.40	2.47	3.00	
20170911	201559.6	53.31	-1.83	411.3	379.8	1.1	0.7	TIDESWELL, DERBYSHIRE		4	171	0.10	2.77	1.60	COLLAPSE TYPE
20170913	010900.6	57.58	-5.38	197.7	859.9	4.5	0.5	KINLOCHEWE, HIGHLAND		6	107	0.40	6.17	4.40	5KM WSW KINLOCHEWE
20170913	011641.1	53.65	-0.89	473.4	417.8	8.0	1.3	THORNE, SOUTH YORKSHIRE		5	117	0.30	2.95	8.80	6KM NE THORNE
20170913	065040.5	56.14	-5.77	166.0	700.9	4.3	0.5	SCARBA, ARGYLL & BUTE		4	172	0.30	4.92	0.00	OFFSHORE LOCATION
20170914	081446.2	58.75	1.54	604.9	989.7	18.0	3.3	CENTRAL NORTH SEA		23	84	0.50	5.64	0.00	220KM SE LERWICK
20170918	122616.8	56.80	-5.86	164.5	774.1	8.3	1.1	MOIDART, HIGHLAND		5	184	0.30	7.82	2.10	
20170920	043232.3	55.95	-4.83	223.4	676.3	11.6	0.4	GREENOCK, INVERCLYDE		4	157	0.30	3.64	5.70	
20170922	011948.9	49.06	-2.37	372.8	-93.4	6.9	1.9	JERSEY, CHANNEL ISLANDS		6	162	0.20	2.84	2.20	15KM SW JERSEY
20170923	020451.1	52.70	-1.43	438.8	311.5	2.8	0.8	IBSTOCK, LEICESTERSHIRE		7	137	0.30	4.70	7.30	
20170924	014820.1	57.71	-4.25	265.9	871.3	13.8	0.7	ALNESS, HIGHLAND		5	116	0.20	2.51	3.80	
20170924	234220.6	55.87	-5.32	192.6	668.7	14.2	0.4	PORTAVADIE, ARGYLL/BUTE		5	143	0.20	5.67	9.60	
20170925	155620.3	52.70	-1.43	438.4	311.6	2.5	0.8	IBSTOCK, LEICESTERSHIRE		5	162	0.30	3.20	0.00	
20170925	191711.9	52.70	-1.43	438.8	311.5	2.5	0.6	IBSTOCK, LEICESTERSHIRE		5	164	0.30	4.16	4.00	
20170926	011842.1	52.70	-1.43	438.6	311.2	2.6	0.7	IBSTOCK, LEICESTERSHIRE		6	137	0.20	3.76	6.20	

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20170926	043536.4	55.52	-3.06	333.1	625.5	3.5	0.7	ETTRICKBRIDGE, BORDERS		8	147	0.20	2.88	3.40	5KM NW ETTRICKBRIDGE
20170926	134015.5	55.52	-3.06	333.2	626.0	4.2	0.8	ETTRICKBRIDGE, BORDERS		7	148	0.20	2.69	4.00	5KM NW ETTRICKBRIDGE
20170927	013752.6	54.92	-4.02	270.4	559.9	7.5	1.2	RINGFORD, D & G	2	10	80	0.50	4.52	4.30	FELT DALBEATTIE
20170928	010040.4	52.17	-2.58	360.5	252.2	2.5	0.5	PENCOMBE, HEREFORDSHIRE		6	150	0.20	2.10	2.10	
20170928	221848.9	57.24	-5.55	185.6	821.9	5.9	0.7	GLENELG, HIGHLAND		5	148	0.20	4.37	1.90	
20170928	232116.3	52.59	-2.85	342.6	299.0	11.9	0.5	CHURCH STRETTON, SALOP		7	115	0.20	2.10	1.80	
20170929	184215.8	55.52	-3.04	334.7	625.8	3.5	0.9	ETTRICKBRIDGE, BORDERS		8	150	0.20	3.57	3.90	4KM NW ETTRICKBRIDGE
20171004	073500.0							SONIC-SUFFOLK	3	1					FELT SUFFOLK...
20171005	133305.0	58.53	-4.70	242.6	963.3	8.2	0.9	DURNESS, HIGHLAND		4	203	0.60	8.67	4.00	
20171005	175833.3	54.22	-2.82	346.5	480.9	7.2	1.2	ARNSIDE, CUMBRIA		8	102	0.30	2.47	6.30	
20171008	225536.4	56.39	-5.46	186.7	727.2	2.5	1.4	OBAN, ARGYLL & BUTE	2	10	158	0.30	5.41	6.50	FELT MULL
20171009	173647.5	50.60	-2.05	396.7	77.7	6.7	1.9	WORTH MATRAVERS, DORSET		8	253	0.30	8.03	0.00	
20171012	123236.2	55.42	-5.94	150.5	621.1	7.9	1.0	KINTYRE, ARGYLL & BUTE		5	184	0.80	6.79	1.20	OFFSHORE LOCATION
20171013	101543.3	51.85	-3.06	327.1	218.0	14.6	1.0	GOVILLO, MONMOUTHSHIRE		3	261	0.10	5.28	2.50	
20171015	132426.0	56.80	-5.86	164.4	774.3	7.7	0.7	MOIDART, HIGHLAND		4	184	0.30	9.08	8.60	
20171018	042152.5	53.06	-4.38	240.5	353.7	12.1	0.8	LLANDWROG, GWYNEDD		7	209	0.30	8.56	6.30	5KM SW LLANDWROG
20171020	091428.5	53.36	-3.02	332.1	385.0	15.7	1.4	BIRKENHEAD, MERSEYSIDE		9	67	0.30	3.19	4.20	
20171022	010553.7	52.98	-1.85	410.3	342.5	7.5	1.6	ELLASTONE, STAFFORDSHIRE		10	64	0.30	3.22	5.70	
20171023	013018.3	55.08	-4.17	261.7	578.8	11.7	0.2	NEW GALLOWAY, D & G		5	129	0.30	9.00	6.80	
20171026	224534.3	57.90	-5.33	203.0	894.4	11.2	0.4	CARNACH, HIGHLAND		4	147	0.30	5.29	7.10	
20171029	230200.9	56.67	-4.25	262.4	755.3	3.0	0.6	RANNOCH, PERTH/KINROSS		4	204	0.10	9.10	1.70	10KM ESE FINNART
20171029	230208.7	56.66	-4.29	259.5	754.2	3.8	1.2	RANNOCH, PERTH/KINROSS		6	122	0.20	2.64	4.10	8KM ESE FINNART
20171030	204147.7	54.96	-2.19	387.8	563.0	3.8	1.2	HEXHAM, NORTHUMBERLAND		5	193	0.20	4.44	5.90	
20171031	155614.8	56.71	-4.25	262.0	760.0	2.7	1.1	RANNOCH, PERTH/KINROSS		7	97	0.40	3.30	5.70	10KM ENE FINNART
20171031	205034.0	52.38	-3.98	265.2	278.1	7.9	0.8	ABERYSTWYTH, CEREDIGION		5	155	0.20	2.78	2.50	7KM EAST ABERYSTWYTH
20171101	205922.0	55.88	-5.43	185.6	670.9	7.5	2.6	TARBERT, ARGYLL & BUTE	3	14	149	0.40	4.90	1.70	FELT TARBERT...
20171103	210311.2	54.14	-0.41	503.9	472.4	17.6	0.8	WOLD NEWTON, E YORKSHIRE		9	282	0.20	3.94	1.60	
20171105	055131.1	52.83	-2.46	368.8	325.5	7.5	1.0	HINSTOCK, SHROPSHIRE		8	105	0.40	3.33	8.80	
20171105	154016.2	53.47	-2.50	366.7	396.7	3.3	1.4	GLAZE BURY, CHESHIRE		10	57	0.30	3.05	8.60	
20171107	084635.7	60.47	4.69	767.2	1194.7	11.3	3.7	NORWEGIAN COAST	3	12	126	0.30	6.55	4.80	FELT HORDALAND
20171107	143356.0	53.04	-4.49	232.8	352.1	15.5	1.4	CAERNARFON BAY		10	93	0.20	2.06	5.40	7KM NW TREFOR
20171107	192329.7	57.53	-5.46	192.6	854.0	7.5	0.9	TORRIDON, HIGHLAND		6	104	0.40	5.32	9.80	
20171109	064607.0	50.71	-4.25	240.9	92.1	5.6	1.1	ASHWATER, DEVON		3	169	0.20	1.84	0.00	
20171114	140434.1	55.66	-3.11	330.0	640.7	5.8	1.5	PEEBLES, BORDERS		10	126	0.30	3.23	3.20	5KM EAST PEEBLES
20171119	004807.2	52.93	-1.82	412.3	337.5	6.5	0.6	WALDLEY, DERBYSHIRE		4	116	0.10	0.72	2.30	
20171121	055407.2	56.01	-4.22	261.8	681.8	7.5	0.8	LENNOXTOWN, E DUNBARTON		9	74	0.20	1.79	4.10	
20171125	084931.6	54.13	-3.38	310.0	471.5	5.3	0.7	WALNEY, CUMBRIA		6	155	0.20	2.64	4.70	OFFSHORE LOCATION
20171127	075331.0	53.83	-2.13	391.2	436.9	12.5	1.0	TRAWDEN, LANCASHIRE		6	109	0.10	3.06	3.80	
20171128	003110.3	55.18	-3.56	300.9	588.0	2.5	1.1	PARKGATE, D & G		11	90	0.40	3.72	4.40	
20171207	094834.6	56.53	-5.43	189.3	742.9	5.9	1.3	BENDERLODH, ARGYLL/BUTE		4	175	0.40	3.65	2.70	4KM NNW BENDERLOCH
20171210	010045.8	56.46	-6.25	138.3	738.2	6.6	0.5	MULL, ARGYLL & BUTE		3	267	0.20	7.53	7.90	OFFSHORE LOCATION
20171212	025142.6	51.78	-2.95	334.5	209.7	13.8	1.4	LLANOVER, MONMOUTHSHIRE		7	236	0.30	8.73	3.90	

**TABLE 1 : CATALOGUE OF EVENTS : 2017**

YearMoDy	HrMnSecs	Lat	Lon	kmE	kmN	Dep	Mag	Locality	Int	No	Gap	RMS	ERH	ERZ	Comments
20171212	100610.0	54.18	-2.21	386.0	476.1	4.0	1.4	LITTON,NORTH YORKSHIRE		16	130	0.30	1.58	4.30	
20171213	020129.7	55.78	-6.42	122.8	662.7	6.0	0.9	ISLAY,ARGYLL & BUTE		6	209	0.10	3.64	5.50	
20171213	020149.0	55.77	-6.41	123.5	661.9	6.4	0.8	ISLAY,ARGYLL & BUTE		5	209	0.20	3.98	0.00	
20171213	021612.5	55.78	-6.42	123.0	663.0	7.9	1.1	ISLAY,ARGYLL & BUTE		7	209	0.40	8.86	7.20	
20171215	042812.1	57.51	-5.08	215.3	850.5	7.4	1.0	ACHNASHEEN,HIGHLAND		4	203	0.30	8.36	1.50	
20171218	025919.1	56.35	-6.07	148.3	724.8	7.5	0.9	MULL,ARGYLL & BUTE		6	192	0.40	7.12	0.50	
20171219	192152.6	52.42	0.22	550.8	282.4	4.5	1.0	ELY,CAMBRIDGESHIRE		6	135	0.40	3.68	3.90	
20171220	081546.3	56.64	-5.91	160.5	756.6	7.7	1.5	MORVERN,HIGHLAND	3	7	183	0.30	7.64	7.10	FELT LISMORE...
20171222	013946.7	57.19	-4.46	251.5	813.3	7.5	0.5	WHITEBRIDGE,HIGHLAND		6	91	0.30	4.39	9.50	
20171226	062543.9	56.33	-5.43	187.9	720.0	4.4	0.6	KILMORE,ARGYLL & BUTE		5	156	0.20	5.06	1.80	9KM SSE OBAN
20171226	150407.8	52.59	-1.81	412.9	299.3	8.1	1.0	SUTTON,WEST MIDLANDS		6	167	0.20	2.14	4.60	SUTTON COLDFIELD
20171226	224005.8	56.44	-5.74	169.4	733.6	8.8	1.7	MULL,ARGYLL & BUTE	3	7	174	0.20	7.76	6.50	FELT MULL...
20171226	232937.8	53.45	-2.70	353.4	395.6	7.5	1.0	ST HELENS,MERSEYSIDE		10	109	0.30	2.22	6.20	
20171227	115414.0	52.80	1.84	658.7	329.8	5.0	2.1	SOUTHERN NORTH SEA		4	279	0.40	7.28	0.00	11KM OFF NORFOLK
20171229	020302.3	52.02	-3.76	279.1	237.8	7.4	1.0	LLANDOVERY,CARMARTHNS		6	240	0.10	4.17	3.40	
20171231	085640.5	50.10	-3.17	316.4	23.0	7.3	1.9	ENGLISH CHANNEL		10	183	0.50	6.45	5.80	40KM SE DARTMOUTH

# TABLE 2 : PHASE DATA

January 1 2017										Time: 06:32 05.4 UTC			Magnitude: 0.6 ML			MCD EZ 478.0 EP			18:53 27.70			-0.18																										
Lat: 52.406N										Lon: -2.233W			Depth: 5.0 km			HGN BZ 489.0 EP			18:53 29.22			-0.09																										
Grid Ref: 384.15 kmE 278.73 kmN										RMS: 0.10 secs			MUD HZ 508.0 EP			18:53 31.63			-0.05																													
Locality: BLAKEDOWN,WORCS										MDO EZ 517.0 EP			18:53 32.57			-0.24																																
Velocity model: Lownet Xnear: 100.0 Xfar: 2005.0										RSBS HZ 526.0 EP			18:53 33.06			-0.85																																
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	MLA1	EZ	542.0	EP	18:53	35.27				-0.54																												
HLM1	HZ	45.7	EP			06:32	13.54			-0.07	KPL	HZ	575.0	EP	18:53	39.91				-0.04																												
HLM1	HN	45.7	ES			06:32	19.54			-0.04	KPL	HN	575.0	IAML	18:54	36.73	45	0.18																														
HLM1	HE	45.7	IAML			06:32	19.70	7	0.32		KPL	HE	575.0	IAML	18:54	38.01	57	0.22																														
HLM1	HN	45.7	IAML			06:32	19.78	8	0.07		LINV	HZ	605.0	EP	18:53	43.12				-0.58																												
MCH1	HZ	69.3	EP			06:32	17.07			-0.15	LINV	HE	605.0	IAML	18:54	42.95	24	0.20																														
MCH1	HN	69.3	ES			06:32	25.81			-0.03	LINV	HN	605.0	IAML	18:54	45.26	30	0.16																														
MCH1	HN	69.3	IAML			06:32	27.42	3	0.27		LEWI	HZ	684.0	EP	18:53	52.65				-0.88																												
MCH1	HE	69.3	IAML			06:32	29.52	3	0.21		LEWI	HN	684.0	IAML	18:54	58.03	35	0.22																														
LBWR	HZ	116.0	EP			06:32	24.45			-0.02	LEWI	HE	684.0	IAML	18:54	59.95	33	0.66																														
LPW	HZ	129.0	EP			06:32	26.82			0.32																																						
January 2 2017										Time: 19:40 07.7 UTC			Magnitude: 0.9 ML			Lat: 57.205N			Lon: -5.829W			Depth: 9.9 km																										
Lat: 54.882N										Lon: -3.275W			Depth: 7.7 km			Grid Ref: 168.77 kmE 819.17 kmN			RMS: 0.10 secs																													
Grid Ref: 318.21 kmE 554.89 kmN										RMS: 0.30 secs			Locality: SKYE,HIGHLAND			Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																																
Locality: KIRKBRIDE,CUMBRIA																																																
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES																											
KESW	HZ	34.5	EP			19:40	13.78			-0.17	KPL	HZ	18.3	IP	D		16:33	37.95				-0.05																										
KESW	HN	34.5	IAML			19:40	18.61	8	0.18		KPL	HE	18.3	ES	16:33	40.59				-0.14																												
KESW	HE	34.5	IAML			19:40	18.78	7	0.20		KPL	HE	18.3	IAML	16:33	40.76	11	0.10																														
ESK	HZ	48.6	EP			19:40	16.16			0.03	KPL	HN	18.3	IAML	16:33	40.96	12	0.33																														
ESK	HN	48.6	ES			19:40	21.87			-0.41	LINV	HZ	111.0	EP	16:33	52.58				0.19																												
ESK	HE	48.6	IAML			19:40	21.93	9	0.10		LINV	HE	111.0	ES	16:34	05.75				0.13																												
ESK	HN	48.6	IAML			19:40	21.98	8	0.12		LINV	HE	111.0	IAML	16:34	08.09	5	0.10																														
NEWG	HZ	66.5	EP			19:40	19.09			0.20	LINV	HN	111.0	IAML	16:34	08.29	4	0.25																														
NEWG	HE	66.5	ES			19:40	26.86			-0.18	LEWI	HZ	122.0	EP	16:33	53.91				0.03																												
NEWG	HN	66.5	IAML			19:40	27.15	4	0.11		LEWI	HN	122.0	ES	16:34	08.08				-0.13																												
NEWG	HE	66.5	IAML			19:40	29.33	5	0.16		LEWI	HN	122.0	IAML	16:34	08.46	2	0.30																														
EDMD	HZ	84.5	EP			19:40	22.05			0.40	LEWI	HE	122.0	IAML	16:34	09.72	3	0.21																														
EDMD	HN	84.5	ES			19:40	31.41			-0.42	INVG	HZ	139.0	EP	16:33	56.50				0.09																												
EDMD	HN	84.5	IAML			19:40	32.02	34	0.14		INVG	HE	139.0	ES	16:34	12.49				-0.09																												
EDMD	HE	84.5	IAML			19:40	32.15	26	0.14		INVG	HE	139.0	IAML	16:34	13.54	2	0.13																														
GAL1	HZ	92.2	EP			19:40	22.91			0.04	INVG	HN	139.0	IAML	16:34	14.16	2	0.19																														
GAL1	HE	92.2	ES			19:40	33.72			-0.22																																						
GAL1	HN	92.2	IAML			19:40	34.05	6	0.14		January 6 2017																																					
GAL1	HE	92.2	IAML			19:40	35.64	3	0.10		Time: 23:09 01.7 UTC			Magnitude: 0.9 ML			Lat: 51.622N			Lon: -3.159W			Depth: 11.7 km																									
EBL	EZ	100.0	EP			19:40	24.62			0.45	Grid Ref: 319.77 kmE 192.15 kmN			RMS: 0.30 secs			Locality: YNYSDDU,CAERPHILLY			Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																												
IOMK	HZ	108.0	EP			19:40	25.54			0.14																																						
ESY	EZ	123.0	EP			19:40	27.88			0.25																																						
January 3 2017										Time: 18:52 24.8 UTC			Magnitude: 3.8 ML			STAT			CO			DIST			PHAS			WT			P			HrMn			SECS			AMPL			PERI			RES		
Lat: 54.438N										Lon: 1.960W			Depth: 18.7 km			MCH1			HZ			43.2			EP			23:09			09.22			-0.14														
Grid Ref: 656.75 kmE 511.97 kmN										RMS: 0.30 secs			MCH1			HN			43.2			IAML			23:09			15.06			6			0.09														
Locality: SOUTHERN NORTH SEA										Intensity: 2			MCH1			HE			43.2			IAML			23:09			15.09			11			0.11														
Velocity model: North Sea Xnear: 400.0 Xfar: 600.0													LPW			HE			83.1			ES			23:09			25.92			0.37																	
Comment: FELT SCARBOROUGH													LPW			HE			83.1			IAML			23:09			26.11			1			0.12														
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LPW	HN	83.1	IAML	23:09	26.26	1	0.32																														
GDLE	HZ	180.0	EP			18:52	51.53			0.62	SWN1	HZ	95.0	EP	23:09	17.52				0.16																												
GDLE	HE	180.0	IAML			18:53	21.67	1524	0.36		SWN1	HE	95.0	IAML	23:09	30.39	8	0.22																														
GDLE	HN	180.0	IAML			18:53	21.74	2667	0.30		SWN1	HN	95.0	IAML	23:09	30.40	20	0.25																														
LMK	HZ	186.0	EP			18:52	52.01			0.43	HLM1	HZ	102.0	EP	23:09	18.14				-0.28																												
LMK	HE	186.0	IAML			18:53	23.15	1210	0.30		HLM1	HE	102.0	ES	23:09	30.40				-0.19																												
LMK	HN	186.0	IAML			18:53	30.15	968	0.34		HLM1	HE	102.0	IAML	23:09	33.05	4	0.24																														
WACR	HZ	210.0	EP			18:52	54.68			0.06	HLM1	HN	102.0	IAML	23:09	33.29	4	0.26																														
WACR	HN	210.0	ES			18:53	16.37			-0.00	RSBS	HZ	115.0	EP	23:09	20.19				-0.19																												
WACR	HN	210.0	IAML			18:53	17.94	897	0.20		RSBS	HE	115.0	ES	23:09	33.54				-0.45																												
WACR	HE	210.0	IAML			18:53	23.50	440	0.18		RSBS	HN	115.0	IAML	23:09	35.50	3	0.06																														
EDMD	HZ	257.0	EP			18:53	00.55			0.12	RSBS	HE	115.0	IAML	23:09	36.32	4	0.08																														
EDMD	HN	257.0	IAML			18:53	28.73	670	0.20		HTL	HZ	116.0	EP	23:09	20.55				0.15																												
EDMD	HE	257.0	IAML			18:53	28.81	798	0.20		LLW	BN	141.0	ES	23:09	40.70				0.48																												
ELMS	HZ	269.0	EP			18:53	02.00			0.08	FOEL	HN	141.0	ES	23:09	40.86				0.49																												
ELMS	HN	269.0	IAML			18:53	46.13	682	0.30		DYA	HE	143.0	EP	23:09	24.46				0.18																												
ELMS	HE	269.0	IAML			18:53	51.46	971	0.46		DYA	HZ	143.0	ES	23:09	40.69				-0.05																												
ESK	HZ	346.0	EP			18:53	11.45			-0.02	DYA	HZ	143.0	IAML	23:09	41.32	3	0.20																														
FOEL	HZ	382.0	EP			18:53	15.80			-0.21	DYA	HN	143.0	IAML	23:09	42.34	2	0.10																														
FOEL	HN	382.0	IAML			18:54	27.24	236	0.52																																							
FOEL	HE	382.0	IAML			18:54	28.44	228	0.88		January 8 2017			Time: 10:26 45.1 UTC			Magnitude: 0.9 ML			Lat: 51.648N			Lon: -1.446W			Depth: 16.6 km																						
EDU	EZ	392.0	EP			18:53	17.42			0.15	Grid Ref: 438.33 kmE 194.55 kmN			RMS: 0.20 secs			Locality: CHARNEY BASSETT,OXON			Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																												
NEWG	HZ	405.0	EP			18:53	18.79			-0.08																																						
STRD	HZ	405.0	EP			18:53	18.60			-0.22																																						
STRD	HN	405.0	IAML			18:54	36.99	253	0.54		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES																											
STRD	HE	405.0	IAML			18:54	39.53	304	0.68		SWN1	HZ	28.7	EP	10:26	50.44				-0.28																												
SWN1	HZ	412.0	EP			18:53	19.89			0.20	SWN1	HN	28.7	ES	10:26	55.01				0.15																												
SWN1	HN	412.0	IAML			18:54	40.12	182	0.82		SWN1	HN	28.7	IAML	10:26	55.20	76	0.13																														
SWN1	HE	412.0	IAML			18:54	45.64	214	0.72		SWN1	HE	28.7	IAML	10:26	55.28	27	0.18																														
LLW	BZ	412.0	EP			18:53	19.41			-0.26	WOL	BN	40.3	ES	10:26	57.77				0.01																												
IOMK	HZ	425.0	EP			18:53	20.75			-0.53	WOL	BE	40.3	IAML	10:26	58.98	6	0.25																														
MCH1	HZ	428.0	EP			18:53	21.42			-0.30	WOL	BN	40.3	IAML	10:26	59.08	6	0.30																														
MCH1	HE	428.0	IAML			18:54	04.52	116	0.20		MCH1	HZ	114.0	EP	10:27	03.15				-0.01																												
MCH1	HN	428.0	IAML			18:54	04.90	140	0.24		MCH1	HN	114.0																																			

# TABLE 2 : PHASE DATA

CWF	HE	122.0	ES		10:27	18.13				-0.19	YRC	EZ	44.8	EP		22:59	06.82			-0.77	
CWF	HE	122.0	IAML		10:27	19.59	3	0.17			WME	EZ	45.1	IP	D	22:59	07.45			-0.20	
CWF	HN	122.0	IAML		10:27	20.75	2	0.12			WME	EZ	45.1	ES		22:59	13.13			-0.25	
HLM1	HZ	138.0	EP		10:27	06.89				0.23	WPS	HZ	52.3	EP		22:59	09.33			0.58	
HLM1	HN	138.0	ES		10:27	22.46				0.03	WPS	HN	52.3	ES		22:59	15.39			0.10	
HLM1	HN	138.0	IAML		10:27	23.73	2	0.11			WPS	HN	52.3	IAML		22:59	15.76	6	0.17		
HLM1	HE	138.0	IAML		10:27	23.77	2	0.16			WPS	HE	52.3	IAML		22:59	15.87	6	0.14		
January 12 2017 Time: 13:51 43.8 UTC Magnitude: 1.1 ML																					
Lat: 56.353N Lon: -6.196W Depth: 7.2 km																					
Grid Ref: 140.81 kmE 725.75 kmN RMS: 0.10 secs																					
Locality: MULL, ARGYLL & BUTE																					
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																					
Comment: OFFSHORE LOCATION																					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KPL	HZ	115.0	EP			13:52	03.16			-0.09	MCH1	HE	134.0	EP			22:59	21.34			0.02
KPL	HE	115.0	ES			13:52	17.53			0.07	MCH1	HE	134.0	ES			22:59	36.86			-0.18
KPL	HE	115.0	IAML			13:52	18.18	6	0.40		MCH1	HN	134.0	IAML			22:59	38.47	5	0.17	
KPL	HN	115.0	IAML			13:52	19.24	4	0.21		MCH1	HE	134.0	IAML			22:59	38.99	8	0.13	
INVG	HZ	133.0	EP			13:52	06.16			-0.01	MONM	HZ	156.0	EP			22:59	24.74			0.29
INVG	HN	133.0	ES			13:52	22.48			-0.02	January 17 2017 Time: 01:16 23.1 UTC Magnitude: 0.5 ML										
INVG	HE	133.0	IAML			13:52	23.55	3	0.07		Lat: 51.635N Lon: -3.008W Depth: 6.3 km										
INVG	HN	133.0	IAML			13:52	23.70	4	0.10		Grid Ref: 330.25 kmE 193.44 kmN RMS: 0.30 secs										
CLGH	HZ	142.0	EP			13:52	07.54			0.18	Locality: CWMBRAN, TORFAEN										
CLGH	HE	142.0	ES			13:52	24.55			-0.02	Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
CLGH	HE	142.0	IAML			13:52	25.76	6	0.28		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
CLGH	HN	142.0	IAML			13:52	26.58	7	0.19		MONM	HZ	26.7	EP			01:16	27.96			-0.22
IDGL	BZ	165.0	EP			13:52	10.48			-0.21	MONM	HE	26.7	ES			01:16	32.10			0.22
January 13 2017 Time: 20:15 08.1 UTC Magnitude: 0.9 ML																					
Lat: 54.670N Lon: -2.149W Depth: 4.6 km																					
Grid Ref: 390.39 kmE 530.57 kmN RMS: 0.20 secs																					
Locality: NEWBIGGIN, CO DURHAM																					
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	MONM	HE	26.7	IAML			01:16	32.33	13	0.08	
EDMD	HZ	21.6	IP		C	20:15	12.20			-0.01	MONM	HN	26.7	IAML			01:16	32.69	11	0.24	
EDMD	HE	21.6	ES			20:15	15.12			-0.12	MCH1	HZ	40.3	EP			01:16	29.89			-0.44
EDMD	HN	21.6	IAML			20:15	15.25	21	0.12		MCH1	HE	40.3	ES			01:16	35.55			-0.05
EDMD	HE	21.6	IAML			20:15	15.38	122	0.22		MCH1	HE	40.3	IAML			01:16	35.75	8	0.28	
KESW	HZ	62.4	EP			20:15	18.93			0.10	MCH1	HN	40.3	IAML			01:16	35.78	5	0.18	
KESW	HE	62.4	ES			20:15	26.46			-0.24	HLM1	HZ	98.6	EP			01:16	39.79			0.37
KESW	HE	62.4	IAML			20:15	27.03	5	0.25		HLM1	HE	98.6	ES			01:16	51.35			0.03
KESW	HN	62.4	IAML			20:15	27.08	5	0.16		HLM1	HN	98.6	IAML			01:16	56.00	1	0.22	
HPK	HN	86.2	ES			20:15	33.06			-0.01	HLM1	HE	98.6	IAML			01:16	56.08	1	0.21	
HPK	HE	86.2	IAML			20:15	33.44	8	0.17		HTL	HZ	125.0	EP			01:16	43.57			0.10
HPK	HN	86.2	IAML			20:15	33.71	9	0.34		RSBS	HZ	125.0	EP			01:16	43.57			0.11
ESK	HZ	98.8	EP			20:15	24.80			0.33	DYA	HZ	148.0	EP			01:16	46.46			-0.36
ESK	HE	98.8	ES			20:15	36.38			-0.07	DYA	HE	148.0	ES			01:17	04.41			0.28
ESK	HN	98.8	IAML			20:15	37.26	2	0.14		DYA	HN	148.0	ES			01:17	04.45			
ESK	HE	98.8	IAML			20:15	37.71	1	0.18		January 20 2017 Time: 20:09 30.8 UTC Magnitude: 0.4 ML										
IOMK	HE	163.0	ES			20:15	53.10			0.12	Lat: 54.713N Lon: -3.555W Depth: 3.4 km										
January 13 2017 Time: 22:51 43.4 UTC Magnitude: 0.8 ML																					
Lat: 52.139N Lon: -2.450W Depth: 8.5 km																					
Grid Ref: 369.21 kmE 249.11 kmN RMS: 0.20 secs																					
Locality: CRADLEY, HEREFORDSHIRE																					
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MCH1	HZ	40.8	EP			22:51	50.53			-0.13	KESW	HZ	32.2	EP			20:09	36.58			-0.16
MCH1	HN	40.8	ES			22:51	55.76			-0.16	KESW	HN	32.2	ES			20:09	40.84			-0.26
MCH1	HN	40.8	IAML			22:51	56.01	10	0.14		KESW	HN	32.2	IAML			20:09	40.92	3	0.16	
MCH1	HE	40.8	IAML			22:51	56.07	6	0.34		KESW	HE	32.2	IAML			20:09	41.51	3	0.30	
MONM	HZ	41.3	EP			22:51	50.81			0.09	NEWG	HZ	62.4	EP			20:09	41.91			0.31
MONM	HE	41.3	ES			22:51	56.09			0.06	NEWG	HN	62.4	ES			20:09	49.46			-0.05
MONM	HE	41.3	IAML			22:51	56.39	14	0.32		NEWG	HE	62.4	IAML			20:09	50.35	1	0.06	
MONM	HN	41.3	IAML			22:51	56.47	12	0.14		NEWG	HN	62.4	IAML			20:09	50.49	2	0.29	
STRD	HZ	44.9	EP			22:51	51.13			-0.17	ESK	HZ	70.8	EP			20:09	43.03			0.11
STRD	HE	44.9	ES			22:51	57.08			0.06	ESK	HE	70.8	ES			20:09	51.51			-0.28
STRD	HN	44.9	IAML			22:51	57.41	8	0.13		ESK	HE	70.8	IAML			20:09	52.16	2	0.17	
STRD	HE	44.9	IAML			22:51	57.49	12	0.11		ESK	HN	70.8	IAML			20:09	54.16	1	0.09	
HLM1	HZ	51.5	EP			22:51	52.26			-0.09	GALL	HZ	76.3	EP			20:09	44.01			0.26
HLM1	HN	51.5	ES			22:51	58.68			-0.17	GALL	HN	76.3	ES			20:09	52.81			-0.42
HLM1	HN	51.5	IAML			22:51	58.97	6	0.28		IOMK	HZ	82.7	EP			20:09	44.62			-0.13
HLM1	HE	51.5	IAML			22:51	58.97	10	0.34		IOMK	HE	82.7	ES			20:09	55.08			0.12
LLW	BZ	114.0	EP			22:52	02.52			0.48	EDMD	HZ	103.0	EP			20:09	48.46			0.55
LLW	BN	114.0	ES			22:52	15.68			0.06	EDMD	HN	103.0	ES			20:10	00.42			-0.01
RSBS	HZ	159.0	EP			22:52	09.15			0.67	EDMD	HE	103.0	IAML			20:10	01.25	7	0.14	
January 15 2017 Time: 22:58 59.8 UTC Magnitude: 1.0 ML																					
Lat: 53.031N Lon: -4.014W Depth: 7.7 km																					
Grid Ref: 264.96 kmE 350.12 kmN RMS: 0.30 secs																					
Locality: BEDDGELERT, GWYNEDD																					
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0																					
Comment: FELT LLANBERIS... Intensity: 3																					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
WLF1	HZ	38.5	IP		D	22:59	07.01			0.40	LAWE	HZ	11.4	IP		D	16:00	49.82			-0.03
WLF1	HN	38.5	ES			22:59	11.61			0.02	LAWE	HN	11.4	ES			16:00	51.44			-0.30
WLF1	HN	38.5	IAML			22:59	11.81	30	0.10		LAWE	HN	11.4	IAML			16:00	51.58	117	0.10	
WLF1	HE	38.5	IAML			22:59	11.92	22	0.06		LAWE	HE	11.4	IAML			16:00	51.64	121	0.14	
											PGB1	HZ	83.1	EP			16:01	02.15			0.61
											PGB1	HE	83.1	ES			16:01	12.34			0.37
											PGB1	HE	83.1	IAML			16:01	13.79	5	0.40	
											PGB1	HN	83.1	IAML			16:01	14.10	8	0.12	
											INVG	HZ	83.1	EP			16:01	00.97			-0.59
											INVG	HN	83.1	ES			16:01	11.84			-0.16





## TABLE 2 : PHASE DATA

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	RSBS	HZ	IP	D	23:00	08.68	-0.08				
MCH1	HZ	44.1	EP			09:21	48.97			-0.05	RSBS	HE	13.2	ES	23:00	10.73	0.00				
MCH1	HE	44.1	ES			09:21	54.73			0.07	RSBS	HN	13.2	IAML	23:00	10.87	275 0.08				
MCH1	HE	44.1	IAML			09:21	54.85	6	0.12		RSBS	HE	13.2	IAML	23:00	10.90	294 0.04				
MCH1	HN	44.1	IAML			09:21	55.14	3	0.08		LPW	HZ	44.4	EP	23:00	13.67	-0.08				
HLM1	HN	102.0	ES			09:22	10.15			-0.16	LPW	HN	44.4	ES	23:00	19.39	0.09				
HLM1	HN	102.0	IAML			09:22	11.58	2	0.20		HTL	HZ	98.8	EP	23:00	22.73	0.10				
HLM1	HE	102.0	IAML			09:22	11.68	3	0.28		HTL	HE	98.8	ES	23:00	34.67	0.09				
RSBS	HZ	113.0	EP			09:21	59.60			-0.07	HTL	HN	98.8	IAML	23:00	35.26	14 0.17				
RSBS	HN	113.0	ES			09:22	12.94			-0.14	HTL	HE	98.8	IAML	23:00	35.94	17 0.24				
RSBS	HN	113.0	IAML			09:22	14.83	2	0.13		MCH1	HZ	110.0	EP	23:00	24.34	-0.05				
RSBS	HE	113.0	IAML			09:22	14.58	3	0.14		MCH1	HE	110.0	ES	23:00	37.45	-0.16				
HTL	HZ	113.0	EP			09:22	00.02			0.28	MCH1	HN	110.0	IAML	23:00	41.80	11 0.10				
LLW	BN	140.0	ES			09:22	20.52			0.45	MCH1	HE	110.0	IAML	23:00	42.22	10 0.10				
DYA	HE	142.0	ES			09:22	20.17			-0.25	MONM	HZ	123.0	EP	23:00	26.63	0.31				
February 10 2017 Time: 02:13 46.3 UTC Magnitude: 0.3 ML											MONM	HN	123.0	ES	23:00	41.39	0.47				
Lat: 52.417N Lon: -2.734W Depth: 7.7 km											MONM	HE	123.0	IAML	23:00	42.29	8 0.14				
Grid Ref: 350.09 kmE 280.18 kmN RMS: 0.20 secs											MONM	HN	123.0	IAML	23:00	43.94	9 0.21				
Locality: LUDLOW,SHROPSHIRE											LLW	BZ	125.0	EP	23:00	25.98	-0.59				
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0											LLW	BN	125.0	IAML	23:00	42.27	3 0.27				
Comment: 5KM NNW LUDLOW											LLW	BE	125.0	IAML	23:00	42.36	5 0.20				
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	HLM1	HZ	137.0	EP	23:00	28.25	-0.15				
HLM1	HZ	15.0	EP			02:13	49.72			0.21	HLM1	HN	137.0	IAML	23:00	46.34	13 0.28				
HLM1	HN	15.0	ES			02:13	52.01			0.13	HLM1	HE	137.0	IAML	23:00	48.00	10 0.44				
HLM1	HN	15.0	IAML			02:13	52.08	15	0.12		FOEL	HZ	147.0	EP	23:00	29.64	-0.27				
HLM1	HZ	15.0	IAML			02:13	52.17	6	0.20		YRC	EZ	153.0	EP	23:00	30.16	-0.54				
MCH1	HZ	50.1	EP			02:13	55.01			0.10	WLF1	HZ	157.0	EP	23:00	31.56	0.13				
MCH1	HN	50.1	ES			02:14	01.14			-0.08	WLF1	HE	157.0	ES	23:00	49.93	0.21				
MCH1	HE	50.1	IAML			02:14	01.17	3	0.28		WLF1	HE	157.0	IAML	23:00	51.84	13 0.20				
MCH1	HN	50.1	IAML			02:14	01.51	3	0.16		WLF1	HN	157.0	IAML	23:00	52.61	10 0.14				
LLW	BN	79.2	ES			02:14	08.72			-0.30	DYA	HZ	167.0	EP	23:00	32.47	-0.24				
LLW	BN	79.2	IAML			02:14	08.96	1	0.10		DYA	HN	167.0	IAML	23:00	52.50	4 0.13				
LLW	BE	79.2	IAML			02:14	09.01	1	0.12		DYA	HE	167.0	IAML	23:00	52.98	4 0.20				
LPW	HE	97.1	ES			02:14	13.56			-0.23	WPS	HZ	169.0	EP	23:00	33.57	0.64				
CWF	HZ	103.0	EP			02:14	03.32			0.20	WPS	HN	169.0	ES	23:00	53.07	0.77				
CWF	HN	103.0	ES			02:14	15.15			-0.28	WPS	HN	169.0	IAML	23:00	54.34	6 0.22				
CWF	HE	103.0	IAML			02:14	16.98	2	0.25		WPS	HE	169.0	IAML	23:00	54.44	4 0.51				
CWF	HN	103.0	IAML			02:14	18.34	2	0.23		WME	EZ	170.0	EP	23:00	33.14	0.12				
RSBS	HZ	147.0	EP			02:14	10.10			0.47	February 16 2017 Time: 02:38 32.6 UTC Magnitude: 0.2 ML										
RSBS	HN	147.0	ES			02:14	27.04			0.35	Lat: 57.626N Lon: -6.042W Depth: 7.4 km										
February 10 2017 Time: 06:09 29.7 UTC Magnitude: 0.5 ML											Grid Ref: 158.70 kmE 866.73 kmN RMS: 0.30 secs										
Lat: 56.959N Lon: -4.678W Depth: 12.6 km											Locality: SOUTH RONA,HIGHLAND										
Grid Ref: 237.18 kmE 788.48 kmN RMS: 0.10 secs											Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
Locality: GLEN ROY,HIGHLAND											STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0											KPL	HZ	39.6	EP			02:38	39.75			0.14
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	KPL	HE	39.6	ES	02:38	44.57	-0.13				
INVG	HZ	70.8	EP			06:09	41.66			0.04	KPL	HE	39.6	IAML	02:38	44.87	3 0.26				
INVG	HE	70.8	ES			06:09	50.24			-0.07	KPL	HN	39.6	IAML	02:38	47.15	2 0.41				
INVG	HN	70.8	IAML			06:09	53.64	3	0.18		LEWI	HZ	75.8	EP	02:38	45.34	0.07				
INVG	HE	70.8	IAML			06:09	54.16	3	0.17		LEWI	HE	75.8	ES	02:38	54.44	-0.07				
KPL	HZ	72.6	EP			06:09	42.00			0.15	LEWI	HE	75.8	IAML	02:38	57.48	2 0.22				
KPL	HN	72.6	ES			06:09	50.59			-0.12	LEWI	HN	75.8	IAML	02:38	57.96	2 0.10				
KPL	HN	72.6	IAML			06:09	50.98	2	0.12		LINV	HZ	76.7	EP	02:38	45.17	-0.20				
KPL	HE	72.6	IAML			06:09	51.09	2	0.27		BIGH	HZ	159.0	EP	02:38	58.55	0.90				
LAWE	HZ	89.5	EP			06:09	44.49			0.01	BIGH	HE	159.0	ES	02:39	16.12	0.20				
LAWE	HE	89.5	ES			06:09	55.27			0.00	February 17 2017 Time: 05:32 57.6 UTC Magnitude: 1.5 ML										
LAWE	HE	89.5	IAML			06:09	56.12	2	0.28		Lat: 53.525N Lon: -0.279W Depth: 16.3 km										
LAWE	HN	89.5	IAML			06:09	57.42	3	0.10		Grid Ref: 514.08 kmE 404.55 kmN RMS: 0.30 secs										
LINV	HE	136.0	ES			06:10	06.82			-0.04	Locality: CAISTOR,LINCOLNSHIRE										
February 10 2017 Time: 21:55 06.5 UTC Magnitude: 0.6 ML											Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
Lat: 57.697N Lon: -4.139W Depth: 6.4 km											STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
Grid Ref: 272.52 kmE 869.45 kmN RMS: 0.20 secs											LKM	HZ	8.2	IP			C 05:33	01.55			-0.20
Locality: INVERGORDON,HIGHLAND											LKM	HN	8.2	ES			05:33	04.89			0.14
Velocity model: Lownet Xnear: 150.0 Xfar: 300.0											LKM	HE	8.2	IAML			05:33	05.36	155	0.26	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LKM	HN	8.2	IAML	05:33	05.77	101 0.14				
MCD	EZ	54.3	EP			21:55	15.83			-0.08	AU05	HZ	54.2	EP	05:33	07.09	-0.01				
MCD	EN	54.3	ES			21:55	22.68			-0.09	AU05	HN	54.2	ES	05:33	13.55	-0.46				
LINV	HZ	80.3	EP			21:55	19.78			-0.10	AU05	HE	54.2	IAML	05:33	14.41	79 0.50				
LINV	HN	80.3	ES			21:55	29.36			-0.29	AU05	HN	54.2	IAML	05:33	14.54	72 0.14				
LINV	HN	80.3	IAML			21:55	31.92	4	0.14		AU08	HZ	71.2	EP	05:33	09.60	0.05				
LINV	HE	80.3	IAML			21:55	31.96	4	0.18		AU08	HE	71.2	ES	05:33	18.52	0.28				
BIGH	HZ	89.7	EP			21:55	21.63			0.28	AU08	HN	71.2	IAML	05:33	20.19	15 0.16				
BIGH	HE	89.7	ES			21:55	32.25			0.07	AU08	HE	71.2	IAML	05:33	20.47	12 0.25				
BIGH	HE	89.7	IAML			21:55	33.92	2	0.33		AV06	HZ	72.3	EP	05:33	09.61	-0.08				
BIGH	HN	89.7	IAML			21:55	34.11	1	0.18		AV06	HN	72.3	IAML	05:33	20.42	16 0.20				
KPL	HN	99.1	ES			21:55	34.82			0.14	AV06	HE	72.3	IAML	05:33	20.46	24 0.16				
KPL	HE	99.1	IAML			21:55	37.40	1	0.13		AU09	HZ	80.0	EP	05:33	10.92	0.15				
KPL	HN	99.1	IAML			21:55	37.42	2	0.26		AU09	HE	80.0	ES	05:33	20.58	0.23				
LEWI	HN	169.0	ES			21:55	52.73			0.09	AU09	HN	80.0	IAML	05:33	22.16	38 0.30				
February 14 2017 Time: 23:00 06.0 UTC Magnitude: 1.4 ML											AU09	HE	80.0	IAML			05:33	22.19	25	0.34	
Lat: 51.880N Lon: -4.593W Depth: 8.1 km											AU18	HZ	85.3	EP			05:33	11.64			0.11
Grid Ref: 221.55 kmE 223.39 kmN RMS: 0.30 secs											AU11	HZ	86.3	EP			05:33	11.92			0.26
Locality: LLANBOIDY,CARMARTHS											AU20	HZ	91.5	EP			05:33	12.52			0.09
Velocity model: Mid Wales Xnear: 100.0 Xfar: 200.0											AT08	HN	93.2	ES			05:33	23.63			0.03
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LBWR	HZ	97.0	EP	05:33	12.88	-0.37				
											LBWR	HE	97.0	IAML	05:33	26.83	16 0.22				
											LBWR	HN	97.0	IAML	05:33	26.85	12 0.16				

## TABLE 2 : PHASE DATA

HPK	HE	101.0	ES	05:33	25.46				-0.13	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES		
HPK	HN	101.0	IAML	05:33	26.69	17	0.20			LAW	HZ	62.8	EP			23:41	24.31			-0.10		
HPK	HE	101.0	IAML	05:33	27.55	20	0.19			LAW	HN	62.8	ES			23:41	32.14			-0.03		
GDLE	HZ	106.0	EP	05:33	13.94				-0.54	LAW	HE	62.8	IAML			23:41	32.73	2	0.21			
GDLE	HN	106.0	IAML	05:33	28.17	16	0.26			LAW	HN	62.8	IAML			23:41	35.19	2	0.24			
GDLE	HE	106.0	IAML	05:33	28.85	9	0.28			KPL	HZ	63.2	EP			23:41	24.67			0.23		
WACR	HZ	108.0	EP	05:33	14.36				-0.37	KPL	HE	63.2	ES			23:41	32.02			-0.21		
WACR	HN	108.0	ES	05:33	27.32				0.11	KPL	HE	63.2	IAML			23:41	32.55	4	0.22			
WACR	HE	108.0	IAML	05:33	27.55	8	0.20			KPL	HN	63.2	IAML			23:41	35.58	3	0.14			
WACR	HN	108.0	IAML	05:33	27.86	10	0.19			INVG	HE	85.3	EP			23:41	28.18			0.27		
CWF	HZ	111.0	EP	05:33	15.40				0.14	INVG	HN	85.3	ES			23:41	38.03			-0.20		
CWF	HE	111.0	ES	05:33	28.55				0.42	INVG	HN	85.3	IAML			23:41	40.52	3	0.10			
CWF	HN	111.0	IAML	05:33	29.99	8	0.10			INVG	HZ	85.3	IAML			23:41	40.70	3	0.18			
CWF	HE	111.0	IAML	05:33	30.88	14	0.10			LINV	HZ	148.0	EP			23:41	37.83			0.76		
AT10	HZ	111.0	EP	05:33	15.43				0.19	LINV	HE	148.0	ES			23:41	53.49			-0.58		
AT10	HN	111.0	IAML	05:33	32.56	8	0.34															
AT10	HE	111.0	IAML	05:33	31.03	8	0.32															
February 17 2017										February 18 2017							Time: 00:48 37.5 UTC			Magnitude: 1.3 ML		
Time: 05:39 29.1 UTC										Time: 00:48 37.5 UTC							Time: 00:48 37.5 UTC			Magnitude: 1.3 ML		
Lat: 53.499N										Lat: 52.845N							Lat: 52.845N			Depth: 11.1 km		
Lon: -0.293W										Lon: -3.250W							Lon: -3.250W			RMS: 0.30 secs		
Grid Ref: 513.22 kmE 401.64 kmN										Grid Ref: 315.82 kmE 328.27 kmN							Grid Ref: 315.82 kmE 328.27 kmN					
Locality: CAISTOR, LINCOLNSHIRE										Locality: LLANSILIN, POWYS							Locality: LLANSILIN, POWYS					
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										Velocity model: Lleyn Xnear: 100.0 Xfar: 200.0							Velocity model: Lleyn Xnear: 100.0 Xfar: 200.0					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	
LMK	HZ	5.2	IP			05:39	33.24			-0.21	FOEL	HZ	6.0	IP			00:48	39.70			-0.01	
LMK	HE	5.2	ES			05:39	36.79			0.18	FOEL	HE	6.0	ES			00:48	41.37			0.16	
LMK	HE	5.2	IAML			05:39	37.04	58	0.24		FOEL	HE	6.0	IAML			00:48	41.73	189	0.10		
LMK	HN	5.2	IAML			05:39	37.09	48	0.14		FOEL	HN	6.0	IAML			00:48	41.76	74	0.28		
AU05	HZ	55.6	EP			05:39	38.62			-0.24	LLW	BZ	27.9	IP			00:48	42.34			-0.23	
AU05	HE	55.6	ES			05:39	45.60			-0.38	LLW	BN	27.9	ES			00:48	45.69			-0.33	
AU05	HN	55.6	IAML			05:39	46.04	43	0.26		LLW	BN	27.9	IAML			00:48	46.02	24	0.10		
AU05	HE	55.6	IAML			05:39	46.30	31	0.25		LLW	BE	27.9	IAML			00:48	46.07	13	0.10		
AU08	HZ	73.7	EP			05:39	41.34			-0.09	HLM1	HZ	44.1	IP			00:48	45.22			0.06	
AU08	HE	73.7	ES			05:39	50.58			0.17	HLM1	HE	44.1	ES			00:48	50.82			0.45	
AU08	HN	73.7	IAML			05:39	50.58			0.17	HLM1	HN	44.1	IAML			00:48	51.07	22	0.28		
AV06	HZ	75.0	EP			05:39	41.36			-0.25	HLM1	HE	44.1	IAML			00:48	51.09	48	0.24		
AV06	HE	75.0	IAML			05:39	52.06	10	0.32		STNC	HZ	75.3	EP			00:48	49.58			-0.52	
AV06	HN	75.0	IAML			05:39	52.22	8	0.24		WLF1	HZ	91.4	EP			00:48	52.66			0.11	
AU09	HZ	82.0	EP			05:39	42.75			0.16	WLF1	HE	91.4	ES			00:49	02.84			0.05	
AU14	HN	86.0	ES			05:39	53.51			0.14	WLF1	HN	91.4	IAML			00:49	03.12	28	0.22		
AU14	HN	86.0	IAML			05:39	54.00	13	0.24		WLF1	HE	91.4	IAML			00:49	03.28	16	0.30		
AU14	HE	86.0	IAML			05:39	54.75	17	0.22		LPW	HZ	98.5	EP			00:48	53.49			-0.15	
AU11	HZ	88.4	EP			05:39	43.61			0.13	WPS	HZ	104.0	EP			00:48	54.78			0.30	
AT08	HE	94.6	ES			05:39	55.83			0.35	WPS	HE	104.0	ES			00:49	06.53			0.50	
AT08	HE	94.6	IAML			05:39	56.40	18	0.22		WPS	HN	104.0	IAML			00:49	07.77	7	0.48		
AT08	HN	94.6	IAML			05:39	56.46	32	0.22		WPS	HE	104.0	IAML			00:49	07.95	5	0.32		
LBWR	HZ	95.7	EP			05:39	44.63			0.05	LBWR	HZ	119.0	EP			00:48	56.43			-0.47	
LBWR	HN	95.7	IAML			05:39	58.56	5	0.15		CWF	HZ	132.0	EP			00:48	58.59			-0.16	
LBWR	HE	95.7	IAML			05:39	58.67	8	0.12		CWF	HN	132.0	ES			00:49	13.41			0.21	
HPK	HE	102.0	ES			05:39	57.15			-0.13	CWF	HN	132.0	IAML			00:49	14.64	8	0.10		
HPK	HN	102.0	IAML			05:39	58.29	8	0.20		CWF	HE	132.0	IAML			00:49	14.69	3	0.13		
HPK	HE	102.0	IAML			05:39	58.44	8	0.20		STRD	HZ	140.0	EP			00:49	00.29			0.22	
WACR	HZ	106.0	EP			05:39	46.01			0.03	RSBS	HZ	142.0	EP			00:48	59.84			-0.53	
CWF	HZ	109.0	EP			05:39	46.47			0.10	HPK	HZ	164.0	EP			00:49	03.75			0.44	
CWF	HN	109.0	IAML			05:40	00.81	4	0.15		HPK	HN	164.0	IAML			00:49	22.31	16	0.16		
CWF	HE	109.0	IAML			05:40	02.58	6	0.10		HPK	HE	164.0	IAML			00:49	23.44	16	0.16		
February 17 2017										February 18 2017							Time: 02:36 52.3 UTC			Magnitude: 1.7 ML		
Time: 21:16 26.8 UTC										Time: 02:36 52.3 UTC							Time: 02:36 52.3 UTC			Magnitude: 1.7 ML		
Lat: 53.479N										Lat: 56.281N							Lat: 56.281N			Depth: 4.6 km		
Lon: -4.180W										Lon: -4.884W							Lon: -4.884W			RMS: 0.30 secs		
Grid Ref: 255.35 kmE 400.27 kmN										Grid Ref: 221.48 kmE 713.57 kmN							Grid Ref: 221.48 kmE 713.57 kmN					
Locality: AMLWCH, ANGLESEY										Locality: CAIRNDOW, ARGYLL & BUTE							Locality: CAIRNDOW, ARGYLL & BUTE					
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										Velocity model: Lownet Xnear: 100.0 Xfar: 200.0							Velocity model: Lownet Xnear: 100.0 Xfar: 200.0					
Comment: 13KM NE AMLWCH																						
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	
WME	EZ	12.2	EP			21:16	29.53			-0.03	LAW	HZ	32.0	IP			02:36	58.26			0.04	
WPS	HZ	22.9	IP			21:16	31.67			0.46	LAW	HE	32.0	ES			02:37	02.20			-0.34	
WPS	HN	22.9	ES			21:16	34.41			-0.01	LAW	HN	32.0	IAML			02:37	02.25	78	0.10		
WPS	HE	22.9	IAML			21:16	31.74	11	0.31		LAW	HE	32.0	IAML			02:37	02.70	98	0.14		
WPS	HN	22.9	IAML			21:16	34.64	17	0.21		INVG	HZ	54.4	IP			02:37	02.04			0.07	
WLF1	HZ	25.5	IP			21:16	31.98			0.36	INVG	HN	54.4	ES			02:37	08.41			-0.61	
WLF1	HE	25.5	ES			21:16	35.08			-0.06	INVG	HN	54.4	IAML			02:37	08.87	65	0.21		
WLF1	HN	25.5	IAML			21:16	35.15	30	0.10		INVG	HE	54.4	IAML			02:37	08.93	62	0.08		
WLF1	HZ	25.5	IAML			21:16	35.16	41	0.10		PGB1	HZ	57.9	EP			02:37	02.32			-0.18	
YRC	EZ	36.5	EP			21:16	32.69			-0.63	PGB1	HN	57.9	ES			02:37	10.16			0.21	
LLW	BZ	78.1	EP			21:16	39.57			-0.22	PGB1	HE	57.9	IAML			02:37	10.37	43	0.24		
IOBK	HZ	90.6	EP			21:16	41.60			-0.14	PGB1	HN	57.9	IAML			02:37	10.40	33	0.24		
FOEL	HZ	92.7	EP			21:16	42.42			0.31	EAU	EZ	102.0	EP			02:37	09.51			0.18	
FOEL	HE	92.7	ES			21:16	53.12			-0.16	EDI	HZ	113.0	EP			02:37	11.19			0.20	
FOEL	HE	92.7	IAML			21:16	53.92	4	0.30		EDI	HN	113.0	IAML			02:37	26.73	21	0.32		
FOEL	HN	92.7	IAML			21:16	55.48	5	0.40		EDI	HE	113.0	IAML			02:37	28.00	20	0.24		
HLM1	HZ	138.0	EP			21:16	49.15			0.20	EDU	EZ	119.0	EP			02:37	12.31			0.25	
HLM1	HE	138.0	ES			21:17	05.28			0.16	KPL	HZ	127.0	EP			02:37	13.54			0.40	
HLM1	HE	138.0	IAML			21:17	06.54	3	0.32		KPL	HE	127.0	IAML			02:37	31.19	17	0.39		
HLM1	HN	138.0	IAML			21:17	07.05	4	0.34		KPL	HN	127.0	IAML			02:37	31.22	14	0.18		
February 17 2017										February 18 2017							Time: 13:19 51.5 UTC			Magnitude: 0.6 ML		
Time: 23:41 13.8 UTC										Time: 13:19 51.5 UTC							Time: 13:19 51.5 UTC			Magnitude: 0.6 ML		

## TABLE 2 : PHASE DATA

Lat: 52.189N	Lon: -2.605W	Depth: 6.6 km	LEWI HZ 106.0 EP	18:09	21.86				0.04	
Grid Ref: 358.65 kmE	254.75 kmN	RMS: 0.10 secs	LEWI HN 106.0 ES	18:09	34.74				0.11	
Locality: PENCOMBE,HEREFORDSHIRE			LEWI HE 106.0 IAML	18:09	35.86	2	0.11			
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0			LEWI HN 106.0 IAML	18:09	36.72	2	0.52			
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MCH1	HZ	34.4	IP		C	13:19	57.78			-0.02
MCH1	HN	34.4	ES			13:20	02.28			-0.10
MCH1	HE	34.4	IAML			13:20	02.41	7	0.06	
MCH1	HN	34.4	IAML			13:20	02.51	21	0.19	
HLM1	HZ	41.1	EP			13:19	58.91			0.02
HLM1	HE	41.1	ES			13:20	04.20			-0.07
HLM1	HN	41.1	IAML			13:20	04.29	5	0.11	
HLM1	HE	41.1	IAML			13:20	04.45	6	0.10	
MONM	HZ	41.3	EP			13:19	58.93			0.08
MONM	HE	41.3	ES			13:20	04.33			0.13
MONM	HN	41.3	IAML			13:20	04.49	9	0.26	
MONM	HE	41.3	IAML			13:20	04.75	4	0.11	
STRD	HN	55.1	ES			13:20	07.85			-0.09
STRD	HN	55.1	IAML			13:20	08.47	7	0.17	
STRD	HE	55.1	IAML			13:20	08.75	5	0.20	
FOEL	HE	87.7	ES			13:20	16.86			0.09
LPW	HN	100.0	ES			13:20	19.96			-0.10
LPW	HE	100.0	IAML			13:20	20.31	2	0.17	
LPW	HN	100.0	IAML			13:20	22.92	2	0.10	
RSBS	HZ	149.0	EP			13:20	15.18			-0.12
RSBS	HN	149.0	ES			13:20	32.99			0.34
February 20 2017 Time: 19:41 03.9 UTC			Magnitude: 0.4 ML							
Lat: 53.119N			Lon: -4.481W			Depth: 10.0 km				
Grid Ref: 233.99 kmE			360.89 kmN			RMS: 0.30 secs				
Locality: CAERNARFON BAY										
Velocity model: Lleyan Xnear: 80.0 Xfar: 200.0										
Comment: 8KM SSW ABERFFRAW										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
WLF1	HZ	19.7	EP			19:41	07.86			0.23
WLF1	HN	19.7	ES			19:41	10.30			0.13
WLF1	HN	19.7	IAML			19:41	10.63	17	0.07	
WLF1	HE	19.7	IAML			19:41	10.69	26	0.09	
YLL	EZ	20.9	EP			19:41	07.73			-0.09
WPS	HZ	31.3	EP			19:41	09.88			0.46
WPS	HE	31.3	ES			19:41	13.13			-0.06
WPS	HN	31.3	IAML			19:41	13.53	2	0.06	
WPS	HE	31.3	IAML			19:41	14.47	3	0.36	
WME	EZ	33.1	EP			19:41	08.97			-0.74
LLW	BZ	62.5	EP			19:41	14.31			-0.18
LLW	BE	62.5	ES			19:41	21.87			0.17
FOEL	HZ	89.7	EP			19:41	18.67			-0.13
FOEL	HE	89.7	ES			19:41	29.12			0.19
IOMK	HZ	127.0	EP			19:41	24.59			0.06
IOMK	HE	127.0	ES			19:41	38.58			0.02
February 22 2017 Time: 21:20 23.0 UTC			Magnitude: 0.4 ML							
Lat: 55.904N			Lon: -5.278W			Depth: 18.3 km				
Grid Ref: 195.11 kmE			672.73 kmN			RMS: 0.30 secs				
Locality: KAMES,ARGYLL & BUTE										
Velocity model: Lownet Xnear: 150.0 Xfar: 300.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LAWE	HZ	40.3	EP			21:20	30.44			-0.01
LAWE	HE	40.3	ES			21:20	35.43			-0.44
LAWE	HN	40.3	IAML			21:20	35.65	2	0.14	
LAWE	HE	40.3	IAML			21:20	35.70	4	0.18	
PGB1	HE	50.8	EP			21:20	32.46			0.44
INVG	HZ	96.3	EP			21:20	38.79			0.25
INVG	HE	96.3	ES			21:20	49.90			0.05
INVG	HE	96.3	IAML			21:20	53.28	1	0.09	
INVG	HN	96.3	IAML			21:20	53.55	1	0.22	
CLGH	HZ	106.0	EP			21:20	40.26			0.41
CLGH	HN	106.0	ES			21:20	52.19			0.07
NEWG	HN	110.0	ES			21:20	52.77			-0.39
NEWG	HN	110.0	IAML			21:20	55.40	1	0.25	
NEWG	HE	110.0	IAML			21:20	55.51	2	0.18	
GALL	HE	121.0	ES			21:20	55.54			-0.37
GALL	HE	121.0	IAML			21:20	55.84	1	0.15	
GALL	HN	121.0	IAML			21:20	58.69	1	0.14	
February 23 2017 Time: 18:09 04.3 UTC			Magnitude: 0.9 ML							
Lat: 57.511N			Lon: -5.547W			Depth: 4.3 km				
Grid Ref: 187.57 kmE			852.28 kmN			RMS: 0.20 secs				
Locality: TORRIDON,HIGHLAND										
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KPL	HZ	20.2	EP			18:09	08.24			0.08
KPL	HE	20.2	ES			18:09	10.85			-0.15
KPL	HE	20.2	IAML			18:09	11.01	65	0.12	
KPL	HN	20.2	IAML			18:09	11.02	33	0.10	
LINV	HZ	73.8	EP			18:09	16.73			-0.12
LINV	HE	73.8	ES			18:09	25.52			-0.51
LINV	HE	73.8	IAML			18:09	28.55	3	0.10	
LINV	HN	73.8	IAML			18:09	29.51	2	0.18	
February 23 2017 Time: 23:38 42.4 UTC			Magnitude: 1.0 ML							
Lat: 56.702N			Lon: -5.078W			Depth: 4.5 km				
Grid Ref: 211.58 kmE			760.92 kmN			RMS: 0.30 secs				
Locality: GLENCOE,HIGHLAND										
Velocity model: Lownet Xnear: 100.0 Xfar: 1000.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LAWE	HZ	53.1	EP			23:38	52.01			0.20
LAWE	HE	53.1	ES			23:38	58.69			-0.02
LAWE	HE	53.1	IAML			23:38	59.10	15	0.15	
LAWE	HN	53.1	IAML			23:38	59.19	12	0.20	
INVG	HZ	70.6	EP			23:38	54.00			-0.56
INVG	HN	70.6	IAML			23:39	03.46	3	0.09	
INVG	HE	70.6	IAML			23:39	05.74	9	0.12	
KPL	HZ	79.0	EP			23:38	56.12			0.31
KPL	HE	79.0	ES			23:39	05.29			-0.34
KPL	HN	79.0	IAML			23:39	08.93	5	0.13	
KPL	HE	79.0	IAML			23:39	09.55	7	0.18	
MDO	EZ	93.0	EP			23:38	57.87			-0.18
EDI	HE	146.0	ES			23:39	23.33			0.07
EDI	HN	146.0	IAML			23:39	24.34	4	0.39	
EDI	HE	146.0	IAML			23:39	25.70	4	0.24	
MCD	EZ	148.0	EP			23:39	06.73			0.40
MCD	EE	148.0	ES			23:39	24.01			0.19
February 24 2017 Time: 08:48 08.8 UTC			Magnitude: 0.5 ML							
Lat: 54.669N			Lon: -2.594W			Depth: 7.9 km				
Grid Ref: 361.69 kmE			530.61 kmN			RMS: 0.20 secs				
Locality: CULGAITH,CUMBRIA										
Velocity model: default (Lownet) Xnear: 500.0 Xfar: 1000.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KESW	HZ	34.2	EP			08:48	15.03			0.00
KESW	HN	34.2	ES			08:48	19.19			-0.36
KESW	HN	34.2	IAML			08:48	20.15	3	0.54	
KESW	HE	34.2	IAML			08:48	21.08	5	0.60	
EDMD	HZ	44.5	EP			08:48	16.72			0.14
EDMD	HN	44.5	ES			08:48	21.94			-0.29
EDMD	HN	44.5	IAML			08:48	22.03	7	0.10	
EDMD	HE	44.5	IAML			08:48	22.21	6	0.09	
ESK	HZ	82.0	EP			08:48	22.75			0.31
ESK	HE	82.0	ES			08:48	32.33			-0.04
NEWG	HE	116.0	ES			08:48	41.44			-0.07
NEWG	HN	116.0	IAML			08:48	42.22	1	0.15	
NEWG	HE	116.0	IAML			08:48	42.24	1	0.26	
IOMK	HN	136.0	ES			08:48	46.78			0.32
March 3 2017 Time: 09:28 11.0 UTC			Magnitude: 2.6 ML							
Lat: 52.910N			Lon: -2.148W			Depth: 13.1 km				
Grid Ref: 390.05 kmE			334.78 kmN			RMS: 0.40 secs				
Locality: STONE,STAFFORDSHIRE										
Velocity model: Lownet Xnear: 150.0 Xfar: 300.0										
Comment: FELT OAKAMOOR										
Intensity: 2										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STNC	HZ	20.5	IP		D	09:28	15.70			0.36
STNC	HE	20.5	ES			09:28	19.29			0.82
STNC	HN	20.5	IAML			09:28	19.45	1080	0.17	
STNC	HE	20.5	IAML			09:28	19.58	1660	0.12	
CFW	HZ	59.8	IP		D	09:28	20.98			-0.26
CFW	HE	59.8	ES			09:28	27.94			-0.75
CFW	HN	59.8	IAML			09:28	28.43	470	0.21	
CFW	HE	59.8	IAML			09:28	28.85	346	0.16	
LBWR	HZ	61.5	IP							



# TABLE 2 : PHASE DATA

LAW	E	41.9	EP	22:08	02.18			0.01		AT08	HZ	59.1	EP	02:06	56.73			0.47
LAW	E	41.9	ES	22:08	07.47			-0.08		AT08	HE	59.1	IAML	02:07	05.95	31	0.32	
LAW	H	41.9	IAML	22:08	07.88	2	0.08			AT08	HN	59.1	IAML	02:07	09.80	24	0.68	
LAW	H	41.9	IAML	22:08	08.08	4	0.09			EDMD	HZ	82.7	EP	02:06	59.70			-0.22
INV	G	72.5	EP	22:08	07.20			0.25		HPK	HZ	84.0	EP	02:07	00.26			0.09
INV	G	72.5	ES	22:08	15.60			-0.20		HPK	HN	84.0	IAML	02:07	14.52	17	0.14	
INV	G	72.5	IAML	22:08	19.27	5	0.08			HPK	HE	84.0	IAML	02:07	14.81	21	0.34	
INV	G	72.5	IAML	22:08	19.42	6	0.15			LBWR	HZ	140.0	EP	02:07	09.53			0.73
KPL	HZ	85.8	EP	22:08	09.15			0.18		LBWR	HN	140.0	IAML	02:07	28.78	16	0.31	
KPL	HE	85.8	ES	22:08	19.11			-0.19		LBWR	HE	140.0	IAML	02:07	31.05	9	0.24	
KPL	HN	85.8	IAML	22:08	22.34	2	0.24			KESW	HZ	150.0	EP	02:07	10.99			0.79
KPL	HE	85.8	IAML	22:08	22.53	3	0.23			ESK	HZ	178.0	EP	02:07	14.85			0.75
LINV	HZ	171.0	EP	22:08	22.30			0.92		ESK	HE	178.0	IAML	02:07	36.89	2	0.48	
LINV	HE	171.0	ES	22:08	40.16			-0.62		ESK	HN	178.0	IAML	02:07	37.84	2	0.30	

March 13 2017 Time: 03:07 12.5 UTC Magnitude: 1.6 ML  
 Lat: 49.951N Lon: -1.071W Depth: 5.0 km  
 Grid Ref: 466.64 kmE 6.13 kmN RMS: 0.20 secs  
 Locality: ENGLISH CHANNEL  
 Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0  
 Comment: 75KM SSE VENTNOR

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
JLP	EZ	108.0	EP			03:07	30.06			-0.21
JQE	EZ	109.0	EP			03:07	30.62			0.22
JDG	EZ	110.0	EP			03:07	30.84			0.32
JDC	EZ	110.0	EP			03:07	30.71			0.19
JRS	EE	112.0	EP			03:07	30.85			-0.04
JVM	EZ	116.0	EP			03:07	31.18			-0.28
JSA	HZ	116.0	EP			03:07	31.29			-0.25
JSA	HE	116.0	IAML			03:07	47.35	10	0.42	
JSA	HN	116.0	IAML			03:07	47.98	6	0.30	
HMN	X	143.0	EP			03:07	35.43			-0.02
HMN	X	143.0	IAML			03:07	56.14	18	0.22	
HMN	X	143.0	IAML			03:07	57.71	30	0.38	
DYA	HZ	211.0	EP			03:07	44.62			0.07

March 16 2017 Time: 06:25 20.3 UTC Magnitude: 0.8 ML  
 Lat: 56.382N Lon: -4.265W Depth: 2.4 km  
 Grid Ref: 260.16 kmE 723.37 kmN RMS: 0.40 secs  
 Locality: LOCHEARNHEAD, STIRLING  
 Velocity model: Lownet Xnear: 100.0 Xfar: 150.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
INV	G	14.6	IP		C	06:25	23.42			0.08
INV	G	14.6	ES			06:25	25.13			-0.40
INV	G	14.6	IAML			06:25	25.50	28	0.16	
INV	G	14.6	IAML			06:25	25.51	40	0.11	
LAW	E	71.5	EP			06:25	32.89			0.24
LAW	E	71.5	ES			06:25	41.38			-0.26
LAW	H	71.5	IAML			06:25	41.70	6	0.13	
LAW	H	71.5	IAML			06:25	41.78	6	0.19	
DRU	M	124.0	EP			06:25	41.46			0.64
DRU	M	124.0	ES			06:25	56.40			0.63
DRU	M	124.0	ES			06:25	56.42			
NEU	G	141.0	ES			06:26	00.42			0.36
NEU	G	141.0	IAML			06:26	00.89	1	0.13	
NEU	G	141.0	IAML			06:26	02.44	2	0.52	

March 20 2017 Time: 02:06 45.8 UTC Magnitude: 1.3 ML  
 Lat: 54.533N Lon: -0.789W Depth: 1.8 km  
 Grid Ref: 478.35 kmE 515.99 kmN RMS: 0.30 secs  
 Locality: HINDERWELL, N YORKSHIRE  
 Velocity model: Lownet Xnear: 50.0 Xfar: 200.0  
 Comment: FELT HINDERWELL...

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
GDLE	HZ	12.4	EP			02:06	48.07			-0.45
GDLE	HN	12.4	IAML			02:06	49.22	77	0.22	
GDLE	HE	12.4	IAML			02:06	49.25	64	0.20	
AU20	HZ	26.9	EP			02:06	50.99			0.04
AT10	HZ	31.0	EP			02:06	51.54			-0.14
AT10	HN	31.0	ES			02:06	56.12			0.13
AT10	HN	31.0	IAML			02:06	56.65	116	0.40	
AT10	HE	31.0	IAML			02:06	57.00	77	0.24	
AU18	HZ	32.1	EP			02:06	51.78			-0.04
AU18	HN	32.1	IAML			02:06	58.11	50	0.42	
AU18	HE	32.1	IAML			02:07	00.11	44	0.38	
AU15	HZ	34.3	EP			02:06	52.10			-0.10
AU15	HE	34.3	IAML			02:07	00.36	50	0.82	
AU15	HN	34.3	IAML			02:07	01.86	32	0.40	
AU13	HZ	37.1	EP			02:06	52.05			-0.61
AU11	HZ	38.5	EP			02:06	52.88			-0.02
AU11	HE	38.5	IAML			02:06	59.23	19	0.42	
AU11	HN	38.5	IAML			02:07	00.62	14	0.42	
AT12	HZ	42.9	EP			02:06	53.57			-0.09
AT12	HN	42.9	ES			02:06	59.45			0.03
AT12	HN	42.9	IAML			02:07	01.14	47	0.44	
AT12	HE	42.9	IAML			02:07	04.60	54	0.30	
AU09	HZ	43.6	EP			02:06	53.78			0.00
AV06	HZ	45.7	EP			02:06	54.50			0.36
AU08	HZ	46.2	EP			02:06	54.58			0.34

March 20 2017 Time: 02:16 06.2 UTC Magnitude: 1.3 ML  
 Lat: 54.529N Lon: -0.793W Depth: 1.9 km  
 Grid Ref: 478.10 kmE 515.54 kmN RMS: 0.40 secs  
 Locality: HINDERWELL, N YORKSHIRE  
 Velocity model: Lownet Xnear: 50.0 Xfar: 200.0  
 Comment: FELT HINDERWELL...

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
GDLE	HZ	12.0	EP			02:16	08.17			-0.59
GDLE	HE	12.0	IAML			02:16	10.60	51	0.18	
GDLE	HN	12.0	IAML			02:16	14.69	87	0.38	
AU20	HZ	26.5	EP			02:16	11.04			-0.16
AU20	HN	26.5	IAML			02:16	16.23	36	0.24	
AU20	HE	26.5	IAML			02:16	16.24	24	0.20	
AT10	HZ	30.5	EP			02:16	11.34			-0.58
AT10	HN	30.5	ES			02:16	16.22			0.14
AT10	HN	30.5	IAML			02:16	16.76	110	0.38	
AT10	HE	30.5	IAML			02:16	17.11	76	0.24	
AU18	HZ	31.7	EP			02:16	11.67			-0.41
AU18	HN	31.7	IAML			02:16	18.21	45	0.42	
AU18	HE	31.7	IAML			02:16	20.22	35	0.36	
AU13	HZ	36.7	EP			02:16	12.55			-0.36
AU11	HZ	38.0	EP			02:16	12.98			-0.15
AU11	HN	38.0	IAML			02:16	20.73	10	0.42	
AU11	HE	38.0	IAML			02:16	21.96	14	0.42	
AU09	HZ	43.2	EP			02:16	13.99			-0.03
AV06	HZ	45.4	EP			02:16	14.78			0.36
AU08	HZ	45.9	EP			02:16	14.57			0.07
AU07	HZ	47.7	EP			02:16	14.94			0.16
AU07	HN	47.7	IAML			02:16	24.22	36	0.34	
AU07	HE	47.7	IAML			02:16	24.57	29	0.24	
AT08	HZ	58.6	EP			02:16	16.96			0.47
AT08	HE	58.6	IAML			02:16	26.24	24	0.38	
AT08	HN	58.6	IAML			02:16	29.94	24	0.54	
EDMD	HZ	82.6	EP			02:16	20.94			0.73
EDMD	HN	82.6	IAML			02:16	34.92	14	0.18	
EDMD	HE	82.6	IAML			02:16	35.03	10	0.24	
HPK	HZ	83.5	EP			02:16	21.29			0.89
HPK	HN	83.5	IAML			02:16	34.64	13	0.14	
HPK	HE	83.5	IAML			02:16	34.92	18	0.34	
LBWR	HZ	140.0	EP			02:16	29.71			0.67
LBWR	HN	140.0	IAML			02:16	48.77	12	0.24	
LBWR	HE	140.0	IAML			02:16	51.06	8	0.22	
KESW	HZ	150.0	EP			02:16	30.96			0.49

March 20 2017 Time: 04:24 27.4 UTC Magnitude: 0.8 ML  
 Lat: 54.510N Lon: -0.767W Depth: 1.7 km  
 Grid Ref: 479.82 kmE 513.46 kmN RMS: 0.20 secs  
 Locality: HINDERWELL, N YORKSHIRE  
 Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0  
 Comment: FELT STAITHES

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
GDLE	HZ	10.3	EP			04:24	29.28			-0.42
GDLE	HE	10.3	IAML			04:24	32.14	15	0.28	
GDLE	HN	10.3	IAML			04:24	34.25	22	0.40	
AU20	HZ	24.5	EP			04:24	32.17			0.09
AU18	HZ	29.4	EP			04:24	33.01			0.10
AU18	HN	29.4	IAML			04:24	42.69	35	0.24	
AU18	HE	29.4	IAML			04:24	42.70	41	0.22	
AT10	HZ	30.8	EP			04:24	33.20			0.01
AT10	HN	30.8	ES			04:24	37.48			0.05
AT10	HN	30.8	IAML			04:24	37.84	25	0.40	
AT10	HE	30.8	IAML			04:24	38.31	17	0.20	
AU11	HZ	36.5	EP			04:24	34.27			0.17

March 23 2017 Time: 02:47 36.4 UTC Magnitude: 0.7 ML  
 Lat: 51.915N Lon: -2.314W Depth: 2.3 km  
 Grid Ref: 378.41 kmE 224.15 kmN RMS: 0.40 secs  
 Locality: HIGHLEADON, GLOS  
 Velocity model: Lownet Xnear: 100.0 Xfar: 200.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MCH1	HZ	47.9	EP			02:47	44.95			-0.15
MCH1	HE	47.9	ES			02:47	51.11			-0.31
MCH1	HE	47.9	IAML			02:47	51.21	2	0.14	
MCH1	HN	47.9	IAML			02:47	51.42	6	0.13	









# TABLE 2 : PHASE DATA

STATION	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LBWR	HZ	55.9	IP	C	04:30	49.30				-0.09
LBWR	HE	55.9	ES		04:30	56.26				-0.20
LBWR	HE	55.9	IAML		04:30	56.69	166	0.10		
LBWR	HN	55.9	IAML		04:30	57.32	157	0.16		
AU20	HE	60.7	IP	C	04:30	50.13				0.04
GDLE	HZ	72.7	IP	D	04:30	51.97				0.00
GDLE	HN	72.7	ES		04:31	00.69				-0.23
GDLE	HE	72.7	IAML		04:31	02.79	111	0.26		
GDLE	HN	72.7	IAML		04:31	02.82	199	0.25		
LMK	HZ	74.6	IP	D	04:30	52.41				0.17
LMK	HN	74.6	ES		04:31	01.65				0.25
LMK	HN	74.6	IAML		04:31	02.24	78	0.33		
LMK	HE	74.6	IAML		04:31	03.73	68	0.35		
EDMD	HZ	121.0	IP	C	04:30	59.10				-0.27
KESW	HZ	147.0	EP		04:31	03.17				-0.06
May 17 2017 Time: 19:44 27.4 UTC Magnitude: 1.0 ML										
Lat: 49.669N Lon: -2.379W Depth: 9.0 km										
Grid Ref: 372.65 kmE -25.56 kmN RMS: 0.20 secs										
Locality: ALDERNEY, CHANNEL ISLES										
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										
Comment: 10KM WSW ALDERNEY										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
JSA	HZ	55.6	EP			19:44	36.81			-0.21
JSA	HE	55.6	ES			19:44	44.17			0.13
JSA	HE	55.6	IAML			19:44	45.00	6	0.22	
JSA	HN	55.6	IAML			19:44	46.15	5	0.12	
JQE	EZ	57.7	EP			19:44	37.20			-0.13
JQE	EZ	57.7	ES			19:44	44.63			0.06
DYA	HZ	140.0	EP			19:44	49.51			0.36
DYA	HN	140.0	ES			19:45	04.81			-0.21
DYA	HN	140.0	IAML			19:45	06.21	7	0.22	
DYA	HE	140.0	IAML			19:45	06.90	4	0.22	
May 18 2017 Time: 00:14 06.8 UTC Magnitude: 0.6 ML										
Lat: 56.340N Lon: -6.072W Depth: 6.2 km										
Grid Ref: 148.38 kmE 723.84 kmN RMS: 0.20 secs										
Locality: MULL, ARGYLL & BUTE										
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LAW	HZ	42.6	IP	C		00:14	14.36			-0.04
LAW	HN	42.6	ES			00:14	19.52			-0.40
LAW	HN	42.6	IAML			00:14	19.68	6	0.22	
LAW	HE	42.6	IAML			00:14	20.17	4	0.08	
KPL	HZ	114.0	EP			00:14	25.36			-0.11
KPL	HE	114.0	ES			00:14	38.97			-0.11
KPL	HE	114.0	IAML			00:14	41.89	2	0.16	
KPL	HN	114.0	IAML			00:14	42.78	1	0.18	
INVG	HZ	126.0	EP			00:14	27.67			0.37
INVG	HE	126.0	ES			00:14	42.52			0.28
INVG	HE	126.0	IAML			00:14	44.26	1	0.07	
INVG	HN	126.0	IAML			00:14	44.77	1	0.13	
CLGH	HZ	140.0	EP			00:14	29.46			0.13
CLGH	HN	140.0	ES			00:14	45.64			-0.12
CLGH	HN	140.0	IAML			00:14	47.42	2	0.22	
CLGH	HE	140.0	IAML			00:14	47.43	2	0.36	
May 18 2017 Time: 23:04 14.6 UTC Magnitude: 0.9 ML										
Lat: 53.042N Lon: -5.430W Depth: 13.9 km										
Grid Ref: 170.10 kmE 354.95 kmN RMS: 0.30 secs										
Locality: IRISH SEA										
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
Comment: 40KM ENE WICKLOW										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
WPS	HZ	73.9	EP			23:04	27.54			0.54
WPS	HN	73.9	ES			23:04	35.86			-0.16
WPS	HN	73.9	IAML			23:04	36.67	2	0.18	
WPS	HE	73.9	IAML			23:04	38.72	1	0.34	
WLF1	HZ	74.4	EP			23:04	27.49			0.41
WLF1	HN	74.4	ES			23:04	35.91			-0.25
WLF1	HN	74.4	IAML			23:04	38.94	6	0.10	
WLF1	HE	74.4	IAML			23:04	39.83	4	0.10	
WME	EZ	85.0	EP			23:04	28.35			-0.38
LLW	BZ	121.0	EP			23:04	34.00			0.14
RSBS	HZ	130.0	EP			23:04	34.83			-0.38
WIM	EZ	133.0	EP			23:04	35.14			-0.53
IOMK	HZ	147.0	EP			23:04	37.74			0.07
IOMK	HN	147.0	ES			23:04	54.73			0.25
IOMK	HE	147.0	IAML			23:04	55.66	4	0.18	
IOMK	HN	147.0	IAML			23:04	56.28	3	0.10	
FOEL	HZ	151.0	EP			23:04	38.18			-0.06
FOEL	HN	151.0	ES			23:04	55.91			0.45
FOEL	HE	151.0	IAML			23:04	57.32	7	0.52	
FOEL	HN	151.0	IAML			23:04	58.29	4	0.42	
May 19 2017 Time: 23:14 23.5 UTC Magnitude: 1.8 ML										
Lat: 57.050N Lon: -5.742W Depth: 7.5 km										
Grid Ref: 173.07 kmE 801.64 kmN RMS: 0.30 secs										
Locality: KNOYDART, HIGHLAND										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LMK	HZ	38.3	EP			15:33	38.75			0.10
LMK	HE	38.3	ES			15:33	43.96			0.20
LMK	HE	38.3	IAML			15:33	45.12	105	0.16	
LMK	HN	38.3	IAML			15:33	45.29	104	0.16	
AU05	HZ	39.7	EP			15:33	39.00			0.16
LBWR	HZ	56.0	EP			15:33	41.65			0.22
LBWR	HE	56.0	ES			15:33	49.25			0.68
LBWR	HN	56.0	IAML			15:33	50.14	50	0.22	
LBWR	HE	56.0	IAML			15:33	50.98	64	0.22	
AU07	HZ	67.9	EP			15:33	43.42			0.21
AU07	HE	67.9	ES			15:33	51.79			0.13
AU07	HN	67.9	IAML			15:33	52.58	48	0.30	
AU07	HE	67.9	IAML			15:33	52.95	34	0.34	
HPK	HZ	69.7	EP			15:33	43.52			0.00
HPK	HN	69.7	ES			15:33	51.84			-0.36
HPK	HE	69.7	IAML			15:33	53.06	60	0.25	
HPK	HN	69.7	IAML			15:33	54.06	61	0.26	
AU08	HN	70.8	ES			15:33	52.64			0.16
AU08	HE	70.8	IAML			15:33	52.94	50	0.18	
AU08	HN	70.8	IAML			15:33	53.14	52	0.14	
AT08	HZ	71.6	EP			15:33	43.58			-0.20
AT08	HE	71.6	ES			15:33	52.73			0.09
AU13	H2	77.8	ES			15:33	54.34			0.04
AU13	H1	77.8	IAML			15:33	54.97	40	0.25	
AU13	H2	77.8	IAML			15:33	55.44	50	0.50	
AV06	HZ	78.4	EP			15:33	45.00			0.13
AV06	HE	78.4	IAML			15:33	55.56	24	0.26	
AV06	HN	78.4	IAML			15:33	55.71	21	0.20	
CWF	HZ	89.4	EP			15:33	46.26			-0.31



# TABLE 2 : PHASE DATA

Velocity model: Lownet Xnear: 100.0 Xfar: 150.0										IOMK	HN	130.0	IAML	20:45	26.88	2	0.19				
Comment: OFFSHORE LOCATION										IOMK	HE	130.0	IAML	20:45	27.25	3	0.20				
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES											
LAW	HE	22.6	IP		C	22:15	40.43			0.01	June 5 2017 Time: 13:17 54.7 UTC Magnitude: 2.1 ML										
LAW	HE	22.6	ES			22:15	43.23			-0.48	Lat: 53.256N Lon: -0.440W Depth: 2.7 km										
LAW	HN	22.6	IAML			22:15	43.74	9	0.08		Grid Ref: 504.06 kmE 374.39 kmN RMS: 0.10 secs										
LAW	HE	22.6	IAML			22:15	43.82	6	0.24		Locality: LINCOLN, LINCOLNSHIRE										
PGB1	HE	98.4	ES			22:16	05.24			0.48	Velocity model: Lownet Xnear: 100.0 Xfar: 120.0										
PGB1	HN	98.4	IAML			22:16	06.74	2	0.15		Comment: FELT REEPHAM... Intensity: 3										
PGB1	HE	98.4	IAML			22:16	06.95	2	0.20		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
INVG	HE	99.6	EP			22:15	52.93			0.13	LMK	HZ	23.6	EP			13:17	59.16			-0.05
INVG	HE	99.6	ES			22:16	05.05			-0.07	LMK	HE	23.6	ES			13:18	02.40			-0.09
INVG	HE	99.6	IAML			22:16	06.16	2	0.10		LMK	HE	23.6	IAML			13:18	09.51	1064	0.38	
INVG	HN	99.6	IAML			22:16	06.75	2	0.22		LMK	HN	23.6	IAML			13:18	13.53	756	0.42	
KPL	HZ	104.0	EP			22:15	53.36			-0.09	CWF	HZ	81.9	EP			13:18	08.67			0.05
May 31 2017 Time: 06:25 10.6 UTC Magnitude: 1.0 ML										CWF	HN	81.9	IAML	13:18	22.41	27	0.34				
Lat: 49.021N Lon: -1.698W Depth: 7.7 km										CWF	HE	81.9	IAML	13:18	23.51	24	0.10				
Grid Ref: 422.08 kmE -97.62 kmN RMS: 0.00 secs										LBWR	HZ	87.1	EP	13:18	09.43		-0.03				
Locality: JERSEY, CHANNEL ISLANDS										LBWR	HE	87.1	ES	13:18	20.41		0.18				
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										LBWR	HN	87.1	IAML	13:18	24.70	78	0.24				
Comment: 30KM SE JERSEY Intensity: 3										LBWR	HE	87.1	IAML	13:18	24.89	93	0.22				
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	WACR	HZ	92.9	EP			13:18	10.46			0.15
JQE	EZ	31.8	EP			06:25	16.61			0.03	WACR	HN	92.9	IAML			13:18	28.08	28	0.62	
JQE	EZ	31.8	ES			06:25	20.93			-0.02	WACR	HE	92.9	IAML			13:18	30.04	21	0.18	
JSA	HZ	39.2	EP			06:25	17.65			-0.03	HPK	HZ	111.0	EP			13:18	13.25			0.15
JSA	HN	39.2	ES			06:25	22.86			0.02	HPK	HE	111.0	IAML			13:18	30.17	59	0.20	
JSA	HN	39.2	IAML			06:25	23.23	15	0.11		HPK	HN	111.0	IAML			13:18	30.70	49	0.16	
JSA	HE	39.2	IAML			06:25	23.28	14	0.13		GDLE	HZ	132.0	EP			13:18	17.31			0.89
DYA	HN	225.0	ES			06:26	07.44			0.00	GDLE	HE	132.0	IAML			13:18	35.01	37	0.16	
June 2 2017 Time: 20:08 46.1 UTC Magnitude: 2.0 ML										GDLE	HN	132.0	IAML	13:18	38.63	57	0.36				
Lat: 56.906N Lon: -5.046W Depth: 7.5 km										HLM1	HZ	184.0	EP	13:18	24.18		0.55				
Grid Ref: 214.55 kmE 783.52 kmN RMS: 0.60 secs										HLM1	HE	184.0	IAML	13:18	49.24	26	0.22				
Locality: SPEAN BRIDGE, HIGHLAND										HLM1	HN	184.0	IAML	13:18	49.37	20	0.26				
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										EDMD	HZ	202.0	EP	13:18	27.52		1.72				
Comment: FELT SPEAN BRIDGE... Intensity: 3										STRD	HZ	202.0	EP	13:18	28.38		2.51				
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STRD	HE	202.0	IAML			13:18	55.06	47	0.44	
KPL	HZ	60.6	EP			20:08	56.53			0.20	STRD	HN	202.0	IAML			13:18	56.88	48	0.48	
KPL	HN	60.6	ES			20:09	03.49			-0.32	MCH1	HZ	223.0	EP			13:18	30.13			1.66
KPL	HN	60.6	IAML			20:09	07.54	66	0.12		MCH1	HN	223.0	IAML			13:18	58.73	15	0.22	
KPL	HE	60.6	IAML			20:09	07.62	71	0.15		MCH1	HE	223.0	IAML			13:18	59.55	13	0.62	
LAW	HZ	75.2	IP		D	20:08	58.54			-0.08	June 6 2017 Time: 00:05 43.1 UTC Magnitude: 1.0 ML										
LAW	HE	75.2	ES			20:09	07.55			-0.21	Lat: 56.128N Lon: -3.945W Depth: 7.5 km										
LAW	HE	75.2	IAML			20:09	08.42	27	0.15		Grid Ref: 279.12 kmE 694.50 kmN RMS: 0.50 secs										
LAW	HN	75.2	IAML			20:09	10.72	42	0.14		Locality: STIRLING, STIRLING										
INVG	HZ	81.4	IP		C	20:08	59.63			0.02	Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
INVG	HN	81.4	ES			20:09	08.73			-0.74	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
INVG	HN	81.4	IAML			20:09	12.37	63	0.14		INVG	HZ	33.8	IP		C	00:05	49.21			-0.07
INVG	HE	81.4	IAML			20:09	12.42	66	0.11		INVG	HN	33.8	ES			00:05	53.60			-0.16
PGB1	HE	127.0	EP			20:09	07.32			0.73	INVG	HE	33.8	IAML			00:05	53.72	13	0.10	
PGB1	HE	127.0	ES			20:09	22.20			0.65	INVG	HN	33.8	IAML			00:05	54.57	15	0.29	
PGB1	HE	127.0	IAML			20:09	22.90	50	0.40		PGB1	HZ	48.8	EP			00:05	51.40			-0.18
PGB1	HN	127.0	IAML			20:09	23.65	81	0.32		PGB1	HE	48.8	ES			00:05	57.50			-0.24
DRUM	HZ	156.0	IP		D	20:09	11.90			1.15	PGB1	HN	48.8	IAML			00:05	57.89	13	0.25	
DRUM	HN	156.0	IAML			20:09	31.98	28	0.25		PGB1	HE	48.8	IAML			00:05	58.42	17	0.53	
DRUM	HE	156.0	IAML			20:09	32.15	23	0.10		EDI	HZ	52.4	EP			00:05	52.20			0.06
EDI	HZ	159.0	EP			20:09	12.21			1.10	EDI	HE	52.4	ES			00:05	58.35			-0.35
LEWI	HZ	176.0	EP			20:09	12.71			-0.75	EDI	HN	52.4	IAML			00:05	58.74	13	0.15	
BIGH	HZ	189.0	EP			20:09	16.30			1.22	EDI	HE	52.4	IAML			00:05	58.83	16	0.22	
NEWG	HZ	206.0	EP			20:09	16.99			-0.15	LAW	HZ	91.4	EP			00:05	59.31			1.12
ESK	HZ	211.0	EP			20:09	18.39			0.57	LAW	HE	91.4	ES			00:06	08.57			-0.60
GAL1	HZ	228.0	EP			20:09	19.62			-0.33	LAW	HN	91.4	IAML			00:06	11.27	6	0.17	
June 3 2017 Time: 20:44 50.7 UTC Magnitude: 0.5 ML										LAW	HE	91.4	IAML	00:06	12.74	4	0.13				
Lat: 53.359N Lon: -3.309W Depth: 15.3 km										ESK	HZ	102.0	EP	00:06	00.21		0.42				
Grid Ref: 312.89 kmE 385.51 kmN RMS: 0.30 secs										NEWG	HZ	114.0	EP	00:06	01.49		-0.19				
Locality: TALACRE, FLINTSHIRE										DRUM	HZ	125.0	EP	00:06	03.37		-0.04				
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										GAL1	HZ	149.0	EP	00:06	07.06		0.32				
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	KPL	HZ	171.0	EP			00:06	09.96			0.18
FOEL	HZ	52.7	EP			20:44	59.45			-0.47	CLGH	HZ	179.0	EP			00:06	12.74			1.81
FOEL	HN	52.7	ES			20:45	06.73			0.08	June 6 2017 Time: 18:48 48.8 UTC Magnitude: 1.1 ML										
LLW	BZ	61.5	EP			20:45	00.90			-0.31	Lat: 52.472N Lon: -3.717W Depth: 5.6 km										
LLW	BE	61.5	ES			20:45	08.80			-0.08	Grid Ref: 283.39 kmE 287.43 kmN RMS: 0.30 secs										
LLW	BE	61.5	IAML			20:45	09.40	1	0.15		Locality: LLANGURIG, POWYS										
LLW	BN	61.5	IAML			20:45	09.45	1	0.12		Velocity model: Mid Wales Xnear: 80.0 Xfar: 200.0										
WLF1	HZ	72.9	EP			20:45	03.03			0.10	Comment: 10KM NW LLANGURIG										
WLF1	HN	72.9	ES			20:45	11.80			-0.05	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
WLF1	HN	72.9	IAML			20:45	13.26	2	0.10		LLW	BZ	42.2	EP			18:48	56.23			0.12
WLF1	HE	72.9	IAML			20:45	15.38	2	0.02		LLW	BE	42.2	ES			18:49	01.28			-0.09
WPS	HZ	79.3	EP			20:45	04.34			0.43	LLW	BE	42.2	IAML			18:49	01.94	14	0.15	
WPS	HN	79.3	ES			20:45	14.12			0.57	LLW	BN	42.2	IAML			18:49	02.32	8	0.30	
HLM1	HZ	97.9	EP			20:45	06.66			0.02	LPW	HZ	46.4	EP			18:48	56.63			-0.18
HLM1	HN	97.9	ES			20:45	18.32			0.04	LPW	HE	46.4	ES			18:49	02.65			0.07
HLM1	HN	97.9	IAML			20:45	21.80	1	0.11		LPW	HE	46.4	IAML			18:49	03.62	12	0.10	
HLM1																					

# TABLE 2 : PHASE DATA

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HLM1	HE	57.0	IAML			18:49	05.96			12 0.26
FOEL	HZ	58.2	EP			18:48	58.78			-0.00
FOEL	HN	58.2	ES			18:49	06.11			0.14
FOEL	HN	58.2	IAML			18:49	06.60		5 0.30	
FOEL	HE	58.2	IAML			18:49	07.74		6 0.24	
MCH1	HZ	72.1	EP			18:49	01.15			0.09
MCH1	HN	72.1	ES			18:49	09.58			-0.30
MCH1	HN	72.1	IAML			18:49	09.76		12 0.14	
MCH1	HE	72.1	IAML			18:49	10.19		7 0.12	
YLL	EZ	80.4	ES			18:49	11.70			-0.55
RSBS	HZ	90.9	EP			18:49	04.06			-0.12
RSBS	HN	90.9	ES			18:49	15.38			0.14
RSBS	HE	90.9	IAML			18:49	15.81		9 0.07	
RSBS	HN	90.9	IAML			18:49	17.04		8 0.10	
MONM	HZ	94.1	EP			18:49	04.80			0.11
MONM	HN	94.1	IAML			18:49	16.24		7 0.24	
MONM	HE	94.1	IAML			18:49	16.36		7 0.34	
WLF1	HZ	102.0	EP			18:49	06.67			0.71
WLF1	HE	102.0	ES			18:49	18.37			0.05
WLF1	HE	102.0	IAML			18:49	19.00		8 0.19	
WLF1	HN	102.0	IAML			18:49	19.02		9 0.23	
CFW	HZ	166.0	EP			18:49	15.87			0.31
CFW	HE	166.0	ES			18:49	34.59			-0.24
CFW	HE	166.0	IAML			18:49	35.20		7 0.12	
CFW	HN	166.0	IAML			18:49	35.29		12 0.14	
June 10 2017 Time: 12:46 39.8 UTC Magnitude: 1.3 ML										
Lat: 51.401N Lon: -2.895W Depth: 12.0 km										
Grid Ref: 337.75 kmE 167.32 kmN RMS: 0.10 secs										
Locality: CLEVEDON,NORTH SOMERSET										
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MONM	HZ	49.1	EP			12:46	48.39			0.11
MONM	HE	49.1	ES			12:46	54.73			0.22
MONM	HE	49.1	IAML			12:46	55.22		45 0.26	
MONM	HN	49.1	IAML			12:46	56.60		16 0.12	
STRD	HZ	65.7	EP			12:46	50.67			-0.18
STRD	HN	65.7	ES			12:46	58.90			-0.04
STRD	HN	65.7	IAML			12:46	59.05		15 0.19	
STRD	HE	65.7	IAML			12:46	59.54		16 0.17	
MCH1	HZ	66.7	EP			12:46	50.92			-0.09
MCH1	HE	66.7	ES			12:46	59.20			-0.02
MCH1	HN	66.7	IAML			12:46	59.36		37 0.11	
MCH1	HE	66.7	IAML			12:46	59.39		17 0.07	
SWN1	HZ	77.1	EP			12:46	52.72			0.11
HTL	HZ	120.0	EP			12:46	59.08			0.09
HLM1	HZ	124.0	EP			12:46	59.44			-0.23
HLM1	HE	124.0	ES			12:47	14.10			-0.11
HLM1	HN	124.0	IAML			12:47	15.37		5 0.14	
HLM1	HE	124.0	IAML			12:47	16.06		4 0.12	
DYA	HZ	130.0	EP			12:47	00.48			0.05
DYA	HN	130.0	ES			12:47	15.49			-0.04
DYA	HE	130.0	IAML			12:47	17.25		8 0.11	
DYA	HN	130.0	IAML			12:47	17.32		9 0.17	
RSBS	HZ	142.0	EP			12:47	02.04			-0.12
RSBS	HN	142.0	ES			12:47	18.60			0.09
RSBS	HE	142.0	IAML			12:47	19.51		7 0.11	
RSBS	HN	142.0	IAML			12:47	20.74		6 0.15	
CFW	HN	184.0	ES			12:47	28.33			0.15
CFW	HE	184.0	IAML			12:47	28.95		4 0.22	
CFW	HN	184.0	IAML			12:47	29.70		3 0.20	
June 10 2017 Time: 14:37 18.2 UTC Magnitude: 0.5 ML										
Lat: 57.532N Lon: -5.431W Depth: 4.9 km										
Grid Ref: 194.63 kmE 854.26 kmN RMS: 0.10 secs										
Locality: TORRIDON,HIGHLAND										
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KPL	HZ	25.3	EP			14:37	23.05			0.03
KPL	HE	25.3	ES			14:37	26.43			-0.08
KPL	HN	25.3	IAML			14:37	26.57		3 0.20	
KPL	HE	25.3	IAML			14:37	26.73		8 0.14	
LEWI	HN	109.0	EP			14:37	36.30			0.04
LEWI	HZ	109.0	ES			14:37	49.35			-0.06
BIGH	HZ	140.0	EP			14:37	40.81			0.00
BIGH	HN	140.0	IAML			14:37	57.44		2 0.20	
BIGH	HE	140.0	IAML			14:37	57.76		2 0.14	
LAW	HE	142.0	ES			14:37	57.91			0.14
INVG	HZ	149.0	EP			14:37	42.31			0.11
INVG	HN	149.0	ES			14:37	59.49			-0.19
INVG	HN	149.0	IAML			14:38	00.31		1 0.44	
INVG	HE	149.0	IAML			14:38	01.25		1 0.24	
June 10 2017 Time: 23:05 06.7 UTC Magnitude: 2.4 ML										
Lat: 52.125N Lon: -2.361W Depth: 6.5 km										
Grid Ref: 375.29 kmE 247.52 kmN RMS: 0.30 secs										
Locality: MALVERN,WORCESTERSHIRE										
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
Comment: FELT MALVERN Intensity: 3										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LINV	HZ	80.5	EP			10:48	04.90			-0.25
LINV	HE	80.5	IAML			10:48	17.30		3 0.10	
LINV	HN	80.5	IAML			10:48	18.71		2 0.20	
LEWI	HN	108.0	ES			10:48	22.51			-0.05
LEWI	HN	108.0	IAML			10:48	23.99		6 0.16	
LEWI	HE	108.0	IAML			10:48	24.22		5 0.11	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
STRD	HZ	41.1	IP		C	23:05	13.85			-0.18
STRD	HN	41.1	ES			23:05	18.73			-0.65
STRD	HN	41.1	IAML			23:05	19.74	1129	0.15	
STRD	HE	41.1	IAML			23:05	19.88	926	0.13	
MONM	HZ	44.0	IP		C	23:05	14.46			-0.00
MONM	HN	44.0	ES			23:05	20.21			0.08
MONM	HE	44.0	IAML			23:05	20.50	617	0.24	
MONM	HN	44.0	IAML			23:05	20.55	568	0.16	
MCH1	HZ	46.0	IP		D	23:05	14.70			-0.08
MCH1	HE	46.0	ES			23:05	20.38			-0.30
MCH1	HE	46.0	IAML			23:05	20.56	186	0.15	
MCH1	HN	46.0	IAML			23:05	20.63	1048	0.09	
HLM1	HZ	56.3	IP		D	23:05	16.24			-0.19
HLM1	HN	56.3	ES			23:05	23.22			-0.32
HLM1	HN	56.3	IAML			23:05	23.82	162	0.19	
HLM1	HE	56.3	IAML			23:05	23.93	156	0.17	
SWN1	HZ	78.2	IP		D	23:05	20.23			0.45
SWN1	HN	78.2	ES			23:05	29.81			0.48
SWN1	HN	78.2	IAML			23:05	31.42	165	0.20	
SWN1	HE	78.2	IAML			23:05	32.29	204	0.22	
CFW	HZ	99.0	IP		C	23:05	22.77			-0.22
CFW	HN	99.0	ES			23:05	34.47			-0.42
CFW	HE	99.0	IAML			23:05	37.38	52	0.19	
CFW	HN	99.0	IAML			23:05	37.89	44	0.12	
FOEL	HZ	102.0	IP		C	23:05	23.85			0.27
FOEL	HE	102.0	ES			23:05	36.29			0.39
FOEL	HE	102.0	IAML			23:05	40.06	91	0.27	
FOEL	HN	102.0	IAML			23:05	40.54	112	0.21	
STNC	HZ	108.0	IP		D	23:05	24.85			0.44
WOL	BZ	120.0	EP			23:05	26.47			0.26
LBWR	HZ	148.0	EP			23:05	31.05			0.64
RSBS	HZ	165.0	EP			23:05	32.70			-0.02
HTL	HZ	194.0	EP			23:05	36.37			0.01
WPS	HZ	202.0	EP			23:05	38.90			1.46
AR05	HZ	209.0	EP			23:05	38.20			-0.11
HPK	HZ	210.0	EP			23:05	38.83			0.40
WACR	HZ	214.0	EP			23:05	40.05			1.16
DYA	HZ	218.0	EP			23:05	38.84			-0.55
ELMS	HZ	230.0	EP			23:05	42.45			1.61
SBD	BZ	237.0	EP			23:05	41.31			-0.53
EDMD	HZ	302.0	EP			23:05	49.53			-0.40
June 17 2017 Time: 06:09 29.6 UTC Magnitude: 1.0 ML										
Lat: 53.015N Lon: -1.100W Depth: 9.6 km										
Grid Ref: 460.37 kmE 346.82 kmN RMS: 0.10 secs										
Locality: ARNOLD,NOTTINGHAMSHIRE										
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
CFW	HZ	33.8	EP			06:09	35.80			0.10
CFW	HN	33.8	ES			06:09	40.15			-0.03
CFW	HN	33.8	IAML			06:09	40.95	12	0.10	
CFW	HE	33.8	IAML			06:09	41.38	16	0.12	
LBWR	HZ	59.9	EP			06:09	39.66			-0.11
LBWR	HE	59.9	ES			06:09	47.27			0.04
LBWR	HE	59.9	IAML			06:09	47.43	6	0.29	
LBWR	HN	59.9	IAML			06:09	48.16	5	0.18	
HPK	HN	111.0	ES			06:10	00.80			0.04
HPK	HE	111.0	IAML			06:10	00.99	8	0.24	
HPK	HN	111.0	IAML			06:10	02.53	13	0.32	
HLM1	HZ	132.0	EP			06:09	50.65			-0.12
HLM1	HE	132.0	ES			06:10	06.20			-0.05
HLM1	HN	132.0	IAML			06:10	07.22	2	0.22	
HLM1	HE	132.0	IAML			06:10	07.47	3	0.40	
FOEL	HZ	142.0	EP			06:09	52.16			0.03
FOEL	HN	142.0	ES			06:10	08.71			0.10
FOEL	HN	142.0	IAML			06:10	09.34	3	0.40	
FOEL	HE	142.0	IAML			06:10	09.89	3	0.18	
MCH1	HN	172.0	ES			06:10	15.78			0.17
MCH1	HN	172.0	IAML			06:10	16.82	1	0.12	
MCH1	HE	172.0	IAML			06:10	16.84	1	0.14	
June 17 2017 Time: 10:47 51.6 UTC Magnitude: 1.0 ML										
Lat: 57.455N Lon: -5.587W Depth: 4.1 km										
Grid Ref: 184.84 kmE 846.										

# TABLE 2 : PHASE DATA

LAW E	HZ	134.0	EP	10:48	13.64			0.29		HLM1	HZ	82.3	EP	14:49	01.04			0.21			
INVG	HZ	148.0	EP	10:48	15.53			0.08		HLM1	HE	82.3	ES	14:49	10.97			0.12			
INVG	HN	148.0	ES	10:48	32.61			-0.26		HLM1	HE	82.3	IAML	14:49	11.37	20	0.20				
INVG	HE	148.0	IAML	10:48	34.02		4	0.22		HLM1	HN	82.3	IAML	14:49	11.51	9	0.10				
INVG	HN	148.0	IAML	10:48	34.83		2	0.08		WLF1	HE	101.0	ES	14:49	15.74				-0.03		
BIGH	HZ	152.0	EP	10:48	16.06			0.04		WLF1	HN	101.0	IAML	14:49	17.77	10	0.14				
BIGH	HE	152.0	ES	10:48	34.02			0.16		WLF1	HE	101.0	IAML	14:49	18.53	9	0.10				
BIGH	HE	152.0	IAML	10:48	35.39		5	0.18		EDMD	HN	185.0	ES	14:49	36.63				0.16		
BIGH	HN	152.0	IAML	10:48	35.61		4	0.14													
June 25 2017										Time: 11:53 08.8 UTC				Magnitude: 1.7 ML							
Lat: 54.154N				Lon: -2.899W				Depth: 5.0 km				Grid Ref: 622.32 kmE 1013.58 kmN				RMS: 0.50 secs					
Grid Ref: 341.30 kmE 473.52 kmN										RMS: 0.20 secs				Locality: CENTRAL NORTH SEA							
Locality: KENTS BANK,CUMBRIA										Velocity model: North Sea				Xnear: 500.0 Xfar: 1000.0							
Velocity model: Borders										Xnear: 75.0 Xfar: 150.0				Comment: FELT LERWICK...				Intensity: 3			
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
AQ10	HZ	27.0	EP			11:53	13.68			-0.14	LRW	HZ	217.0	IP		C	13:34	17.09			0.18
AQ10	HE	27.0	IAML			11:53	18.30	87	0.20		LRW	HN	217.0	ES			13:34	40.35			0.29
AQ10	HN	27.0	IAML			11:53	19.71	117	0.38		LRW	HE	217.0	IAML			13:34	47.08	5096	0.30	
AQ07	HZ	37.9	EP			11:53	15.48			-0.13	LRW	HN	217.0	IAML			13:34	47.09	6475	0.26	
AQ04	HZ	42.3	EP			11:53	16.33			0.03	BER	HZ	252.0	IP		C	13:34	21.57			0.27
AQ04	HN	42.3	ES			11:53	21.65			0.02	BER	HE	252.0	ES			13:34	47.36			-0.30
AQ04	HN	42.3	IAML			11:53	22.05	162	0.26		BER	HN	252.0	IAML			13:35	06.92	613	0.34	
AQ04	HE	42.3	IAML			11:53	22.50	242	0.18		BER	HE	252.0	IAML			13:35	09.66	1092	0.82	
SPK	EE	49.4	EP			11:53	17.64			0.17	BIGH	HZ	338.0	EP			13:34	32.23			0.22
KESW	HZ	50.2	EP			11:53	17.48			-0.15	BIGH	HE	338.0	IAML			13:35	29.02	2362	0.50	
KESW	HN	50.2	IAML			11:53	25.44	18	0.29		BIGH	HN	338.0	IAML			13:35	30.67	2441	0.34	
KESW	HE	50.2	IAML			11:53	25.48	22	0.34		FOO	HZ	343.0	EP			13:34	32.18			-0.40
AQ02	HZ	51.6	EP			11:53	17.89			0.08	FOO	HE	343.0	ES			13:35	06.27			-0.90
AQ02	HN	51.6	IAML			11:53	26.54	116	0.22		FOO	HN	343.0	IAML			13:34	54.64	483	0.70	
AQ02	HE	51.6	IAML			11:53	26.57	84	0.20		FOO	HE	343.0	IAML			13:35	35.97	517	0.54	
EDMD	HZ	96.8	EP			11:53	25.36			0.21	DRUM	HZ	344.0	EP			13:34	33.14			0.49
EDMD	HN	96.8	ES			11:53	36.62			-0.15	DRUM	HE	344.0	ES			13:35	08.08			0.78
EDMD	HE	96.8	IAML			11:53	37.86	74	0.16		DRUM	HN	344.0	IAML			13:35	31.43	3341	0.54	
EDMD	HN	96.8	IAML			11:53	39.68	96	0.22		DRUM	HE	344.0	IAML			13:35	36.90	2472	0.52	
IOMK	HZ	109.0	EP			11:53	27.16			-0.09	LINV	HZ	421.0	EP			13:34	42.22			-0.01
IOMK	HN	109.0	IAML			11:53	41.57	31	0.18		LINV	HN	421.0	IAML			13:35	43.51	1801	0.43	
IOMK	HE	109.0	IAML			11:53	41.95	18	0.18		LINV	HE	421.0	IAML			13:35	56.84	1411	0.87	
LBWR	HZ	114.0	EP			11:53	28.07			0.05	KONO	BZ	447.0	EP			13:34	46.50			0.99
LBWR	HN	114.0	IAML			11:53	43.08	22	0.28		INVG	HZ	451.0	EP			13:34	46.04			0.08
LBWR	HE	114.0	IAML			11:53	44.20	34	0.11		INVG	HN	451.0	IAML			13:35	54.82	808	0.34	
AT10	HZ	115.0	EP			11:53	28.37			0.23	INVG	HE	451.0	IAML			13:36	07.91	1202	0.54	
AT10	HE	115.0	IAML			11:53	44.95	17	0.36		EDI	HZ	453.0	EP			13:34	46.61			0.31
AT10	HN	115.0	IAML			11:53	46.08	24	0.26		EDI	HE	453.0	IAML			13:35	32.65	1683	0.48	
WIM	EZ	116.0	EP			11:53	28.31			-0.04	EDI	HN	453.0	IAML			13:35	34.15	1736	0.56	
AU11	HZ	128.0	EP			11:53	30.88			0.56	KPL	HZ	478.0	EP			13:34	49.02			-0.26
AU11	HN	128.0	IAML			11:53	48.64	12	0.16		KPL	HN	478.0	IAML			13:36	10.11	1041	0.48	
AU11	HE	128.0	IAML			11:53	49.62	13	0.34		KPL	HE	478.0	IAML			13:36	12.08	998	0.52	
ESK	HZ	131.0	EP			11:53	30.38			-0.37	MOL	HZ	508.0	EP			13:34	53.55			0.47
ESK	HN	131.0	IAML			11:53	48.56	7	0.18		MOL	HE	508.0	IAML			13:36	15.30	626	0.62	
ESK	HE	131.0	IAML			11:53	48.76	12	0.22		MOL	HN	508.0	IAML			13:36	19.09	550	0.88	
AU09	HZ	131.0	EP			11:53	31.30			0.53	ESK	HZ	508.0	EP			13:34	52.92			-0.15
AU09	HN	131.0	IAML			11:53	50.32	49	0.28		ESK	HN	508.0	IAML			13:35	47.20	590	0.44	
AU09	HE	131.0	IAML			11:53	50.43	33	0.40		ESK	HE	508.0	IAML			13:36	23.12	618	0.80	
WPS	HZ	135.0	EP			11:53	31.25			0.03	EDMD	HZ	515.0	EP			13:34	53.69			-0.19
WPS	HE	135.0	ES			11:53	47.23			0.08	EDMD	HE	515.0	IAML			13:36	44.57	675	0.78	
WPS	HE	135.0	IAML			11:53	48.34	7	0.38		EDMD	HN	515.0	IAML			13:36	45.01	565	0.80	
WPS	HN	135.0	IAML			11:53	48.36	9	0.42		LEWI	HZ	516.0	EP			13:34	53.83			-0.27
NEWG	HZ	137.0	EP			11:53	31.60			0.01	LEWI	HN	516.0	IAML			13:36	14.10	1000	0.70	
NEWG	HE	137.0	ES			11:53	47.03			-0.74	LEWI	HE	516.0	IAML			13:36	18.28	571	0.58	
NEWG	HN	137.0	IAML			11:53	48.06	9	0.34		MUD	HZ	516.0	EP			13:34	54.73			0.68
NEWG	HE	137.0	IAML			11:53	48.23	12	0.36		MUD	HN	516.0	IAML			13:36	27.68	1037	0.68	
WLF1	HZ	138.0	EP			11:53	31.76			0.13	MUD	HE	516.0	IAML			13:36	27.95	1334	0.72	
WLF1	HN	138.0	IAML			11:53	49.03	15	0.30		PGB1	HZ	517.0	EP			13:34	54.73			0.47
WLF1	HE	138.0	IAML			11:53	49.22	14	0.36		PGB1	HE	517.0	IAML			13:36	19.02	592	0.42	
GDLE	HZ	139.0	EP			11:53	32.38			0.60	PGB1	HN	517.0	IAML			13:36	30.85	850	0.70	
GDLE	HE	139.0	IAML			11:53	50.15	22	0.46		LAW E	HZ	527.0	EP			13:34	54.70			-0.77
GDLE	HN	139.0	IAML			11:53	50.39	34	0.20		LAW E	HN	527.0	IAML			13:36	19.74	967	0.36	
GALL	HZ	142.0	EP			11:53	32.04			-0.07	LAW E	HE	527.0	IAML			13:36	23.30	1502	0.44	
GALL	HE	142.0	IAML			11:53	50.20	6	0.11		GDLE	HZ	530.0	EP			13:34	55.60			-0.27
GALL	HN	142.0	IAML			11:53	50.36	12	0.20		GDLE	HN	530.0	IAML			13:36	28.81	1196	0.44	
AU08	HZ	146.0	EP			11:53	34.34			1.64	GDLE	HE	530.0	IAML			13:36	51.03	728	0.50	
June 28 2017										Time: 14:48 47.1 UTC				Magnitude: 1.1 ML							
Lat: 53.258N				Lon: -2.882W				Depth: 6.8 km				Grid Ref: 341.17 kmE 373.84 kmN				RMS: 0.20 secs					
Grid Ref: 341.17 kmE 373.84 kmN										RMS: 0.20 secs				Locality: ELLESMERE PORT,CHESHIRE							
Locality: ELLESMERE PORT,CHESHIRE										Velocity model: Lownet				Xnear: 500.0 Xfar: 1000.0							
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	NEWG	HZ	565.0	EP			13:35	00.12			0.01
FOEL	HZ	46.2	EP			14:48	55.29			0.06	NEWG	HE	565.0	IAML			13:35	55.96	365	0.54	
FOEL	HN	46.2	ES			14:49	01.10			-0.08	NEWG	HN	565.0	IAML			13:36	12.77	372	0.62	
FOEL	HE	46.2	IAML			14:49	03.33	9	0.24		KESW	HZ	573.0	EP			13:35	00.85			-0.28
FOEL	HN	46.2	IAML			14:49	03.58	9	0.15		KESW	HE	573.0	IAML			13:36	54.04	524	0.68	
LLW	BZ	69.5	EP			14:48	58.91			0.13	KESW	HN	573.0	IAML			13:37	00.02	419	0.62	
LLW	BN	69.5	ES			14:49	07.05			-0.27	HPK	HZ	596.0	EP			13:35	03.59			-0.43
LBWR	HZ	78.7	EP			14:49	00.12			-0.14	HPK	HN	596.0	IAML			13:36	13.83	820	0.36	
LBWR	HE	78.7	ES			14:49	09.70														

# TABLE 2 : PHASE DATA

IOMK	HE	654.0	IAML	13:37	16.22	252	0.48				PGB1	HN	468.0	IAML	01:44	33.76	98	0.40			
LBWR	HZ	657.0	EP	13:35	11.05			-0.52			PGB1	HE	468.0	IAML	01:45	23.77	54	0.54			
LBWR	HN	657.0	IAML	13:37	18.85	654	1.14				KONO	BZ	480.0	EP	01:43	46.11			0.33		
LBWR	HE	657.0	IAML	13:37	19.37	477	0.42				LAWE	HZ	484.0	EP	01:43	45.66				-0.58	
WIM	EZ	669.0	EP	13:35	12.75			-0.31			LAWE	HE	484.0	IAML	01:44	41.31	71	0.26			
WACR	HZ	698.0	EP	13:35	16.37			-0.25			LAWE	HN	484.0	IAML	01:45	08.53	86	0.50			
WACR	HN	698.0	IAML	13:36	53.61	289	0.84				LEWI	HZ	496.0	EP	01:43	47.58				-0.23	
WACR	HE	698.0	IAML	13:36	55.58	257	0.56				LEWI	HE	496.0	IAML	01:44	40.66	61	0.28			
WPS	HZ	733.0	EP	13:35	21.29			0.28			LEWI	HN	496.0	IAML	01:44	42.02	57	0.58			
WPS	HN	733.0	IAML	13:37	26.46	120	0.56				MUD	HZ	505.0	EP	01:43	49.12			0.28		
WPS	HE	733.0	IAML	13:37	39.18	88	0.61				MUD	HE	505.0	IAML	01:45	11.77	108	0.46			
WLF1	HZ	740.0	EP	13:35	20.97			-0.96			MUD	HN	505.0	IAML	01:45	21.95	92	0.58			
WLF1	HE	740.0	IAML	13:37	32.08	189	0.74				NEWG	HZ	511.0	EP	01:43	49.49				-0.11	
WLF1	HN	740.0	IAML	13:38	01.40	170	0.68				NEWG	HN	511.0	IAML	01:44	41.55	56	0.70			
YLL	EZ	748.0	EP	13:35	22.26			-0.60			NEWG	HE	511.0	IAML	01:44	41.94	41	0.32			
YRC	EZ	750.0	EP	13:35	22.78			-0.34			KESW	HZ	515.0	EP	01:43	49.86				-0.21	
HLM1	HZ	775.0	EP	13:35	25.79			-0.52			KESW	HN	515.0	IAML	01:44	46.56	42	0.32			
HLM1	HN	775.0	IAML	13:37	07.71	110	0.60				KESW	HE	515.0	IAML	01:45	36.45	44	0.58			
HLM1	HE	775.0	IAML	13:37	29.27	120	0.56				HPK	HZ	535.0	EP	01:43	52.75			0.18		
MCH1	HZ	832.0	EP	13:35	32.46			-0.93			GAL1	HZ	552.0	EP	01:43	54.30				-0.43	
MONM	HZ	845.0	EP	13:35	34.30			-0.60			GAL1	HE	552.0	IAML	01:44	51.36	52	0.30			
BSD	HZ	898.0	EP	13:35	40.98			-0.54			GAL1	HN	552.0	IAML	01:44	51.87	63	0.28			
HGN	BZ	948.0	EP	13:35	47.37			-0.30			MOL	HZ	567.0	EP	01:43	56.44				-0.10	
DOU	HZ	1001.0	EP	13:35	53.64			-0.69			MOL	HE	567.0	IAML	01:45	06.73	37	0.32			
											MOL	HN	567.0	IAML	01:45	09.34	47	0.30			
July 6 2017				Time: 02:09	20.7 UTC			Magnitude: 0.9 ML			LBWR	HZ	595.0	EP	01:43	59.87				-0.24	
Lat: 50.002N				Lon: -2.605W				Depth: 5.0 km			IOMK	HZ	598.0	EP	01:44	00.21				-0.27	
Grid Ref: 356.65 kmE				11.56 kmN				RMS: 0.70 secs			IOMK	HN	598.0	IAML	01:45	52.77	31	0.66			
Locality: ENGLISH CHANNEL											IOMK	HE	598.0	IAML	01:46	03.19	26	0.60			
Velocity model: Lownet				Xnear: 100.0				Xfar: 500.0			CLGH	HZ	599.0	EP	01:44	00.20				-0.33	
Comment: 80KM SE DARTMOUTH											WIM	EZ	613.0	EP	01:44	01.81				-0.47	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	WACR	HZ	637.0	EP	01:44	05.29				0.08	
JSA	HZ	95.8	EP			02:09	36.59			-0.01	WACR	HN	637.0	IAML	01:45	10.03	77	0.22			
JSA	HN	95.8	ES			02:09	47.71			-0.48	WACR	HE	637.0	IAML	01:45	10.47	48	0.26			
JSA	HN	95.8	IAML			02:09	50.55	4	0.48		WPS	HZ	675.0	EP	01:44	10.09				0.11	
JSA	HE	95.8	IAML			02:09	52.39	3	0.37		WPS	HN	675.0	IAML	01:45	30.74	10	0.27			
JQE	EZ	98.1	EP			02:09	37.05			0.08	WPS	HE	675.0	IAML	01:45	50.65	7	0.36			
JQE	EZ	98.1	ES			02:09	49.00			0.18	WLF1	HZ	682.0	EP	01:44	11.02				0.16	
DYA	HZ	106.0	EP			02:09	38.06			-0.21	WLF1	HN	682.0	IAML	01:45	19.63	36	0.40			
DYA	HN	106.0	ES			02:09	49.82			-1.25	WLF1	HE	682.0	IAML	01:45	21.72	37	0.64			
DYA	HN	106.0	IAML			02:09	52.81	4	0.14		HLM1	HZ	714.0	EP	01:44	14.50				-0.41	
DYA	HE	106.0	IAML			02:09	52.97	5	0.10		HLM1	HN	714.0	IAML	01:45	27.12	23	0.48			
SBD	BZ	161.0	EP			02:09	47.36			1.01	HLM1	HE	714.0	IAML	01:45	27.69	28	0.38			
SBD	BE	161.0	ES			02:10	05.60			0.55	MCH1	HZ	771.0	EP	01:44	21.38				-0.59	
SBD	BE	161.0	IAML			02:10	08.27	1	0.12		STRD	HZ	777.0	EP	01:44	22.99				0.37	
SBD	BN	161.0	IAML			02:10	09.48	2	0.10		MONM	HZ	783.0	EP	01:44	23.79				0.33	
CCA1	HN	189.0	ES			02:10	12.22			0.89	RSBS	HZ	824.0	EP	01:44	28.55				0.05	
July 7 2017				Time: 01:42	41.6 UTC			Magnitude: 3.6 ML			July 11 2017				Time: 01:23	57.7 UTC				Magnitude: 1.3 ML	
Lat: 58.418N				Lon: 1.581W				Depth: 10.7 km			Lat: 51.754N				Lon: -3.030W					Depth: 16.4 km	
Grid Ref: 609.12 kmE				953.27 kmN				RMS: 0.30 secs			Grid Ref: 328.91 kmE				206.70 kmN					RMS: 0.20 secs	
Locality: CENTRAL NORTH SEA											Locality: LLANOVER, MONMOUTHSHIRE										
Velocity model: North Sea				Xnear: 500.0				Xfar: 1000.0			Velocity model: Lownet				Xnear: 75.0					Xfar: 150.0	
Comment: 220KM ENE PETERHEAD											STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LRW	HZ	248.0	EP			01:43	17.64			0.73	MONM	HZ	18.2	IP		C	01:24	01.91			-0.06
LRW	HN	248.0	ES			01:43	42.50			-0.16	MONM	HN	18.2	ES			01:24	05.18			0.11
LRW	HN	248.0	IAML			01:43	55.76	280	0.36		MONM	HE	18.2	IAML			01:24	05.37	44	0.14	
LRW	HE	248.0	IAML			01:43	58.05	300	0.54		MONM	HN	18.2	IAML			01:24	05.59	45	0.30	
DRUM	HZ	295.0	EP			01:43	23.42			0.64	MCH1	HZ	27.1	IP		C	01:24	03.01			-0.15
DRUM	HN	295.0	IAML			01:44	10.46	200	0.28		MCH1	HE	27.1	ES			01:24	07.16			0.02
DRUM	HE	295.0	IAML			01:44	13.56	188	0.46		MCH1	HN	27.1	IAML			01:24	07.21	118	0.10	
BER	HZ	306.0	EP			01:43	23.95			-0.15	MCH1	HE	27.1	IAML			01:24	07.23	44	0.10	
BER	HN	306.0	IAML			01:44	11.84	81	0.30		STRD	HZ	59.9	EP			01:24	08.03			0.01
BER	HE	306.0	IAML			01:44	15.60	74	0.24		STRD	HE	59.9	IAML			01:24	16.49	17	0.24	
BIGH	HZ	321.0	EP			01:43	26.41			0.45	STRD	HN	59.9	IAML			01:24	16.65	21	0.14	
BIGH	HE	321.0	IAML			01:44	00.36	176	0.24		LPW	HZ	81.9	EP			01:24	11.19			-0.05
BIGH	HN	321.0	IAML			01:44	18.82	219	0.44		LPW	HN	81.9	ES			01:24	21.19			0.08
LINV	HZ	399.0	EP			01:43	35.53			-0.12	LPW	HE	81.9	IAML			01:24	21.34	6	0.24	
LINV	HN	399.0	IAML			01:44	16.66	120	0.26		LPW	HN	81.9	IAML			01:24	21.68	9	0.12	
LINV	HE	399.0	IAML			01:44	19.03	108	0.26		HLM1	HZ	85.6	EP			01:24	11.82			-0.03
EDI	HZ	400.0	EP			01:43	35.99			0.13	HLM1	HN	85.6	ES			01:24	22.12			-0.05
EDI	HN	400.0	ES			01:44	15.61			0.16	HLM1	HE	85.6	IAML			01:24	22.60	15	0.20	
FOO	HZ	403.0	EP			01:43	35.67			-0.57	HLM1	HN	85.6	IAML			01:24	22.69	11	0.12	
FOO	HE	403.0	IAML			01:44	18.05	35	0.26		RSBS	HZ	120.0	EP			01:24	16.82			0.06
FOO	HN	403.0	IAML			01:44	43.76	27	0.32		RSBS	HN	120.0	IAML			01:24	32.69	8	0.09	
INVG	HZ	404.0	EP			01:43	36.53			0.20	RSBS	HE	120.0	IAML			01:24	33.18	12	0.24	
INVG	HN	404.0	IAML			01:44	21.57	78	0.24		FOEL	HZ	127.0	EP			01:24	18.33			0.58
INVG	HE	404.0	IAML			01:44	54.30	70	0.42		FOEL	HN	127.0	IAML			01:24	35.20	5	0.24	
KPL	HZ	445.0	EP			01:43	41.32			-0.14	FOEL	HE	127.0	IAML			01:24	35.90	4	0.52	
KPL	HN	445.0	IAML			01:44	39.34	62	0.42		LLW	BZ	129.0	EP			01:24	18.55			0.51
KPL	HE	445.0	IAML			01:44	57.64	54	0.42		CWF	HZ	161.0	EP			01:24	22.65			0.29
ESK	HZ	452.0	EP			01:43	42.09			-0.20	CWF	HE	161.0	IAML			01:24	42.85	4		

## TABLE 2 : PHASE DATA

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	MCH1	HE	94.2	IAML	18:47	05.71	5	0.30			
MONM	HZ	39.7	IP		C	04:36	02.25			-0.02	MCH1	HN	94.2	IAML	18:47	05.99	4	0.10			
MONM	HN	39.7	ES			04:36	07.62			0.17	HLM1	HZ	103.0	EP	18:46	55.72		-0.31			
MONM	HN	39.7	IAML			04:36	07.96	19	0.22		HLM1	HN	103.0	ES	18:47	07.80		0.05			
MONM	HE	39.7	IAML			04:36	08.09	17	0.18		HLM1	HE	103.0	IAML	18:47	09.94	17	0.18			
MCH1	HZ	48.4	IP		C	04:36	03.40			-0.21	HLM1	HN	103.0	IAML	18:47	09.98	16	0.16			
MCH1	HE	48.4	ES			04:36	09.70			-0.08	FOEL	HZ	106.0	EP	18:46	56.08		-0.32			
MCH1	HN	48.4	IAML			04:36	09.79	18	0.10		WLF1	HZ	118.0	EP	18:46	57.87		-0.34			
MCH1	HE	48.4	IAML			04:36	09.83	54	0.10		WLF1	HE	118.0	ES	18:47	11.12		-0.39			
STRD	HZ	75.0	EP			04:36	07.70			-0.01	WLF1	HN	118.0	IAML	18:47	12.04	3	0.25			
LPW	HZ	84.2	EP			04:36	09.21			0.10	WLF1	HE	118.0	IAML	18:47	13.44	13	0.26			
LPW	HE	84.2	IAML			04:36	25.20	3	0.22		WPS	HZ	131.0	EP	18:47	01.26		1.13			
LPW	HN	84.2	IAML			04:36	25.51	3	0.16		WPS	HN	131.0	IAML	18:47	16.84	3	0.96			
HLM1	HZ	107.0	EP			04:36	12.40			-0.13	WPS	HE	131.0	IAML	18:47	17.64	3	0.84			
HLM1	HE	107.0	ES			04:36	25.18			-0.02	July 23 2017                      Time: 07:58 48.2 UTC                      Magnitude: 2.3 ML Lat: 57.877N                      Lon: -5.294W                      Depth: 7.7 km Grid Ref: 204.69 kmE 892.23 kmN                      RMS: 0.30 secs Locality: BADRALLACH,HIGHLAND Velocity model: LowNet Xnear: 100.0 Xfar: 200.0 Comment: FELT BADRALLACH...                      Intensity: 3										
HLM1	HE	107.0	IAML			04:36	28.21	9	0.20		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HLM1	HN	107.0	IAML			04:36	28.24	8	0.22		LINV	HZ	30.6	IP		D	07:58	53.89			0.11
RSBS	HZ	114.0	EP			04:36	13.53			-0.07	LINV	HN	30.6	ES			07:58	57.60			-0.27
LLW	BZ	145.0	EP			04:36	18.62			0.71	LINV	HZ	30.6	IAML			07:58	57.75	242	0.20	
LLW	BN	145.0	IAML			04:36	37.06	5	0.35		LINV	HN	30.6	IAML			07:58	57.94	197	0.16	
LLW	BE	145.0	IAML			04:36	37.16	6	0.25		KPL	HZ	63.7	EP			07:58	59.05			0.14
July 16 2017                      Time: 10:28 48.7 UTC                      Magnitude: 2.1 ML Lat: 51.695N                      Lon: -3.230W                      Depth: 7.5 km Grid Ref: 315.00 kmE 200.35 kmN                      RMS: 0.20 secs Locality: BARGOED,CAERPHILLY Velocity model: LowNet Xnear: 100.0 Xfar: 200.0											KPL	HE	63.7	ES			07:59	06.40		-0.33	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	KPL	HE	63.7	IAML	07:59	07.04	78	0.24			
MONM	HZ	33.5	IP		C	10:28	54.82			0.10	KPL	HN	63.7	IAML	07:59	07.13	60	0.30			
MONM	HE	33.5	ES			10:28	59.29			0.15	KPL	HE	63.7	IAML	07:59	07.13	60	0.30			
MONM	HE	33.5	IAML			10:28	59.68	156	0.20		LEWI	HZ	97.8	EP	07:59	04.54		0.30			
MONM	HN	33.5	IAML			10:29	01.31	115	0.22		LEWI	HN	97.8	ES	07:59	15.82		-0.14			
MCH1	HZ	37.2	IP		C	10:28	55.30			-0.01	LEWI	HN	97.8	IAML	07:59	18.00	100	0.36			
MCH1	HN	37.2	ES			10:29	00.17			-0.00	LEWI	HE	97.8	IAML	07:59	19.47	64	0.28			
MCH1	HN	37.2	IAML			10:29	00.43	101	0.17		BIGH	HZ	106.0	EP	07:59	06.01		0.46			
MCH1	HE	37.2	IAML			10:29	00.46	224	0.20		BIGH	HE	106.0	ES	07:59	17.92		-0.30			
STRD	HZ	74.3	EP			10:29	01.19			0.13	BIGH	HN	106.0	IAML	07:59	22.32	139	0.34			
STRD	HE	74.3	ES			10:29	09.83			-0.28	BIGH	HE	106.0	IAML	07:59	22.34	128	0.30			
STRD	HN	74.3	IAML			10:29	10.83	263	0.24		INVG	HZ	178.0	EP	07:59	16.40		0.55			
STRD	HE	74.3	IAML			10:29	10.92	188	0.16		INVG	HE	178.0	IAML	07:59	39.49	53	0.24			
HLM1	HZ	94.7	EP			10:29	04.25			-0.01	INVG	HN	178.0	IAML	07:59	39.54	38	0.40			
HLM1	HN	94.7	ES			10:29	15.52			-0.13	LAWE	HZ	180.0	EP	07:59	16.50		0.45			
HLM1	HE	94.7	IAML			10:29	19.12	93	0.12		LAWE	HN	180.0	IAML	07:59	40.83	73	0.36			
HLM1	HN	94.7	IAML			10:29	19.24	84	0.30		LAWE	HE	180.0	IAML	07:59	40.91	70	0.22			
RSBS	HZ	108.0	EP			10:29	06.12			-0.23	ESK	HZ	313.0	EP	07:59	33.12		0.49			
RSBS	HN	108.0	IAML			10:29	19.23	71	0.14		ESK	HE	313.0	IAML	08:00	20.50	10	0.39			
RSBS	HE	108.0	IAML			10:29	19.38	52	0.06		ESK	HN	313.0	IAML	08:00	21.18	11	0.38			
HTL	HZ	117.0	EP			10:29	07.87			0.19	July 24 2017                      Time: 21:59 02.5 UTC                      Magnitude: 0.7 ML Lat: 51.573N                      Lon: -3.211W                      Depth: 11.1 km Grid Ref: 316.09 kmE 186.76 kmN                      RMS: 0.20 secs Locality: CAERPHILLY,CAERPHILLY Velocity model: Mid Wales Xnear: 80.0 Xfar: 200.0										
HTL	HN	117.0	IAML			10:29	22.54	16	0.14		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HTL	HE	117.0	IAML			10:29	23.08	26	0.16		MONM	HZ	40.8	EP			21:59	09.86			0.17
FOEL	HZ	133.0	EP			10:29	10.27			0.19	MONM	HE	40.8	ES			21:59	14.62			-0.26
FOEL	HE	133.0	ES			10:29	25.95			0.23	MONM	HE	40.8	IAML			21:59	15.53	3	0.16	
FOEL	HN	133.0	IAML			10:29	26.72	68	0.38		MONM	HN	40.8	IAML			21:59	15.56	4	0.52	
FOEL	HE	133.0	IAML			10:29	29.16	94	0.42		MCH1	HZ	49.4	EP			21:59	11.04			-0.05
DYA	HZ	149.0	EP			10:29	12.15			-0.13	MCH1	HE	49.4	ES			21:59	17.32			0.03
CWF	HZ	175.0	EP			10:29	15.44			-0.49	MCH1	HN	49.4	IAML			21:59	17.41	8	0.10	
CWF	HE	175.0	IAML			10:29	37.02	41	0.18		MCH1	HE	49.4	IAML			21:59	17.47	15	0.10	
CWF	HN	175.0	IAML			10:29	37.11	40	0.22		HLM1	HZ	108.0	EP			21:59	20.27			0.05
WLF1	HZ	194.0	EP			10:29	17.75			-0.52	HLM1	HE	108.0	ES			21:59	33.03			0.03
WLF1	HE	194.0	IAML			10:29	41.82	42	0.20		HLM1	HE	108.0	IAML			21:59	35.69	3	0.28	
WLF1	HN	194.0	IAML			10:29	41.91	35	0.24		HLM1	HN	108.0	IAML			21:59	36.12	2	0.19	
WPS	HZ	208.0	EP			10:29	20.80			0.77	HTL	HZ	110.0	EP			21:59	20.83			0.31
WPS	HN	208.0	ES			10:29	44.01			1.08	RSBS	HZ	114.0	EP			21:59	21.30			0.12
WPS	HN	208.0	IAML			10:29	46.88	6	0.15		RSBS	HN	114.0	ES			21:59	34.32			-0.31
WPS	HE	208.0	IAML			10:29	48.32	4	0.35		RSBS	HE	114.0	IAML			21:59	34.76	2	0.08	
LBWR	HZ	216.0	EP			10:29	21.48			0.48	RSBS	HN	114.0	IAML			21:59	35.64	2	0.14	
LBWR	HN	216.0	IAML			10:29	49.35	41	0.36		DYA	HN	136.0	ES			21:59	39.97			-0.43
LBWR	HE	216.0	IAML			10:29	50.47	36	0.30		DYA	HE	136.0	IAML			21:59	42.37	2	0.17	
July 19 2017                      Time: 18:46 39.7 UTC                      Magnitude: 1.0 ML Lat: 52.230N                      Lon: -4.321W                      Depth: 15.6 km Grid Ref: 241.51 kmE 261.67 kmN                      RMS: 0.40 secs Locality: ABERAERON,CEREDIGION Velocity model: Mid Wales Xnear: 150.0 Xfar: 300.0 Comment: 5KM WEST ABERAERON											DYA	HN	136.0	IAML			21:59	42.48	2	0.17	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	FOEL	HZ	146.0	EP			21:59	26.53			0.46
LPW	HZ	21.6	EP			18:46	43.65			-0.06	July 26 2017                      Time: 20:00 29.4 UTC                      Magnitude: 0.5 ML Lat: 52.394N                      Lon: -3.696W                      Depth: 4.3 km Grid Ref: 284.61 kmE 278.73 kmN                      RMS: 0.10 secs Locality: LLANGURIG,POWYS Velocity model: Mid Wales Xnear: 80.0 Xfar: 200.0 Comment: 6KM WEST LLANGURIG										
LPW	HE	21.6	ES			18:46	46.66			0.08	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LPW	HE	21.6	IAML			18:46	47.35	15	0.10		LPW	HZ	40.2	EP			20:00	36.40			-0.00
LPW	HN	21.6	IAML			18:46	47.39	14	0.14		LPW	HE	40.2	ES			20:00	41.39			-0.04
RSBS	HZ	42.3	EP			18:46	4														



# TABLE 2 : PHASE DATA

INVG	HN	677.0	IAML	02:18	12.92	6	0.32											
INVG	HE	677.0	IAML	02:18	24.76	8	0.52	August 4 2017										
LAW	HZ	745.0	EP	02:17	10.96			Time: 14:43 38.7 UTC										
LAW	HN	745.0	ES	02:18	22.11			Lat: 56.805N										
LAW	HN	745.0	IAML	02:18	25.32	10	0.31	Lon: -5.888W										
LAW	HE	745.0	IAML	02:18	25.96	9	0.30	Grid Ref: 162.67 kmE 774.89 kmN										
								Locality: MOIDART,HIGHLAND										
								Velocity model: Lownet Xnear: 300.0 Xfar: 600.0										
								Comment: FELT MOIDART...										
								Intensity: 5										
August 2 2017				Time: 05:46 12.9 UTC		Magnitude: 1.4 ML		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
Lat: 55.098N				Lon: -7.559W		Depth: 2.0 km		KPL	HZ	61.2	IP		D	14:43	49.41			0.34
Grid Ref: 45.49 kmE 592.30 kmN				RMS: 0.60 secs				KPL	HE	61.2	ES			14:43	56.77			0.13
Locality: CO DONEGAL,IRELAND								KPL	HE	61.2	IAML			14:43	57.03	4900	0.26	
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0								KPL	HN	61.2	IAML			14:44	00.41	3691	0.22	
Comment: FELT MILFORD								LAW	HZ	67.7	EP			14:43	50.26			0.16
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LAW	HE	67.7	ES	14:43	57.88		-0.53
CLGH	HZ	92.5	EP			05:46	27.54			-0.77	LAW	HN	67.7	IAML	14:43	58.11	9154	0.28
CLGH	HN	92.5	ES			05:46	38.63			-0.93	LAW	HE	67.7	IAML	14:43	58.14	18491	0.24
CLGH	HN	92.5	IAML			05:46	40.82	23	0.19		INVG	HZ	121.0	EP	14:43	58.52		0.45
CLGH	HE	92.5	IAML			05:46	41.10	26	0.18		INVG	HE	121.0	ES	14:44	12.16		-0.05
ILTH	BZ	143.0	EP			05:46	35.90			-0.01	INVG	HE	121.0	IAML	14:44	13.48	1640	0.20
ILTH	BE	143.0	ES			05:46	52.60			-0.11	INVG	HN	121.0	IAML	14:44	18.08	2530	0.40
GALL	HZ	184.0	EP			05:46	41.84			0.29	PGB1	HZ	141.0	EP	14:44	01.12		0.22
GALL	HE	184.0	ES			05:47	02.69			0.22	PGB1	HE	141.0	ES	14:44	17.84		0.74
LAW	HZ	188.0	EP			05:46	41.44			-0.55	PGB1	HN	141.0	IAML	14:44	19.92	3030	0.64
LAW	HE	188.0	ES			05:47	03.85			0.62	PGB1	HE	141.0	IAML	14:44	20.02	2670	0.38
LAW	HN	188.0	IAML			05:47	06.20	2	0.18		LINV	HZ	155.0	EP	14:44	02.92		-0.02
LAW	HE	188.0	IAML			05:47	06.83	2	0.42		LINV	HN	155.0	ES	14:44	20.74		0.11
NEWG	HE	212.0	ES			05:47	09.12			0.51	LINV	HE	155.0	IAML	14:44	26.15	1842	0.50
NEWG	HE	212.0	IAML			05:47	14.21	1	0.21		LINV	HN	155.0	IAML	14:44	27.59	802	0.38
NEWG	HN	212.0	IAML			05:47	14.48	3	0.24		LEWI	HZ	160.0	EP	14:44	04.01		0.31
IOMK	HE	214.0	ES			05:47	09.76			0.73	LEWI	HE	160.0	ES	14:44	22.20		0.25
								August 2 2017										
Lat: 56.978N				Lon: -5.089W		Magnitude: 1.4 ML		Depth: 7.5 km										
Grid Ref: 212.29 kmE 791.65 kmN				RMS: 0.30 secs				Locality: GAIRLOCHY,HIGHLAND										
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0								Comment: FELT KINGUSSIE...										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LEWI	HN	160.0	IAML	14:44	24.98	1269	0.14
KPL	HZ	52.7	EP			17:44	01.40			-0.05	LEWI	HE	160.0	IAML	14:44	25.02	2502	0.24
KPL	HN	52.7	ES			17:44	07.85			-0.19	EDI	HZ	194.0	EP	14:44	07.70		-0.11
KPL	HN	52.7	IAML			17:44	09.57	9	0.32		EDI	HN	194.0	IAML	14:44	33.01	1090	0.24
KPL	HE	52.7	IAML			17:44	11.43	10	0.15		EDI	HE	194.0	IAML	14:44	36.15	872	0.26
LAW	HZ	82.2	EP			17:44	06.26			0.22	DRUM	HZ	208.0	EP	14:44	09.23		-0.38
LAW	HN	82.2	ES			17:44	15.94			-0.04	DRUM	HE	208.0	IAML	14:44	38.11	1996	0.28
LAW	HE	82.2	IAML			17:44	19.61	18	0.22		DRUM	HN	208.0	IAML	14:44	41.42	2803	0.74
LAW	HN	82.2	IAML			17:44	19.64	12	0.20		NEWG	HZ	214.0	EP	14:44	10.63		0.20
INVG	HZ	88.6	EP			17:44	07.17			0.10	NEWG	HN	214.0	IAML	14:44	38.59	1061	0.26
INVG	HN	88.6	ES			17:44	17.42			-0.34	NEWG	HE	214.0	IAML	14:44	38.74	1799	0.32
INVG	HE	88.6	IAML			17:44	21.85	30	0.11		BIGH	HZ	222.0	EP	14:44	10.10		-1.26
INVG	HN	88.6	IAML			17:44	21.97	18	0.09		BIGH	HN	222.0	IAML	14:44	41.06	1186	0.20
LINV	HZ	130.0	EP			17:44	13.61			0.20	BIGH	HE	222.0	IAML	14:44	41.94	1585	0.16
LINV	HE	130.0	IAML			17:44	31.41	10	0.24		GALL	HZ	228.0	EP	14:44	12.41		0.29
LINV	HN	130.0	IAML			17:44	32.01	5	0.22		GALL	HN	228.0	IAML	14:44	43.42	573	0.30
DRUM	HZ	159.0	EP			17:44	18.47			1.00	GALL	HE	228.0	IAML	14:44	44.94	1138	0.50
DRUM	HN	159.0	IAML			17:44	38.58	16	0.13		ESK	HZ	235.0	EP	14:44	13.06		0.00
DRUM	HE	159.0	IAML			17:44	39.99	20	0.12		ESK	HN	235.0	IAML	14:44	44.45	1010	0.26
LEWI	HZ	168.0	EP			17:44	19.04			0.23	ESK	HE	235.0	IAML	14:44	45.26	1036	0.36
LEWI	HE	168.0	IAML			17:44	41.31	5	0.05		IOMK	HZ	295.0	EP	14:44	20.27		-0.26
LEWI	HN	168.0	IAML			17:44	45.16	4	0.40		IOMK	HE	295.0	IAML	14:45	02.91	607	0.42
BIGH	HZ	183.0	EP			17:44	21.21			0.60	IOMK	HN	295.0	IAML	14:45	07.18	969	0.60
BIGH	HN	183.0	IAML			17:44	44.67	4	0.20		KESW	HZ	302.0	EP	14:44	21.50		0.05
BIGH	HE	183.0	IAML			17:44	50.17	7	0.32		KESW	HE	302.0	IAML	14:45	10.21	438	0.62
								August 4 2017										
Lat: 57.136N				Lon: -4.068W		Magnitude: 1.5 ML		Depth: 6.6 km										
Grid Ref: 274.86 kmE 806.89 kmN				RMS: 0.50 secs				Locality: KINGUSSIE,HIGHLAND										
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0								Comment: FELT KINGUSSIE...										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	WPS	HZ	389.0	EP	14:44	32.85		0.61
INVG	HZ	79.0	EP			02:20	00.61			-0.17	WPS	HE	389.0	IAML	14:45	14.81	163	0.24
INVG	HE	79.0	ES			02:20	09.64			-0.78	WPS	HN	389.0	IAML	14:45	31.19	184	0.50
INVG	HE	79.0	IAML			02:20	15.18	17	0.16		WLF1	HZ	403.0	EP	14:44	33.43		-0.51
INVG	HN	79.0	IAML			02:20	15.77	12	0.09		WLF1	HE	403.0	IAML	14:45	34.77	420	0.44
KPL	HZ	98.3	EP			02:20	04.02			0.30	WLF1	HN	403.0	IAML	14:45	37.94	220	0.66
KPL	HN	98.3	ES			02:20	15.04			-0.47	GDLE	HZ	415.0	EP	14:44	35.74		0.21
KPL	HN	98.3	IAML			02:20	18.44	19	0.10		GDLE	HN	415.0	IAML	14:45	41.50	556	0.44
KPL	HE	98.3	IAML			02:20	19.30	19	0.14		GDLE	HE	415.0	IAML	14:45	41.87	372	0.36
DRUM	HZ	99.2	IP		C	02:20	04.03			0.12	HPK	HZ	416.0	EP	14:44	35.93		0.25
DRUM	HE	99.2	ES			02:20	15.84			0.01	HPK	HN	416.0	IAML	14:45	42.52	493	0.50
DRUM	HE	99.2	IAML			02:20	19.57	42	0.15		HPK	HE	416.0	IAML	14:45	42.57	403	0.50
DRUM	HN	99.2	IAML			02:20	20.26	46	0.38		LRW	HZ	462.0	EP	14:44	40.55		-0.76
LAW	HZ	127.0	EP			02:20	08.62			0.42	LRW	HN	462.0	IAML	14:45	51.10	130	0.34
LAW	HN	127.0	ES			02:20	24.18			0.93	LRW	HE	462.0	IAML	14:45	52.70	135	0.30
LINV	HZ	131.0	EP			02:20	08.86			0.10	FOEL	HZ	469.0	EP	14:44	41.84		-0.43
LINV	HE	131.0	ES			02:20	24.05			-0.17	FOEL	HE	469.0	IAML	14:45	55.47	289	0.52
LINV	HE	131.0	IAML			02:20	24.39	6	0.13		FOEL	HN	469.0	IAML	14:46	03.38	248	0.54
LINV	HN	131.0	IAML			02:20	25.46	4	0.13		HLM1	HZ	515.0	EP	14:44	47.51		-0.53
EDI	HZ	146.0	EP			02:20	11.65			0.83	HLM1	HN	515.0	I				

# TABLE 2 : PHASE DATA

August 4 2017		Time: 14:45 34.1 UTC		Magnitude: 3.4 ML		Grid Ref: 163.54 kmE 775.06 kmN		RMS: 0.30 secs		
Lat: 56.798N		Lon: -5.869W		Depth: 10.6 km		Locality: MOIDART,HIGHLAND				
Grid Ref: 163.79 kmE 774.05 kmN		RMS: 0.30 secs		Velocity model: Lownet		Xnear: 300.0		Xfar: 600.0		
Locality: MOIDART,HIGHLAND		Comment: FELT MOIDART...		Intensity: 3						
Velocity model: Lownet		Xnear: 300.0		Xfar: 600.0						
Comment: FELT MOIDART...		Intensity: 4								
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KPL	HZ	61.7	IP		D	14:45	44.66			0.15
KPL	HE	61.7	ES			14:45	52.00			-0.11
KPL	HE	61.7	IAML			14:45	52.22	2660	0.26	
KPL	HN	61.7	IAML			14:45	55.67	1345	0.24	
LAW	HZ	66.5	EP			14:45	45.53			0.25
LAW	HE	66.5	ES			14:45	53.16			-0.29
LAW	HN	66.5	IAML			14:45	53.44	3868	0.15	
LAW	HE	66.5	IAML			14:45	53.47	4481	0.16	
INVG	HZ	119.0	EP			14:45	53.89			0.46
INVG	HE	119.0	ES			14:46	07.58			0.03
INVG	HN	119.0	IAML			14:46	13.01	802	0.52	
INVG	HE	119.0	IAML			14:46	14.51	465	0.38	
LINV	HZ	156.0	EP			14:45	58.20			-0.35
LINV	HE	156.0	IAML			14:46	19.18	668	0.13	
LINV	HN	156.0	IAML			14:46	19.23	286	0.16	
LEWI	HZ	162.0	EP			14:45	59.44			-0.01
LEWI	HE	162.0	IAML			14:46	20.26	777	0.22	
LEWI	HN	162.0	IAML			14:46	20.32	445	0.31	
EDI	HZ	192.0	EP			14:46	03.46			0.18
EDI	HN	192.0	IAML			14:46	30.06	255	0.32	
EDI	HE	192.0	IAML			14:46	34.79	221	0.34	
DRUM	HZ	207.0	EP			14:46	04.56			-0.55
DRUM	HN	207.0	IAML			14:46	33.13	1021	0.20	
DRUM	HE	207.0	IAML			14:46	33.29	765	0.24	
NEWG	HZ	213.0	EP			14:46	05.90			-0.02
NEWG	HE	213.0	IAML			14:46	33.97	603	0.34	
NEWG	HN	213.0	IAML			14:46	33.97	435	0.34	
BIGH	HZ	222.0	EP			14:46	07.45			0.45
BIGH	HE	222.0	IAML			14:46	37.11	295	0.20	
BIGH	HN	222.0	IAML			14:46	37.73	268	0.20	
GALL	HZ	227.0	EP			14:46	07.64			0.02
GALL	HN	227.0	IAML			14:46	37.86	213	0.26	
GALL	HE	227.0	IAML			14:46	40.44	426	0.30	
ESK	HZ	234.0	EP			14:46	08.32			-0.20
ESK	HN	234.0	IAML			14:46	39.62	364	0.36	
ESK	HE	234.0	IAML			14:46	40.49	326	0.36	
August 5 2017										
		Time: 00:49 53.1 UTC		Magnitude: 1.1 ML		Grid Ref: 163.71 kmE 774.72 kmN		RMS: 0.10 secs		
Lat: 49.362N		Lon: -2.338W		Depth: 11.0 km		Locality: JERSEY,CHANNEL ISLANDS				
Grid Ref: 375.46 kmE -59.71 kmN		RMS: 0.10 secs		Velocity model: Lownet		Xnear: 500.0		Xfar: 1000.0		
Locality: MOIDART,HIGHLAND		Comment: 10KM NW JERSEY		Intensity: 3						
Velocity model: Lownet		Xnear: 300.0		Xfar: 600.0						
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KPL	HZ	60.5	EP			15:20	34.28			0.02
KPL	HE	60.5	ES			15:20	41.57			-0.15
KPL	HE	60.5	IAML			15:20	41.82	13	0.26	
KPL	HN	60.5	IAML			15:20	45.30	8	0.10	
LAW	HZ	65.9	EP			15:20	35.30			0.18
LAW	HN	65.9	ES			15:20	42.78			-0.43
LAW	HN	65.9	IAML			15:20	43.14	27	0.10	
LAW	HE	65.9	IAML			15:20	43.30	21	0.29	
INVG	HZ	117.0	EP			15:20	43.53			0.48
INVG	HE	117.0	IAML			15:21	00.65	3	0.03	
INVG	HN	117.0	IAML			15:21	01.63	3	0.10	
LINV	HZ	154.0	EP			15:20	47.96			-0.38
LINV	HN	154.0	IAML			15:21	07.84	2	0.19	
LINV	HE	154.0	IAML			15:21	08.74	4	0.29	
LEWI	HZ	162.0	EP			15:20	49.78			0.28
August 4 2017										
		Time: 16:07 26.5 UTC		Magnitude: 1.2 ML		Grid Ref: 162.30 kmE 773.68 kmN		RMS: 0.20 secs		
Lat: 56.794N		Lon: -5.893W		Depth: 8.2 km		Locality: MOIDART,HIGHLAND				
Grid Ref: 162.30 kmE 773.68 kmN		RMS: 0.20 secs		Velocity model: Lownet		Xnear: 300.0		Xfar: 600.0		
Locality: MOIDART,HIGHLAND		Comment: 10KM NW JERSEY		Intensity: 3						
Velocity model: Lownet		Xnear: 300.0		Xfar: 600.0						
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KPL	HZ	62.4	EP			16:07	37.16			0.15
KPL	HE	62.4	ES			16:07	44.46			-0.23
KPL	HE	62.4	IAML			16:07	44.64	16	0.30	
KPL	HN	62.4	IAML			16:07	48.17	10	0.26	
LAW	HZ	66.8	EP			16:07	37.90			0.18
LAW	HE	66.8	ES			16:07	45.57			-0.35
LAW	HE	66.8	IAML			16:07	45.74	22	0.30	
LAW	HN	66.8	IAML			16:07	46.01	13	0.12	
INVG	HZ	121.0	EP			16:07	46.40			0.30
INVG	HE	121.0	IAML			16:08	01.11	4	0.10	
INVG	HN	121.0	IAML			16:08	02.13	6	0.09	
LINV	HZ	156.0	EP			16:07	51.09			-0.05
LINV	HN	156.0	IAML			16:08	10.73	3	0.13	
LINV	HE	156.0	IAML			16:08	11.78	4	0.16	
August 4 2017										
		Time: 17:35 06.3 UTC		Magnitude: 2.2 ML		Grid Ref: 163.54 kmE 775.06 kmN		RMS: 0.30 secs		
Lat: 56.807N		Lon: -5.874W		Depth: 10.1 km		Locality: MOIDART,HIGHLAND				
Grid Ref: 163.54 kmE 775.06 kmN		RMS: 0.30 secs		Velocity model: Lownet		Xnear: 300.0		Xfar: 600.0		
Locality: MOIDART,HIGHLAND		Comment: 10KM NW JERSEY		Intensity: 3						
Velocity model: Lownet		Xnear: 300.0		Xfar: 600.0						
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HLM1	HZ	28.6	EP			21:05	08.31			0.12
HLM1	HN	28.6	ES			21:05	11.89			-0.22
HLM1	HN	28.6	IAML			21:05	12.06	15	0.08	
HLM1	HE	28.6	IAML			21:05	12.22	20	0.11	
MCH1	HZ	34.1	IP		C	21:05	08.90			-0.10
MCH1	HN	34.1	ES			21:05	13.35			-0.15
MCH1	HN	34.1	IAML			21:05	13.55	29	0.08	
MCH1	HE	34.1	IAML			21:05	13.57	15	0.09	
FOEL	HZ	74.8	EP			21:05	15.67			0.31
FOEL	HE	74.8	ES			21:05	24.56			0.06
FOEL	HN	74.8	IAML			21:05	24.74	4	0.14	
FOEL	HE	74.8	IAML			21:05	24.93	3	0.16	
LLW	BE	88.5	ES			21:05	27.81			-0.26
LLW	BE	88.5	IAML			21:05	28.06	1	0.20	
LLW	BN	88.5	IAML			21:05	28.07	1	0.20	
LPW	HZ	90.4	EP			21:05	18.07			0.37
LPW	HE	90.4	ES			21:05	28.42			-0.13
LPW	HN	90.4	IAML			21:05	29.06	3	0.13	
LPW	HE	90.4	IAML			21:05	29.08	3	0.13	
CWF	HZ	112.0	EP			21:05	21.48			0.37
CWF	HE	112.0	ES			21:05	34.03			-0.42
CWF	HE	112.0	IAML			21:05	35.85	2	0.12	
CWF	HN	112.0	IAML			21:05	38.33	4	0.09	

## TABLE 2 : PHASE DATA

<p>RSBS HZ 140.0 EP 21:05 25.61 0.43</p> <p>RSBS HE 140.0 ES 21:05 41.88 0.39</p> <p>RSBS HE 140.0 IAML 21:05 43.03 2 0.13</p> <p>RSBS HN 140.0 IAML 21:05 43.79 3 0.10</p> <p>August 6 2017 Time: 02:08 23.7 UTC Magnitude: 1.5 ML</p> <p>Lat: 54.018N Lon: 0.861W Depth: 10.0 km</p> <p>Grid Ref: 587.41 kmE 461.81 kmN RMS: 0.40 secs</p> <p>Locality: SOUTHERN NORTH SEA</p> <p>Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>AU08</td><td>HZ</td><td>100.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>40.30</td><td></td><td></td><td>0.18</td></tr> <tr><td>LMK</td><td>HZ</td><td>100.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>40.03</td><td></td><td></td><td>-0.05</td></tr> <tr><td>LMK</td><td>HE</td><td>100.0</td><td>ES</td><td></td><td></td><td>02:08</td><td>51.73</td><td></td><td></td><td>-0.33</td></tr> <tr><td>LMK</td><td>HN</td><td>100.0</td><td>IAML</td><td></td><td></td><td>02:08</td><td>53.94</td><td>33</td><td>0.22</td><td></td></tr> <tr><td>LMK</td><td>HE</td><td>100.0</td><td>IAML</td><td></td><td></td><td>02:08</td><td>54.26</td><td>36</td><td>0.24</td><td></td></tr> <tr><td>AU18</td><td>HZ</td><td>106.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>41.06</td><td></td><td></td><td>0.12</td></tr> <tr><td>AU13</td><td>HZ</td><td>110.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>41.77</td><td></td><td></td><td>0.17</td></tr> <tr><td>AU10</td><td>EZ</td><td>112.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>41.92</td><td></td><td></td><td>0.10</td></tr> <tr><td>AU20</td><td>HZ</td><td>112.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>41.90</td><td></td><td></td><td>0.02</td></tr> <tr><td>AU15</td><td>HZ</td><td>116.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>42.52</td><td></td><td></td><td>0.04</td></tr> <tr><td>GDLE</td><td>HZ</td><td>118.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>43.04</td><td></td><td></td><td>0.23</td></tr> <tr><td>GDLE</td><td>HN</td><td>118.0</td><td>IAML</td><td></td><td></td><td>02:08</td><td>59.20</td><td>28</td><td>0.38</td><td></td></tr> <tr><td>GDLE</td><td>HE</td><td>118.0</td><td>IAML</td><td></td><td></td><td>02:09</td><td>00.71</td><td>14</td><td>0.32</td><td></td></tr> <tr><td>AU07</td><td>HZ</td><td>120.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>43.07</td><td></td><td></td><td>0.09</td></tr> <tr><td>AT10</td><td>HZ</td><td>139.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>46.00</td><td></td><td></td><td>0.26</td></tr> <tr><td>WACR</td><td>HZ</td><td>145.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>46.51</td><td></td><td></td><td>-0.06</td></tr> <tr><td>CFW</td><td>HZ</td><td>203.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>54.61</td><td></td><td></td><td>0.46</td></tr> <tr><td>CFW</td><td>HE</td><td>203.0</td><td>IAML</td><td></td><td></td><td>02:09</td><td>19.42</td><td>2</td><td>0.28</td><td></td></tr> <tr><td>CFW</td><td>HN</td><td>203.0</td><td>IAML</td><td></td><td></td><td>02:09</td><td>20.25</td><td>3</td><td>0.18</td><td></td></tr> <tr><td>EDMD</td><td>HZ</td><td>204.0</td><td>EP</td><td></td><td></td><td>02:08</td><td>53.09</td><td></td><td></td><td>-1.22</td></tr> <tr><td>EDMD</td><td>HE</td><td>204.0</td><td>IAML</td><td></td><td></td><td>02:09</td><td>22.02</td><td>2</td><td>0.16</td><td></td></tr> <tr><td>EDMD</td><td>HN</td><td>204.0</td><td>IAML</td><td></td><td></td><td>02:09</td><td>24.22</td><td>2</td><td>0.34</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	AU08	HZ	100.0	EP			02:08	40.30			0.18	LMK	HZ	100.0	EP			02:08	40.03			-0.05	LMK	HE	100.0	ES			02:08	51.73			-0.33	LMK	HN	100.0	IAML			02:08	53.94	33	0.22		LMK	HE	100.0	IAML			02:08	54.26	36	0.24		AU18	HZ	106.0	EP			02:08	41.06			0.12	AU13	HZ	110.0	EP			02:08	41.77			0.17	AU10	EZ	112.0	EP			02:08	41.92			0.10	AU20	HZ	112.0	EP			02:08	41.90			0.02	AU15	HZ	116.0	EP			02:08	42.52			0.04	GDLE	HZ	118.0	EP			02:08	43.04			0.23	GDLE	HN	118.0	IAML			02:08	59.20	28	0.38		GDLE	HE	118.0	IAML			02:09	00.71	14	0.32		AU07	HZ	120.0	EP			02:08	43.07			0.09	AT10	HZ	139.0	EP			02:08	46.00			0.26	WACR	HZ	145.0	EP			02:08	46.51			-0.06	CFW	HZ	203.0	EP			02:08	54.61			0.46	CFW	HE	203.0	IAML			02:09	19.42	2	0.28		CFW	HN	203.0	IAML			02:09	20.25	3	0.18		EDMD	HZ	204.0	EP			02:08	53.09			-1.22	EDMD	HE	204.0	IAML			02:09	22.02	2	0.16		EDMD	HN	204.0	IAML			02:09	24.22	2	0.34		<p>JSA HZ 181.0 EP 15:35 00.60 0.35</p> <p>JSA HE 181.0 IAML 15:35 22.93 14 0.34</p> <p>JSA HN 181.0 IAML 15:35 23.97 10 0.17</p> <p>DYA HZ 250.0 EP 15:35 08.94 -0.02</p> <p>DYA HN 250.0 IAML 15:35 51.32 10 0.46</p> <p>DYA HE 250.0 IAML 15:35 54.40 8 0.38</p> <p>August 10 2017 Time: 12:48 44.6 UTC Magnitude: 1.7 ML</p> <p>Lat: 53.945N Lon: -3.339W Depth: 2.5 km</p> <p>Grid Ref: 312.12 kmE 450.73 kmN RMS: 0.30 secs</p> <p>Locality: IRISH SEA</p> <p>Velocity model: Lownet Xnear: 100.0 Xfar: 200.0</p> <p>Comment: 20KM WNW FLEETWOOD</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>AQ09</td><td>HZ</td><td>29.3</td><td>EP</td><td></td><td></td><td>12:48</td><td>49.93</td><td></td><td></td><td>-0.16</td></tr> <tr><td>AQ09</td><td>HN</td><td>29.3</td><td>ES</td><td></td><td></td><td>12:48</td><td>54.17</td><td></td><td></td><td>0.10</td></tr> <tr><td>AQ04</td><td>HZ</td><td>30.8</td><td>EP</td><td></td><td></td><td>12:48</td><td>50.10</td><td></td><td></td><td>-0.23</td></tr> <tr><td>AQ04</td><td>HN</td><td>30.8</td><td>ES</td><td></td><td></td><td>12:48</td><td>54.50</td><td></td><td></td><td>0.01</td></tr> <tr><td>AQ10</td><td>HZ</td><td>33.8</td><td>EP</td><td></td><td></td><td>12:48</td><td>50.66</td><td></td><td></td><td>-0.19</td></tr> <tr><td>KESW</td><td>HZ</td><td>73.3</td><td>EP</td><td></td><td></td><td>12:48</td><td>57.28</td><td></td><td></td><td>0.03</td></tr> <tr><td>KESW</td><td>HE</td><td>73.3</td><td>ES</td><td></td><td></td><td>12:49</td><td>06.30</td><td></td><td></td><td>-0.16</td></tr> <tr><td>KESW</td><td>HE</td><td>73.3</td><td>IAML</td><td></td><td></td><td>12:49</td><td>07.37</td><td>40</td><td>0.54</td><td></td></tr> <tr><td>KESW</td><td>HN</td><td>73.3</td><td>IAML</td><td></td><td></td><td>12:49</td><td>10.11</td><td>21</td><td>0.24</td><td></td></tr> <tr><td>IOMK</td><td>HZ</td><td>87.6</td><td>EP</td><td></td><td></td><td>12:48</td><td>59.59</td><td></td><td></td><td>0.14</td></tr> <tr><td>IOMK</td><td>HN</td><td>87.6</td><td>ES</td><td></td><td></td><td>12:49</td><td>09.72</td><td></td><td></td><td>-0.55</td></tr> <tr><td>IOMK</td><td>HN</td><td>87.6</td><td>IAML</td><td></td><td></td><td>12:49</td><td>11.73</td><td>47</td><td>0.16</td><td></td></tr> <tr><td>IOMK</td><td>HE</td><td>87.6</td><td>IAML</td><td></td><td></td><td>12:49</td><td>12.22</td><td>47</td><td>0.24</td><td></td></tr> <tr><td>WPS</td><td>HZ</td><td>97.7</td><td>EP</td><td></td><td></td><td>12:49</td><td>01.11</td><td></td><td></td><td>0.13</td></tr> <tr><td>WPS</td><td>HN</td><td>97.7</td><td>ES</td><td></td><td></td><td>12:49</td><td>13.33</td><td></td><td></td><td>0.42</td></tr> <tr><td>WPS</td><td>HE</td><td>97.7</td><td>IAML</td><td></td><td></td><td>12:49</td><td>15.46</td><td>13</td><td>0.22</td><td></td></tr> <tr><td>WPS</td><td>HN</td><td>97.7</td><td>IAML</td><td></td><td></td><td>12:49</td><td>16.28</td><td>15</td><td>0.19</td><td></td></tr> <tr><td>WLF1</td><td>HZ</td><td>101.0</td><td>EP</td><td></td><td></td><td>12:49</td><td>01.54</td><td></td><td></td><td>0.02</td></tr> <tr><td>WLF1</td><td>HE</td><td>101.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>15.14</td><td>27</td><td>0.16</td><td></td></tr> <tr><td>WLF1</td><td>HN</td><td>101.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>16.41</td><td>21</td><td>0.20</td><td></td></tr> <tr><td>YRC</td><td>EZ</td><td>113.0</td><td>EP</td><td></td><td></td><td>12:49</td><td>03.20</td><td></td><td></td><td>-0.09</td></tr> <tr><td>HPK</td><td>HZ</td><td>113.0</td><td>EP</td><td></td><td></td><td>12:49</td><td>03.35</td><td></td><td></td><td>0.01</td></tr> <tr><td>HPK</td><td>HE</td><td>113.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>19.36</td><td>45</td><td>0.24</td><td></td></tr> <tr><td>HPK</td><td>HN</td><td>113.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>19.45</td><td>59</td><td>0.26</td><td></td></tr> <tr><td>FOEL</td><td>HZ</td><td>118.0</td><td>EP</td><td></td><td></td><td>12:49</td><td>03.85</td><td></td><td></td><td>-0.34</td></tr> <tr><td>FOEL</td><td>HN</td><td>118.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>20.08</td><td>16</td><td>0.32</td><td></td></tr> <tr><td>FOEL</td><td>HE</td><td>118.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>21.80</td><td>22</td><td>0.26</td><td></td></tr> <tr><td>LBWR</td><td>HZ</td><td>123.0</td><td>EP</td><td></td><td></td><td>12:49</td><td>05.49</td><td></td><td></td><td>0.57</td></tr> <tr><td>LBWR</td><td>HE</td><td>123.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>21.38</td><td>44</td><td>0.34</td><td></td></tr> <tr><td>LBWR</td><td>HN</td><td>123.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>22.29</td><td>56</td><td>0.36</td><td></td></tr> <tr><td>LLW</td><td>BZ</td><td>124.0</td><td>EP</td><td></td><td></td><td>12:49</td><td>04.63</td><td></td><td></td><td>-0.44</td></tr> <tr><td>LLW</td><td>BE</td><td>124.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>23.76</td><td>8</td><td>0.45</td><td></td></tr> <tr><td>LLW</td><td>BN</td><td>124.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>23.80</td><td>8</td><td>0.40</td><td></td></tr> <tr><td>EDMD</td><td>HZ</td><td>133.0</td><td>EP</td><td></td><td></td><td>12:49</td><td>07.12</td><td></td><td></td><td>0.64</td></tr> <tr><td>GALL</td><td>HZ</td><td>136.0</td><td>EP</td><td></td><td></td><td>12:49</td><td>07.65</td><td></td><td></td><td>0.77</td></tr> <tr><td>GALL</td><td>HN</td><td>136.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>24.91</td><td>10</td><td>0.16</td><td></td></tr> <tr><td>GALL</td><td>HE</td><td>136.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>25.23</td><td>8</td><td>0.36</td><td></td></tr> <tr><td>ESK</td><td>HZ</td><td>153.0</td><td>EP</td><td></td><td></td><td>12:49</td><td>09.85</td><td></td><td></td><td>0.50</td></tr> <tr><td>ESK</td><td>HE</td><td>153.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>30.16</td><td>13</td><td>0.30</td><td></td></tr> <tr><td>ESK</td><td>HN</td><td>153.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>30.52</td><td>11</td><td>0.40</td><td></td></tr> <tr><td>HLM1</td><td>HZ</td><td>162.0</td><td>EP</td><td></td><td></td><td>12:49</td><td>10.18</td><td></td><td></td><td>-0.46</td></tr> <tr><td>HLM1</td><td>HE</td><td>162.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>30.30</td><td>12</td><td>0.24</td><td></td></tr> <tr><td>HLM1</td><td>HN</td><td>162.0</td><td>IAML</td><td></td><td></td><td>12:49</td><td>32.67</td><td>7</td><td>0.32</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	AQ09	HZ	29.3	EP			12:48	49.93			-0.16	AQ09	HN	29.3	ES			12:48	54.17			0.10	AQ04	HZ	30.8	EP			12:48	50.10			-0.23	AQ04	HN	30.8	ES			12:48	54.50			0.01	AQ10	HZ	33.8	EP			12:48	50.66			-0.19	KESW	HZ	73.3	EP			12:48	57.28			0.03	KESW	HE	73.3	ES			12:49	06.30			-0.16	KESW	HE	73.3	IAML			12:49	07.37	40	0.54		KESW	HN	73.3	IAML			12:49	10.11	21	0.24		IOMK	HZ	87.6	EP			12:48	59.59			0.14	IOMK	HN	87.6	ES			12:49	09.72			-0.55	IOMK	HN	87.6	IAML			12:49	11.73	47	0.16		IOMK	HE	87.6	IAML			12:49	12.22	47	0.24		WPS	HZ	97.7	EP			12:49	01.11			0.13	WPS	HN	97.7	ES			12:49	13.33			0.42	WPS	HE	97.7	IAML			12:49	15.46	13	0.22		WPS	HN	97.7	IAML			12:49	16.28	15	0.19		WLF1	HZ	101.0	EP			12:49	01.54			0.02	WLF1	HE	101.0	IAML			12:49	15.14	27	0.16		WLF1	HN	101.0	IAML			12:49	16.41	21	0.20		YRC	EZ	113.0	EP			12:49	03.20			-0.09	HPK	HZ	113.0	EP			12:49	03.35			0.01	HPK	HE	113.0	IAML			12:49	19.36	45	0.24		HPK	HN	113.0	IAML			12:49	19.45	59	0.26		FOEL	HZ	118.0	EP			12:49	03.85			-0.34	FOEL	HN	118.0	IAML			12:49	20.08	16	0.32		FOEL	HE	118.0	IAML			12:49	21.80	22	0.26		LBWR	HZ	123.0	EP			12:49	05.49			0.57	LBWR	HE	123.0	IAML			12:49	21.38	44	0.34		LBWR	HN	123.0	IAML			12:49	22.29	56	0.36		LLW	BZ	124.0	EP			12:49	04.63			-0.44	LLW	BE	124.0	IAML			12:49	23.76	8	0.45		LLW	BN	124.0	IAML			12:49	23.80	8	0.40		EDMD	HZ	133.0	EP			12:49	07.12			0.64	GALL	HZ	136.0	EP			12:49	07.65			0.77	GALL	HN	136.0	IAML			12:49	24.91	10	0.16		GALL	HE	136.0	IAML			12:49	25.23	8	0.36		ESK	HZ	153.0	EP			12:49	09.85			0.50	ESK	HE	153.0	IAML			12:49	30.16	13	0.30		ESK	HN	153.0	IAML			12:49	30.52	11	0.40		HLM1	HZ	162.0	EP			12:49	10.18			-0.46	HLM1	HE	162.0	IAML			12:49	30.30	12	0.24		HLM1	HN	162.0	IAML			12:49	32.67	7	0.32	
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HLM1	HN	162.0	IAML			12:49	32.67	7	0.32																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
<p>August 9 2017 Time: 15:34 32.0 UTC Magnitude: 2.0 ML</p> <p>Lat: 50.351N Lon: -4.402W Depth: 5.0 km</p> <p>Grid Ref: 512.82 kmE 51.39 kmN RMS: 0.20 secs</p> <p>Locality: ENGLISH CHANNEL</p> <p>Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0</p> <p>Comment: 55KM SSW BRIGHTON</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>HMNX</td><td>HZ</td><td>78.3</td><td>EP</td><td></td><td></td><td>15:34</td><td>44.98</td><td></td><td></td><td>-0.19</td></tr> <tr><td>HMNX</td><td>HE</td><td>78.3</td><td>ES</td><td></td><td></td><td>15:34</td><td>54.92</td><td></td><td></td><td>0.15</td></tr> <tr><td>HMNX</td><td>HE</td><td>78.3</td><td>IAML</td><td></td><td></td><td>15:34</td><td>55.39</td><td>75</td><td>0.18</td><td></td></tr> <tr><td>HMNX</td><td>HN</td><td>78.3</td><td>IAML</td><td></td><td></td><td>15:34</td><td>58.57</td><td>66</td><td>0.18</td><td></td></tr> <tr><td>ELSH</td><td>HZ</td><td>141.0</td><td>EP</td><td></td><td></td><td>15:34</td><td>54.72</td><td></td><td></td><td>-0.01</td></tr> <tr><td>ELSH</td><td>HN</td><td>141.0</td><td>IAML</td><td></td><td></td><td>15:35</td><td>14.63</td><td>23</td><td>0.36</td><td></td></tr> <tr><td>ELSH</td><td>HE</td><td>141.0</td><td>IAML</td><td></td><td></td><td>15:35</td><td>14.92</td><td>40</td><td>0.58</td><td></td></tr> <tr><td>JDG</td><td>EZ</td><td>174.0</td><td>EP</td><td></td><td></td><td>15:34</td><td>59.02</td><td></td><td></td><td>-0.38</td></tr> <tr><td>JRS</td><td>EE</td><td>177.0</td><td>EP</td><td></td><td></td><td>15:34</td><td>59.82</td><td></td><td></td><td>0.11</td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	HMNX	HZ	78.3	EP			15:34	44.98			-0.19	HMNX	HE	78.3	ES			15:34	54.92			0.15	HMNX	HE	78.3	IAML			15:34	55.39	75	0.18		HMNX	HN	78.3	IAML			15:34	58.57	66	0.18		ELSH	HZ	141.0	EP			15:34	54.72			-0.01	ELSH	HN	141.0	IAML			15:35	14.63	23	0.36		ELSH	HE	141.0	IAML			15:35	14.92	40	0.58		JDG	EZ	174.0	EP			15:34	59.02			-0.38	JRS	EE	177.0	EP			15:34	59.82			0.11	<p>August 11 2017 Time: 03:44 08.7 UTC Magnitude: 1.4 ML</p> <p>Lat: 53.234N Lon: -0.350W Depth: 2.4 km</p> <p>Grid Ref: 510.12 kmE 372.08 kmN RMS: 0.40 secs</p> <p>Locality: BARDNEY, LINCOLNSHIRE</p> <p>Velocity model: Lownet Xnear: 100.0 Xfar: 200.0</p> <table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>STAT</th><th>CO</th><th>DIST</th><th>PHAS</th><th>WT</th><th>P</th><th>HrMn</th><th>SECS</th><th>AMPL</th><th>PERI</th><th>RES</th></tr> </thead> <tbody> <tr><td>LMK</td><td>HZ</td><td>24.9</td><td>EP</td><td></td><td></td><td>03:44</td><td>13.61</td><td></td><td></td><td>-0.21</td></tr> <tr><td>LMK</td><td>HE</td><td>24.9</td><td>ES</td><td></td><td></td><td>03:44</td><td>17.26</td><td></td><td></td><td>-0.28</td></tr> <tr><td>LMK</td><td>HE</td><td>24.9</td><td>IAML</td><td></td><td></td><td>03:44</td><td>24.43</td><td>265</td><td>0.32</td><td></td></tr> <tr><td>LMK</td><td>HN</td><td>24.9</td><td>IAML</td><td></td><td></td><td>03:44</td><td>26.20</td><td>158</td><td>0.34</td><td></td></tr> <tr><td>CFW</td><td>HZ</td><td>84.7</td><td>EP</td><td></td><td></td><td>03:44</td><td>23.47</td><td></td><td></td><td>-0.03</td></tr> <tr><td>CFW</td><td>HE</td><td>84.7</td><td>IAML</td><td></td><td></td><td>03:44</td><td>36.05</td><td>6</td><td>0.22</td><td></td></tr> <tr><td>CFW</td><td>HN</td><td>84.7</td><td>IAML</td><td></td><td></td><td>03:44</td><td>37.68</td><td>7</td><td>0.10</td><td></td></tr> <tr><td>LBWR</td><td>HZ</td><td>93.5</td><td>EP</td><td></td><td></td><td>03:44</td><td>24.67</td><td></td><td></td><td>-0.22</td></tr> <tr><td>LBWR</td><td>HN</td><td>93.5</td><td>IAML</td><td></td><td></td><td>03:44</td><td>39.57</td><td>22</td><td>0.24</td><td></td></tr> <tr><td>LBWR</td><td>HE</td><td>93.5</td><td>IAML</td><td></td><td></td><td>03:44</td><td>39.75</td><td>24</td><td>0.24</td><td></td></tr> <tr><td>HPK</td><td>HZ</td><td>117.0</td><td>EP</td><td></td><td></td><td>03:44</td><td>28.42</td><td></td><td></td><td>-0.04</td></tr> <tr><td>HPK</td><td>HN</td><td>117.0</td><td>IAML</td><td></td><td></td><td>03:44</td><td>45.75</td><td>12</td><td>0.15</td><td></td></tr> <tr><td>HPK</td><td>HE</td><td>117.0</td><td>IAML</td><td></td><td></td><td>03:44</td><td>45.92</td><td>10</td><td>0.30</td><td></td></tr> <tr><td>STNC</td><td>HZ</td><td>125.0</td><td>IAML</td><td></td><td></td><td>03:44</td><td>50.45</td><td>7</td><td>0.44</td><td></td></tr> <tr><td>GDLE</td><td>HZ</td><td>136.0</td><td>EP</td><td></td><td></td><td>03:44</td><td>32.15</td><td></td><td></td><td>0.75</td></tr> <tr><td>GDLE</td><td>HN</td><td>136.0</td><td>ES</td><td></td><td></td><td>03:44</td><td>48.36</td><td></td><td></td><td>0.41</td></tr> <tr><td>GDLE</td><td>HE</td><td>136.0</td><td>IAML</td><td></td><td></td><td>03:44</td><td>51.41</td><td>8</td><td>0.60</td><td></td></tr> <tr><td>GDLE</td><td>HN</td><td>136.0</td><td>IAML</td><td></td><td></td><td>03:44</td><td>53.52</td><td>13</td><td>0.40</td><td></td></tr> <tr><td>AT10</td><td>HZ</td><td>138.0</td><td>EP</td><td></td><td></td><td>03:44</td><td>32.45</td><td></td><td></td><td>0.75</td></tr> <tr><td>AT10</td><td>HE</td><td>138.0</td><td>IAML</td><td></td><td></td><td>03:44</td><td>49.17</td><td>16</td><td>0.32</td><td></td></tr> <tr><td>AT10</td><td>HN</td><td>138.0</td><td>IAML</td><td></td><td></td><td>03:44</td><td>49.82</td><td>13</td><td>0.28</td><td></td></tr> </tbody> </table>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LMK	HZ	24.9	EP			03:44	13.61			-0.21	LMK	HE	24.9	ES			03:44	17.26			-0.28	LMK	HE	24.9	IAML			03:44	24.43	265	0.32		LMK	HN	24.9	IAML			03:44	26.20	158	0.34		CFW	HZ	84.7	EP			03:44	23.47			-0.03	CFW	HE	84.7	IAML			03:44	36.05	6	0.22		CFW	HN	84.7	IAML			03:44	37.68	7	0.10		LBWR	HZ	93.5	EP			03:44	24.67			-0.22	LBWR	HN	93.5	IAML			03:44	39.57	22	0.24		LBWR	HE	93.5	IAML			03:44	39.75	24	0.24		HPK	HZ	117.0	EP			03:44	28.42			-0.04	HPK	HN	117.0	IAML			03:44	45.75	12	0.15		HPK	HE	117.0	IAML			03:44	45.92	10	0.30		STNC	HZ	125.0	IAML			03:44	50.45	7	0.44		GDLE	HZ	136.0	EP			03:44	32.15			0.75	GDLE	HN	136.0	ES			03:44	48.36			0.41	GDLE	HE	136.0	IAML			03:44	51.41	8	0.60		GDLE	HN	136.0	IAML			03:44	53.52	13	0.40		AT10	HZ	138.0	EP			03:44	32.45			0.75	AT10	HE	138.0	IAML			03:44	49.17	16	0.32		AT10	HN	138.0	IAML			03:44	49.82	13	0.28																																																																																																																																																																																																																																																																																																																																																																																																		
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<p>August 14 2017 Time: 00:43 35.2 UTC Magnitude: 1.6 ML</p> <p>Lat: 49.248N Lon: -2.492W Depth: 10.1 km</p> <p>Grid Ref: 364.20 kmE -72.32 kmN RMS: 0.20 secs</p>																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		

# TABLE 2 : PHASE DATA

Locality: JERSEY, CHANNEL ISLANDS										August 20 2017		Time: 01:42 42.2 UTC		Magnitude: 0.7 ML							
Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										Lat: 55.665N		Lon: -5.634W		Depth: 12.2 km							
Comment: 15KM WEST JERSEY										Grid Ref: 171.48 kmE 647.26 kmN				RMS: 0.30 secs							
Locality: TAYINLOAN, ARGYLL/BUTE										Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0											
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
JDC	EZ	33.0	EP			00:43	41.04			-0.15	LAW	HZ	67.8	EP			01:42	53.84			0.20
JDC	EN	33.0	ES			00:43	45.65			0.09	LAW	HN	67.8	ES			01:43	01.46			-0.52
JDC	EN	33.0	IAML			00:43	46.11	181	0.14		LAW	HN	67.8	IAML			01:43	02.30	2	0.40	
JDC	EE	33.0	IAML			00:43	46.92	186	0.18		LAW	HE	67.8	IAML			01:43	05.22	2	0.16	
JDG	EZ	33.0	EP			00:43	40.98			-0.20	CLGH	HZ	71.5	EP			01:42	54.60			0.37
JDG	EN	33.0	ES			00:43	45.66			0.11	CLGH	HN	71.5	ES			01:43	02.72			-0.27
JDG	EN	33.0	IAML			00:43	46.14	38	0.40		CLGH	HE	71.5	IAML			01:43	03.03	6	0.24	
JDG	EE	33.0	IAML			00:43	46.25	44	0.26		CLGH	HN	71.5	IAML			01:43	03.08	5	0.24	
ROSF	BZ	116.0	EP			00:43	54.08			0.00	PGB1	HZ	74.1	EP			01:42	54.96			0.34
ROSF	BN	116.0	IAML			00:44	09.44	11	0.20		PGB1	HE	74.1	ES			01:43	03.62			-0.05
ROSF	BE	116.0	IAML			00:44	10.84	11	0.20		PGB1	HE	74.1	IAML			01:43	04.07	4	0.46	
DYA	HZ	168.0	EP			00:44	01.66			0.35	PGB1	HN	74.1	IAML			01:43	04.44	4	0.52	
DYA	HN	168.0	ES			00:44	20.17			-0.20	GALL	HN	107.0	ES			01:43	12.12			-0.04
DYA	HN	168.0	IAML			00:44	22.12	9	0.12		GALL	HE	107.0	IAML			01:43	14.16	3	0.16	
DYA	HE	168.0	IAML			00:44	23.05	5	0.42		GALL	HN	107.0	IAML			01:43	14.61	2	0.20	
August 15 2017										Time: 10:20 17.5 UTC		Magnitude: 0.8 ML									
Lat: 56.403N										Lon: -5.588W		Depth: 13.1 km									
Grid Ref: 178.64 kmE 729.18 kmN												RMS: 0.10 secs									
Locality: KERRERA, ARGYLL & BUTE										Velocity model: Lownet Xnear: 100.0 Xfar: 200.0											
Comment: OFFSHORE LOCATION																					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LAW	HZ	19.7	IP		C	10:20	21.59			-0.06	KPL	HZ	17.2	IP		C	20:56	56.39			0.06
LAW	HE	19.7	ES			10:20	24.79			0.10	KPL	HE	17.2	ES			20:56	58.74			-0.07
LAW	HN	19.7	IAML			10:20	24.92	28	0.11		KPL	HE	17.2	IAML			20:56	59.01	12	0.22	
LAW	HE	19.7	IAML			10:20	25.30	27	0.32		KPL	HN	17.2	IAML			20:56	59.02	10	0.17	
PGB1	HZ	95.2	EP			10:20	33.11			-0.02	LAW	HE	105.0	ES			20:57	23.00			0.07
PGB1	HN	95.2	ES			10:20	44.67			0.12	LAW	HE	105.0	IAML			20:57	25.48	2	0.20	
INVG	HE	95.4	EP			10:20	33.01			-0.17	LAW	HN	105.0	IAML			20:57	25.58	3	0.24	
INVG	HE	95.4	ES			10:20	44.61			-0.02	LINV	HZ	107.0	EP			20:57	10.78			0.15
INVG	HE	95.4	IAML			10:20	45.52	3	0.13		LINV	HE	107.0	ES			20:57	23.56			0.00
INVG	HN	95.4	IAML			10:20	46.07	3	0.12		LINV	HE	107.0	IAML			20:57	24.25	2	0.18	
KPL	HZ	104.0	EP			10:20	34.30			-0.10	LINV	HN	107.0	IAML			20:57	24.37	1	0.44	
KPL	HE	104.0	ES			10:20	46.93			0.18	INVG	HZ	125.0	EP			20:57	13.17			-0.25
KPL	HN	104.0	IAML			10:20	47.85	3	0.17		INVG	HN	125.0	IAML			20:57	28.53	1	0.10	
KPL	HE	104.0	IAML			10:20	47.86	4	0.20		INVG	HE	125.0	IAML			20:57	29.25	1	0.17	
CLGH	HN	151.0	ES			10:20	58.18			-0.08	LEWI	HZ	132.0	EP			20:57	14.53			0.06
August 16 2017										Time: 02:27 31.7 UTC		Magnitude: 1.0 ML									
Lat: 53.051N										Lon: -4.521W		Depth: 3.0 km									
Grid Ref: 231.05 kmE 353.42 kmN												RMS: 0.40 secs									
Locality: CAERNARFON BAY										Velocity model: Lleyn Xnear: 100.0 Xfar: 200.0											
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
YRC	EZ	22.6	EP			02:27	35.43			-0.19	LEWI	HN	132.0	ES			20:57	30.06			-0.14
WLF1	HZ	27.8	EP			02:27	36.17			-0.32	LEWI	HN	132.0	IAML			20:57	31.12	1	0.36	
WLF1	HN	27.8	ES			02:27	39.55			-0.19	LEWI	HE	132.0	IAML			20:57	31.58	2	0.20	
WLF1	HE	27.8	IAML			02:27	39.64	88	0.10		August 26 2017										
WLF1	HN	27.8	IAML			02:27	39.74	52	0.18		Time: 23:47 41.3 UTC		Magnitude: 2.0 ML								
WPS	HZ	38.9	EP			02:27	39.02			0.69	Lat: 59.821N		Lon: 2.198W		Depth: 10.0 km						
WPS	HE	38.9	ES			02:27	43.41			0.58	Grid Ref: 635.29 kmE 1111.37 kmN				RMS: 0.20 secs						
WPS	HN	38.9	IAML			02:27	44.01	6	0.57		Locality: NORTHERN NORTH SEA										
WPS	HE	38.9	IAML			02:27	45.14	4	0.22		Velocity model: North Sea Xnear: 400.0 Xfar: 600.0										
LLW	BZ	61.8	EP			02:27	42.15			0.04	Comment: 190KM ESE LERWICK										
LLW	BN	61.8	ES			02:27	49.34			0.16	LRW	HZ	192.0	EP			23:48	09.61			-0.02
LLW	BN	61.8	IAML			02:27	49.62	6	0.35		LRW	HN	192.0	ES			23:48	30.44			0.14
LLW	BE	61.8	IAML			02:27	50.14	3	0.20		LRW	HN	192.0	IAML			23:48	41.75	6	0.30	
FOEL	HZ	90.6	EP			02:27	46.42			-0.47	LRW	HE	192.0	IAML			23:48	42.52	6	0.34	
FOEL	HE	90.6	ES			02:27	56.91			-0.30	BIGH	HZ	379.0	EP			23:48	33.08			0.15
FOEL	HN	90.6	IAML			02:27	58.06	6	0.70		BIGH	HN	379.0	ES			23:49	10.41			-0.20
FOEL	HE	90.6	IAML			02:27	58.94	6	0.26		BIGH	HN	379.0	IAML			23:49	12.19	3	0.21	
LPW	HZ	109.0	EP			02:27	49.89			0.03	BIGH	HE	379.0	IAML			23:49	13.25	3	0.17	
LPW	HE	109.0	ES			02:28	02.60			0.41	DRUM	HZ	424.0	EP			23:48	38.54			0.02
RSBS	HZ	123.0	EP			02:27	52.26			0.10	DRUM	HN	424.0	ES			23:49	20.48			0.20
RSBS	HE	123.0	ES			02:28	06.25			0.18	DRUM	HN	424.0	IAML			23:49	22.26	4	0.36	
RSBS	HE	123.0	IAML			02:28	08.84	2	0.05		DRUM	HE	424.0	IAML			23:49	23.37	5	0.48	
RSBS	HN	123.0	IAML			02:28	09.06	2	0.09		LINV	HZ	464.0	EP			23:48	42.97			-0.48
DSB	BZ	126.0	ES			02:28	06.06			-0.70	INVG	HZ	527.0	EP			23:48	51.09			-0.20
HLM1	HZ	126.0	EP			02:27	52.33			-0.22	LEWI	HZ	553.0	EP			23:48	54.53			-0.03
HLM1	HE	126.0	ES			02:28	06.78			0.06	August 29 2017										
HLM1	HN	126.0	IAML			02:28	09.23	4	0.11		Time: 18:10 41.2 UTC		Magnitude: 1.3 ML								
HLM1	HE	126.0	IAML			02:28	09.85	3	0.15		Lat: 55.790N		Lon: -6.355W		Depth: 8.4 km						
IOMK	HZ	135.0	EP			02:27	53.52			-0.42	Grid Ref: 127.04 kmE 663.77 kmN				RMS: 0.30 secs						
IOMK	HE	135.0	ES			02:28	09.11			0.07	Locality: ISLAY, ARGYLL & BUTE										
IOMK	HE	135.0	IAML			02:28	09.97	7	0.21		Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
IOMK	HN	135.0	IAML			02:28	10.08	5	0.13		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MCH1	HZ	156.0	EP			02:27	56.76			-0.50	LAW	HZ	79.3	EP			18:10	54.12			-0.27
MCH1	HN	156.0	ES			02:28	15.33			0.70	LAW	HE	79.3	ES			18:11	03.72			-0.28
MCH1	HE	156.0	IAML			02:28	16.79	4	0.24		LAW	HE	79.3	IAML			18:11	06.76	17	0.12	
MCH1	HN	156.0	IAML			02:28	16.91	4	0.14		LAW	HN	79.3	IAML			18:11	07.10	12	0.19	
MONM	HE	178.0	ES			02:28	20.66			1.22	CLGH	HZ	80.2	EP			18:10	54.88			0.32
MONM	HN	178.0	IAML			02:28	22.61	4	0.17		CLGH	HN	80.2	ES			18:11	03.91			-0.37
MONM	HE	178.0	IAML			02:28	22.66	6	0.21		CLGH	HE	80.2	IAML			18:11	06.25	17	0.18	
											CLGH	HN	80.2	IAML			18:11	06.68	25	0.20	



# TABLE 2 : PHASE DATA

<p>LAWE HN 53.3 IAML 05:41 09.84 6 0.12</p> <p>KPL HZ 97.3 EP 05:41 10.00 -0.01</p> <p>KPL HE 97.3 IAML 05:41 23.37 2 0.20</p> <p>KPL HN 97.3 IAML 05:41 24.47 3 0.12</p> <p>INVG HZ 129.0 EP 05:41 15.48 0.83</p> <p>INVG HN 129.0 ES 05:41 29.45 -0.23</p> <p>INVG HE 129.0 IAML 05:41 31.24 5 0.10</p> <p>INVG HN 129.0 IAML 05:41 31.27 3 0.11</p> <p>LEWI HE 188.0 ES 05:41 42.72 -0.45</p> <p>LINV HE 191.0 ES 05:41 44.07 0.20</p> <p>LINV HN 191.0 IAML 05:41 47.70 1 0.24</p> <p>LINV HE 191.0 IAML 05:41 47.73 2 0.32</p>	<p>Velocity model: Lownet Xnear: 100.0 Xfar: 150.0</p> <p>Comment: 6KM NE THORNE</p> <table border="0" style="width: 100%;"> <thead> <tr> <th>STAT</th> <th>CO</th> <th>DIST</th> <th>PHAS</th> <th>WT</th> <th>P</th> <th>HrMn</th> <th>SECS</th> <th>AMPL</th> <th>PERI</th> <th>RES</th> </tr> </thead> <tbody> <tr><td>LMK</td><td>HZ</td><td>43.1</td><td>EP</td><td></td><td></td><td>01:16</td><td>48.39</td><td></td><td></td><td>-0.22</td></tr> <tr><td>LMK</td><td>HE</td><td>43.1</td><td>ES</td><td></td><td></td><td>01:16</td><td>54.12</td><td></td><td></td><td>-0.01</td></tr> <tr><td>LMK</td><td>HE</td><td>43.1</td><td>IAML</td><td></td><td></td><td>01:16</td><td>54.73</td><td>62</td><td>0.45</td><td></td></tr> <tr><td>LMK</td><td>HN</td><td>43.1</td><td>IAML</td><td></td><td></td><td>01:16</td><td>54.78</td><td>59</td><td>0.27</td><td></td></tr> <tr><td>HPK</td><td>HZ</td><td>59.2</td><td>EP</td><td></td><td></td><td>01:16</td><td>51.45</td><td></td><td></td><td>0.32</td></tr> <tr><td>HPK</td><td>HN</td><td>59.2</td><td>ES</td><td></td><td></td><td>01:16</td><td>58.10</td><td></td><td></td><td>-0.38</td></tr> <tr><td>HPK</td><td>HE</td><td>59.2</td><td>IAML</td><td></td><td></td><td>01:16</td><td>58.93</td><td>12</td><td>0.23</td><td></td></tr> <tr><td>HPK</td><td>HN</td><td>59.2</td><td>IAML</td><td></td><td></td><td>01:17</td><td>00.04</td><td>15</td><td>0.22</td><td></td></tr> <tr><td>LBWR</td><td>HZ</td><td>61.9</td><td>EP</td><td></td><td></td><td>01:16</td><td>51.55</td><td></td><td></td><td>-0.02</td></tr> <tr><td>LBWR</td><td>HE</td><td>61.9</td><td>ES</td><td></td><td></td><td>01:16</td><td>59.32</td><td></td><td></td><td>0.08</td></tr> <tr><td>LBWR</td><td>HE</td><td>61.9</td><td>IAML</td><td></td><td></td><td>01:16</td><td>59.74</td><td>13</td><td>0.23</td><td></td></tr> <tr><td>LBWR</td><td>HN</td><td>61.9</td><td>IAML</td><td></td><td></td><td>01:17</td><td>00.83</td><td>11</td><td>0.13</td><td></td></tr> <tr><td>GDLE</td><td>HZ</td><td>85.9</td><td>EP</td><td></td><td></td><td>01:16</td><td>55.65</td><td></td><td></td><td>0.39</td></tr> <tr><td>GDLE</td><td>HE</td><td>85.9</td><td>ES</td><td></td><td></td><td>01:17</td><td>05.42</td><td></td><td></td><td>-0.21</td></tr> <tr><td>GDLE</td><td>HE</td><td>85.9</td><td>IAML</td><td></td><td></td><td>01:17</td><td>08.25</td><td>21</td><td>0.18</td><td></td></tr> <tr><td>GDLE</td><td>HN</td><td>85.9</td><td>IAML</td><td></td><td></td><td>01:17</td><td>08.84</td><td>22</td><td>0.33</td><td></td></tr> <tr><td>CWF</td><td>HZ</td><td>105.0</td><td>EP</td><td></td><td></td><td>01:16</td><td>58.62</td><td></td><td></td><td>0.36</td></tr> <tr><td>CWF</td><td>HN</td><td>105.0</td><td>ES</td><td></td><td></td><td>01:17</td><td>10.53</td><td></td><td></td><td>-0.29</td></tr> <tr><td>CWF</td><td>HN</td><td>105.0</td><td>IAML</td><td></td><td></td><td>01:17</td><td>12.67</td><td>7</td><td>0.16</td><td></td></tr> <tr><td>CWF</td><td>HE</td><td>105.0</td><td>IAML</td><td></td><td></td><td>01:17</td><td>13.16</td><td>5</td><td>0.06</td><td></td></tr> </tbody> </table> <p>September 10 2017 Time: 09:52 45.4 UTC Magnitude: 0.6 ML</p> <p>Lat: 51.687N Lon: -4.440W Depth: 8.1 km</p> <p>Grid Ref: 231.35 kmE 201.56 kmN RMS: 0.40 secs</p> <p>Locality: CARMARTHEN BAY</p> <p>Velocity model: Lownet Xnear: 100.0 Xfar: 150.0</p> <table border="0" style="width: 100%;"> <thead> <tr> <th>STAT</th> <th>CO</th> <th>DIST</th> <th>PHAS</th> <th>WT</th> <th>P</th> <th>HrMn</th> <th>SECS</th> <th>AMPL</th> <th>PERI</th> <th>RES</th> </tr> </thead> <tbody> <tr><td>RSBS</td><td>HZ</td><td>36.3</td><td>EP</td><td></td><td></td><td>09:52</td><td>52.60</td><td></td><td></td><td>0.69</td></tr> <tr><td>RSBS</td><td>HE</td><td>36.3</td><td>ES</td><td></td><td></td><td>09:52</td><td>56.15</td><td></td><td></td><td>-0.52</td></tr> <tr><td>RSBS</td><td>HN</td><td>36.3</td><td>IAML</td><td></td><td></td><td>09:52</td><td>57.78</td><td>5</td><td>0.04</td><td></td></tr> <tr><td>RSBS</td><td>HE</td><td>36.3</td><td>IAML</td><td></td><td></td><td>09:52</td><td>57.87</td><td>5</td><td>0.05</td><td></td></tr> <tr><td>LPW</td><td>HZ</td><td>53.9</td><td>EP</td><td></td><td></td><td>09:52</td><td>54.57</td><td></td><td></td><td>-0.04</td></tr> <tr><td>LPW</td><td>HE</td><td>53.9</td><td>ES</td><td></td><td></td><td>09:53</td><td>01.23</td><td></td><td></td><td>-0.11</td></tr> <tr><td>LPW</td><td>HE</td><td>53.9</td><td>IAML</td><td></td><td></td><td>09:53</td><td>01.40</td><td>1</td><td>0.08</td><td></td></tr> <tr><td>LPW</td><td>HN</td><td>53.9</td><td>IAML</td><td></td><td></td><td>09:53</td><td>01.41</td><td>1</td><td>0.15</td><td></td></tr> <tr><td>HTL</td><td>HZ</td><td>77.1</td><td>EP</td><td></td><td></td><td>09:52</td><td>58.52</td><td></td><td></td><td>0.31</td></tr> <tr><td>HTL</td><td>HN</td><td>77.1</td><td>ES</td><td></td><td></td><td>09:53</td><td>07.24</td><td></td><td></td><td>-0.33</td></tr> <tr><td>HTL</td><td>HN</td><td>77.1</td><td>IAML</td><td></td><td></td><td>09:53</td><td>08.12</td><td>7</td><td>0.13</td><td></td></tr> <tr><td>HTL</td><td>HE</td><td>77.1</td><td>IAML</td><td></td><td></td><td>09:53</td><td>08.93</td><td>4</td><td>0.20</td><td></td></tr> <tr><td>HLM1</td><td>HE</td><td>141.0</td><td>ES</td><td></td><td></td><td>09:53</td><td>24.49</td><td></td><td></td><td>0.03</td></tr> <tr><td>HLM1</td><td>HE</td><td>141.0</td><td>IAML</td><td></td><td></td><td>09:53</td><td>26.03</td><td>2</td><td>0.18</td><td></td></tr> <tr><td>HLM1</td><td>HN</td><td>141.0</td><td>IAML</td><td></td><td></td><td>09:53</td><td>26.33</td><td>3</td><td>0.21</td><td></td></tr> </tbody> </table> <p>September 11 2017 Time: 20:15 59.6 UTC Magnitude: 0.7 ML</p> <p>Lat: 53.315N Lon: -1.831W Depth: 1.1 km</p> <p>Grid Ref: 411.26 kmE 379.83 kmN RMS: 0.10 secs</p> <p>Locality: TIDESWELL, DERBYSHIRE</p> <p>Velocity model: Lownet Xnear: 100.0 Xfar: 200.0</p> <p>Comment: COLLAPSE TYPE</p> <table border="0" style="width: 100%;"> <thead> <tr> <th>STAT</th> <th>CO</th> <th>DIST</th> <th>PHAS</th> <th>WT</th> <th>P</th> <th>HrMn</th> <th>SECS</th> <th>AMPL</th> <th>PERI</th> <th>RES</th> </tr> </thead> <tbody> <tr><td>LBWR</td><td>HZ</td><td>12.0</td><td>EP</td><td></td><td></td><td>20:16</td><td>02.40</td><td></td><td></td><td>0.19</td></tr> <tr><td>LBWR</td><td>HN</td><td>12.0</td><td>ES</td><td></td><td></td><td>20:16</td><td>03.96</td><td></td><td></td><td>-0.12</td></tr> <tr><td>LBWR</td><td>HE</td><td>12.0</td><td>IAML</td><td></td><td></td><td>20:16</td><td>05.08</td><td>16</td><td>0.08</td><td></td></tr> <tr><td>LBWR</td><td>HZ</td><td>12.0</td><td>IAML</td><td></td><td></td><td>20:16</td><td>05.61</td><td>13</td><td>0.22</td><td></td></tr> <tr><td>STNC</td><td>HZ</td><td>35.3</td><td>EP</td><td></td><td></td><td>20:16</td><td>06.06</td><td></td><td></td><td>-0.08</td></tr> <tr><td>STNC</td><td>HE</td><td>35.3</td><td>ES</td><td></td><td></td><td>20:16</td><td>10.91</td><td></td><td></td><td>0.04</td></tr> <tr><td>STNC</td><td>HE</td><td>35.3</td><td>IAML</td><td></td><td></td><td>20:16</td><td>11.23</td><td>17</td><td>0.22</td><td></td></tr> <tr><td>STNC</td><td>HN</td><td>35.3</td><td>IAML</td><td></td><td></td><td>20:16</td><td>11.77</td><td>17</td><td>0.33</td><td></td></tr> <tr><td>CWF</td><td>HZ</td><td>73.1</td><td>EP</td><td></td><td></td><td>20:16</td><td>12.21</td><td></td><td></td><td>0.00</td></tr> <tr><td>HLM1</td><td>HZ</td><td>113.0</td><td>EP</td><td></td><td></td><td>20:16</td><td>18.37</td><td></td><td></td><td>-0.11</td></tr> <tr><td>HLM1</td><td>HE</td><td>113.0</td><td>ES</td><td></td><td></td><td>20:16</td><td>32.30</td><td></td><td></td><td>0.07</td></tr> <tr><td>HLM1</td><td>HE</td><td>113.0</td><td>IAML</td><td></td><td></td><td>20:16</td><td>33.33</td><td>3</td><td>0.27</td><td></td></tr> <tr><td>HLM1</td><td>HN</td><td>113.0</td><td>IAML</td><td></td><td></td><td>20:16</td><td>36.22</td><td>2</td><td>0.28</td><td></td></tr> </tbody> </table> <p>September 13 2017 Time: 01:09 00.6 UTC Magnitude: 0.5 ML</p> <p>Lat: 57.584N Lon: -5.384W Depth: 4.5 km</p> <p>Grid Ref: 197.73 kmE 859.90 kmN RMS: 0.40 secs</p> <p>Locality: KINLOCHEWE, HIGHLAND</p> <p>Velocity model: Lownet Xnear: 100.0 Xfar: 175.0</p> <p>Comment: 5KM WSW KINLOCHEWE</p> <table border="0" style="width: 100%;"> <thead> <tr> <th>STAT</th> <th>CO</th> <th>DIST</th> <th>PHAS</th> <th>WT</th> <th>P</th> <th>HrMn</th> <th>SECS</th> <th>AMPL</th> <th>PERI</th> <th>RES</th> </tr> </thead> <tbody> <tr><td>KPL</td><td>HZ</td><td>31.7</td><td>EP</td><td></td><td></td><td>01:09</td><td>06.57</td><td></td><td></td><td>0.15</td></tr> <tr><td>KPL</td><td>HN</td><td>31.7</td><td>ES</td><td></td><td></td><td>01:09</td><td>10.14</td><td></td><td></td><td>-0.54</td></tr> <tr><td>KPL</td><td>HN</td><td>31.7</td><td>IAML</td><td></td><td></td><td>01:09</td><td>10.61</td><td>4</td><td>0.19</td><td></td></tr> <tr><td>KPL</td><td>HE</td><td>31.7</td><td>IAML</td><td></td><td></td><td>01:09</td><td>10.61</td><td>7</td><td>0.18</td><td></td></tr> <tr><td>LINV</td><td>HZ</td><td>63.7</td><td>EP</td><td></td><td></td><td>01:09</td><td>11.70</td><td></td><td></td><td>0.04</td></tr> <tr><td>LINV</td><td>HN</td><td>63.7</td><td>ES</td><td></td><td></td><td>01:09</td><td>19.36</td><td></td><td></td><td>-0.38</td></tr> <tr><td>LINV</td><td>HE</td><td>63.7</td><td>IAML</td><td></td><td></td><td>01:09</td><td>19.73</td><td>2</td><td>0.27</td><td></td></tr> <tr><td>LINV</td><td>HN</td><td>63.7</td><td>IAML</td><td></td><td></td><td>01:09</td><td>19.75</td><td>2</td><td>0.39</td><td></td></tr> <tr><td>LEWI</td><td>HZ</td><td>108.0</td><td>EP</td><td></td><td></td><td>01:09</td><td>19.18</td><td></td><td></td><td>0.61</td></tr> <tr><td>LEWI</td><td>HN</td><td>108.0</td><td>ES</td><td></td><td></td><td>01:09</td><td>31.66</td><td></td><td></td><td>-0.04</td></tr> <tr><td>LEWI</td><td>HN</td><td>108.0</td><td>IAML</td><td></td><td></td><td>01:09</td><td>33.01</td><td>1</td><td>0.13</td><td></td></tr> <tr><td>LEWI</td><td>HE</td><td>108.0</td><td>IAML</td><td></td><td></td><td>01:09</td><td>33.53</td><td>1</td><td>0.15</td><td></td></tr> <tr><td>BIGH</td><td>HE</td><td>134.0</td><td>ES</td><td></td><td></td><td>01:09</td><td>38.36</td><td></td><td></td><td>-0.10</td></tr> <tr><td>LAWE</td><td>HZ</td><td>147.0</td><td>EP</td><td></td><td></td><td>01:09</td><td>25.37</td><td></td><td></td><td>0.89</td></tr> <tr><td>LAWE</td><td>HE</td><td>147.0</td><td>ES</td><td></td><td></td><td>01:09</td><td>42.49</td><td></td><td></td><td>0.57</td></tr> <tr><td>LAWE</td><td>HN</td><td>147.0</td><td>IAML</td><td></td><td></td><td>01:09</td><td>44.42</td><td>2</td><td>0.21</td><td></td></tr> <tr><td>LAWE</td><td>HE</td><td>147.0</td><td>IAML</td><td></td><td></td><td>01:09</td><td>44.63</td><td>3</td><td>0.25</td><td></td></tr> <tr><td>INVG</td><td>HZ</td><td>152.0</td><td>EP</td><td></td><td></td><td>01:09</td><td>25.91</td><td></td><td></td><td>0.69</td></tr> <tr><td>INVG</td><td>HE</td><td>152.0</td><td>ES</td><td></td><td></td><td>01:09</td><td>43.66</td><td></td><td></td><td>0.47</td></tr> <tr><td>INVG</td><td>HN</td><td>152.0</td><td>IAML</td><td></td><td></td><td>01:09</td><td>44.14</td><td>1</td><td>0.29</td><td></td></tr> <tr><td>INVG</td><td>HE</td><td>152.0</td><td>IAML</td><td></td><td></td><td>01:09</td><td>44.18</td><td>1</td><td>0.24</td><td></td></tr> </tbody> </table> <p>September 13 2017 Time: 01:16 41.1 UTC Magnitude: 1.3 ML</p> <p>Lat: 53.651N Lon: -0.890W Depth: 8.0 km</p> <p>Grid Ref: 473.36 kmE 417.76 kmN RMS: 0.30 secs</p> <p>Locality: THORNE, SOUTH YORKSHIRE</p>	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LMK	HZ	43.1	EP			01:16	48.39			-0.22	LMK	HE	43.1	ES			01:16	54.12			-0.01	LMK	HE	43.1	IAML			01:16	54.73	62	0.45		LMK	HN	43.1	IAML			01:16	54.78	59	0.27		HPK	HZ	59.2	EP			01:16	51.45			0.32	HPK	HN	59.2	ES			01:16	58.10			-0.38	HPK	HE	59.2	IAML			01:16	58.93	12	0.23		HPK	HN	59.2	IAML			01:17	00.04	15	0.22		LBWR	HZ	61.9	EP			01:16	51.55			-0.02	LBWR	HE	61.9	ES			01:16	59.32			0.08	LBWR	HE	61.9	IAML			01:16	59.74	13	0.23		LBWR	HN	61.9	IAML			01:17	00.83	11	0.13		GDLE	HZ	85.9	EP			01:16	55.65			0.39	GDLE	HE	85.9	ES			01:17	05.42			-0.21	GDLE	HE	85.9	IAML			01:17	08.25	21	0.18		GDLE	HN	85.9	IAML			01:17	08.84	22	0.33		CWF	HZ	105.0	EP			01:16	58.62			0.36	CWF	HN	105.0	ES			01:17	10.53			-0.29	CWF	HN	105.0	IAML			01:17	12.67	7	0.16		CWF	HE	105.0	IAML			01:17	13.16	5	0.06		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	RSBS	HZ	36.3	EP			09:52	52.60			0.69	RSBS	HE	36.3	ES			09:52	56.15			-0.52	RSBS	HN	36.3	IAML			09:52	57.78	5	0.04		RSBS	HE	36.3	IAML			09:52	57.87	5	0.05		LPW	HZ	53.9	EP			09:52	54.57			-0.04	LPW	HE	53.9	ES			09:53	01.23			-0.11	LPW	HE	53.9	IAML			09:53	01.40	1	0.08		LPW	HN	53.9	IAML			09:53	01.41	1	0.15		HTL	HZ	77.1	EP			09:52	58.52			0.31	HTL	HN	77.1	ES			09:53	07.24			-0.33	HTL	HN	77.1	IAML			09:53	08.12	7	0.13		HTL	HE	77.1	IAML			09:53	08.93	4	0.20		HLM1	HE	141.0	ES			09:53	24.49			0.03	HLM1	HE	141.0	IAML			09:53	26.03	2	0.18		HLM1	HN	141.0	IAML			09:53	26.33	3	0.21		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LBWR	HZ	12.0	EP			20:16	02.40			0.19	LBWR	HN	12.0	ES			20:16	03.96			-0.12	LBWR	HE	12.0	IAML			20:16	05.08	16	0.08		LBWR	HZ	12.0	IAML			20:16	05.61	13	0.22		STNC	HZ	35.3	EP			20:16	06.06			-0.08	STNC	HE	35.3	ES			20:16	10.91			0.04	STNC	HE	35.3	IAML			20:16	11.23	17	0.22		STNC	HN	35.3	IAML			20:16	11.77	17	0.33		CWF	HZ	73.1	EP			20:16	12.21			0.00	HLM1	HZ	113.0	EP			20:16	18.37			-0.11	HLM1	HE	113.0	ES			20:16	32.30			0.07	HLM1	HE	113.0	IAML			20:16	33.33	3	0.27		HLM1	HN	113.0	IAML			20:16	36.22	2	0.28		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	KPL	HZ	31.7	EP			01:09	06.57			0.15	KPL	HN	31.7	ES			01:09	10.14			-0.54	KPL	HN	31.7	IAML			01:09	10.61	4	0.19		KPL	HE	31.7	IAML			01:09	10.61	7	0.18		LINV	HZ	63.7	EP			01:09	11.70			0.04	LINV	HN	63.7	ES			01:09	19.36			-0.38	LINV	HE	63.7	IAML			01:09	19.73	2	0.27		LINV	HN	63.7	IAML			01:09	19.75	2	0.39		LEWI	HZ	108.0	EP			01:09	19.18			0.61	LEWI	HN	108.0	ES			01:09	31.66			-0.04	LEWI	HN	108.0	IAML			01:09	33.01	1	0.13		LEWI	HE	108.0	IAML			01:09	33.53	1	0.15		BIGH	HE	134.0	ES			01:09	38.36			-0.10	LAWE	HZ	147.0	EP			01:09	25.37			0.89	LAWE	HE	147.0	ES			01:09	42.49			0.57	LAWE	HN	147.0	IAML			01:09	44.42	2	0.21		LAWE	HE	147.0	IAML			01:09	44.63	3	0.25		INVG	HZ	152.0	EP			01:09	25.91			0.69	INVG	HE	152.0	ES			01:09	43.66			0.47	INVG	HN	152.0	IAML			01:09	44.14	1	0.29		INVG	HE	152.0	IAML			01:09	44.18	1	0.24	
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CWF	HN	105.0	IAML			01:17	12.67	7	0.16																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
CWF	HE	105.0	IAML			01:17	13.16	5	0.06																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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RSBS	HE	36.3	IAML			09:52	57.87	5	0.05																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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CWF	HZ	73.1	EP			20:16	12.21			0.00																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
HLM1	HZ	113.0	EP			20:16	18.37			-0.11																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
HLM1	HE	113.0	ES			20:16	32.30			0.07																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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HLM1	HN	113.0	IAML			20:16	36.22	2	0.28																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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KPL	HZ	31.7	EP			01:09	06.57			0.15																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
KPL	HN	31.7	ES			01:09	10.14			-0.54																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
KPL	HN	31.7	IAML			01:09	10.61	4	0.19																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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LINV	HZ	63.7	EP			01:09	11.70			0.04																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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LINV	HN	63.7	IAML			01:09	19.75	2	0.39																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
LEWI	HZ	108.0	EP			01:09	19.18			0.61																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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BIGH	HE	134.0	ES			01:09	38.36			-0.10																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
LAWE	HZ	147.0	EP			01:09	25.37			0.89																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
LAWE	HE	147.0	ES			01:09	42.49			0.57																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
LAWE	HN	147.0	IAML			01:09	44.42	2	0.21																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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INVG	HZ	152.0	EP			01:09	25.91			0.69																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
INVG	HE	152.0	ES			01:09	43.66			0.47																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
INVG	HN	152.0	IAML			01:09	44.14	1	0.29																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
INVG	HE	152.0	IAML			01:09	44.18	1	0.24																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											











# TABLE 2 : PHASE DATA

October 31 2017										Time: 20:50 34.0 UTC		Magnitude: 0.8 ML		AU20	HN	30.0	IAML	21:03	22.02	15	0.12										
Lat: 52.384N										Lon: -3.981W		Depth: 7.9 km		AU09	HZ	31.4	EP	21:03	17.08		-0.18										
Grid Ref: 265.19 kmE										278.11 kmN		RMS: 0.20 secs		AU09	HE	31.4	ES	21:03	21.78		0.08										
Locality: ABERYSTWYTH,CEREDIGION														AU09	HE	31.4	IAML	21:03	22.03	8	0.15										
Velocity model: Lownet										Xnear: 100.0		Xfar: 150.0		AU09	HN	31.4	IAML	21:03	22.11	6	0.13										
Comment: 7KM EAST ABERYSTWYTH														AU11	HZ	34.8	EP	21:03	17.64		-0.08										
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	AU07	HZ	36.0	EP	21:03	17.74		-0.16													
LLW	BZ	56.0	EP			20:50	43.66			0.12	AT10	HZ	56.3	EP	21:03	20.90		-0.07													
LLW	BN	56.0	ES			20:50	50.12			-0.40	AT10	HN	56.3	ES	21:03	28.23		0.10													
LLW	BE	56.0	IAML			20:50	51.06	5	0.09		AT10	HE	56.3	IAML	21:03	28.40	15	0.30													
LLW	BN	56.0	IAML			20:50	51.15	4	0.11		AT10	HN	56.3	IAML	21:03	28.46	11	0.18													
RSBS	HZ	71.0	EP			20:50	45.78			-0.11	LBWR	HZ	119.0	EP	21:03	30.16		0.16													
RSBS	HN	71.0	ES			20:50	54.55			-0.02	LBWR	HE	119.0	ES	21:03	43.90		0.15													
RSBS	HE	71.0	IAML			20:50	55.27	10	0.07		LBWR	HN	119.0	IAML	21:03	45.23	12	0.24													
RSBS	HN	71.0	IAML			20:50	56.04	7	0.07		LBWR	HE	119.0	IAML	21:03	45.54	8	0.27													
HLM1	HZ	76.2	EP			20:50	47.02			0.28	November 5 2017																				
HLM1	HE	76.2	ES			20:50	55.83			-0.21	Time: 05:51 31.1 UTC		Magnitude: 1.0 ML																		
HLM1	HE	76.2	IAML			20:50	56.28	5	0.21		Lat: 52.826N		Lon: -2.463W		Depth: 7.5 km																
HLM1	HN	76.2	IAML			20:50	56.37	4	0.12		Grid Ref: 368.81 kmE		325.52 kmN		RMS: 0.40 secs																
FOEL	HZ	77.2	EP			20:50	47.11			0.23	Locality: HINSTOCK,SHROPSHIRE																				
FOEL	HN	77.2	ES			20:50	56.43			0.13	Velocity model: Lownet																				
FOEL	HE	77.2	IAML			20:50	57.46	6	0.29		Xnear: 100.0		Xfar: 200.0		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES						
FOEL	HN	77.2	IAML			20:50	57.56	3	0.24		STNC	HZ	34.2	IP	C	05:51	37.10									-0.18					
MCH1	HZ	79.8	IP		D	20:50	47.44			0.20	STNC	HE	34.2	ES		05:51	41.71									-0.09					
MCH1	HE	79.8	ES			20:50	56.70			-0.22	STNC	HE	34.2	IAML		05:51	41.97	17	0.15												
MCH1	HE	79.8	IAML			20:50	57.33	4	0.41		STNC	HN	34.2	IAML		05:51	43.26	14	0.17												
MCH1	HN	79.8	IAML			20:50	59.04	4	0.29		HLM1	HZ	44.4	EP		05:51	38.78									-0.13					
November 1 2017										Time: 20:59 22.0 UTC		Magnitude: 2.6 ML		HLM1	HE	44.4	ES		05:51	44.53									-0.08		
Lat: 55.883N										Lon: -5.429W		Depth: 7.5 km		HLM1	HN	44.4	IAML		05:51	45.10	6	0.13									
Grid Ref: 185.56 kmE										670.85 kmN		RMS: 0.40 secs		HLM1	HE	44.4	IAML		05:51	45.99	13	0.30									
Locality: TARBERT,ARGYLL & BUTE														FOEL	HZ	50.2	EP		05:51	39.86									0.06		
Velocity model: Lownet										Xnear: 100.0		Xfar: 250.0		FOEL	HN	50.2	ES		05:51	45.84									-0.32		
Comment: FELT TARBERT...														FOEL	HN	50.2	IAML		05:51	46.17	6	0.39									
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	Intensity: 3	FOEL	HE	50.2	IAML		05:51	46.80	9	0.26											
LAW	HZ	42.0	IP		D	20:59	29.45			0.06	CWF	HZ	78.5	EP		05:51	44.27											0.12			
LAW	HE	42.0	ES			20:59	34.24			-0.54	CWF	HE	78.5	ES		05:51	53.09											-0.59			
LAW	HN	42.0	IAML			20:59	34.96	221	0.12		CWF	HN	78.5	IAML		05:51	53.50	4	0.11												
LAW	HE	42.0	IAML			20:59	35.27	454	0.15		LBWR	HZ	80.9	EP		05:51	44.53											-0.02			
PGB1	HZ	59.7	IP		C	20:59	32.51			0.37	LBWR	HN	80.9	IAML		05:51	55.92	4	0.18												
PGB1	HN	59.7	ES			20:59	39.44			-0.10	LBWR	HE	80.9	IAML		05:51	58.98	7	0.34												
PGB1	HN	59.7	IAML			20:59	40.15	229	0.31		MCH1	HZ	99.2	EP		05:51	47.62										0.26				
PGB1	HE	59.7	IAML			20:59	40.99	163	0.30		MCH1	HN	99.2	ES		05:51	59.54										0.32				
CLGH	HZ	98.9	EP			20:59	38.70			0.47	MCH1	HE	99.2	IAML		05:52	00.59	7	0.14												
CLGH	HE	98.9	ES			20:59	49.51			-0.56	MCH1	HN	99.2	IAML		05:52	04.18	7	0.20												
CLGH	HE	98.9	IAML			20:59	53.06	310	0.20		HPK	HZ	138.0	EP		05:51	54.40										1.23				
CLGH	HE	98.9	IAML			20:59	53.37	248	0.26		HPK	HN	138.0	ES		05:52	09.97										0.69				
INVG	HZ	105.0	EP			20:59	39.31			0.09	HPK	HE	138.0	IAML		05:52	11.31	12	0.16												
INVG	HE	105.0	ES			20:59	51.31			-0.48	HPK	HN	138.0	IAML		05:52	11.62	11	0.18												
INVG	HE	105.0	IAML			20:59	54.45	238	0.23		WLF1	HZ	140.0	EP		05:51	53.61										0.22				
INVG	HN	105.0	IAML			20:59	54.64	353	0.33		WLF1	HN	140.0	ES		05:52	09.19										-0.47				
NEWG	HZ	114.0	EP			20:59	40.92			0.37	November 5 2017																				
NEWG	HN	114.0	ES			20:59	53.74			-0.35	Time: 15:40 16.2 UTC		Magnitude: 1.4 ML																		
NEWG	HE	114.0	IAML			20:59	56.28	268	0.23		Lat: 53.466N		Lon: -2.501W		Depth: 3.3 km																
NEWG	HN	114.0	IAML			20:59	57.01	248	0.13		Grid Ref: 366.74 kmE		396.73 kmN		RMS: 0.30 secs																
GAL1	HZ	122.0	EP			20:59	41.97			0.20	Locality: GLAZEBURY,CHESHIRE																				
GAL1	HE	122.0	ES			20:59	55.56			-0.64	Velocity model: Lownet																				
GAL1	HE	122.0	IAML			20:59	58.40	225	0.17		Xnear: 100.0		Xfar: 200.0		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES						
GAL1	HN	122.0	IAML			20:59	58.95	169	0.13		LBWR	HZ	52.1	EP		15:40	25.35											-0.15			
EDI	HZ	140.0	EP			20:59	45.13			0.72	LBWR	HN	52.1	ES		15:40	32.52											0.25			
ESK	HZ	154.0	EP			20:59	46.83			0.48	LBWR	HE	52.1	IAML		15:40	33.56	33	0.21												
KPL	HZ	163.0	EP			20:59	48.33			0.73	LBWR	HE	52.1	IAML		15:40	34.24	48	0.23												
IOMK	HZ	189.0	EP			20:59	51.44			0.48	FOEL	HZ	79.4	EP		15:40	29.51											-0.23			
KESW	HZ	206.0	EP			20:59	53.77			0.59	FOEL	HE	79.4	ES		15:40	39.53											-0.08			
DRUM	HZ	215.0	EP			20:59	54.46			0.24	FOEL	HN	79.4	IAML		15:40	41.41	11	0.51												
MCD	HZ	231.0	EP			20:59	55.97			-0.34	FOEL	HE	79.4	IAML		15:40	42.09	7	0.24												
LINV	HZ	253.0	EP			20:59	59.01			0.11	HPK	HE	79.7	ES		15:40	39.12											-0.51			
											HPK	HN	79.7	IAML		15:40	42.42	18	0.33												
											HPK	HE	79.7	IAML		15:40	43.12	12	0.16												
November 3 2017										Time: 21:03 11.2 UTC		Magnitude: 0.8 ML		HLM1	HZ	109.0	EP		15:40	34.30											0.04
Lat: 54.137N										Lon: -0.410W		Depth: 17.6 km		HLM1	HE																

# TABLE 2 : PHASE DATA

MCH1	HE	167.0	ES		15:41	02.90			0.65	KPL	HE	24.0	IAML	19:23	37.62	17	0.11				
MCH1	HE	167.0	IAML		15:41	04.54	9	0.27		KPL	HN	24.0	IAML	19:23	37.77	10	0.13				
MCH1	HN	167.0	IAML		15:41	05.14	7	0.22		LINV	HZ	70.6	EP	19:23	41.63				0.07		
November 7 2017 Time: 08:46 35.7 UTC Magnitude: 3.7 ML																					
Lat: 60.469N Lon: 4.686W Depth: 11.3 km																					
Grid Ref: 767.17 kmE 1194.74 kmN RMS: 0.30 secs																					
Locality: NORWEGIAN COAST																					
Velocity model: North Sea Xnear: 500.0 Xfar: 1000.0																					
Comment: FELT HORDALAND Intensity: 3																					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
BER	HZ	37.0	IP		D	08:46	42.04			0.10	BIGH	HZ	141.0	EP			19:23	53.09			0.79
BER	HE	37.0	ES			08:46	46.27			-0.23	BIGH	HE	141.0	IAML			19:24	10.32	3	0.08	
BER	HE	37.0	IAML			08:46	46.70	4294	0.28		BIGH	HN	141.0	IAML			19:24	10.67	5	0.36	
BER	HN	37.0	IAML			08:46	46.84	5985	0.52		LAWE	HZ	141.0	EP			19:23	52.88			0.56
MOL	HZ	279.0	EP			08:47	14.48			-0.30	LAWE	HE	141.0	ES			19:24	08.60			-0.19
MOL	HN	279.0	IAML			08:47	50.62	1169	0.30		LAWE	HN	141.0	IAML			19:24	10.79	6	0.16	
MOL	HE	279.0	IAML			08:47	50.80	949	0.36		INVG	HZ	150.0	EP			19:23	53.82			0.24
KONO	BZ	288.0	EP			08:47	16.34			0.43	INVG	HN	150.0	ES			19:24	10.70			-0.28
LRW	HZ	326.0	EP			08:47	20.69			0.09	INVG	HE	150.0	IAML			19:24	12.72	2	0.13	
LRW	HE	326.0	IAML			08:48	11.87	70	0.62		INVG	HN	150.0	IAML			19:24	12.74	2	0.13	
LRW	HN	326.0	IAML			08:48	32.52	56	0.40		November 9 2017 Time: 06:46 07.0 UTC Magnitude: 1.1 ML										
BIGH	HZ	534.0	EP			08:47	46.51			0.10	Lat: 50.706N Lon: -4.254W Depth: 5.6 km										
BIGH	HN	534.0	ES			08:48	37.86			-0.18	Grid Ref: 240.86 kmE 92.08 kmN RMS: 0.20 secs										
BIGH	HN	534.0	IAML			08:48	42.24	46	0.56		Locality: ASHWATER,DEVON										
BIGH	HE	534.0	IAML			08:48	48.82	39	0.24		Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										
MCD	HZ	557.0	EP			08:47	49.51			0.18	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MCD	HE	557.0	IAML			08:48	47.52	44	0.42		SBD	BZ	34.3	IP		C	06:46	13.25			-0.13
MCD	HN	557.0	IAML			08:48	47.79	54	0.36		SBD	BE	34.3	ES			06:46	18.10			0.09
DRUM	HZ	574.0	EP			08:47	51.74			0.38	HTL	HZ	36.0	EP			06:46	13.45			-0.19
DRUM	HN	574.0	ES			08:48	46.46			-0.13	HTL	HE	36.0	ES			06:46	18.65			0.20
DRUM	HE	574.0	IAML			08:48	50.50	66	0.22		HTL	HE	36.0	IAML			06:46	18.94	28	0.14	
DRUM	HN	574.0	IAML			08:48	59.50	94	0.54		HTL	HN	36.0	IAML			06:46	20.37	15	0.16	
INVG	HZ	679.0	EP			08:48	04.71			0.26	DYA	HZ	37.8	IP		D	06:46	13.83			-0.15
ESK	HZ	739.0	EP			08:48	11.85			-0.09	DYA	HN	37.8	ES			06:46	19.23			0.19
EDMD	HZ	742.0	EP			08:48	11.32			-0.91	DYA	HE	37.8	IAML			06:46	19.37	14	0.08	
EDMD	HN	742.0	ES			08:49	22.26			-0.43	DYA	HN	37.8	IAML			06:46	19.67	41	0.08	
EDMD	HE	742.0	IAML			08:49	25.04	49	0.54		November 14 2017 Time: 14:04 34.1 UTC Magnitude: 1.5 ML										
EDMD	HN	742.0	IAML			08:49	25.25	44	0.48		Lat: 55.655N Lon: -3.112W Depth: 5.8 km										
AT10	HZ	764.0	EP			08:48	14.96			-0.08	Grid Ref: 330.04 kmE 640.72 kmN RMS: 0.30 secs										
LBWR	HZ	877.0	EP			08:48	28.23			-0.86	Locality: PEEBLES,BORDERS										
November 7 2017 Time: 14:33 56.0 UTC Magnitude: 1.4 ML																					
Lat: 53.040N Lon: -4.494W Depth: 15.5 km																					
Grid Ref: 232.81 kmE 352.13 kmN RMS: 0.20 secs																					
Locality: CAERNARFON BAY																					
Velocity model: Mid Wales Xnear: 80.0 Xfar: 200.0																					
Comment: 7KM NW TREFOR																					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
YRC	EZ	24.0	IP		C	14:34	00.33			0.01	EDI	HZ	30.2	EP			14:04	39.70			0.02
YLL	EZ	24.4	IP			14:34	00.39			0.00	EDI	HE	30.2	ES			14:04	43.71			0.08
WLF1	HE	28.5	IP		C	14:34	00.86			-0.13	EDI	HN	30.2	IAML			14:04	43.88	45	0.24	
WLF1	HZ	28.5	ES			14:34	04.58			-0.02	EDI	HE	30.2	IAML			14:04	43.95	61	0.22	
WLF1	HE	28.5	IAML			14:34	04.94	114	0.08		ESK	HZ	38.2	EP			14:04	40.91			-0.09
WLF1	HN	28.5	IAML			14:34	05.18	54	0.09		ESK	HE	38.2	ES			14:04	45.46			-0.43
WPS	HZ	40.1	EP			14:34	02.73			-0.01	ESK	HE	38.2	IAML			14:04	46.03	43	0.10	
WPS	HE	40.1	ES			14:34	07.50			-0.10	ESK	HN	38.2	IAML			14:04	46.11	27	0.08	
WPS	HE	40.1	IAML			14:34	08.78	19	0.24		PGB1	HZ	87.9	EP			14:04	49.28			0.21
WPS	HN	40.1	IAML			14:34	09.05	17	0.08		PGB1	HE	87.9	ES			14:04	59.65			-0.05
LLW	BZ	59.7	EP			14:34	05.70			0.00	PGB1	HN	87.9	IAML			14:05	02.29	39	0.22	
LLW	BE	59.7	ES			14:34	12.57			-0.12	PGB1	HE	87.9	IAML			14:05	02.30	43	0.24	
LLW	BE	59.7	IAML			14:34	13.19	22	0.25		NEWG	HZ	92.8	EP			14:04	49.55			-0.31
LLW	BN	59.7	IAML			14:34	13.25	15	0.18		NEWG	HE	92.8	ES			14:05	01.44			0.40
FOEL	HZ	88.6	EP			14:34	10.03			-0.04	NEWG	HE	92.8	IAML			14:05	03.89	32	0.34	
FOEL	HN	88.6	ES			14:34	20.25			0.03	NEWG	HN	92.8	IAML			14:05	03.94	32	0.26	
FOEL	HN	88.6	IAML			14:34	21.16	16	0.24		INVG	HZ	104.0	EP			14:04	51.82			0.16
FOEL	HE	88.6	IAML			14:34	21.75	28	0.38		INVG	HE	104.0	ES			14:05	03.73	7	0.15	-0.39
RSBS	HZ	122.0	EP			14:34	15.12			0.01	INVG	HN	104.0	IAML			14:05	05.77			0.15
RSBS	HE	122.0	ES			14:34	28.83			-0.06	INVG	HE	104.0	IAML			14:05	05.84	7	0.14	
RSBS	HN	122.0	IAML			14:34	31.45	8	0.18		EDMD	HZ	117.0	EP			14:04	53.98			0.16
RSBS	HE	122.0	IAML			14:34	32.08	8	0.07		EDMD	HN	117.0	IAML			14:05	09.30	14	0.19	
HLM1	HZ	123.0	EP			14:34	15.59			0.28	EDMD	HE	117.0	IAML			14:05	09.33	18	0.24	
HLM1	HN	123.0	ES			14:34	29.46			0.23	KESW	HZ	119.0	EP			14:04	54.08			-0.02
HLM1	HN	123.0	IAML			14:34	32.52	5	0.09		KESW	HN	119.0	ES			14:05	08.73			0.44
HLM1	HE	123.0	IAML			14:34	33.69	5	0.21		KESW	HN	119.0	IAML			14:05	09.73	8	0.32	
DSB	BN	128.0	ES			14:34	30.00			-0.32	KESW	HE	119.0	IAML			14:05	10.53	12	0.18	
IOMK	HZ	136.0	EP			14:34	17.53			0.38	GALL	HZ	134.0	EP			14:04	56.14			-0.30
IOMK	HE	136.0	ES			14:34	33.11			0.72	GALL	HN	134.0	ES			14:05	12.10			-0.19
IOMK	HE	136.0	IAML			14:34	35.08	27	0.21		GALL	HN	134.0	IAML			14:05	13.57	19	0.13	
IOMK	HN	136.0	IAML			14:34	35.24	20	0.13		GALL	HE	134.0	IAML			14:05	15.55	10	0.15	
November 7 2017 Time: 19:23 29.7 UTC Magnitude: 0.9 ML																					
Lat: 57.529N Lon: -5.464W Depth: 7.5 km																					
Grid Ref: 192.64 kmE 854.03 kmN RMS: 0.40 secs																					
Locality: TORRIDON,HIGHLAND																					
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																					
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
KPL	HZ	24.0	IP		D	19:23	34.40			0.09	DRUM	HZ	145.0	EP			14:04	57.96			0.15
KPL	HN	24.0	ES			19:23	37.32			-0.32	DRUM	HN	145.0	ES			14:05	14.54			-0.10
November 19 2017 Time: 00:48 07.2 UTC Magnitude: 0.6 ML																					
Lat: 52.934N Lon: -1.817W Depth: 6.5 km																					
Grid Ref: 412.30 kmE 337.45 kmN RMS: 0.10 secs																					

# TABLE 2 : PHASE DATA

Locality: WALDLEY, DERBYSHIRE										LBWR	HE	54.6	ES		07:53	47.07			-0.17		
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										LBWR	HE	54.6	IAML		07:53	48.02	10	0.18			
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LBWR	HN	54.6	IAML	07:53	49.29	7	0.27			
STNC	HZ	31.4	EP			00:48	13.04			-0.03	KESW	HZ	106.0	EP	07:53	48.06			-0.10		
STNC	HE	31.4	ES			00:48	17.43			0.10	KESW	HE	106.0	ES	07:54	00.74			0.01		
STNC	HN	31.4	IAML			00:48	20.42	12	0.10		EDMD	HN	112.0	ES	07:54	02.15			-0.07		
STNC	HE	31.4	IAML			00:48	20.44	9	0.12		EDMD	HE	112.0	IAML	07:54	02.75	8	0.15			
CWF	HZ	40.6	EP			00:48	14.55			0.06	EDMD	HN	112.0	IAML	07:54	03.16	8	0.15			
CWF	HE	40.6	ES			00:48	19.78			0.00	FOEL	HN	126.0	ES	07:54	06.05			0.20		
CWF	HN	40.6	IAML			00:48	20.52	4	0.10		HLM1	HE	154.0	ES	07:54	12.75			0.04		
CWF	HE	40.6	IAML			00:48	20.76	4	0.18		HLM1	HE	154.0	IAML	07:54	13.21	4	0.22			
LBWR	HZ	52.3	EP			00:48	16.38			0.05	HLM1	HN	154.0	IAML	07:54	13.92	2	0.16			
LBWR	HE	52.3	ES			00:48	22.89			-0.09	November 28 2017 Time: 00:31 10.3 UTC Magnitude: 1.1 ML										
LBWR	HE	52.3	IAML			00:48	23.34	8	0.18		Lat: 55.176N Lon: -3.556W Depth: 2.5 km										
LBWR	HN	52.3	IAML			00:48	23.44	8	0.20		Grid Ref: 300.91 kmE 587.97 kmN RMS: 0.40 secs										
HLM1	HZ	85.5	EP			00:48	21.41			-0.08	Locality: PARKGATE, D & G										
HLM1	HE	85.5	ES			00:48	31.88			-0.01	Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
HLM1	HE	85.5	IAML			00:48	32.78	3	0.34		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
HLM1	HN	85.5	IAML			00:48	33.14	2	0.15		ESK	HZ	27.2	IP		C	00:31	15.16			-0.23
November 21 2017 Time: 05:54 07.2 UTC Magnitude: 0.8 ML										ESK	HN	27.2	ES			00:31	18.37			-0.77	
Lat: 56.009N Lon: -4.217W Depth: 7.5 km										ESK	HN	27.2	IAML			00:31	18.54	42	0.08		
Grid Ref: 261.79 kmE 681.77 kmN RMS: 0.20 secs										ESK	HE	27.2	IAML			00:31	18.62	55	0.08		
Locality: LENNOXTOWN, E DUNBARTON										NEWG	HZ	43.4	IP		C	00:31	18.23			0.12	
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										NEWG	HN	43.4	ES			00:31	23.34			-0.51	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	NEWG	HE	43.4	IAML	00:31	23.73	20	0.09			
PGB1	HZ	27.6	IP		C	05:54	12.32			-0.09	NEWG	HN	43.4	IAML	00:31	24.04	18	0.15			
PGB1	HN	27.6	ES			05:54	16.00			-0.18	KESW	HZ	71.5	EP	00:31	22.57			-0.02		
PGB1	HE	27.6	IAML			05:54	16.14	10	0.13		KESW	HN	71.5	ES	00:31	31.41			-0.19		
PGB1	HN	27.6	IAML			05:54	16.16	15	0.20		KESW	HE	71.5	IAML	00:31	34.08	7	0.14			
INVG	HZ	47.7	EP			05:54	15.51			-0.03	KESW	HE	71.5	IAML	00:31	34.42	7	0.17			
INVG	HE	47.7	ES			05:54	21.37			-0.23	GALL	HZ	81.5	EP	00:31	24.02			-0.09		
INVG	HE	47.7	IAML			05:54	21.60	6	0.40		GALL	HN	81.5	ES	00:31	34.04			-0.18		
INVG	HN	47.7	IAML			05:54	22.60	4	0.30		GALL	HE	81.5	IAML	00:31	36.86	7	0.06			
EDI	HN	65.0	ES			05:54	26.23			0.06	GALL	HN	81.5	IAML	00:31	36.90	13	0.11			
EDI	HE	65.0	ES			05:54	26.39				EDI	HZ	86.4	IP		C	00:31	25.33			0.47
EDI	HE	65.0	IAML			05:54	29.38	5	0.27		PGB1	HZ	91.8	EP	00:31	26.29			0.57		
EDI	HN	65.0	IAML			05:54	31.00	4	0.14		AQ12	HZ	97.2	EP	00:31	26.71			0.12		
LAWE	HZ	78.6	EP			05:54	20.62			0.32	EDMD	HZ	109.0	IP		D	00:31	28.62			0.28
LAWE	HN	78.6	ES			05:54	29.84			0.01	ARO9	HZ	128.0	EP	00:31	31.91			0.54		
LAWE	HE	78.6	IAML			05:54	33.82	7	0.11		INVG	HZ	143.0	EP	00:31	33.52			0.03		
LAWE	HN	78.6	IAML			05:54	34.63	6	0.24		AS07	HZ	146.0	EP	00:31	34.72			0.67		
NEWG	HN	99.3	ES			05:54	35.30			-0.09	December 7 2017 Time: 09:48 34.6 UTC Magnitude: 1.3 ML										
NEWG	HE	99.3	IAML			05:54	38.14	4	0.10		Lat: 56.531N Lon: -5.426W Depth: 5.9 km										
NEWG	HN	99.3	IAML			05:54	38.18	4	0.24		Grid Ref: 189.34 kmE 742.91 kmN RMS: 0.40 secs										
ESK	HZ	100.0	EP			05:54	23.88			0.24	Locality: BENDERLODH, ARGYLL/BUTE										
ESK	HE	100.0	IAML			05:54	38.10	4	0.18		Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
ESK	HN	100.0	IAML			05:54	38.48	4	0.28		Comment: 4KM NNW BENDERLOCH										
GALL	HN	131.0	ES			05:54	43.67			-0.06	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
GALL	HN	131.0	IAML			05:54	45.22	2	0.28		LAWE	HZ	30.2	EP			09:48	40.15			-0.05
GALL	HE	131.0	IAML			05:54	47.46	3	0.26		LAWE	HE	30.2	ES			09:48	43.92			-0.38
DRUM	HE	147.0	ES			05:54	47.54			-0.06	LAWE	HE	30.2	IAML			09:48	44.00	42	0.18	
KPL	HE	172.0	ES			05:54	53.98			0.29	LAWE	HN	30.2	IAML			09:48	44.04	30	0.12	
November 25 2017 Time: 08:49 31.6 UTC Magnitude: 0.7 ML										INVG	HZ	86.0	EP			09:48	49.46			0.34	
Lat: 54.131N Lon: -3.377W Depth: 5.3 km										INVG	HN	86.0	ES			09:48	59.31			-0.42	
Grid Ref: 310.03 kmE 471.47 kmN RMS: 0.20 secs										INVG	HN	86.0	IAML			09:49	03.02	30	0.24		
Locality: WALNEY, CUMBRIA										INVG	HE	86.0	IAML			09:49	03.26	19	0.10		
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										KPL	HZ	91.0	EP			09:48	49.88			0.03	
Comment: OFFSHORE LOCATION										KPL	HE	91.0	ES			09:49	00.82			-0.18	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	KPL	HE	91.0	IAML	09:49	04.39	10	0.20			
KESW	HZ	53.9	EP			08:49	40.83			-0.19	KPL	HN	91.0	IAML	09:49	04.71	8	0.16			
KESW	HN	53.9	IAML			08:49	49.48	3	0.33		PGB1	HZ	99.2	EP	09:48	51.82			0.66		
KESW	HE	53.9	IAML			08:49	49.71	6	0.49		PGB1	HE	99.2	IAML	09:49	06.72	8	0.23			
IOMK	HZ	79.0	EP			08:49	45.04			0.16	PGB1	HN	99.2	IAML	09:49	06.92	14	0.22			
IOMK	HN	79.0	ES			08:49	54.39			-0.18	December 10 2017 Time: 01:00 45.8 UTC Magnitude: 0.5 ML										
IOMK	HN	79.0	IAML			08:49	56.09	4	0.12		Lat: 56.463N Lon: -6.249W Depth: 6.6 km										
IOMK	HE	79.0	IAML			08:49	56.26	5	0.15		Grid Ref: 138.29 kmE 738.18 kmN RMS: 0.20 secs										
GALL	HZ	119.0	EP			08:49	51.01			-0.08	Locality: MULL, ARGYLL & BUTE										
GALL	HN	119.0	ES			08:50	05.40			0.09	Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
NEWG	HZ	123.0	EP			08:49	51.61			-0.07	Comment: OFFSHORE LOCATION										
NEWG	HE	123.0	ES			08:50	06.59			0.25	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
ESK	HZ	132.0	EP			08:49	53.49			0.36	LAWE	HZ	57.2	EP			01:00	55.90			0.04
ESK	HN	132.0	ES			08:50	08.65			-0.19	LAWE	HN	57.2	ES			01:01	02.96			-0.25
ESK	HE	132.0	IAML			08:50	10.43	3	0.28		LAWE	HN	57.2	IAML			01:01	03.12	2	0.15	
ESK	HN	132.0	IAML			08:50	11.11	2	0.31		LAWE	HE	57.2	IAML			01:01	03.13	1	0.13	
LBWR	HE	136.0	ES			08:50	09.79			0.07	KPL	HZ	104.0	EP			01:01	03.02			-0.10
November 27 2017 Time: 07:53 31.0 UTC Magnitude: 1.0 ML										KPL	HE	104.0	ES			01:01	15.73			-0.04	
Lat: 53.828N Lon: -2.133W Depth: 12.5 km										KPL	HN	104.0	IAML			01:01	17.77	1	0.21		
Grid Ref: 391.25 kmE 436.89 kmN RMS: 0.10 secs										KPL	HE	104.0	IAML			01:01	17.88	2	0.16		
Locality: TRAWDEN, LANCASHIRE										INVG	HZ	136.0	EP			01:01	08.54			0.46	
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										INVG	HE	136.0	ES			01:01	24.70			0.36	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	INVG	HN	136.0	IAML	01:01	25.98	2	0.18			
HPK	HZ	36.5	EP			07:53	37.61			0.04	INVG	HE	136.0	IAML	01:						

# TABLE 2 : PHASE DATA

Locality: LLANOVER, MONMOUTHSHIRE										LAW	HE	83.3	ES	02:01	53.77	0.00														
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										LAW	HE	83.3	IAML	02:01	56.94	8	0.24													
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LAW	HN	83.3	IAML	02:01	57.17	5	0.17												
MCH1	HZ	24.1	EP			02:51	47.36			-0.08	PGB1	HE	122.0	ES	02:02	04.20			0.14											
MCH1	HN	24.1	ES			02:51	51.30			0.32	PGB1	HN	122.0	IAML	02:02	05.37	4	0.44												
MCH1	HN	24.1	IAML			02:51	51.66	100	0.16		PGB1	HE	122.0	IAML	02:02	06.37	4	0.25												
MCH1	HE	24.1	IAML			02:51	51.68	82	0.14		NEWG	HZ	157.0	EP	02:01	54.90			0.23											
OLDB	HZ	30.8	EP			02:51	48.08			-0.28	NEWG	HN	157.0	ES	02:02	12.77			-0.11											
OLDB	HN	30.8	ES			02:51	52.64			0.07	INVG	HE	165.0	ES	02:02	14.78			-0.05											
OLDB	HN	30.8	IAML			02:51	53.41	107	0.36		INVG	HN	165.0	IAML	02:02	19.34	1	0.29												
OLDB	HE	30.8	IAML			02:51	55.61	49	0.38		INVG	HE	165.0	IAML	02:02	20.64	1	0.25												
STRD	HZ	54.4	EP			02:51	52.01			0.04	KPL	HZ	180.0	EP	02:01	57.86			0.12											
STRD	HN	54.4	IAML			02:51	59.88	16	0.18		December 13 2017 Time: 02:01 49.0 UTC Magnitude: 0.8 ML Lat: 55.771N Lon: -6.409W Depth: 6.4 km Grid Ref: 123.52 kmE 661.87 kmN RMS: 0.20 secs Locality: ISLAY, ARGYLL & BUTE Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0																			
STRD	HE	54.4	IAML			02:51	59.91	16	0.09																					
HLM1	HZ	82.0	EP			02:51	55.83			-0.45	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES									
HLM1	HN	82.0	ES			02:52	06.13			-0.14	CLGH	HE	78.9	ES			02:02	11.87			0.00									
HLM1	HE	82.0	IAML			02:52	06.67	16	0.12		CLGH	HE	78.9	IAML			02:02	14.18	4	0.13										
HLM1	HN	82.0	IAML			02:52	06.82	12	0.22		CLGH	HN	78.9	IAML			02:02	16.15	5	0.25										
SWN1	HZ	85.0	EP			02:51	57.07			0.38	LAW	HZ	83.3	EP			02:02	03.26			0.37									
SWN1	HE	85.0	IAML			02:52	08.45	11	0.36		LAW	HE	83.3	ES			02:02	12.97			-0.05									
SWN1	HN	85.0	IAML			02:52	09.19	18	0.39		LAW	HN	83.3	IAML			02:02	16.22	4	0.20										
FOEL	HZ	124.0	EP			02:52	02.53			0.12	LAW	HE	83.3	IAML			02:02	16.24	7	0.22										
FOEL	HN	124.0	ES			02:52	17.26			0.37	PGB1	HE	121.0	ES			02:02	23.02			-0.10									
FOEL	HE	124.0	IAML			02:52	17.94	8	0.24		INVG	HN	164.0	IAML			02:02	18.62	1	0.27										
FOEL	HN	124.0	IAML			02:52	18.67	9	0.20		INVG	HZ	164.0	IAML			02:02	19.49	2	0.25										
CWF	HZ	155.0	EP			02:52	06.05			-0.63	KPL	HZ	181.0	EP			02:02	16.86			-0.23									
CWF	HE	155.0	ES			02:52	24.24			-0.03	December 12 2017 Time: 10:06 10.0 UTC Magnitude: 1.4 ML Lat: 54.180N Lon: -2.215W Depth: 4.0 km Grid Ref: 385.97 kmE 476.06 kmN RMS: 0.30 secs Locality: LITTON, NORTH YORKSHIRE Velocity model: Borders Xnear: 50.0 Xfar: 100.0																			
CWF	HN	155.0	IAML			02:52	25.79	4	0.10																					
CWF	HE	155.0	IAML			02:52	25.84	4	0.13		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES									
December 13 2017 Time: 02:16 12.5 UTC Magnitude: 1.1 ML Lat: 55.781N Lon: -6.418W Depth: 7.9 km Grid Ref: 123.03 kmE 663.02 kmN RMS: 0.40 secs Locality: ISLAY, ARGYLL & BUTE Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										AR09	HZ	15.6	EP			10:06	13.31		0.04	CLGH	HN	80.1	ES			02:16	34.81			-0.76
										AR09	HZ	15.6	ES			10:06	15.34		-0.23	CLGH	HN	80.1	IAML			02:16	37.09	6	0.18	
AS07	HZ	19.8	IP		C	10:06	13.61			-0.33	CLGH	HE	80.1	IAML			02:16	37.34	7	0.17										
AR05	HZ	24.7	EP			10:06	14.79			0.07	LAW	HZ	83.0	EP			02:16	25.95			-0.32									
AR05	HN	24.7	ES			10:06	18.18			0.13	LAW	HE	83.0	ES			02:16	36.22			-0.07									
AQ12	HZ	45.1	EP			10:06	18.07			0.01	LAW	HE	83.0	IAML			02:16	39.39	13	0.24										
AQ12	HN	45.1	IAML			10:06	23.51	10	0.24		LAW	HN	83.0	IAML			02:16	40.18	8	0.20										
AQ12	HE	45.1	IAML			10:06	25.13	9	0.25		PGB1	HZ	121.0	EP			02:16	32.74			0.50									
HPK	HZ	45.9	EP			10:06	18.18			0.02	PGB1	HN	121.0	ES			02:16	46.85			0.23									
HPK	HN	45.9	ES			10:06	23.73			-0.21	PGB1	HN	121.0	IAML			02:16	47.59	8	0.46										
HPK	HE	45.9	IAML			10:06	24.05	34	0.20		PGB1	HE	121.0	IAML			02:16	48.72	8	0.42										
HPK	HN	45.9	IAML			10:06	24.65	28	0.20		GALL	HZ	149.0	EP			02:16	36.63			0.50									
AS10	HN	48.3	ES			10:06	24.71			0.13	GALL	HE	149.0	ES			02:16	53.43			0.09									
AS10	HE	48.3	IAML			10:06	24.90	53	0.24		GALL	HN	149.0	IAML			02:16	55.01	5	0.56										
AS10	HN	48.3	IAML			10:06	24.98	24	0.22		GALL	HE	149.0	IAML			02:16	56.34	3	0.21										
AT08	HZ	59.8	EP			10:06	20.43			0.05	NEWG	HZ	157.0	EP			02:16	37.80			0.49									
AT08	HN	59.8	ES			10:06	27.64			-0.09	NEWG	HN	157.0	ES			02:16	55.33			-0.06									
AT08	HN	59.8	IAML			10:06	27.91	55	0.16		NEWG	HN	157.0	IAML			02:16	56.09	3	0.40										
AT08	HE	59.8	IAML			10:06	28.21	68	0.16		NEWG	HE	157.0	IAML			02:16	59.19	2	0.23										
KESW	HZ	73.5	EP			10:06	23.05			0.39	INVG	HZ	164.0	EP			02:16	38.44			0.05									
KESW	HE	73.5	ES			10:06	31.85			0.22	INVG	HE	164.0	ES			02:16	56.52			-0.75									
KESW	HE	73.5	IAML			10:06	36.07	6	0.24		INVG	HN	164.0	IAML			02:17	01.78	2	0.27										
KESW	HN	73.5	IAML			10:06	36.16	13	0.28		INVG	HE	164.0	IAML			02:17	02.26	2	0.11										
EDMD	HZ	74.3	EP			10:06	23.18			0.45	KPL	HZ	180.0	EP			02:16	40.39			0.09									
EDMD	HE	74.3	ES			10:06	31.52			-0.23	December 15 2017 Time: 04:28 12.1 UTC Magnitude: 1.0 ML Lat: 57.507N Lon: -5.083W Depth: 7.4 km Grid Ref: 215.32 kmE 850.48 kmN RMS: 0.30 secs Locality: ACHNASHEEN, HIGHLAND Velocity model: Lownet Xnear: 100.0 Xfar: 200.0																			
EDMD	HE	74.3	IAML			10:06	31.66	20	0.14																					
EDMD	HN	74.3	IAML			10:06	31.74	20	0.24		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES									
AU11	HZ	83.7	EP			10:06	24.95			0.68	KPL	HZ	39.0	EP			04:28	19.09			0.09									
AU09	HZ	86.6	EP			10:06	25.47			0.73	KPL	HN	39.0	ES			04:28	23.63			-0.41									
LBWR	HZ	92.5	EP			10:06	26.09			0.33	KPL	HE	39.0	IAML			04:28	23.70	5	0.18										
LBWR	HN	92.5	ES			10:06	37.46			0.53	KPL	HN	39.0	IAML			04:28	24.11	8	0.10										
LBWR	HE	92.5	IAML			10:06	40.30	18	0.20		MCD	HZ	110.0	EP			04:28	30.48			0.44									
LBWR	HN	92.5	IAML			10:06	40.38	18	0.24		MCD	HE	110.0	ES			04:28	43.05			-0.08									
AU20	HZ	93.9	EP			10:06	26.53			0.58	MCD	HE	110.0	IAML			04:28	44.63	10	0.32										
AU20	HN	93.9	ES			10:06	37.45			0.18	MCD	HN	110.0	IAML			04:28	45.21	8	0.31										
AU20	HN	93.9	IAML			10:06	39.92	22	0.18		INVG	HZ	136.0	EP			04:28	33.85			-0.06									
AU20	HE	93.9	IAML			10:06	40.22	19	0.18		INVG	HE	136.0	ES			04:28	49.54			-0.29									
GDLE	HZ	95.0	EP			10:06	26.70			0.56	INVG	HE	136.0	IAML			04:28	50.67	1	0.22										
AU18	HZ	98.5	EP			10:06	27.29			0.61	INVG	HN	136.0	IAML			04:28	53.14	2	0.09										
AU18	HN	98.5	ES			10:06	38.94			0.43	LAW	HZ	140.0	EP			04:28	34.70			0.19									
AU18	HN	98.5	IAML			10:06	39.51	27	0.32		LAW	HN	140.0	ES			04:28	51.17			0.31									

## TABLE 2 : PHASE DATA

Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										LINV	HE	116.0	ES			01:40	18.97		-0.28		
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	LAW	HZ	118.0	EP		01:40	06.23		0.29		
LAW	HZ	43.0	EP			02:59	26.40			-0.25	LAW	HE	118.0	ES		01:40	20.48		0.53		
LAW	HE	43.0	IAML			02:59	26.54	11	0.20		LAW	HN	118.0	IAML		01:40	21.03	1	0.31		
LAW	HN	43.0	ES			02:59	31.57			-0.58	LAW	HE	118.0	IAML		01:40	23.50	1	0.42		
LAW	HN	43.0	IAML			02:59	31.74	12	0.20		DRUM	HZ	123.0	EP		01:40	07.22		0.45		
KPL	HZ	113.0	EP			02:59	37.38			-0.15	DRUM	HE	123.0	ES		01:40	21.40		0.02		
KPL	HE	113.0	ES			02:59	51.04			0.08	DRUM	HE	123.0	IAML		01:40	22.03	2	0.18		
KPL	HN	113.0	IAML			02:59	53.40	2	0.12		DRUM	HN	123.0	IAML		01:40	22.13	1	0.12		
KPL	HE	113.0	IAML			02:59	54.33	3	0.17		BIGH	HZ	149.0	ES		01:40	27.96		0.29		
PGB1	HZ	116.0	EP			02:59	38.65			0.70	December 26 2017 Time: 06:25 43.9 UTC Magnitude: 0.6 ML										
PGB1	HE	116.0	ES			02:59	52.13			0.44	Lat: 56.325N Lon: -5.430W Depth: 4.4 km										
PGB1	HN	116.0	IAML			02:59	54.19	2	0.43		Grid Ref: 187.95 kmE 720.01 kmN RMS: 0.20 secs										
PGB1	HE	116.0	IAML			02:59	55.01	2	0.22		Locality: KILMORE, ARGYLL & BUTE										
INVG	HZ	126.0	EP			02:59	39.65			0.16	Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										
INVG	HN	126.0	ES			02:59	54.62			0.27	Comment: 9KM SSE OBAN										
INVG	HE	126.0	IAML			02:59	56.31	2	0.08		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
INVG	HN	126.0	IAML			02:59	56.66	2	0.20		LAW	HZ	7.5	IP			06:25	45.72			-0.06
CLGH	HZ	141.0	EP			02:59	41.46			-0.20	LAW	HN	7.5	ES			06:25	47.06			-0.12
CLGH	HN	141.0	ES			02:59	57.82			-0.29	LAW	HE	7.5	IAML			06:25	47.14	88	0.10	
CLGH	HE	141.0	IAML			02:59	59.48	6	0.36		LAW	HN	7.5	IAML			06:25	47.18	98	0.26	
CLGH	HN	141.0	IAML			03:00	01.20	4	0.15		PGB1	HZ	82.1	EP			06:25	58.35			0.31
GALL	HZ	186.0	EP			02:59	47.76			0.04	PGB1	HE	82.1	ES			06:26	08.43			0.04
December 19 2017 Time: 19:21 52.6 UTC Magnitude: 1.0 ML										PGB1	HE	82.1	IAML			06:26	10.61	3	0.48		
Lat: 52.418N Lon: 0.218W Depth: 4.5 km										PGB1	HN	82.1	IAML			06:26	11.35	2	0.53		
Grid Ref: 550.82 kmE 282.36 kmN RMS: 0.40 secs										INVG	HZ	86.4	EP			06:25	59.09			0.36	
Locality: ELY, CAMBRIDGESHIRE										INVG	HN	86.4	ES			06:26	09.24			-0.33	
Velocity model: Lownet Xnear: 150.0 Xfar: 300.0										INVG	HN	86.4	IAML			06:26	12.40	3	0.16		
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	INVG	HE	86.4	IAML			06:26	12.76	2	0.17	
WACR	HZ	44.0	EP			19:22	00.53			-0.01	KPL	HZ	114.0	EP			06:26	02.69			-0.22
WACR	HE	44.0	ES			19:22	06.37			0.04	CLGH	HN	145.0	ES			06:26	24.85			-0.12
WACR	HE	44.0	IAML			19:22	08.40	6	0.19		December 26 2017 Time: 15:04 07.8 UTC Magnitude: 1.0 ML										
WACR	HN	44.0	IAML			19:22	08.44	8	0.31		Lat: 52.591N Lon: -1.809W Depth: 8.1 km										
ELMS	HZ	63.9	EP			19:22	03.60			-0.11	Grid Ref: 412.94 kmE 299.30 kmN RMS: 0.20 secs										
ELMS	HE	63.9	ES			19:22	11.75			-0.06	Locality: SUTTON, WEST MIDLANDS										
ELMS	HE	63.9	IAML			19:22	12.74	14	0.60		Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										
ELMS	HN	63.9	IAML			19:22	15.46	12	0.68		Comment: SUTTON COLDFIELD										
CWF	HZ	109.0	EP			19:22	10.70			-0.09	STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
CWF	HE	109.0	ES			19:22	23.52			-0.55	CWF	HZ	37.6	EP			15:04	14.52			0.04
LBWR	HZ	170.0	EP			19:22	20.27			0.44	CWF	HN	37.6	ES			15:04	19.13			-0.26
HLM1	HE	211.0	ES			19:22	49.30			0.74	CWF	HE	37.6	IAML			15:04	19.30	8	0.12	
HLM1	HE	211.0	IAML			19:22	50.59	3	0.34		CWF	HN	37.6	IAML			15:04	19.38	9	0.10	
HLM1	HN	211.0	IAML			19:22	51.30	2	0.25		HLM1	HZ	73.2	EP			15:04	20.07			0.04
MCH1	HN	225.0	ES			19:22	52.22			0.74	HLM1	HE	73.2	ES			15:04	28.81			-0.17
December 20 2017 Time: 08:15 46.3 UTC Magnitude: 1.5 ML										HLM1	HN	73.2	IAML			15:04	28.96	10	0.16		
Lat: 56.640N Lon: -5.906W Depth: 7.7 km										HLM1	HE	73.2	IAML			15:04	29.06	11	0.22		
Grid Ref: 160.53 kmE 756.61 kmN RMS: 0.30 secs										LBWR	HZ	90.4	EP			15:04	23.06			0.38	
Locality: MORVERN, HIGHLAND										LBWR	HE	90.4	ES			15:04	33.54			-0.04	
Velocity model: Lownet Xnear: 150.0 Xfar: 300.0										LBWR	HE	90.4	IAML			15:04	34.28	12	0.15		
Comment: FELT LISMORE... Intensity: 3										LBWR	HN	90.4	IAML			15:04	34.46	7	0.17		
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	FOEL	HE	99.7	ES			15:04	35.99			-0.11
LAW	HZ	52.6	IP		C	08:15	55.53			0.23	MCH1	HZ	105.0	EP			15:04	24.98			0.11
LAW	HN	52.6	ES			08:16	01.89			0.00	MCH1	HE	105.0	ES			15:04	37.38			0.02
LAW	HN	52.6	IAML			08:16	02.64	38	0.13		MCH1	HN	105.0	IAML			15:04	38.35	3	0.18	
LAW	HE	52.6	IAML			08:16	02.79	35	0.10		MCH1	HE	105.0	IAML			15:04	40.75	3	0.14	
KPL	HZ	79.3	EP			08:15	59.25			-0.17	LLW	BN	129.0	ES			15:04	43.60			-0.02
KPL	HE	79.3	ES			08:16	08.91			-0.10	December 26 2017 Time: 22:40 05.8 UTC Magnitude: 1.7 ML										
KPL	HE	79.3	IAML			08:16	11.08	34	0.12		Lat: 56.438N Lon: -5.741W Depth: 8.8 km										
KPL	HN	79.3	IAML			08:16	11.16	27	0.32		Grid Ref: 169.41 kmE 733.58 kmN RMS: 0.20 secs										
INVG	HZ	117.0	EP			08:16	05.44			0.13	Locality: MULL, ARGYLL & BUTE										
INVG	HN	117.0	ES			08:16	19.07			-0.13	Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0										
INVG	HN	117.0	IAML			08:16	20.11	9	0.11		Comment: FELT MULL... Intensity: 3										
INVG	HE	117.0	IAML			08:16	20.15	12	0.12		STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LINV	HZ	173.0	EP			08:16	13.82			0.59	LAW	HZ	29.0	IP		C	22:40	11.20			-0.01
LINV	HN	173.0	IAML			08:16	34.57	8	0.44		LAW	HE	29.0	ES			22:40	14.78			-0.35
LINV	HE	173.0	IAML			08:16	34.75	16	0.36		LAW	HE	29.0	IAML			22:40	15.01	111	0.18	
LEWI	HZ	177.0	EP			08:16	13.68			-0.11	LAW	HN	29.0	IAML			22:40	15.25	123	0.10	
LEWI	HE	177.0	IAML			08:16	34.97	4	0.19		KPL	HZ	100.0	IP		D	22:40	22.08			-0.18
LEWI	HN	177.0	IAML			08:16	35.28	4	0.21		KPL	HE	100.0	ES			22:40	34.35			0.10
NEWG	HZ	199.0	EP			08:16	16.49			-0.04	KPL	HE	100.0	IAML			22:40	35.99	26	0.48	
GALL	HZ	211.0	EP			08:16	17.17			-0.83	KPL	HN	100.0	IAML			22:40	36.08	18	0.20	
December 22 2017 Time: 01:39 46.7 UTC Magnitude: 0.5 ML										PGB1	HZ	105.0	EP			22:40	23.54			0.57	
Lat: 57.187N Lon: -4.458W Depth: 7.5 km										INVG	HZ	105.0	EP			22:40	22.81			-0.16	
Grid Ref: 251.46 kmE 813.34 kmN RMS: 0.30 secs										INVG	HE	105.0	IAML			22:40	35.96	16	0.12		
Locality: WHITEBRIDGE, HIGHLAND										INVG	HN	105.0	IAML			22:40	36.85	29	0.30		
Velocity model: Lownet Xnear: 100.0 Xfar: 200.0										PGB1	HE	105.0	ES			22:40	35.58			0.11	
STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES	PGB1	HE	105.0	IAML			22:40	37.05	29	0.32	
KPL	HZ	74.1	EP			01:39	59.33			0.25	PGB1	HN	105.0	IAML			22:40	37.54	31	0.48	
KPL	HE	74.1	ES			01:40	07.80			-0.28	CLGH	HZ	153.0	EP			22:40	29.96			0.00
KPL	HN	74.1	IAML			01:40	08.20	2	0.32		CLGH	HE	153.0	IAML			22:40	51.41	10	0.16	
KPL	HE	74.1	IAML																		

## TABLE 2 : PHASE DATA

December 26 2017      Time: 23:29 37.8 UTC      Magnitude: 1.0 ML  
 Lat: 53.455N      Lon: -2.702W      Depth: 7.5 km  
 Grid Ref: 353.39 kmE 395.62 kmN      RMS: 0.30 secs  
 Locality: ST HELENS, MERSEYSIDE  
 Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
LBWR	HZ	65.2	EP			23:29	48.63			-0.23
LBWR	HN	65.2	ES			23:29	57.09			0.18
LBWR	HE	65.2	IAML			23:29	57.49	9	0.22	
LBWR	HN	65.2	IAML			23:29	58.68	9	0.18	
FOEL	HZ	71.2	EP			23:29	49.77			-0.03
FOEL	HE	71.2	ES			23:29	58.94			0.40
HPK	HZ	90.6	EP			23:29	52.73			-0.04
HPK	HE	90.6	ES			23:30	03.36			-0.30
HPK	HE	90.6	IAML			23:30	04.14	10	0.22	
HPK	HN	90.6	IAML			23:30	04.35	15	0.22	
LLW	BZ	93.2	EP			23:29	53.39			0.22
LLW	BE	93.2	ES			23:30	03.96			-0.40
LLW	BN	93.2	IAML			23:30	05.79	3	0.10	
LLW	BE	93.2	IAML			23:30	05.97	2	0.16	
HLM1	HE	105.0	ES			23:30	07.29			-0.29
HLM1	HE	105.0	IAML			23:30	08.40	4	0.39	
HLM1	HN	105.0	IAML			23:30	08.98	3	0.15	
WLF1	HZ	114.0	EP			23:29	56.45			0.04
WLF1	HN	114.0	ES			23:30	09.69			-0.28
WLF1	HE	114.0	IAML			23:30	11.07	5	0.12	
WLF1	HN	114.0	IAML			23:30	11.62	8	0.18	
WPS	HZ	120.0	EP			23:29	57.53			0.31
WPS	HN	120.0	ES			23:30	11.25			-0.13
WPS	HE	120.0	IAML			23:30	11.47	3	0.30	
WPS	HN	120.0	IAML			23:30	12.10	3	0.25	
CWF	HN	123.0	ES			23:30	12.43			0.13
CWF	HN	123.0	IAML			23:30	13.99	3	0.11	
CWF	HE	123.0	IAML			23:30	14.04	4	0.10	
YRC	EZ	127.0	EP			23:29	58.62			0.32
EDMD	HZ	161.0	EP			23:30	02.90			-0.23
EDMD	HE	161.0	ES			23:30	21.90			0.31

December 31 2017      Time: 08:56 40.5 UTC      Magnitude: 1.9 ML  
 Lat: 50.101N      Lon: -3.169W      Depth: 7.3 km  
 Grid Ref: 316.41 kmE 23.05 kmN      RMS: 0.50 secs  
 Locality: ENGLISH CHANNEL  
 Velocity model: Lownet Xnear: 125.0 Xfar: 250.0  
 Comment: 40KM SE DARTMOUTH

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
DYA	HZ	65.8	EP			08:56	51.22			-0.41
DYA	HN	65.8	ES			08:56	58.80			-0.95
SBD	BZ	120.0	EP			08:57	00.27			0.30
SBD	BE	120.0	ES			08:57	14.11			-0.06
JLP	EZ	122.0	EP			08:57	00.12			-0.21
JSA	HZ	125.0	EP			08:57	00.51			-0.17
JSA	HN	125.0	ES			08:57	15.09			-0.31
JSA	HN	125.0	IAML			08:57	16.26	26	0.28	
JSA	HE	125.0	IAML			08:57	16.80	36	0.20	
JRS	EE	128.0	EP			08:57	01.47			0.35
JDC	EZ	129.0	EP			08:57	01.35			-0.02
JDG	EZ	129.0	EP			08:57	01.50			0.13
HTL	HZ	136.0	EP			08:57	03.30			0.94
HTL	HN	136.0	IAML			08:57	22.59	21	0.15	
HTL	HE	136.0	IAML			08:57	23.85	22	0.28	
CCA1	HZ	147.0	EP			08:57	04.90			0.91
CCA1	HN	147.0	ES			08:57	21.32			0.20
CCA1	HE	147.0	IAML			08:57	22.67	15	0.14	
CCA1	HN	147.0	IAML			08:57	22.88	25	0.13	
ROSF	BZ	196.0	EP			08:57	09.69			-0.78

December 27 2017      Time: 11:54 14.0 UTC      Magnitude: 2.1 ML  
 Lat: 52.803N      Lon: 1.839W      Depth: 5.0 km  
 Grid Ref: 658.73 kmE 329.77 kmN      RMS: 0.40 secs  
 Locality: SOUTHERN NORTH SEA  
 Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0  
 Comment: 11KM OFF NORFOLK

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
WACR	HZ	82.2	EP			11:54	27.52			-0.28
WACR	HN	82.2	ES			11:54	37.36			-0.48
WACR	HE	82.2	IAML			11:54	38.87	44	0.10	
WACR	HN	82.2	IAML			11:54	38.87	43	0.26	
ELMS	HZ	97.8	EP			11:54	30.58			0.35
ELMS	HE	97.8	ES			11:54	41.94			-0.11
ELMS	HN	97.8	IAML			11:54	43.62	125	0.28	
ELMS	HE	97.8	IAML			11:54	45.19	130	0.22	
LMK	HZ	162.0	EP			11:54	39.60			-0.20
LMK	HE	162.0	ES			11:54	58.77			0.17
LMK	HE	162.0	IAML			11:54	58.95	89	0.38	
LMK	HN	162.0	IAML			11:55	02.24	110	0.28	
CWF	HZ	212.0	EP			11:54	45.94			-0.30
CWF	HN	212.0	ES			11:55	10.59			0.84
CWF	HN	212.0	IAML			11:55	13.07	15	0.14	
CWF	HE	212.0	IAML			11:55	14.01	8	0.14	

December 29 2017      Time: 02:03 02.3 UTC      Magnitude: 1.0 ML  
 Lat: 52.025N      Lon: -3.763W      Depth: 7.4 km  
 Grid Ref: 279.05 kmE 237.80 kmN      RMS: 0.10 secs  
 Locality: LLANDOVERY, CARMARTHNS  
 Velocity model: Lownet Xnear: 500.0 Xfar: 1000.0

STAT	CO	DIST	PHAS	WT	P	HrMn	SECS	AMPL	PERI	RES
MCH1	HZ	52.6	EP			02:03	11.28			-0.07
MCH1	HN	52.6	ES			02:03	17.77			-0.19
MCH1	HN	52.6	IAML			02:03	17.98	17	0.15	
MCH1	HE	52.6	IAML			02:03	18.05	9	0.16	
LLW	BZ	91.9	EP			02:03	17.70			0.26
LLW	BE	91.9	ES			02:03	28.40			-0.10
LLW	BE	91.9	IAML			02:03	30.44	2	0.15	
LLW	BN	91.9	IAML			02:03	30.64	1	0.28	
FOEL	HZ	104.0	EP			02:03	19.23			-0.07
FOEL	HN	104.0	ES			02:03	31.74			0.04
STRD	HE	114.0	ES			02:03	34.30			-0.01
STRD	HN	114.0	IAML			02:03	35.19	5	0.16	
STRD	HE	114.0	IAML			02:03	35.36	8	0.46	
WLF1	HN	147.0	ES			02:03	42.57			-0.18
WLF1	HN	147.0	IAML			02:03	43.41	4	0.26	
WLF1	HE	147.0	IAML			02:03	43.49	8	0.16	
CWF	HZ	185.0	EP			02:03	30.96			0.15
CWF	HN	185.0	ES			02:03	51.80			0.17
CWF	HE	185.0	IAML			02:03	52.36	1	0.10	
CWF	HN	185.0	IAML			02:03	52.53	1	0.14	

TABLE 3

## GEOGRAPHIC COORDINATES OF SEISMOGRAPH STATIONS, 2017

Code	Name	Lat	Lon	E (km)	N (km)	Ht (m)	Comp
AQ01	HOSCAR	53.6068	-2.7944	347.53	412.54	24	BB
AQ02	BANKS	53.6905	-2.8967	340.88	421.94	17	BB
AQ03	WARTON	53.7595	-2.8866	341.65	429.61	23	BB
AQ04	BALLAM	53.7760	-2.9690	336.24	431.51	11	BB
AQ06	THISTLETON	53.8250	-2.9110	340.13	436.91	28	BB
AQ07	GOOSNARGH	53.8420	-2.6660	356.28	438.62	90	BB
AQ09	RAWCLIFFE	53.8846	-2.9048	340.62	443.54	7	BB
AQ10	GARSTANG	53.9150	-2.8270	345.78	446.86	22	BB
AQ12	SELSIDE	54.4370	-2.7520	351.32	504.88	389	BB
AR01	HASLINGDEN	53.7022	-2.3450	377.32	422.92	256	BB
AR05	SKIPTON	53.9910	-2.0190	398.85	454.99	259	BB
AR09	INGLETON	54.2260	-2.4410	371.35	481.23	481	BB
AS02	UPPERMILL	53.5542	-1.9856	401.05	406.40	287	BB
AS03	WAINSTALLS	53.7674	-1.9563	402.98	430.12	376	BB
AS07	CARLTON	54.2540	-1.9380	404.14	484.26	411	BB
AS10	WINSTON	54.5520	-1.8320	410.96	517.43	156	BB
AT08	MYTON-ON-SWALE	54.0985	-1.3110	445.16	467.18	19	BB
AT10	SNILESWORTH	54.3700	-1.1760	453.63	497.48	333	BB
AT12	BISHOPTON	54.5770	-1.4480	435.78	520.34	62	BB
AU05	LAYTHAM	53.8599	-0.8741	474.15	441.00	3	BB
AU07	BIRKDALE	54.1120	-0.9590	468.15	468.96	102	BB
AU08	SOUTH WOLD	54.1238	-0.6613	487.59	470.60	175	BB
AU09	BARTON-LE-STREET	54.1460	-0.8910	472.54	472.81	103	BB
AU10	KIRBY MISPERTON 1	54.1960	-0.8180	477.21	478.45	20	BB
AU11	EAST NESS	54.1974	-0.9325	469.74	478.49	34	BB
AU13	KIRBY MISPERTON 2	54.1993	-0.7941	478.77	478.84	25	BB
AU14	KIRBY MISPERTON 3	54.2030	-0.8320	476.29	479.21	23	BB
AU15	NORMANBY	54.2285	-0.8794	473.15	482.00	60	BB
AU16	KIRBY MISPERTON 4	54.2385	-0.8125	477.49	483.18	21	BB
AU18	THORNTON DALE	54.2482	-0.7095	484.18	484.38	83	BB
AU20	PICKERING	54.2940	-0.7870	479.05	489.39	151	BB
AV06	GANTON	54.1630	-0.4820	499.21	475.20	173	BB
BIGH	UPPER BIGHOUSE	58.4932	-3.9102	288.75	957.69	70	BBSMR
CCA1	CARNMENELLIS	50.1866	-5.2277	169.62	36.90	210	BBSMR
CLGH	CUSHENDALL	55.0828	-6.1106	137.76	584.21	239	BBR
CWF	CHARWOOD FST	52.7385	-1.3076	446.74	315.91	203	BBSMR
DRUM	DRUMTOCHTY	56.9123	-2.4865	370.48	780.23	208	BBSMR
DYA	YADSWORTHY	50.4353	-3.9310	262.88	61.34	292	BBR
EAB	ABERFOYLE	56.1887	-4.3373	254.97	702.02	279	1R
EAU	AUCHINOON	55.8454	-3.4474	309.38	662.30	359	1R
EBL	BROAD LAW	55.7723	-3.0445	334.48	653.71	436	1R
EDI	EDINBURGH	55.9233	-3.1875	325.80	670.66	125	BBR
EDMD	EDMUNDBYERS	54.8312	-1.9636	402.43	548.48	337	BBR
EDU	DUNDEE	56.5477	-3.0110	337.85	739.97	421	1R
ELMS	ELMSETT	52.0934	0.9895	604.88	248.11	75	BBSMR
ELSH	ELHAM	51.1482	1.1345	619.32	143.44	126	BBSMR
ESK	ESKDALEMUIR	55.3165	-3.2052	323.52	603.16	261	BBR
ESY	STONEYPATH	55.9175	-2.6141	361.62	669.55	337	1R
FOEL	FOEL WYLFA	52.8898	-3.2012	319.27	333.15	449	BBSMR
GAL1	GALLOWAY	54.8664	-4.7114	226.02	555.78	117	BBR
GDLE	GLAISDALE	54.4218	-0.8157	476.94	503.57	228	BBSMR
GMK	MULL OF KINTYRE	55.3458	-5.5934	172.19	611.64	164	1R
GMM	MTNS OF MOURNE	54.2377	-5.9498	142.66	489.67	155	1R
GVIE	GLENDOE VIEW	57.1010	-4.5590	245.04	804.04	663	BB
HEX	EXMOOR	51.0664	-3.8026	273.71	131.28	230	1R
HLM1	LONG MYND	52.5184	-2.8807	340.25	291.57	429	BBR
HMNX	HERSTMONCEUX	50.8674	0.3363	564.49	110.15	26	BBR
HPK	HAVERAH PARK	53.9581	-1.6241	424.66	451.42	233	BBSMR
HTL	HARTLAND	50.9943	-4.4849	225.64	124.66	86	BBSMR

TABLE 3

## GEOGRAPHIC COORDINATES OF SEISMOGRAPH STATIONS, 2017

Code	Name	Lat	Lon	E (km)	N (km)	Ht (m)	Comp
INVG	INVERGELDIE	56.4273	-4.0452	273.96	727.99	279	BBSMR
IOMK	KIRK MICHAEL	54.2605	-4.5662	232.95	488.02	188	BBR
JDC	DAM (CREST)	49.1947	-2.0469			39	SMR
JDG	DAM (GALLERY)	49.1947	-2.0469			7	SMR
JLP	LES PLATONS	49.2486	-2.1039			129	1R
JQE	QUEENS EAST	49.2000	-2.0383			58	1R
JRS	MAISON ST LOUIS	49.1922	-2.0922			56	3R
JSA	ST AUBINS	49.1878	-2.1717			39	BBR
JVM	VALLE DE LA MARE	49.2169	-2.2067			64	1R
KAC	ACHNASHELLACH	57.4989	-5.2988	202.36	850.19	206	1R
KESW	KESWICK	54.5886	-3.1048	328.70	522.05	282	BBSMR
KPL	PLOCKTON	57.3391	-5.6527	180.21	833.50	13	BBSMR
LAWE	LOCH AWE	56.2601	-5.3990	189.58	712.71	137	BBSMR
LBWR	LADYBOWER	53.4016	-1.7248	418.40	389.45	353	BBSMR
LEWI	LEWIS	58.1446	-6.8696	113.57	927.65	69	BBR
LINV	LOCH INVER	58.1470	-5.1970	211.94	922.03	57	BBR
LMK	MARKET RASEN	53.4573	-0.3274	511.15	396.92	133	BBSMR
LRW	LERWICK	60.1360	-1.1779	445.66	1139.27	98	BBSMR
MCD	COLEBURN DISTIL	57.5828	-3.2541	325.02	855.42	293	BBR
MCH1	MICHAELCHURCH	51.9974	-2.9983	331.47	233.74	219	BBSMR
MDO	DOCHFOUR	57.4409	-4.3633	258.17	841.39	415	1R
MLA1	LATHERON	58.3055	-3.3627	320.15	935.98	188	1R
MME1	MEIKLE CAIRN	57.3149	-2.9647	341.90	825.32	475	1R
MONM	MONMOUTH	51.8396	-2.8054	344.61	215.98	145	BBR
MVH1	ACHVAICH	57.9250	-4.1825	270.75	894.90	185	1R
NEWG	NEW GALLOWAY	55.1173	-4.2299	257.88	582.59	151	BBR
OLDB	OLDBURY	51.6609	-2.5514	361.95	195.94	6	BBSMR
PGB1	GLENIFFERBRAES	55.8115	-4.4837	244.38	660.37	199	BBR
RSBS	ROSEBUSH	51.9530	-4.7448	211.48	231.84	278	BBR
SAN1	SANDWICK	60.0179	-1.2392	442.41	1126.08	150	1R
SKP1	KOPHILL	51.7218	-0.8096	482.22	203.29	212	1R
SOFL	SORNFELLI	62.0689	-6.9658			721	BBR
SPK	SELLA PARK	54.4183	-3.4913	303.24	503.58	50	SM
SSW	STOW-ON-WOLD	51.9667	-1.8499	410.31	229.86	291	1R
STNC	STOKE	53.0913	-2.2062	354.95	386.19	234	BBR
STRD	STROUD	51.7763	-2.1643	388.77	208.64	200	BBR
SWN1	SWINDON	51.5137	-1.8007	413.83	179.49	192	BBSMR
TOA	TORNESS A	55.9692	-2.4037	374.80	675.20	5	SM
TOB	TORNESS B	55.9673	-2.4085	374.50	674.99	5	SM
THP	THORPE	54.4183	-3.4913	303.24	503.58	50	SM
WACR	WEST ACRE	52.7247	0.6267	577.48	317.35	66	BBSMR
WAL1	WALLS	60.2564	-1.6173	421.18	1152.46	167	1R
WIM	ISLE OF MAN	54.1475	-4.6738	225.39	475.73	386	1R
WLF1	LLYNFAES	53.2894	-4.3966	240.27	379.65	58	BBSMR
WME	MYNDD EILIAN	53.3969	-4.3032	246.88	391.40	129	1R
WPM1	PENMAENMAWR	53.2581	-3.9048	272.95	375.18	353	1R
WPS	CAMAES, ANGLESEY	53.4004	-4.4986	233.98	392.19	16	BBSMR
YEL1	YELL	60.5509	-1.0830	450.29	1185.55	203	1R
YLL	LLANBERIS	53.1402	-4.1704	254.84	362.57	159	1R
YRC	RHOSCOLYN	53.2508	-4.5753	228.21	375.77	22	1R
YRE	YR EIFL	52.9810	-4.4254	237.19	345.42	197	1R

**Component Codes:**

- 1 Single vertical seismometer
- 3 Orthogonal set of 3 seismometers
- SM Strong motion seismometers
- BB Broadband Instruments
- R Station coordinates registered with the International Seismological Centre (ISC), England and the National Earthquake Information Centre (NEIC), USA

**TABLE 4****Depth / crustal velocity models used in earthquake locations**

<b>Structural area</b>	<b>Depth to top of layer (km)</b>	<b>P-wave velocity (km/sec)</b>	<b>Vp/Vs</b>
North Sea	0.00	6.20	1.73
	12.00	6.50	
	23.00	7.10	
	31.00	8.05	
Lownet and general UK	0.00	4.00	1.73
	2.52	5.90	
	7.55	6.45	
	18.87	7.00	
	34.15	8.00	
Borders	0.00	4.10	1.71
	3.00	5.60	
	4.10	6.15	
	17.00	6.60	
	30.00	8.00	
North Wales (Lleyn)	0.00	5.40	1.68
	2.00	6.05	
	13.00	6.50	
	25.00	6.80	
	34.00	8.00	
Mid Wales	0.00	5.40	1.72
	3.80	6.05	
	15.50	6.65	
	34.30	8.00	
Cornwall	0.00	5.50	1.77
	0.30	5.76	
	15.00	6.90	
	30.00	8.00	

# Appendix 1 Key to Catalogue Encoding

YearMoDy	Year, month and day of event.
HrMn Secs	Time of occurrence of event in hours, mins and secs, (UTC).
Lat	Latitude of the event, positive latitude indicates North.
Lon	Longitude of the event, positive longitude indicates East.
kmE	UK National Grid Reference in kilometres east of grid origin.
kmN	UK National Grid Reference in kilometres north of grid origin.
Dep	Depth of the hypocentre in kilometres.
Mag	Richter local magnitude of the event.
Locality	A geographical indication of the epicentral area, usually the nearest town followed by the region. A key to the abbreviations used in the locality column are given below.
Int	Maximum EMS intensity. 2, 3, 4, 5 etc. describes the maximum EMS intensity produced by the event.
Comments	Additional comments about the event e.g.: C/F, see below under comments abbreviations.

The following abbreviations are extracted from the output of the location program HYPOCENTER (Leinart and Havskov, 1995)

No	Total number of P and S readings used in the event location.
Gap	Largest azimuthal separation in degrees between stations.
RMS	Root Mean Square of the travel time residuals in seconds.
ERH	Standard error of the epicentre in kilometres. When this column is blank, the error is large and indeterminate.
ERZ	Standard error of the focal depth in kilometres. When this column is blank, the error is large and indeterminate.

## Locality and Comments abbreviations

Sonic	Sonic event
Worcs	Worcestershire
Oxon	Oxfordshire
Co	County
D & G	Dumfries & Galloway
Carmarths	Carmarthenshire
Glos	Gloucestershire
Lincs	Lincolnshire
Salop	Shropshire
E Dunbarton	East Dunbartonshire
...	and felt elsewhere

## Appendix 2 Key to Phase Data Encoding

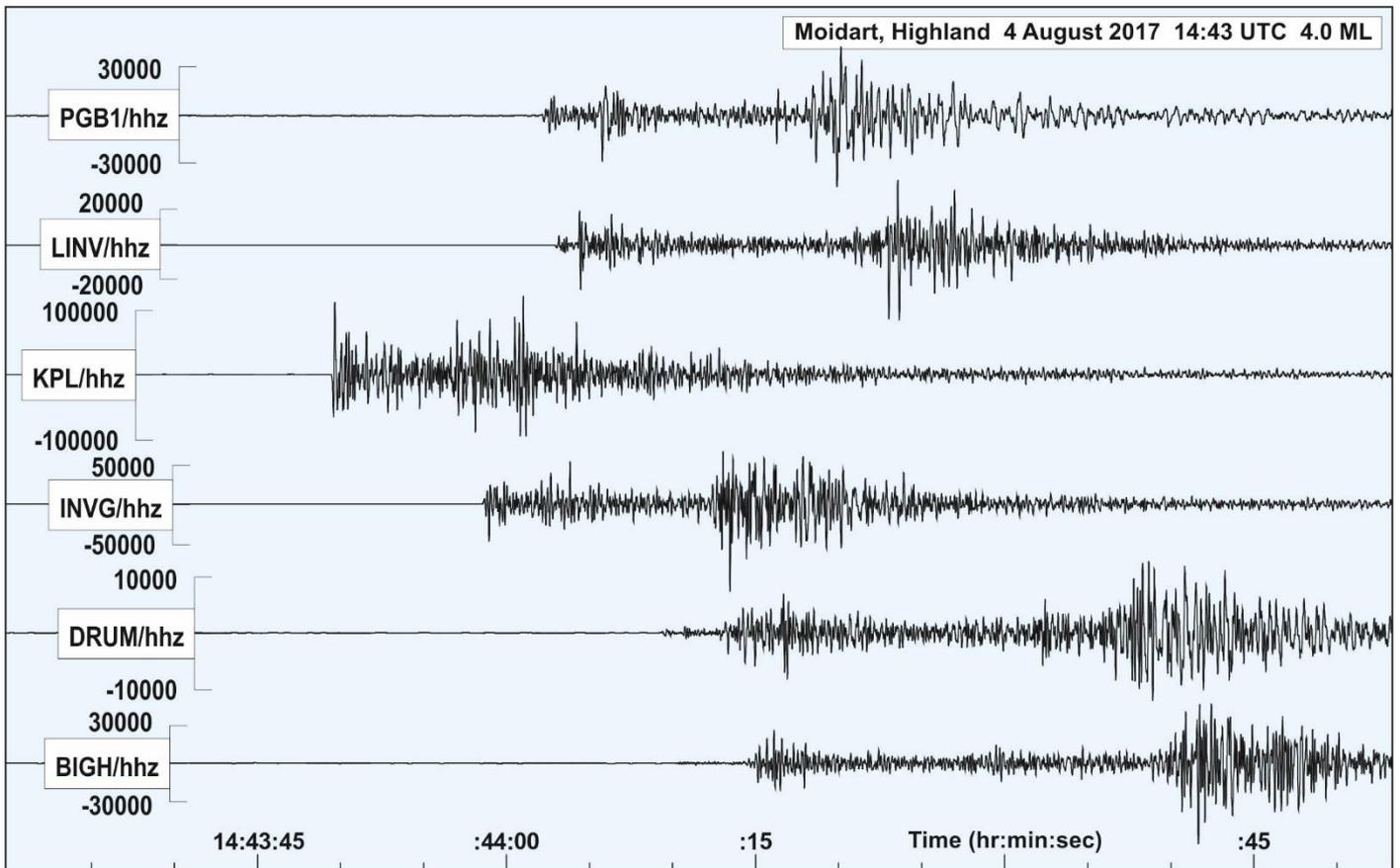
Time	Time of occurrence of event in hours, mins and secs, (UTC).
Lat	Latitude of the event, N indicates North.
Lon	Longitude of the event, W indicates West, E indicates East.
Depth	Depth of the hypocentre in kilometres.
Grid Ref	UK National Grid Reference in kilometres east (kmE) and kilometres north (kmN) of grid origin.
RMS	Root Mean Square of the travel time residuals in seconds.
Velocity Model	Velocity model used in location.
Magnitude	Richter local magnitude of the event.
Locality	A geographical indication of the epicentral area, usually the nearest town followed by the region.
Intensity	Maximum EMS intensity. 2, 3, 4, 5 etc. describes the maximum EMS intensity produced by the event.
Comments	Additional comments about the event e.g.: C/F see list of comments and abbreviations in Appendix 1.
STAT	Station name
CO	Z=vertical N=north south E=east west
DIST	Distance from earthquake to station (km)
PHAS	Phase identifier; the first letter characterizes onset E=emergent I=impulsive, the second indicates the phase e.g. P, S, PG, PN, IAML
WT	Weighting factor to arrival. 0 or blank=full weighting to 4=zero weighting (ignore). 9=use P S interval only for this line.
P	Polarity C=Compression/up D=Dilatation/down
HrMn	Hour, Minute of event
SECS	Seconds of event
AMPL	Amplitude centre to peak in nanometres (nm)
PERI	Period in seconds
RES	Station residual

## Appendix 3 The European Macroseismic Scale (EMS 98)

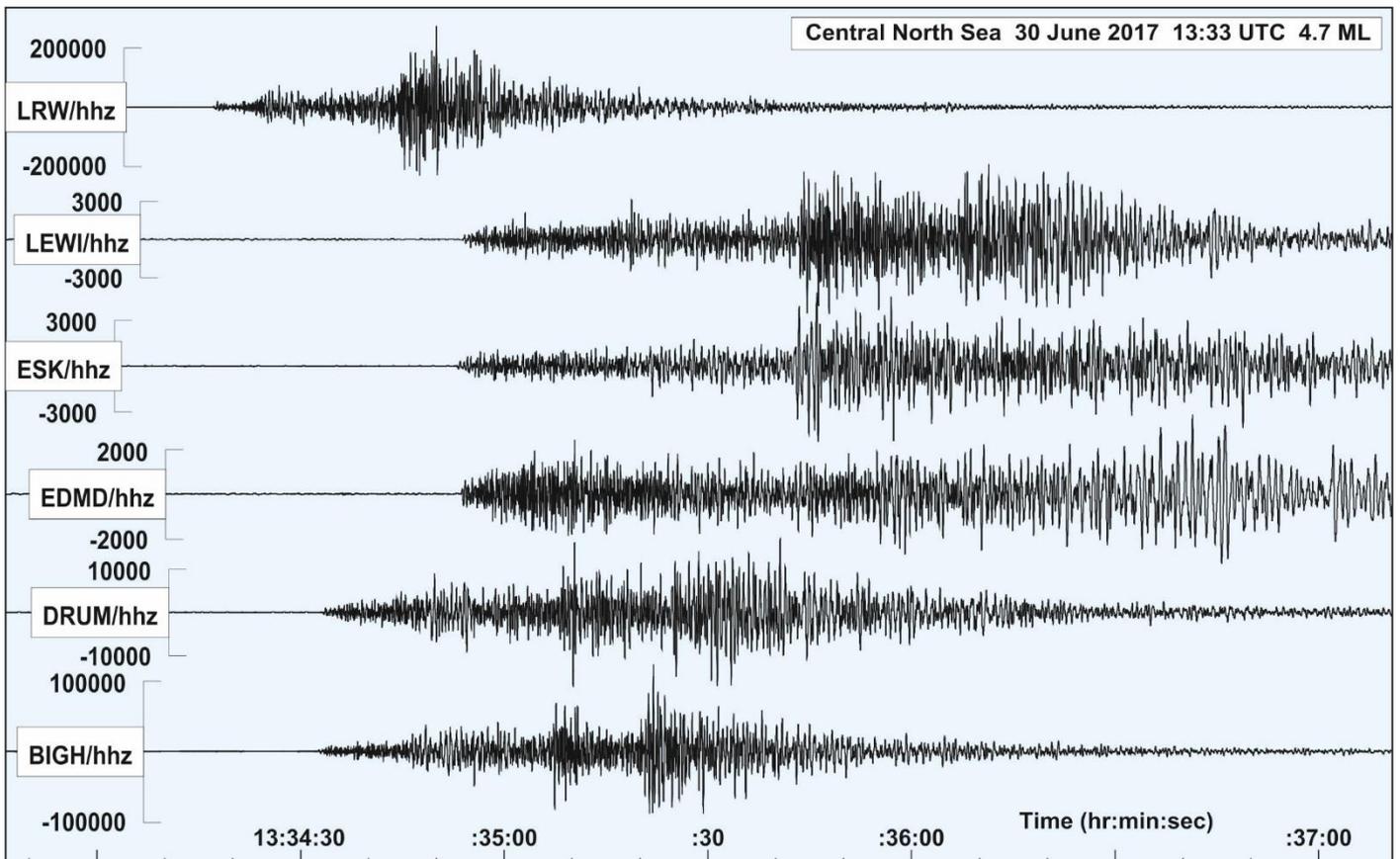
- 1 - **Not felt**  
Not felt, even under the most favourable circumstances.
- 2 - **Scarcely felt**  
Vibration is felt only by individual people at rest in houses, especially on upper floors of buildings.
- 3 - **Weak**  
The vibration is weak and is felt indoors by a few people. People at rest feel a swaying or light trembling.
- 4 - **Largely observed**  
The earthquake is felt indoors by many people, outdoors by very few. A few people are awakened. The level of vibration is not frightening. Windows, doors and dishes rattle. Hanging objects swing.
- 5 - **Strong**  
The earthquake is felt indoors by most, outdoors by few. Many sleeping people awake. A few run outdoors. Buildings tremble throughout. Hanging objects swing considerably. China and glasses clatter together. The vibration is strong. Top heavy objects topple over. Doors and windows swing open or shut.
- 6 - **Slightly damaging**  
Felt by most indoors and by many outdoors. Many people in buildings are frightened and run outdoors. Small objects fall. Slight damage to many ordinary buildings e.g.; fine cracks in plaster and small pieces of plaster fall.
- 7 - **Damaging**  
Most people are frightened and run outdoors. Furniture is shifted and objects fall from shelves in large numbers. Many ordinary buildings suffer moderate damage: small cracks in walls; partial collapse of chimneys.
- 8 - **Heavily damaging**  
Furniture may be overturned. Many ordinary buildings suffer damage: chimneys fall; large cracks appear in walls and a few buildings may partially collapse.
- 9 - **Destructive**  
Monuments and columns fall or are twisted. Many ordinary buildings partially collapse and a few collapse completely.
- 10 - **Very destructive**  
Many ordinary buildings collapse.
- 11 - **Devastating**  
Most ordinary buildings collapse.
- 12 - **Completely devastating**  
Practically all structures above and below ground are heavily damaged or destroyed.

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A complete description of the EMS-98 scale is given in: Grünthal, G., (Ed) 1998. European Macroseismic scale 1998. Cahiers du Centre European de Geodynamique et de Seismologie. Vol 15.



Seismograms of the ground displacement from the magnitude 4.0 ML Moidart earthquake on 4 August 2017.



Seismograms of the ground displacement from the magnitude 4.7 ML Central North Sea earthquake on 30 June 2017.