

RIVER KENT AND SOUTH LAKES: A CHRONOLOGY OF FLASH FLOODING

Introduction

The main outcome of this review is a description of the extent of flooding during the major floods that have occurred over the period from the mid seventeenth century. This is presented as a flood chronicle with a summary description of each event.

Sources of Information

Descriptive information is contained in newspaper reports, diaries and further back in time, from Quarter Sessions bridge accounts and ecclesiastical records. The main source for this study has been from newspaper accounts.

Newspaper descriptions include much that is of human interest but only limited information which could be used to define the magnitude of the flood. It is only the latter information which has been extracted for the most part, indicating levels or depths on roads and buildings which may still be identifiable. Such details provide a means of assessing the comparative magnitude of floods.

The main information for Kendal is found in the *Westmorland Gazette* with a record which commences in 1818, although some papers are missing in the early years and continues to the present. This was inspected for each event. In addition the *Kendal Mercury* provided corroborative evidence for floods in the mid nineteenth century.

Associated meteorological information

The publication British Rainfall 1863 – 1968 (Symons British Rainfall from 1863 to 1900) was inspected to identify potential flood dates and to ascertain the meteorological conditions associated with flooding – thaw, thaw with rain, frontal rainfall, convectional storms etc.

The online British Newspaper Archive has a limited number of newspapers and years of record available for Cumbria. The following were added in 2015 and have been accessed.

Cumberland and Westmorland Advertiser, and Penrith Literary Chronicle – 1855 – 1856, 1858 – 1859, 1861 – 1871

Cumberland Pacquet, and Ware's Whitehaven Advertiser – 1777, 1780, 1785, 1787, 1789 – 1808, 1812 – 1836, 1838 – 1842, 1847 – 1849, 1854 – 1856, 1866, 1868 – 1869

Hiflowspeak discharges

For dates from the 1950s onward the rank order of flood peaks is shown for various stations as follows:

AM – rank order of annual maximum floods

AMS - Rank order of annual maximum summer floods (but AM floods are usually in winter so few AMS floods)

Flood Chronology

Date and sources	Rainfall	Description
18 Oct 1635 Curwen (1900) Westmorland Gaz. 23 sep 1865 Chronology 1668/1669		It is reported that a wooden predecessor of Millers Bridge was washed down in a flood (Curwen, 1900).
Westmorland Gaz. 23 Sep 1865 Chronology 11 Sep 1671		The River Kent rose into the vestry. The following day Thomas Miller boat man was drowned in Windermere with 47 men and women and 9 or 10 horses, having been at a wedding.
Part reported in Westmorland Gaz 23 Sep 1865 1679		The Mill Bridge built with stone pillars, the wooden one having been carried away in a flood.
Westmorland Gaz. 23 Sep 1865		<Kendal>?: The river rose 8 feet and swept over the churchyard wall (the parish church?), and 'it left much fish'. It seems also to have reached the floor level of the vestry and it is reported that the wardens were obliged to pay men with a tot of alcohol for removing an old chest out of the reach of the water.
20 Jun 1686 Watkins & White (2007) Cowper (1897)	Thunderstorm	At harvest great floods
Hawkshead Register Book 10 Jun 1689		Flooding affected Claife and Hawkshead on the west side of Windermere in the headwaters of the River Leven.
Hawkshead parish register in Westmorland Gaz. 23 Sep 1865		Thunderstorm on 20 Jun caused a 'terrible' flood, took away bridges, knocked down houses
1738 undated Quarter Sessions Kendal Archives WQ/SR/91/2		'Be it remembered that on the 10 th day of June at night in the year 1689 (Monday) there was such a fierce thunder and fire and rain which occasioned such a terrible flood which has never been before witnessed here. It threw down some houses and mills and took away several bridges. And the water did run through houses and washed down great trees by the roots along with great stones a great way off. Yea, further the water did run so furiously down the highways and made such deep holes in them that neither horse nor foot could pass. The beckes and rivers did break out of their ways and brought exceeding great sand beds into men's grounds at many places. 'I pray God in his great mercy grant than none which is now living may ever see the like again'. Petition of inhabitants of Barbon, Hodge Bridge was formerly built at the expense of the township of Barbon and has been repaired by them at great expense. The said bridge is the high road from Sedbergh to Kirkby Lonsdale and at present down because of a late flood and unless the same be speedily rebuilt it will be difficult for passengers to cross the said water, desire it to be made a county bridge (now A 683). High Constables to view

and report.

22 Aug 1749? Thunderstorm

Storm and flood around the same time as the event in St John's Vale described in the River Derwent flood history. Petitions to the Westmorland Quarter Sessions indicate that there was a second, near contemporary, storm which badly affected Longsleddale (headwaters of River Sprint/Kent), several miles to the south east, demolishing a series of bridges and causing other serious damage.

Watkins
& Whyte (2007)
Crisp, et al
(1964)

Various named persons have rebuilt Wadshaw bridge (destroyed by flood in 1749) in the highroad from Ambleside to Appleby, desire gratuity. Ordered that the High Constable of Kendal ward pay the petitioners £8. Endorsed, account for repair of bridge with brief details of construction.

Kendal archives
WQ/SR/220/11
? Nov 1761

Beetham Repository mentions flooding which "washed down Milnthorp Bridge and did Us some damage" (i.e. at Beetham). The event is also recorded in a Westmorland Quarter Sessions roll which tells how "about the latter end of November ... several Bridges were much damaged ... & especially Milnthorp Bridge was totally swept down"

Ford (1906)

13 Oct 1771

It seems that floods in the Lake District in 1771 preceded the disastrous floods in northeast England which occurred on 17 November. At Beetham on the River Beela, a tributary of the lower Kent, the Rev William Hutton recorded the flood as the "greatest within the memory of man" and observed that "it was not passable at either end of Beetham Bridge for man or horse several hours (Tufnell, 1983). It run over the Meadow Wall on the east end of the bridge and bro' it down, it run with great rapidity thro' the style of the said Meadow"

Tufnell (1983)

Curwen (1900)

Newcastle Journal also refers to damage and loss of life in the Lune valley and at Kendal. The Newcastle Journal also refers to "Betham" where "graves were washed open and corpses and coffins were floating for some time" However, the fact that Hutton a resident of Beetham did not mention this fact in his diary suggests that the occurrence was elsewhere, perhaps Bentham in Lancashire.

Westmorland
Gazette 1861

Newcastle
Journal

In Kendal the flood was recorded on an inscription cut on a pane of glass in a cottage in Stramongate near to the Quaker Meeting House as follows: ((Curwen, 1900 and Westmorland Gazette, 1861)

"On the 13 Day of October 1771 The Flood rose to the mark on The Window Fraims which was cut with a knife and was on The Sabeth Day. The Flood was in the Meting hous So that they Could not atend That Fornoon which was niver known This 83 years at that time The Meting hous was building.

PS The mark on the window Frames is in This front hous"

Gentleman's
Magazine

At Caton near Lancaster there was the greatest inundation in the memory of man with several lives lost. The bridge at Wennington was beaten down; three people were drowned in attempting to cross. A mill was damaged by the River Lune. The Attlebeck (where? Was so rapid and furious that it destroyed bridges and weirs. It is unclear whether this is a misplaced date in Garrets account. Or whether there were two floods.

17 Nov 1771
Garrett (1815)

Constant heavy rain for three days and three nights. Wennington Bridge collapsed and three men standing on it were drowned. At Betham graves were washed open and coffins floating about for some time (see above)

29 Oct 1772

The inscription on the window at Stramongate continued:

“PS on the 29th Day of October 1772 The Flood rose winin a Insh or There about as mentioned above In Stramongate but on Kirkland it was 2 Insh or more higher Than it was in 1771 and some other parts. It was Disputable”.

Nether Bridge in Kendall had had works completed just three weeks earlier to double the width but this flood washed away the new addition. It was subsequently widened again.
At Kendal the river ‘was the highest ever known’

15 Jun 1782
Kendal Mercury
26 Dec 1835
Town
chronology
7-15 July 1783
Cumberland
Pacquet 15 Jul
19 Aug 1783
Cumberland
Pacquet 26 Aug
14 Sep 1786

Unusual thunder and lightning during the past week – nearest reports of loss were two men killed by lightning in Lancaster

No reports of flooding found in Cumbria

Violent storm of thunder and lightning at Kendal. No flooding reported (but note effects in upper Eden). A meteorite at neat the same time caused some consternation amongst the inhabitants.

Hutton again reported at Beetham that there was “a flood equal to that of 1771 with the same Circumstances - till when We have had rain every day since Aug 11th. Gentleman’s Magazine also refers to letters from the coastal and northern parts of Cumbria which were “full of the ruinous effects of the floods, occasioned by the excessive rains that fell on 13th and 14th of September 1786”

Hutton refers to the “17 great Floods at Beetham Bridge during the period May 10th to Dec 25th 1792. This appears to have been a period of persistent heavy rain for in the Kendal-Windermere area, precipitation for the year was 60-70% above normal

1792 various
Parson & White
(1829)
Kendal letter
[WDX 94/2/13](#)
16 Jul 1792
26 Aug 1792
Cumberland
Pacquet
4 Sept
?? 1794

Severe thunder and hail storm that caused great damage in North Westmorland area including Ravenstonedale (SW of Kirkby Stephen). **To be checked.**

An 8 year old boy drowned in the river Lune being carried away by the rapidity of the stream raised by heavy rains [See also Eden and Carlisle]

Referred to in the flood of 1831 when “some ancient man said there was as high a flood in 1794 but the river was less open and the old bridge was up and with less volume” It was concluded the 1794 flood was less than in 1831. The flood was also referred to in 1829.

In the late thunderstorm the rain was said to have been the heaviest ever experienced. Several people were injured and a dog killed by lightning in house in Ulpha. A man was injured by the flood near Kendal.

30 Jul 1797
Cumberland
Pacquet
8 Aug

20 Jul 1803
Cumberland
Pacquet 26 Jul

A dreadful storm of thunder lightning rain and hail occurred at Whitehaven., continuing without intermission for about 2 hours. Considerable damage was done by hail breaking windows and destroying plants. Some hailstones measured 6 inches in circumference. The mountain tops were covered for many hours. The weather had been excessively hot for many days before. The storm was felt as far as Ulverston in the south but did not extend beyond Maryport in the north.

6 Sep 1807
Lancaster Gaz.
12 Sep

3 ½ inches of rain fell at Kendal in 18 hours

A fall of rain for nearly the whole day was accompanied by a gale of wind. The Lune became so rapid that it carried away the compting house at Halton forge. It carried down a large quantity of corn and some cattle. So large a flood has not been seen here for the last 30 years. The River Kent was much swollen and flooded all the low grounds. A young man of Barley Bridge, Staveley was drowned in the flood. [The Ribble was also high] Much damage was done on 26th Ult by lightning at Carmel where 2 horses were killed; also at Newby Bridge and Ulverston.

26 Jul 1809
Cumberland
Pacquet 8 Aug
Kendal Mercury
26 Dec 1835

Dreadful thunderstorm (at Kendal) continued from 10 in the morning until 6 in the evening accompanied by incessant torrents of rain and awful darkness.

Kendal
chronology
7 Jul 1818
Cumberland
Pacquet
14 Jul

Widespread storms. Storm noted between Penny Bridge and Bouth (R Leven) where lightning caused injuries.

25 Jul 1819
Westmorland
Gazette 31 Jul

Heavy and continuous rain for 60 hours had occurred the previous week causing some flooding on Kent and Lune

[Poor library copy] A violent thunderstorm occurred in parts of Cumberland and Westmorland. The River Kent with a rapidity rarely experienced. It appears to have been a very serious even from what can be seen of the text. Perhaps it will be reported in other papers.

Lancaster Gaz.
31 Jul

A thunderstorm with very heavy rain occurred at Kendal. A few miles above Kendal a waterspout fell and the River Mint was greatly swollen. A bull and several calves grazing in a meadow were carried away in the flood over a wall and into an adjoining pasture. Soil and young trees in a plantation were washed away. [See also Derwent and Eden]

Carlisle Patriot 7
Aug 1819

The River Kent rose with a rapidity in Kendal which is seldom experienced but in the immediate vicinity of mountains. Almost every part of the county has experienced the devastating power of the deluge. At Grasmere the river rose suddenly to an uncommon height and swept away a great quantity of hay and tore trees up by the roots. It appears to have been most serious in the Wythburn area, on Steel Fell, a little beyond the boundary between Westmorland and Cumberland. At Raise Gap the torrent opened a chasm in the side of the hill and covered the turnpike at the foot of the mountain with a heap of stones seven feet deep and made it totally impassable. More than a thousand cartloads of stones were deposited one of them more than a ton weight.

Derby Mercury
12 Aug.

At Lambrigg the water rose to 4 feet in a house. At Bampton a house was nearly washed down, trees were torn up and roads were much injured. In some parts of the county the thunder was accompanied by very large hailstones.

In the vicinity of Sedbergh at Hay Fell a waterspout resembling a tall smoking chimney discharged its contents

into the west branch of the Bela and increased the rivulet to an irresistible torrent and carried trees, grain potatoes with sand and gravel towards Hutton Park. The canal reservoir was raised 18 inches in four hours. A similar waterspout fell on Lambrig Fell and entered a dwelling house where the water rose 4 feet almost immediately. The windows on the ground floor gave way. The body of water made its way down the Mint to the Kent as a muddy torrent with a head of water a yard and a half high. Ambleside and Rydal have suffered similarly and a bee hive was ligned in a tree 14 feet from the ground. A horse was killed by lightning. During the violent thunderstorm the elegant obelisk at Tolson Hall in memory of the veterans of Waterloo was struck by lightning and materially damaged. Many stones were thrown a distance of 120 yards.

23 Nov 1822
Kendal chronicle
30 Nov

1 June 1823 No mention of thunder

Cumberland
Pacquet 9 Jun

22 Dec 1824
Westmorland
Gaz. 25 Dec

12 Jul 1828
Lancaster Gaz.
19 Jul

24 Jul 1829
Westmorland
Gaz. 1 Aug

14 Oct 1829
Westmorland
Gaz. 17 Oct

30 Jul 1830
Cumberland
Pacquet 3 Aug

19 Sep 1830
Westmorland
Gaz. 2 Oct

8 Feb 1831

Westmorland
Gazette

Rain fell in torrents and the River Lune was at its highest for several years. Several wooden bridges a horse and several sheep were seen passing down river. The River Wyre was also much flooded. It rose nearly 14 feet in two hours.

Heavy and continuous rains with thunder and lightning flashed among the hills to the north. The River Kent with its hundred tributaries tumbling from the hills rose to a height seldom seen and not often equalled.

Following four days of continuous rainfall thunderstorms were reported in some areas but floods were widespread in northern England. Fields adjoining the Lune, Kent and Ribble were overflowed to a greater or lesser degree.

The town [Kendal] and neighbourhood have been visited by a storm which has been general throughout the kingdom. The lightning occurred from 5.30 until 7 but torrents of rain continued until 3 or 4 in the morning. No damage was reported except for a horse struck dead on Whin Fell. [WG also describes a thunderstorm in Preston (no flooding) and in Liverpool (with flooding described)].

The Kent was at a height not remembered for the last 35 years [1794?]. The lower part of Stramongate was flooded and several cellars and houses in the lower ground at Yanham (Goose Holme and Miller Close) were covered to a depth of 3 feet. At Helsington Laiths water was in pig styes to 18 inches. 'The Kent running in a narrow valley with high land on each side rises and falls with great rapidity'.

Severe thunder and lightning also occurred at Kendal and a man was struck by lightning. [No flooding was reported]

The River Duddon was swollen to a greater height than has been witnessed in the last 18 or 20 years. In Ulpha and Seathwaite corn was laid under water for a distance of about 8 miles and damage (including weirs and fences) is estimated at about £200.

This flood was preceded by heavy snow over northern England and Scotland at the beginning of February with 3 to 6 foot drifts on the road between Kendal and Shap. Thaw commenced on 6 February followed by heavy rain on 7th. The river rose slowly and reached its highest on 8th. The Westmorland Gazette reported that the flood was the highest since the Kent Bridge (Miller Bridge) was built early in the century and recorded the level on the sloping railings on the downstream side of the bridge to Waterside as having reached the base of the 78th rail. The previous highest had been the 36th rail (possibly 1829) and one to two feet higher than ever remembered.

Half of Stramongate was covered to a depth of 3 to 4 feet with cellars overflowing and houses flooded to 2 to 3

feet and reaching as far up as the Nag's Head Yard. Similar flooding occurred at Wildman Street and some houses on the New Road. In Kirkland, the flood was more than a yard deep between bridge and Lound. The Vicarage lawn and shrubbery was covered; water entered the house and damaged books in the lower shelves of the library. The water was two feet deep in the kitchen of Abbot Hall. At Colonel Walk, the water was 7 feet deep.

The watercourse leading to Castle Mills was damaged and the ground floor of cottages at Castle Mills were flooded nearly to their ceilings. Messrs Gandy's mill was flooded. Aynam Bridge stood, 'the water raging furiously over it'. The arches of Nether Bridge were full to within a few inches of the keystones

Outside Kendal the Bowstone Bridge above Burneside was totally destroyed and at Burneside bridge the road at both ends was washed level with the bed of the river, although the arches stood firm.

The water was a foot deep in the Vicarage Library. The apartments on the ground floors of cottages at Castle Mills were filled nearly to the ceilings. A large quantity of logwood was swept away from Messrs Gandy's Mill. A thunderstorm affected much of (present) Cumbria including the Carlisle area and the southwest. In the Bootle area meadows were flooded and hay carried away. A house in Whicham was struck and damaged. Several people were struck by lightning but recovered. There were reports of windows being broken by a heavy shower of hail. Crops were much damaged by hail.

For the last two weeks we have had winds rain and hail that has caused the rivers to swell. It is the most severe weather we have almost ever known. The Lune is higher than usual and has caused much loss of stock. A Claughton farmer lost 93 sheep swept away. A factory at Halton on the Lune is much injured and will have to be rebuilt. The rain was accompanied by lightning and thunder. For the last 25 years the Lune has never risen higher than it has twice in the past week. At Kirby Lonsdale it covered the island seen from the brow over the churchyard. The Mill area up to the dyehouses was also under water. At the bridge the water was fully level with the spring of the arch. The Greta with its tributary from the Ingleton fells damaged the bridge which crosses it near Tunstall. A considerable portion of the road between Greta Bridge and Black Borton was washed away. Thunderstorms were widespread over the Lake District. One notable area was Ulverston. The damage done in the hayfields has been serious. All the lakes are swollen and Windermere rose 9 inches.

A girl was blinded by lightning at Dent and another injured at Longsleddale. The waters near Cartmel were much swollen and trees were blown down.

A thunderstorm with heavy rain came up from Morecambe Bay and arrived over Kendal about 1 pm and continued for about two hours, then a break before it continued between 5 and 6 pm. Lightning damage occurred. In the evening between 8 and 9 the Kent came down in a **muddy mass rising 3 feet in a very short space of time**, carrying away sheep and hay grass. The severity appears to have been greatest in Longsleddale; the river brought down from the mountains much debris, spreading it on the meadows below. At Burneside, Staveley and Shap Wells etc very **large hailstones fell some measuring 3 and 4 inches in circumference. Similar hail was experienced at Kirkby Lonsdale where glass was broken in hothouses and windows.**

A very severe thunderstorm occurred at Bootle (Cumbria). The river rose to a prodigious height flooding all the

Kendal Mercury
26 Dec 1835
Kendal
Chronology

14 Jul 1831
Westmorland
Gaz 23 Jul

Late Dec 1833
Westmorland
Gaz. 28 Dec
1833

17 Jul 1834
Cumberland
Pacquet 22 Jul
Kendal Mercury
26 Jul

5 Jul 1836
Westmorland
Gaz. 9 Jul

29 Jul 1836

Kendal Mercury
6 Aug

houses at New Town, the inmates being forced to move to upper rooms. Much hay and fencing was carried downstream. Two tracks of land, the vale of Annas, extending about 2 miles and the other beginning at Well Bank were completely under water. Crosshouse Bridge was washed away. In Corney, the bridge leading to Borrowdale Ground was washed down. The bridge on the turnpike road near Foul Yeat was also destroyed as was the old bridge at Seaton Hall.

20 Aug 1837
Kendal Mercury
26 Aug
Cumberland

Ulverston: A thunderstorm between 4 and 5 o'clock did considerable damage. It flooded the streets and left sand and gravel almost to 2 feet depth. In the Rose and Crown Inn the mud was 6 inches deep. At Stewner, four cows were killed by lightning and a vessel at Duddon had her topmast split.

Pacquet 15 Aug
3 Jul 1838
Kendal Mercury
14 Jul

In the neighbourhood of Kendal a man breaking stones by the road side was killed by lightning (11 Aug). A thunderstorm with hail and large pieces of ice several inches in circumference passed over a considerable part of the county, a few miles to the north of Kendal. The hail has done great damage to conservatories and skylights in gardens and factories. (The article mentions Rochdale Bolton and Bury etc.. It is not clear if this article refers at all to Westmorland.)

6 Aug 1839
Westmorland
Gaz. 17 Aug
21 Jul 1840
Kendal Mercury
25 Jul
21/22 Nov 1843
Westmorland
Gaz. 25 Nov

The rain fell in such quantities during a thunderstorm in Longsleddale as to cause the River Sprint which has its source there to overflow and cause considerable destruction. Upwards of five acres of one farm was either carried away or very much damaged. Similar loss of crops occurred elsewhere.

Rain occurred every day this week and the River Lune is much swollen with meadow lands under water. A waterspout was observed over Morecombe bay on 21st. The rain fell in torrents in Kendal and the streets were much inundated

In consequence of the heavy rain on 21st and 22nd the river in the vicinity of Sedbergh [Rawthey, tributary of the Lune] was higher than has been known for a good number of years. In some parts of the vale of Dent the road was covered to a depth of 2 feet. The mail between Northallerton and Sedbergh was compelled to come by way of Catterick because of water 7 feet deep on the road at Morton on Swale. The flood entered a few houses of parties near the river.

20 Oct 1844
Westmorland
Gazette 26 Oct
Cumberland
Pacquet 22 Oct
29 Jul 1846
Westmorland
Gaz. 1 Aug

During the past week the weather was extremely varied but included a thunderstorm on 20th with hail. The effect was greatest at Kirkby Ireleth where many panes of glass were broken (in one house 107 panes). A severe thunderstorm was also reported at Sedbergh.

At Ulverston hailstones of uncommon size fell

Thunderstorm with lightning from dusk to dawn but with the greatest intensity after 3 am. Rain caused sudden flooding of mountain rivers. On 30th between 7 and 8 in the morning the River Kent rose with great rapidity; from a clear stream it had become within 2 or 3 hours a broad brown angry flood strewn with haystacks. A wooden bridge at Dockray Hall Mill was demolished.

A similar overnight thunderstorm was reported at Ulverston where the streets were completely flooded and also several shops and houses.

The following week was remarkable for thunder on every day but no additional damage was reported. On 6th two cows were killed by lightning at Rawfold near Broughton in Furness.

Thunderstorm at Kendal when the channels of the streets and yards were flooded for a short time.

Thunderstorms were also reported at Sedbergh but without serious incident.

1 Aug 1847
Kendal Mercury

<p>10 Aug 22 Nov 1847 Westmorland Gaz. 27 Nov 9 Aug 1849 Kendal Mercury 18 Aug Cumberland Pacquet 21 Aug</p>		<p>A tremendous thundershower at Hawkshead caused the beck that runs through the village to break out and flood streets and houses. Three public houses and some pig styes were half flooded. 'It needs hardly be added that the oldest inhabitant never remembers such a scene in this place'. Conistone: A severe thunderstorm occurred on Old man of Coniston. The becks towards Torver were rapidly flooded and the roads covered to a yard deep.</p> <p>Lightning struck the top of Wrynose (Goatskell High fell in Seathwaite) and dislodged 4000 square yards of earth and gravel and was borne by a dense flood down the Rivers Esk and Duddon. The soil completely cleared the soil from the base of Wrynose and laid bare the pavement of the old Roman road. Sheep were swept away by the flood and drowned. At Ambleside buildings were damaged and animals killed by lightning</p>
<p>21 May 1850 Cumberland Pacquet 28 May 22 Aug 1850 Westmorland Gazette 31 Aug 2 Feb 1852</p>		<p>Thunderstorm over Troutbeck. The road over Kirkstone pass between Ambleside and Penrith was white with enormous hailstones as big as hen's eggs and with pieces of ice which did not thaw for some time</p> <p>Flooding on this occasion resulted from persistent rainfall over many days reaching a peak at 08.30 on Monday 2 February, when it was at its highest since 1831. In various places it was reported as within 6 inches and 3 1/2 inches of the 'great flood of 1831'. Houses were again flooded in Stramongate and water extended as far as the Nag's Head Inn. Wildman Street was inundated and the wide space from New Road to Thorny Hills was 'one turbulent lake'. It reached the Railway Inn steps and the door step of the Bridge Inn. In the neighbourhood of Castle Street some cellars were flooded to nearly a foot deeper than in 1831. In Gandy Street the backwater of Stockbeck entered one or two houses. In Kirkland, the old churchyard was inundated, the vicarage grounds were under water and ground floor rooms. Nearby cottages were flooded.</p>
<p>Westmorland Gazette 17 Feb 1852</p>		<p>Above Stramongate Bridge, stone walls and fences on fields adjacent to the river were thrown down. One pier of the railway viaduct at Dockray Hall Mills suffered severe scour. Tanners and skinners near Stramongate suffered loss and a flour warehouse near Nether Bridge was invaded causing damage to stock. The damage done in this instance was less than in 1831 probably due to the slow rise of the flood. Downstream from Kendal, the road from Levens to Beathwaite Green was belly deep to the coach horses and upstream at Staveley, a great portion of the houses in the village was inundated and the bridge opposite the Abbey Hotel was partially swept away. At Hawkshead the water flooded many houses and two of the inns.</p>
<p>13 Jul 1852 Westmorland Gaz. 17 Jul</p>	<p>Very hot and sultry preceding weather which extended as far as France</p>	<p>One of the most violent thunderstorms at Kendal for many years. In the course of an hour or two the river had overflowed the streets in the lower part of town, washing out the tan pits. The water rose very rapidly and as an example the Dockray Hall Mill was working normally at 11.55 but in five minutes the mill was stopped by backwater and the whole yard was flooded to a depth of a foot. Godman Hall was flooded very rapidly. A bridge at Elf How was washed away. Much damage was done to hay crops recently harvested and many animals were reported killed by lightning. At Sedbergh the Settlebeck Gill overflowed its banks. Hebblethwaite Hall Gill was</p>

higher than ever remembered; it broke down the dams at the Bobbin Mill and materially damaged the buildings. The mill and the cottage were inundated to a depth of nearly 4 yards. At Middleton High Stockdale bridge has been partly carried away. All the water rails from the Lune to the fell have been swept away. Two cows were killed by lightning at Hawkshead. At Staveley soil was completely washed away from potato plots. At Ulthwaite Mill 3 pigs were drowned. Four rams were killed by lightning.

17 Jul 1852
Westmorland
gaz. 24 Jul
7 Jul 1853
Kendal Mercury
16 Jul

A severe thunderstorm occurred at Ulverston. A very loud thundersclap was followed by a deluge of rain and in the course of 5 to 10 minutes all the streets were flooded from side to side and pouring down every declivity.

A severe thunderstorm followed a period of dry weather at Barbon with floods causing tearing up roads and washing down walls. Although the Lune was not very high, the tributary rivulets from Barbon and Middleto fells including Barbon Beck have rise to extraordinary heights. Farmers in Middleton and Borrens have suffered from flooding of grass and covering with gravel.

The River Beela which flows through Milnthorpe rose higher than for many years, destroying a large quantity of hay grass.

6 Jun 1855
Westmorland
Gaz. 9 Jun

After a close warm day a thunderstorm burst upon Kendal and in a short time at the bottom of All Hallows Lane, Captain French and other low-lying streets were flooded. A similar storm at Milnthorpe flooded many cottages at the lower end of the town. [Reports were also provided for Appleby and Ravenstonedale but without flooding]

8 Aug 1855
Carlisle Journal
10 Aug

Thunderstorms were widespread. The storm was terrific in the Tebay area. The mountains on each side of the Kendal road from Tebay to Borrowbridge had pouring torrents on their sides which did great damage. The Borrowbridge Inn was instantly flooded. The Lune was greatly swollen and overflowed its banks for miles. The bridge was choked up at Coupland Beck. The mountain where the waterspout is reported to have burst is called Gilframont, a little to the south of Tebay station.

Westmorland
Gaz. 10/18 Aug

The flood at Low Borrowbridge was most severe; the water washed down the earth from the hills to the roads to such a depth that one informant could hardly get his horse through the mud. The flood tore up the rails of the Lancaster to Carlisle railway. At Carlingill the rush of water transformed a field of turnips and pasture into sterile patches of stones and sand. Some farm roads are torn up and rifted to a depth of 6 or 7 feet. The farmhouse at High Carlingill was flooded to a depth of 4 feet. The bridge at Low Carlingill was swept away. One deep culvert under the railway was drifted full of stones and sand and water foamed over the embankment but it withstood. At Sedbergh torrents fell especially on Cautley and Garside. The river Rawthey, Clough and Dee overflowed their banks onto neighbouring meadows causing great damage to hay crops.

A waterspout fell at Gilframont a little south of Tebay. At Kirby Lonsdale the Lune rose to an unusual height in two hours and the waters were very muddy.

Kendal Mercury
16 Aug

At Kirkby Lonsdale a week of unprecedented heat was terminated by a thunderstorm. Sheep and a horse were killed by lightning and some properties were also damaged. At Staveley Head two heifers and a bullock were killed by lightning.

22 Jan 1859

An unusual January thunderstorm occurred in the Coniston area. There was a heavy fall of rain such has not

Westmorland
Gaz. 29 Jan

7 Jun 1859
Westmorland
Gaz. 11 Jun 1859

25 Jan 1861
Westmorland
Gaz. 2 Feb

6 Jul 1861
Kendal Mercury
13 Jul

20? Jul 1861
Cumberland
Pacquet

30 Jul
10 Nov 1861
Westmorland
Gaz. 16 Nov

26 Nov 1861

Westmorland
Gazette

Windermere is at its lowest level for 30 years at 6 feet 3 inches lower than the highest flood level.

The event was preceded by heavy rainfall over the previous several weeks but there was very little snowmelt contribution, as only the tops of the mountains were covered at the onset of the flood. Rainfall measured in Kendal was 2.25 inches but is believed to have been much higher upstream (Windermere rose 2 feet).

been witnessed there since 1852. The heavy rain was late on 22nd and early on 23rd. Coniston Lake and the River Crake were higher than they have been for some years. At Penny Bridge water rushed through houses. Spark Bridge cotton mill was flooded and its weir seriously damaged resulting in the loss of head for the mill. The Mines Beck was swollen.

After a long drought thunder was heard with a little rain in Kendal but shortly afterwards the River Kent came down with greatly increased volume and turbid with soil. Very heavy rain must have fallen in the upper reaches of the Kent. At Burneside and Staveley the rain was heavy and some damage was done to roads by the rush of water.

Longsleddale (headwaters of Sprint/Kent]: It was the scene of the greatest flood for the last 20 years. The meadows were covered with water to a great depth and damage to fencing. It made channels in the road to a considerable depth and length.

Hawkshead and Coniston: thunderstorm with some damage to property from lightning. No flooding noted.

During recent heavy rains the rivers in the Ulverston area were in flood and in the vale of Duddon meadows were flooded and cocks of hay floating down the river.

Orton: A storm of snow and rain with a strong east wind. In the vicinity of Orton Tebay the roads and some of the houses were flooded but damage was not serious.

It was characterised by an unparalleled rate of rise. It appears that this flood was marginally higher than that in 1831, the railing below Millers Bridge again providing the measure, with wrack left between the 93rd and 94th rail and was seen by the informant to touch the 82nd rail (cf. 78th rail in 1831). Friend's school in Stramongate was flooded on this occasion but not in 1831, and at a fishhook manufacturer in Stramongate the water was 2 inches higher. The Catholic church which was built to be 4 inches higher than the highest flood then known, was within half an inch of water entering. At Stramongate Bridge the water was 8 feet above the low water mark; it was nearly four feet deep in the yard of the Bridge Inn. The tanners and skinnners suffered considerably with loss of tan liquor in tan pits. On the other side the river reached into Castle Crescent.

The approach to the new (Miller's) bridge was undermined and washed away on the Goose Holme side (left bank). The flood washed away a wooden footbridge over the mill race at Castle Mills

At the Kirkland end of the town the effects were not as serious as in 1831, thought to be due to the removal of obstructions in the channel. The old vicarage and grounds were flooded and the water was nearly 2 feet deep in the kitchen at Abbot Hall and houses were flooded to knee deep. The road from Ulverstone was impassable to coaches and over the Nether Bridge, the road to the Lound was also impassable.

The Lune was at its highest for 30 to 40 years. At Halton the second storey of the mill was reached. At Caton the water rose about 18 feet higher than the level of the ordinary stream. At John Greg's mill the water stood 20 ½

inches in the lowest storey of the mill and machinery was damaged. A barn near Aughton has marks on the walls of previous floods. The highest point reached was in 1822 and the water line from this flood was 8 inches lower. Windermere rose to its greatest known height but another correspondent consider 1851 to be higher. Piers at Bowness and Waterhead were covered

The thunderstorm was of long duration. Some of the streets in the lower part of the town (Kendal) were flooded in consequence of the conduits not being able to contain the quantity of water.

Remarkably heavy rainfall during the first week of December

Westmorland Gazette notes 'The recent heavy rains raised the level of Windermere more than 8 feet. All the high water marks for the last 50 years have been overtopped and the oldest person living never saw Windermere so large as on 5 Dec. At Wray Castle rainfall Friday evening to Saturday evening was larger than for any 24 hours in the last 3 years. Notwithstanding that the rivulets have been swollen into roaring rivers, and all the streams and lakes have overflowed, no damage has been done worth naming'.

Mentioned as the date of a flood in a letter of 8 October 1874 to the Westmorland Gazette, in which the water reached street level. No contemporaneous information inspected.

Very high rainfall but principally in S Yorks and Lancs

Heavy rainfall at Seathwaite and Langdale which began at 9 pm on 12th and in the following 12 hours 4.76" fell at Seathwaite and 4.62 at Brigg Howes. For the next 24 hours ending at 09.00 on 14th 6.70" fell at Seathwaite and 5.55 at Brigg Howes.

Affecting Dentdale (headwaters of the River Lune).

Milnthorpe: dreadful thunderstorm. The wind began to blow in the shape of a whirlwind, driving clouds of dust before it, followed by lightning. The church was struck and pinnacles damaged. [Nothing here on flooding].

Several people were struck by lightning but none were killed.

A fearful thunderstorm occurred at Dent with rain descending in torrents. When running down the mountainside in the neighbourhood of Kirthwaite near the railway it led to the death of two men and several others narrowly escaped. The water filled a tunnel in which men were working. The Lune Leayat and Ewegates bridges were completely destroyed and the other stone bridge up to Dale Head most seriously damaged. The surface of the road from Stone house Marble Mills to Deeside, a distance of a quarter of a mile and several other places was washed down to bare rock. Fences along the riverside were thrown down. So suddenly did the storm come on that several narrow escapes occurred and inhabitants had no time to remove their families and property from their huts. 'the river which a few minutes before was wandering through the beautiful valley was converted into a foaming sea, the waves rolling from three to four yards wide, carrying away like chaff, trees and everything likely to impede their progress'. From the severity of the flood a man had to put his wife and child out of a

7 May 1862
Kendal Mercury
10 May
3 Dec 1864

BR
Westmorland
Gazette

6 Oct 1865

15-17 Nov 1866

15 Nov
Seathwaite 6.38"
Kendal 2.20"
High Close 2.79"
Patterdale 2.62"
Lesketh How 3.26"
Barrow Ho 3.53"
Ambleside 3.00"
Windermere the Howe 3.00"

British Rainfall

7 Feb 1869
BR

12/13 Nov 1869
BR

9 July 1870
Watkins &
Whyte (2007)
Lancaster
Guardian
16/7/1870,
23/7/1870,

Lancaster
Gazette 16 Jul.

Sedgwick A 1870

Kendal Mercury
16 Jul

window and the water rose so fast he could not get out but had to cling to the window sill till the water subsided.

Kendal: Preceding weather was suffocating hot. Kendal escaped the worst of the storm; in the higher portion of Whinfell it was much more severe. The River Sprint came down a little flood but not enough to go over the banks.

Dent: The Carlisle Settle line in the course of construction was damaged. The flood had the appearance of the bursting of a reservoir and came down the valley with a burst varying from 6 to 18 feet high carrying all before it. Of five miners working in the tunnel, two were drowned. An 8 year old boy was also drowned. Water reached the second floor of a house at Harbour Ghyll. Three small bridges were also washed away.

Ambleside: Rain made complete channels through some of the houses.

Ingleton: A man was drowned.

Sedbergh: Heavy rain lasted an hour and the streets were deluged. The grates were choked with sand and gravel. Water found its way into several houses and cellars. The storm was said to be confined to two to three miles around the town. Daily rainfall was 1.77 but the River Rathay was not in flood. A farmer was killed by lightning in the vicinity.

A thunderstorm lasted an hour and a half but the greater part of the rain fell [at Kendal] during $\frac{3}{4}$ of an hour. The bottom of All Hallows Lane, Captain French lane and other places leading from the upper part of the town looked more like rivers than streets and near the Sand area in Stramongate people had to be carried across in conveyances. A recorder at Underfell recorded 3.05 in less than 3 hours and 24 hour total of 3.19. Damage by lightning to houses and farms and loss of stock in the Staveley area. At Orton they had one of the greatest floods for some time and fields in the vicinity of Gaisgill and Tebay adjoining the River Lune were flooded. [Thunderstorms were widespread in northern England in most cases with serious fatalities and damage from lightning but little rain or flooding]

Sedbergh: Thunderstorm with rivulets swollen, cattle sheep and trees carried away, and local crop damage. Kirkby Lonsdale: Thunderstorm with streets flooded and some houses. At Newton 10 sheep and a cow were killed by lightning.

Barrow: one man was killed by lightning and hail $3\frac{1}{2}$ inch in circumference was measured.

Barbon; One death from lightning was reported.

Orton: hail as big as marbles occurred and windows were broken at Kelleth and other places. Several houses were flooded.

[Widespread thunderstorms with deaths from lightning and flooding occurred in England, notably at Manchester, Oldham, Birmingham and Yorkshire. More thunderstorms occurred on 24th especially Staffordshire.

Kendal: Thunderstorms and flooding. Road gratings were stopped up by debris and for example the middle of Entry Lane was like a river. Cellars under the Presbyterian church were flooded as were parts of Highgate.

Lightning damage included 6 calves killed at Faleton and 4 sheep at Ninezergh.

[Serious damage was caused in the Manchester area where 60 bodies were washed out of graves by the River Medlock.

Orton: severe thunderstorm with one man injured by lightning. It was said that with the exception of the storm which occurred on 18th June, it was the most violent thunderstorm since 1823.

4 Aug 1871
Cumberland &
W Advertiser
9 Aug 1870
18 Aug 1871
BR
Westmorland
Gaz 26 Aug

Kendal 3.05" in 3 hrs
Burton 1.45" in 45 mins 2.30
to 3.15

18 Jun 1872
Westmorland
Gazette 22 Jun

12 Jul 1872
Westmorland
Gazette 13 Jul

22 Jul 1872 Lancaster gaz. 2 Aug	NB Should this be 1873	Ulverton; One cow and four sheep were killed and buildings struck and damaged. Grasmere: Thunderstorm with continuous flashes of lightning for 2 hours. A great many trees have been struck. Hunting Style Lane is washed out to bed rock all the way. The new house 'The Lea' suffered and the pleasure ground was buried in stones and sand. A kind of waterspout burst behind Winterseed House and in less than two minutes the low back part of the house was flooded nearly to the ceiling and the whole house became filled four feet deep in mud and water. The inhabitants including an invalid son had great difficulty in escaping. Every house on the hillsides has suffered more or less. Glass has been broken by hailstones some upwards of half an ounce and 4 inches in circumference.
2 Oct 1872 Westmorland Gazette 5 Oct	Not a thunderstorm	Various rivers in the North including the north Riding and The River Kent when it was said that residents couldn't remember when the river had been so swollen. However, no property or roads were reported flooded.
3 Jun 1873 Westmorland Gazette 7 Jun		Thunderstorm in Kendal but not flooding or damage reported. [However reference to storm in Manchester where streets were flooded to several feet]
22 Jul 1873 Westmorland Gazette 26 Jul & 9 Aug	Thunderstorm raged for several hours. Excessive heat with 89F in the shade reported. NB should this be 1872	Kendal: The storm missed here but covered the most of the Lake District and parts of Lancashire. Crosthwaite (W of Kendal): A young woman was killed by lightning. Sedbergh: Two men died from sunstroke. The storm also occurred lasting one hour but no damage reported. Windermere: Storm lasted 2 hours Windermere Coniston and Esthwaite: Oppressive heat and thunderstorm but no injury reported. Ambleside: Storm lasted an hour and a half. A house was struck and the chimney knocked off. The beck running down from Stock Ghyll ran down in a breast 4 feet high followed by another flush of 15 inches, taxing the strength of the old Stock beck bridge. The later flush was caused by a weir giving way at Stock Ghyll Mill. Two cows were killed by lightning. Roads were ploughed up by torrents of rain. The flood poured into and through houses that had never been flooded before. At Troutbeck Bridge the wheelwright's shop was a foot deep in water. Elterwater: Rain was accompanied by a fall of ice, some 1 ½ inches across, which smashed every pane of glass in many houses. Hail also broke glass in houses in Langdale and Grasmere. Ice as large as walnuts was reported. Grasmere: Hunting Style Lane was washed out to bare rock and 100 carts of stone deposited. At Waterseed House the low-lying back part of the house was filled to the ceiling in less than 2 minutes and the whole house was flooded to a depth of 4 feet. Every house on the hillside suffered whilst those on the flat escaped the flooding but suffered broken windows with hail upward of ½ ounce in weight and 4 inches in circumference. Umbrellas were shattered. Many trees were struck by lightning. Orton and Dent: Thunderstorm occurred but no damage was reported. Blackbeck: Lightning struck the Gunpowder Works causing it to explode and completely destroy the building. No one was injured. [Two boys were killed by lightning at Bolton. A dozen people were reported at various places to have died of sunstroke.]
26 Aug 1873 Westmorland Gazette 30 Aug	Thunderstorm	Storm affected Milnthorpe and Langdale where 3 sheep were killed by lightning. No flooding was reported in the lake District. [More severe thunderstorms were also reported at Preston, Blackburn, Warwickshire and Wisbeach].

6 Oct 1874

British Rainfall

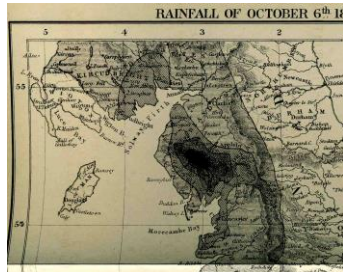
Met. I Magazine,
vol. ix., p. 162

6 October 1874	Inches		Inches
Dartmoor	3.00	Highgate	3.38
Highfield, Hawkshead	3.05	Underfell	3.52
Cartmel	3.05	Hawesmead	3.51
Coniston Parsonage	3.85	Stavely Hall.	3.80
Low Wray	3.17	Matson.s Grounds	3.24
Seathwaite	5.14	Windermere, The Wood	3.52
Barrow House	3.30	Brathay Vicarage	3.82
Deer Close, Keswick	3.03	Little Langdale	4.34
Brow Top	3.10	Eltenwater	4.70
Shu le crow	3.28	Lesketh Howe	3.75
Waterend	3.05	High Close	3.30
Kendal, Kent Terrace	3.22		

Widespread heavy rainfall on west of England and Wales with totals generally > 3" in the Lake District.

Broughton Hall, Cartmel.—3.05 in. in 24 hours (1.57 in 9 hours), the heaviest fall recorded in this neighbourhood for many years.

Woodlands Floods greater than have been known this century, although not the max. with us, owing probably to the much greater fall on the hills further N., the wind S.W., the rainfall seems to have been greater the further the wind travelled inland; e.g., Broughton, 3 miles to S., the fall was considerably less than here, whilst at Torver, 3 1/2 miles N., it was more than double that of ours.



7 Oct 1874

Westmorland
Gazette

Rain commenced at 1 am and continued until midnight.

No thunder mentioned.

The Westmorland Gazette in comparing levels at various points within the town suggested that the 1874 flood was 13 or 14 inches higher than in 1831. It reached the 102nd rail below Miller Bridge. (This event is not recorded on the flood stone placed by NorthWest water at Watergate on completion of flood protection works in the 1970s). The event followed 30 hours of rainfall in which 4.31 inches fell at Underfell, including 1.65 inches in 4.5 hours.

Stramongate was flooded as before but the water extended well beyond the Nags Head Yard (cf. 1831) as far as the foot of the Black Hall Yard and was three feet deep in some shops. New Road was flooded to 3 to 4 feet deep and all the yards through to Stramongate were affected. Goose Holme was completely submerged and the new wooden bridge leading to Goose Holme was destroyed leaving only the stone piers. The river reached within an inch or two of the keystone of Millers Bridge. At the Catholic chapel there was more than a foot depth of water which reached the top of the first step of the altar. The Christian Institute and the School of Arts were also flooded.

At the Castle Mills, the water stood 4 feet and 6 inches in the fulling house which was about 2 feet six inches higher than the flood of 1861 ('since when there has been no flood in the river of any moment' Westmorland Gazette). In the adjacent warehouse the water was 2 feet deep. At Castle Lodge nearby, the water was 3 feet 6 1/2 inches in the library. On the east side of the Kent between Castle Mills and Nether Bridge, fields were inundated the water reaching above the hedge below Miller Close. At the Gas Works, the water backed up and choked the flues, which diminished but did not stop the production of gas. Houses at the Lound were partially flooded.

On the west bank, St Georges church stood at the centre of a lake and houses in the lower part of Kirkland were flooded to a depth of 2 to 3 feet. The lower rooms of the old vicarage and Abbot Hall were flooded. There was about 4 feet of water in the crypt of the parish church. The water was 15 inches deep in the Kirkland schoolhouse. Blindbeck surcharged the culvert under Kirkland and water backed up behind leading to the flooding of Blindbeck House and the collapse of a gable wall of a shop.

Upstream, flooding occurred at Docwray Hall Mills and at warehouses on Docwray Hall Walk. Between Kendal and Staveley, sheep were washed away from riverside fields. At Staveley a few houses were flooded but damage was not great.

At Sedgewick a footbridge and two weirs were swept away. A weir at Force Fall, newly erected by Fisheries Commissioners was much damaged. All the Underbarrow moss lands from the neighbourhood of Grigg Hall down to Sampool were deep in water (greater than during the great tidal inundation of Christmas 1852). The Gill Mill dam, near Hill Top was destroyed by the flood.

The beck which runs along Oxenholme Brow overflowed and swept down the road carrying off the metal and overtopped a small dam damaging Oxenholme farm. The Marley Moss beck similarly overflowed and cut troughs a couple of feet deep and a yard wide.

River Lune at Kirkby Lonsdale: The river was at its highest for some years. It did considerable damage to bridges at Underley.

Bowness and Windermere: Cellars and kitchens of a number of houses were flooded
Very general high rainfall on the east of Pennines from S Wales to Argyll.

2 Sep 1875

No reference to thunderstorms

Kendal: Torrential downpours. The river extended over the Goose Holme where the river kent was 32" below the mark reached in the event of October

2 Sep 1875

Westmorland
Gazette 4 Sep

Barrow 1.83
Flookburgh 2.55
Holker 2.55
Ulverston 3.00
Powka beck 3.05
Woodland Rec 2.94
Lanehead 3.72
Coniston 4.35
Hawkshead 3.85
Brahtay Hall 3.17
Oweswater 2.40
Crosthwaite 2.65
Staveley 3.00
Matsons Gds 3.22
Brathay Vic 3.06
Little Langdale 3.67
Lesketh How 3.20

2 Aug 1876

BR
Westmorland
Gazette 5/12

Little Langdale 3.35"
Kirkstone Pass 2.55"
Seathwaite 3.36"

Aug

27 May 1877

Elterwater 2.65"

No reference to rainfall or flooding in WG

Elterwater Tarn rose 6' 6" above its ordinary level.

BR Westmorland G 2/10 Jun 13 Sep 1877	Dent 3.29"	No reference to rainfall or flooding in WG
BR Westmorland Gaz 15/22 Sep		Kendal: thunder was heard causing some flooding in the Kent again reaching the Goose Holme. Sedbergh: Rain caused the River Wrathay (sic) to rise and wash away part of the road above the Cross Keys Inn at Cautley, also affecting the road from Sedbergh to Kirkby Stephen. The 'oldest inhabitant' could not remember the river so high. There was a heavy flood in the River Lune, the largest for some years. It covered meadow land and damaged Tebay Bridge by washing away part of the foundations and thus causing a crack in the roadway
21 Jul 1878 Westmorland Gazette 27 Jul	Thunderstorm	A thunderstorm occurred at Orton and Dent between 1 and 2 pm accompanied by large hailstones. Ice also fell at Shap but there was no rain at nearby Tebay or Shap Wells
30 Aug 1878 Westmorland Gazette 7 Sep	Thunderstorm for 2 hours	Barbon and Middleton: A thunderstorm crossed the upper part of the Lune valley. The weather was not unusually warm. Various brooks overflowed their banks and left large deposits of gravel on adjoining fields The Abbey Beck above the Middleton Smithy burst its banks and rushed down Middleton Lane and tore up the road to a depth of 4 feet carrying large boulders. It levelled the Smithy in a few minutes carrying the materials down the High lane. Three iron ploughs and a grindstone were carried some distance. A Barbon farmer had 14 lambs killed by lightning. Howgill had one of the severest thunderstorms for many years. The Lune tributaries were swelled and filled with mud. At the foot of Bushhaw, the water washed many thousand cartloads of gravel onto a large heap. The damage done to enclosed land was only slight.
18 Sep 1878 Westmorland Gazette 21 Sep	Thunderstorm	Bowness: The thunderstorm was accompanied by hailstones. The storm was of short duration but the streets were flooded as the water was unable to get away in the drains (blocked by hail?). Orton: Storm with wind causing the greatest flood for some time. Levens: Severe storm with high wind which uprooted trees but no flooding was reported. [The wind was widespread and caused damage at Morecambe, Blackpool and Hull]
8 Jun 1879 Westmorland Gazette 14 Jun		Kendal: A severe thunderstorm was reported following a hot close day. Two sheep were killed by lightning and two trees were struck at Staveley; 2 cows were killed at Yealand Milnthorpe: The town was flooded in parts with many cellars inundated. [Thunderstorms also reported at Lancaster, Carlisle, Bradford, N Staffs, Monmouth and N Scotland]
13 Aug 1879 Westmorland Gazette 16 Aug		Kendal: thunder was heard in the distance Ireleth: church steeple was hit Dalton: A pig was killed by lightning
13 Nov 1880 BR Westmorland Gazette	Elterwater Woodlands 3.28" Seathwaite 4.75" High Close 3.15" No reference to thunderstorms.	Rain and a heavy gale caused Windermere to rise four feet above its ordinary level. At Ambleside the River Rothay overflowed. At the village of Stock the bridges were impassable. The Lune and Ribble were much flooded
20 Nov 5 Jul 1881	Elterwater Woodlands 2.65"	Observer noted 'great floods'

BR Westmorland gazette 9 Jul	Hawkshead 3.04" Wythburn 3.50" Stapleton 3.62" Ambleside 2.79" Ambleside Lesketh Howe 2.93" Thunderstorm for upwards of three hours.	Extensive descriptions fill a full 2 columns but refer mostly to the violence of the thunder but rarely to flooding and only to a few animals killed by lightning. WG report that it was the most violent storm for many years, widespread over the Lake District. Kendal: No material damage was done. The Kent and Gowan were much swelled. Windermere: At Grassgarth near Ings, 3 sheep were killed by lightning. Sedbergh: Rathay was swollen to a greater height than ever remembered with meadows covered. The River Dee from the Dent valley was reported to have done a great amount of damage. Orton: A man was injured by lightning at Brotherdale Hall. Furness: several public buildings were struck. Several cows were struck and killed in the Barrow area. [Widespread thunderstorms were reported from London, Liverpool, Wales and Cornwall] Ulverston: A beck overflowed, a bridge was washed away and water flowed down the rail line through the station. Cottagers were compelled to quit their habitations.
25 aug 1881 Manchester Courier 26 aug 12 Feb 1882 BR	Downpour without thunder after several days of stead rain. Wythburn 4.44"	Great flood also reported at Shap.
25 Feb 1882 BR	Elterwater Woodlands 2.81"	Fall exceeded 2" at 9 stations in the Lake District
10 Jun 1883 Westmorland gazette 16 Jun	Disastrous thunderstorm	At Misset near Windermere a horse was killed by lightning. No mention of flooding
25 Jun 1883 Westmorland Gazette Jun 30	Thunderstorm	Orton: Rain and hail occurred for nearly 3 hours. Storm also occurred at Kirkby Stephen and Appleby (See Eden chronology) and also at Cambridge, Warwickshire, Leicester and Clyde
2 Jul 1883 Westmorland Gazette 7 Jul	More thunderstorms	Kendal: thunderstorm but no damage or flooding reported Selside: 2 sheep killed by lightning Wetherslack: calf killed. The storm was also reported at Dent and Penrith.
8 Jul 1884 Westmorland Gazette 12 Jul		Tropical heat was experienced for several weeks; then thunderstorms occurred for several days culminating on 8 th . Mountain rivers and becks became swollen and various animals were killed. The storm affected Windermere and Ambleside more than the Kent Valley. At Staveley an ice storm with irregular ice ½ inch long damaged crops. Hail also covered the ground on Whinfell and remained on the ground the following morning. On 9 th a storm at Troutbeck caused rivers to fill in a remarkably short time with a rush of water out on to the roads. The storm was also reported at Milnthorpe, Dent, Temple Sowerby and in the Eden Valley.
13 Jul 1884 Westmorland Gazette 19 Jul		Another thunderstorm. This was serious at Bowness because of an accompanying very strong squall which caused havoc and serious damage to boats. Roofs and chimneys also suffered damage. [No reference here to flooding but see Eden with respect to Kirkby Stephen]
10 Aug 1884 Westmorland Gazette 16 Aug	Widespread thunderstorms in England following record high temperatures – 94.2F at Greenwich (only Jul 1881 higher). Sunstroke fatalities	Thunderstorms mainly east of Kendal but little rain and no flooding reported. At Old Hutton church the spire was badly damage by lightning and a barn was burnt down at Silverdale.

12/13 May 1886 Westmorland Gaz. 15/22 May	Prolonged rain and snow on the hills with drifts up to 6 feet. High winds. Swallows were overcome and killed (over 100)	A man was found dead from exposure on Shap Fell. Also many sheep and lambs were lost and fruit trees in flower were damaged.
21 Jul 1886 Westmorland Gazette 24 Jul		Violent thunderstorms were reported over Kendal and district for a duration of 2 hours. The sewers in Kendal were unable to carry the flow and there were accumulations of water in various places. A field of hay at Natland was carried away. Ambleside: The rain was sufficient to flood the streets. Thunderstorms were also reported at Sedbergh and Silverdale
25 Jul 1888 Westmorland Gazette 4 Aug	Bad weather over the last few weeks culminated in a severe local thunderstorms	Dent: Storm caused disastrous floods. The main river, swollen by gills became a raging torrent, overflowing the banks and destroying pastures and meadows by flattening and covering with sand. In the upper part of the valley the main road was damaged at Cowgill and at Deeside near Denthead. Stone bridges have been damaged. Sheep and cattle have been washed out of fields and carried away .
27 Oct 1888 British Rainfall Westmorland gazette 3 Nov	Bowness 2.45" Ambleside 4.08" heaviest in 20 years Patterdale 4.45" Keswick 4.00 highest since 1867 Persistent rain over 3 days Preceded by unusually dry weather with springs drying up and on the Kent water was insufficient to turn mills. No thunder reported	Observer notes very high level in Derwentwater. Windermere is said to have risen 3' 6 inches during the week. Kendal: Said to be the worst flood for 14 years in Kendal with extremely rapidly rising levels. The extent of the flood was most evident at the north end of the town; meadows on each side were submerged and from the farm at Carus green to Mint Bridge there was no ground above water. Dockwray Mills was surrounded and Beezon fields and Brocky submerged. Some houses at Castle Crescent were flooded. Stramongate foot, New Road and Aynam Road were under water. The water almost filled the opening of Victoria Bridge. Sheep were carried down in the current. The rapid rise (mainly from 8 to 11 in the morning) was apparent at Castle Mills; on one day the water was so low the water wheel remained idle, the next the wheel was back watered by the flood. Opposite St George's Church the flood scoured much of the bank. Houses from the foot of Stramongate and those in the yards from New Road were flooded up to 2 feet. Comparative levels are given from Ireland's dye-house door Sand Area Mills. Highest on 6 Oct 1874 (9' 1"), 1831 (8' 0"), 1838 (7' 5"), this flood (6' 11"), 1794 (7' 5"). Upper Mint: At Rossel Bridge Farm in Whinfell the water ran through the house to a depth of 2 to 3 feet. Ambleside: Most of the roads at the high end of the town were deeply furrowed; drains were inadequate and often blocked. A cottage at Tom fold was flooded to some feet. Cottages near the Wesleyan Chapel were flooded. Residences under Loughrigg were deluged. A farmer at Clappergate had his door burst in by the pressure of water.
6 May 1889 Carlisle patriot 10 May Westmorland Gazette 11 May	Preceding unusual heat. Storm continued from 3 to 7 pm	Tebay: High flows from side streams carried away cattle (but were able to swim ashore). Orton: Low lying fields were flooded and several houses were flooded. Bampton: some houses were flooded to a depth of 18 inches Widespread thunderstorms around the Lake District. Kendal is mentioned amongst other areas mainly to the north and west. Lightning killed farm animals, horses in a stable and sheep on the fells and so severely injured a farm worker that it is unlikely he will recover. Kendal: Streets were blocked with flowing water. At Hawes Farm, two horses were killed in a stable and two men injured and seven sheep killed in different places Thunderstorms were also reported at Crooklands, Gatebeck, Milnthorpe, Holme, Grange, Silverdale, Kirkby

2 Jun 1889 Lancaster Gaz. 8 Jun	Widespread thunderstorms in Westmorland.	<p>Lonsdale, Ambleside and Sawrey. Although heavy rain is mentioned there is no reference to flooding. Much of northern England affected by prolonged thunderstorms said to be the worst for several years. No serious damage from lightning or floods was reported at Kendal or Windermere. Considerable damage was reported in the Lune Valley especially above Caton where works are in progress to convey water from Thirlmere to Manchester. [Cattle and sheep were reported killed by lightning near Penrith and in various parts of the lake District]</p> <p>At Ulverston the storm lasted about an hour and water rushed down Daltongate and Soutergate and several cellars and private houses were flooded.</p> <p>Kendal: two storms the first lasting 2 hours with miniature lakes forming in various parts of the town. A second storm was not so long or rainfall so heavy</p> <p>Greenhead: Four prize shorthorn cattle ere killed when their building was struc.</p> <p>Kentmere: The church tower was struck and damaged.</p> <p>Windermere: Elleray Hotel in Victoria Street was struck and damaged the chimney and roof. No reference to flooding.</p> <p>Thunderstorms were also reported at Ambleside, Milnthorpe, Arnside, Silverdale, Kirkby Lonsdale, Tebay, Sedbergh and Dent. Many animals killed and buildings struck but little reference to flooding except those below. Large hail occurred at Sedbergh, several, one inch long, ¾ inch broad, 3/8 inch thick. The river was full and overflowed in less than an hour. Animals were carried down the river.</p> <p>Dent: Several houses were flooded including Hackergill and the road was rooted up for some distance. Gills became raging torrents with disastrous effects. Hailstones the size of hen's eggs fell, some 3 inches long and many windows were smashed.</p>
Westmorland Gazette 8 Jun		
8 August 1889	<p>Thunderstorm Hawes Junction (between R Ure and Garsdale) Daily 4.16" (c. 4.00 in 3 hours) (no other high totals) No rain fell at Garsdale Hall 4 miles from Hawes Junction.</p>	<p>Affected Garsdale in the upper headwaters of the River Lune.</p> <p>Copy of letter from Yorks Post in Kendal Library (WDS 54/18) with reference to great flood in Garsdale and appealing for subscriptions to relieve distress.</p> <p>A vast torrent of water tore down the valley carrying bridges, walls trees and fences, filling houses with sand and mud and completely inundating the low-lying land. The effect can only be compared with the bursting of a reservoir. The Midland Railway at Garsdale Head a portion of the embankment was washed away. For nearly four miles in Garsdale portions of the main road are washed away and the bed of the river is now where the road formerly ran. The arches of the county bridges have stood the storm but all the upper masonry has disappeared. Garsdale Police Station is much damaged as is the adjoining house. The river now runs alongside both houses, the road having entirely disappeared. Garsdale hall is situated 100 yards from the river but was flooded to a depth of 3 feet. All the way down the valley in some cases 100 to 150 yards from the river may be seen large stones and roots of trees . At The banks a large stone bridge was completely washed away and another nearby. At the school the teachere heard a rumbling noise and in a minute the water was under the door. The water became 4 feet deep and people carried the children out of danger.</p> <p>An appeal was made for victims of the flood. Report says 8 stone bridges and 7 wooden ones were destroyed . Heavy rainfall North Lancashire and Lakes.</p> <p>BR The greatest flood in Langdale for 20 (some say 40) years Skelwith Bridge washed away at 02.00 on 1 Oct.</p>
Watkins & Whyte (2007)		
British Rainfall 1889		
Yorkshire Post 16 Aug		
Westmorland gazette Aug 17 Aug 24		
30 Sep 1890	Grizedale 2.55" Seathwaite Vicarage 3.19"	

British Rainfall Westmorland Gazette 4/11 Oct	Monk Coniston Park 3.59"	The observer at Seathwaite Vicarage near River Duddon noted that it was the highest flood remembered. Ribble also overflowed
20 May 1891 Westmorland gazette 23 May	Extraordinary cold weather Not a flood!	WG has no reference to flooding. Kendal: minimum temperatures dropped to as low as 20 F and the freezing weather persisted for a week with devastating effects on fruit and vegetables. The only similar occasion remembered was in 1867 when there was a snowstorm in May and the Derby on 22 nd was run in sleet and snow. Snow also occurred in May 9 th 1853. Swallows and martins were killed by the cold.
25 Aug 1891 British Rainfall Westmorland Gazette 29 Aug/5 Sep	Ambleside 5.12" in 30 hrs from 15.00 on 24 th to early 26 th Rainfall accompanied by strong winds. Kendal rainfall 2.92" on 25 th and 1.51" on 26 th . Dungeon Ghyll 7.66" in 45 hours. There was no reference to thunder.	Flooding reported in Langdale. Kendal: Following a period of generally wet weather very heavy rainfall occurred on 25 th . Already on 18 th the River Kent was full and the pathway between Basher's Close and Sandes' Avenue was nearly stopped. The River Kent overflowed on 25 th and hundreds of acres were under water, being especially heavy in the lower reaches of the river. The New Road was flooded across the road and the path from New Road to Colonel's Walk was stopped by the water. Millers field was covered. It did not overflow Aynam road. The flood was not of long duration. A cow and a pig were seen washed down the river. Windermere: The lake rose 4 feet in 2 nights. Except at the lakeside there were no reports of damage by wind or flood. Kirkby Lonsdale: The mountain streams came rushing down in mighty cascades carrying bridges and culverts before them. Hundreds of acres of land along the River Lune are flooded. Sheep on 'The Island' were surrounded and then carried away. At Devil's Bridge the water almost rose to the top of the arches. At Dent it was 'the largest flood known for a good many years'. Sedbergh: Not since the severe thunderstorm of 1885 has there been such a disastrous flood. Reports from Garside and Cautley speak of bridges washed down, hay swept away and the land covered with sand. All the houses at Littlebeck were flooded as were also the Market Place and Finkle Street. The church was flooded to a depth of 6 to 8 inches. At Brigflats rainfall was 5.29 inches. Howgill: The Lune was never known to be so full as were the tributaries Canel Beck and Smithy Beck. The bridge at Howgill Smithy became blocked with wreckage and the water found its way down the main road along Hag Lane causing great erosion. Holme: The upper part of the village was flooded, the water running out of doors like miniature rivers. Silverdale and Leighton Mosses are under water the former to a depth of 18 inches with great damage to crops. Milnthorpe: A thunderstorm passed over on 28 th and a horse was killed by lightning. Gaisgill: Six cows were washed down the river.
18 Jun 1892 Westmorland Gazette	Thunderstorm with hail	Sedgwick: A heavy hailstorm occurred with hail 1 ½ inch in circumference. Levens: A hailstorm also reported with vegetables riddled.
2 Sep 1892 Carlisle Patriot 6 Sep	Continuous downpour on the night of 1 to 2 Sep. Thunderstorms the following day	Widespread flooding on the Eden and North Lakes. Hundreds of acres of land were flooded in the Kendal area and many low lying streets and houses were flooded. Considerable damage was also done in the Lune valley. A portion of the railway embankment between Hornby and Wennington was undermined and ballast washed away (Midland Railway) – discovered before an accident

Westmorland
Gazette Sep3/10

Windermere 3.08" in 24
hours.

occurred.

Kendal: The flood on the River Kent was the highest for many years. Goose Holme was under water and the Green at the front. New Road was impassable and the flood reached the railing of the Catholic Chapel. Miller Field was entirely submerged and Aynam Road was flooded. The road to Burneside near Askrigg End was impassable. Milnethorpe Road near nether bridge was impassable.

Longsleddale: The flood in the River Sprint caused much damage. All along the course of the river the banks were broken down and much shingle deposited on the fields in one place to a depth of several feet.

Barbon: On the Barbon Beck between the railway and the Post Office bridge all trace of the original channel was effaced and water raced across the fields. Below Hodge Bridge in the Holme pasture the banks were torn away and the channel widened. At Beckfoot a house was flooded to knee deep.

The River Lune was also in high flood and at Middleton but with most damage done near The Smithy and Borwen's Farm, the roadway being washed out for a considerable distance to a depth of 1.5 yards, and resembling the bed of a dry stream.

Sedbergh: In Garsdale all the wood bridges were swept away,

Orton: Water found its way into many buildings.

Dent: The flood has done much damage to pastures and meadows. At Barch (?) Bridge the wall on each side of the road for a distance of 80 yards was washed into the field. It washed down much of the bridge wall. The road from Siegegill to the Kirk Bridge was turned into a river bringing much gravel and debris on to the road. Sheep were drowned and washed away. Above Lea Gate in the bed of the river is a very large stone, eighteen tons in weight which was carried down by the water. The bridge at Ewegales which joins the Deepdale and Dent Road had part of the wall washed down and the road rooted up close to the arch.

Observer notes that the rain was distributed over the 24 hours therefore not causing the greatest flood.

13 Feb 1893
BR

Duddon Valley
Seathwaite vic 3.80"
Ulpha Vic. 3.10"
Lancaster 1.83"
Ulverston 2.77"
Monk Coniston Pk 3.14"
Ambelside 2.82"
Longsleddale 3.06"
Elterwater 3.14"
Dungeon Ghyll 4.00"

9 Jul 1893
Westmorland
Gazette 15 Jul

Thunderstorm preceded by
oppressive heat and by prolonged
dry weather

Kendal: Low-lying places were flooded (but does not specify where or how seriously)

Grange: Roads flooded and one house struck by lightning.

Cartmel: 2 Inches rainfall generally considered beneficial but some lightning damage to livestock. Similar for Silverdale.

Orton: Shower of ice which broke windows at Raisbeck and Scarside

Sedbergh: 2 men injured by lightning.

Kendal: The storm last ¾ hour. The channels in the streets were miniature becks almost immediately and in places the metal of the roads was washed up. Otherwise no damage from flood or lightning.

Sedbergh: Several houses in Mortar Pits, Bainbridge Street and elsewhere were flooded and two people were struck by lightning but not seriously injured. Animals were killed by lightning.

Kirkby Lonsdale: many parts of the town were flooded.

6 Jul 1894
Westmorland
Gazette 14 Jul

Thunderstorm
Storms also occurred on 9th and 10th.

25 Jul 1894 BR Westmorland gazette 28 Jul	Seathwaite Vic 1.33 'mainly in 1 hr' Tickhill 2.05"(1.82" in 30 mins)	Tebay: Some dwellings were flooded including a branch shop of the Cooperative. Barbon: One farmer lost 8 sheep to lightning. Storms were also reported at Langdale, Coniston, Dent, Orton. Tickhill notes 'doing great damage to roads and crops'
2 Aug 1894 BR	Monk Coniston 2.58" Aspatria 2.65"	WG has no reference to floods on that date WG has no reference to floods on that date
1 Nov 1894 BR Westmorland Gazette 3 Nov	Seathwaite Vic 2.68 Skelwith Fold 2.56" Ulpha Vic 2.65 Ambleside Lesketh 2.53 Elterwater 3.51 Grasmere 3.36	Some damage from the storm was reported at Dent – nothing more.
24 May 1895 Westmorland Gazette 1 Jun		The first thunderstorm of the year was reported at Kendal. A man was injured by lightning in his house at Low Mills. Kirkby Lonsdale: Large hailstones the size of marbles fell. This was followed by rain which flooded the streets to a depth of several inches.
25 Jul 1895 BR Westmorland Gazette 3 Aug 1895	Kendal 4 stations 2.58" 2.85" 2.65" and 3.09" Windermere 2.98" Ulpha Vicarage 2.65" Rainfall lasting nearly 24 hours with some accompanying thunder	Dent: One sheep was killed by lightning. Kendal: River Kent had been previously abnormally low but it changed rapidly. There was a mighty rush that carried all before it. In the Kentmere area the water carried away haycocks. In Kendal all the gullies were soon filled and streets were transformed into miniature streams and several low lying parts of the town were flooded. Several houses were flooded in Wildman Street and covered in thick black mud. The river banks were overrun in the lower part of the river especially in the Witherslack and Lyth areas. It is many years since the water came down with such a rush and covered so much ground Scores of acres of crops are destroyed. Lindale: The swollen beck rose rapidly and culverts were altogether inadequate. Water rose over in front of the Mason's Arms converting the inn into an island filling the cellar and the first storey. When the yard door could no longer resist the pressure it burst open and allowed the flood to rush on to the next property. The occupant escaped to high ground through his bedroom window and then returned to rescue his family. The baby was floating about the house in its cradle, the water having risen so rapidly. The water ran through the Stores and the Royal Oak. The storm seemed to rest on the top of Ravens barrow where the water rushed down in a foaming torrent. The river also burst out in the Commercial Yard. Low Farm was flooded. All the land about Castle Moss and meadows was submerged. The flood cut deep canals down each side of Hollow Lane. Cartmel Fell: Severe thunderstorm in the Winster Valley. Roads were transformed into becks with much damage to roads and farmyards. Hundreds of cocks of hay were standing in water. Houses were flooded in Cartmel. Surface water drainage and the capacity of smaller bridges was totally inadequate. Orton: Thunderstorm; becks were swollen and overflowed and some houses were inundated. It was the largest flood we have had for a long time. Tebay: The River Lune overflowed following a thunderstorm It rained hard and as a consequence the Kent and all the tributaries were in a big flood. [No further information].
26 Aug 1895	Longsleddale 2.56"	

BR		
Westmorland		
Gazette 31 Aug		
4 Dec 1895	Ambleside Skelwith Br 3.56"	
BR	Amblesdie Iesketh H 2.54"	
	Elterwater 4.24"	
	Grasmere High close 3.18"	
4 Jun 1896	Kirkby Lonsdale 2.10" in 1 hr	The heavy rain means the end of a long drought. [No further information].
BR		
Westmorland		
Gazette 6/13 Jun		
29 Dec 1896	Cartmel 2.61	
BR	Broughton in Furness 2.58	
	Ambleside Skelwith Br 2.54	
	Ambleside Lesketh 2.66	
	Elterwater 2.93	
	Dungeon Ghyll 2.80	
	Grasmere 3.25 and 3.13	
5 Aug 1897	Grasmere Pavement End 1.16 in 1 h	WG has no reference to rain or flooding.
BR	20 min	
Westmorland		
Gazette 5/14		
Aug		
12 Nov 1897	Kendal various stations 2.85, 2.73, 3.05, 2.85, 3.35	
	Ambleside Skelwith Br 6.35	
	Ambleside Gale Ho 4.70	
	Elterwater Birch hill 4.57	
	Ambleside Lesketh Howe 4.45	
	Grasmere high close 4.33	
	Dungeon Ghyll 5.90	
	Grasmere Pavement End 4.38".	
5 Aug 1898	Ambleside Skelwith Br 4.12 in 21 hrs	Heavy rainfall was reported at Coniston on 5 th with rain from about 2 in the morning till midnight. The streams which had previously been low were converted with extraordinary rapidity to raging torrents, overflowing on to roads. The lake Coniston rose upwards of 3 feet. A thunderstorm was reported on 8 th with lightning damage but no flooding reported.
BR	Ulpha School 2.51	
Westmorland	Kendal 2.51 and 2.76	
Gaz. 13 Aug	Grasmere high close 3.17	
	Seathwaite Vic. 5.12 in 4 d causing a high flood	
	Sedbergh Brig Flatts 3.16	
	Sedbergh Cemetery 3.31	
	Dent 2.90	The flood at Sedbergh was particularly severe on 5 th . Wooden bridges, trees, hen huts, rails and sheep were seen floating down the river. Stone walls were washed away and trees uprooted. Dover's Mill at Millthrop was flooded and loose items outside were washed away. An adjoining cottage was flooded four feet deep. Over 30 acres of land has been torn up at Uldale by a waterspout or cloudburst. One farmer at Uldale lost 100 sheep and 80 yards of road at Cautley has been washed away. The Lune also overflowed at Tebay and the tributary Langdale Beck with damage to farm land and crops. Tebay Gill Beck overflowed and found its way on to the

12 Aug 1898
Westmorland
Gaz. 13 Aug/
10 Sep

2 Nov 1898

Westmorland
Gazette

Cartmel fell Vic. 3.62 in 48 h
Seathwaite Vic 3.16
Monk Coniston Pk 2.60
Skelwith fold 3.52
Ulpha School 2.63
Skelwith bridge 4.70
Ambleside gale Ho 4.40
Lesketh Howe 4.05
Dungeon Ghyll 3.85
Grasmere 4.05
Kendal Holmcraft 1.99 in 6 h

NorthEastern Railway washing ballast away. The Dent and Dee were in high flood knocking down fences and flooding all the low land.

Thunderstorms have occurred at various times during the week from 6 to 12th. On 12th at Windermere there was rain all day and streams were much swollen whilst the lake rose 3 feet.

Great damage was done by the recent heavy rains in Langdale. The road has been flooded for a considerable distance. A great deal of damage has been done to the land and in some places the accumulation of sand and stones in the river bed has brought the level up above the adjoining fields

Kendal The engraved flood stone placed on the wall at the Waterside indicates that the flood of 1898 was the greatest of the last 200 years, exceeding the next highest (1954) by 0.38 m. Its supremacy is confirmed by contemporary descriptions; the water level reached the 126th railing below Miller Bridge, 12 rails below the stone stoop. Above Sandes Avenue there was a flood mark on one of the houses at the foot of Benson Green 8 feet above the foot walk. Along the water side the depth varied from 4 to 6 feet the highest point being near Braithwaite's Mill. On the Milnthorpe Road near Nether Bridge, it was 5 feet above the footpath. In Stramongate it was highest in the Sand area where it was 5 feet 6 inches deep. Nearly 200 dwellings were inundated in Kendal. Two bridges were destroyed; the Goose Holme footbridge had one span torn from the buttresses whilst the bridge near Abbot Hall at the foot of Jennings Yard was torn from its pillars, split in two and carried some distance downstream. Riverside roads were torn up. The Westmorland Gazette printed a number of drawings (perhaps based on photographs) of the extent of flooding in various parts of the town. These are copied as Figure 1 to 4 as follows:

1. Aynam Road - from Nether Bridge
2. Nether Street - from Nether Bridge
3. The broken bridge - Goose Holme
4. The broken bridge - Abbot Hall

A photograph of the 1898 flood showing the Miller Bridge with the arches near to full and the New Road beyond was printed in the Westmorland Gazette of Nov 13 1954 and is shown as Figure 5.

Several days of moderate rainfall were followed by a day with 'a perfect hurricane of wind and rain' when 3.32 inches of rainfall was recorded in Kendal and 3.88 at Burneside over a 26 hour period. At Skelwith Bridge 6.90 inches fell in 20 hours with 4.79 on 1st and 2.11 on 2nd Nov.

Wildman Street, said to be generally among the first places to be flooded had every shop affected, some to the top of the counter. Water rushed through Beezon Lane brewery and the tan yards. The block of property from the Stramongate to the corners of Ann Street was entirely surrounded. St Georges church largely escaped damage but the Castle Street Girls and Infants school was flooded and children were rescued by parents. At Gandy Row the houses had three feet of water in them and employees at Gandy Mills were marooned until the water went down. In the mill the water was 16 inches higher than 1874. Most of the properties on Sandes Avenue remained dry but there was 12 inches of water in the Presbyterian school. Waterside houses at the foot

of Benson Green were flooded for more than 12 hours

At Miller bridge, the bridge arches were hidden and water found an outlet on the higher parts of New Road and communication between Kent Street and the bridge was cut off as the water rushed along the road and on to the water side. The Science and Art Schools were flooded and the iron rails outside were torn up and removed. Stramongate was of course flooded with the road from Duke Charles Inn to St Georges Hall varying in depth from one to over six feet. Shops suffered serious loss as the water rose so quickly that there was little time to remove goods to a higher level. In the shop of Handley's bootmaker, the level was 4 feet 2 inches and a heavy wooden counter was set afloat. The Sand Area Meeting House was flooded and the wooden floor was lifted piecemeal from its fastenings and furniture floated about in water up to neck deep.

Kirkland again suffered from the Blind Beck which passes under the road at the bottom of Gillingate. Because it was backing up into upstream houses, an adjacent wall was broken down to allow the water to flow onto Kirkland where some shops were flooded. At the parish church the water got into the aisle in front of the chancel where it was about three inches deep. At Kirkland school the water was four feet deep.

Shops and houses were flooded in the neighbourhood of Netherfield bridge which was impassable for nearly eight hours. The water extended as far as the junction of South Road and Milnthorpe Road. Somervell's boot factory which extended from the waters edge to Natland Road. The leather warehouse and all the shops on the ground flood with the exception of the fitting room and the boiler house were flooded. Water flowed rapidly down Natland Road and with a depth of three feet, so that those escaping from the factory, clung to a rope stretched across the road to avoid being swept over. The water found its way into the gas works but did not reach the retort fires.

Braithwaite's Mill was flooded to a depth of three feet and vats of dye destroyed. Here the flood was said to be 12 1/2 inches higher than that in 1874. The water swept across Colonel Walk and across the Abbot Hall grounds. Across the river, Aynam Road was under water to a depth from 4 to 6 feet and all the cellars were flooded. In Queen Katherine Street the water was four feet deep in the houses and 6 feet deep outside. The cellars in Parr street were flooded up to No 25. Sleddall almshouses were flooded to a depth of three feet. At Wilkinson's organ builders, water came up through the cellars and into the warehouse and dwelling house and four organs had to be left standing in 9 inches of water. Hutchinsons fish-hook works built after the flood of 1874 and though to be out of reach of flooding was flooded to a depth of 12 inches.

Downstream from Kendal a cottage at the Marble Mills was flooded to the first floor and in danger of being washed away. Watercrock House became an island but just escaped flooding. Low Mills was flooded. At Hawes Bridge both the parapet and the foundations were damaged. At Basinghyll part of a weir was washed away and Sedgewick gunpowder works was flooded. Force Bridge was undamaged although the water filled the arch.

The flood entered part of Levens Hall and exceeded the level of an unspecified earlier flood marked on the larder wall. Water stretched unbroken from Levens Hall to some distance below Low Levens and down to the

bay. At Holme Bottom the water was shaft deep of conveyances. At Whitbarrow lodge hundreds of acres were under water.

Upstream from Kendal at Staveley, Main Street was like a river and most houses were flooded some to 3 to 4 feet and people were imprisoned all day. The wooden bridge at Fell Foot, the corner of Scrogg's Bridge, Dean's and Chadwick's foot bridges and the stone pillar at Stang Bridge were washed away. Jubilee Bridge was unharmed although the water was above the supports by two feet. At the Post Office telegrams were taken in at the bedroom window. A weir at Scrogg's Bridge was washed away. Water rushed through Fell Foot mill, like a stream. At Millrigg, water entered the house and dairy; garden and outbuilding were deep in water. At Kentmere reservoir, the overflow spillway 54 feet wide and 3 feet deep ran full for several hours and the level was very close to dam top level.

At Burneside Cropper's mill was unharmed but houses nearby were flooded up to the top of fireplaces or the lower window panes. At Bowstone Bridge the water rose to within two or three feet of the top of the parapet.

The River Sprint rose 16 feet at Garnetts Bridge. The water rushed through the saw mill and was 2 feet above the axle of the mill wheel. Fences, walls and light bridges were carried away right down the valley. On the Sprint and upper Kent the flood was said to be the greatest for over 60 years.

As a result of the flood a relief fund was set up, and arrangements were made for the supply of coal to needy persons in the first instance 36 1/2 tons to 192 households.

18 Jan 1899
BR

Ambleside 3.21 and 2.55
Elterwater 2.75
Dungeon Ghyll 3.43
Grasmere 2.50 and 3.47

12 Jul 1899
Westmorland
Gazette 15 Jul

Severe flooding reported in Teesdale, Swaledale and Eden Valley. No reports in South Westmorland

6 Jan 1900
BR

Seathwaite Vicarage 2.56
Kirkby Lonsdale 3.73

Accompanied by southerly gale

15 Feb 1900
BR

Ambleside Skelwith Br 2.85
Dungeon ghyll 3.38
Grasmere 2.84

12 Jun 1900
Westmorland
Gazette 16 Jun

Thunderstorms on successive nights

Kendal: In Kendal the rain was not abnormally heavy but in the surrounding districts it was accompanied by hailstones the size of blackbirds eggs, notably near Killington, causing damage to conservatories and greenhouses. At Bendrigg, pheasants were killed. A cow was killed by lightning at Lyth. At Beetham 10 sheep were killed.

Langdale: Some houses were flooded

The reports of thunderstorms without flooding were widespread including Kirkby Lonsdale, Cartmel, Bentham, Silverdale, Windermere, Sawrey, Ambleside, Coniston and Dent where hailstones of unusually large size were reported ('equalled well grown turnips') whilst at Sedbergh they were the size of marbles.

10 Aug 1901 Westmorland Gazette 17 Aug	Thunderstorms over N England and S Scotland	[Widespread thunderstorms in England caused the deaths of 2 at Sheffield and three children at Northampton] Kendal escaped the storm. Windermere: storm lasted 3 hours with limited damage to buildings by lightning. Ambleside: Mixture of rain and hail descended in such volume that the drains were unable to cope. Houses were struck and badly damaged and people injured. Storms with lightning damage and animals killed were also reported at Grasmere, Hawkshead, Sawrey, Coniston, Finsthwaite, Cartmel, Orton. Although heavy rain was reported there were no reports of flooding. Rain accompanied by a gale
12 Oct 1901 BR 11/12 Nov 1901 BR	Seathwaite Vic. 3.28 Amounts for 11 th and 12 th Ulverston (Urswick) 1.33 1.38 Lindal (Berkune) 1.21 1.26 Cartmel (Holker) 1.16 1.49 Broughton in Furness 1.06 1.81 Seathwaite Vic 2.47 3.28 Ambleside Gale Ho 1.36 2.91 Grasmere Pavement End 0.98 3.08	Widespread heavy rainfall from a deep depression moving across Ireland and northern England extending over 2 days. Rainfall on 11 th exceeded 1 inch over the whole of Ireland except the extreme NW and SW, and parts of Lancs and W Riding of Yorkshire. On 12 th the heavy rain continued in NW England and extended to Northumberland as well as southern Scotland and south to Derbyshire. (Complete BR rainfall list scanned)
19 Nov 1901 BR	Ambleside Skelwith Br 4.57 Skelwith Fold 3.80 Sawry Tower Bank 2.71 Elterwater Hall 5.27 Loughrigg 3.60 Dungeon Ghyll 5.66 Grasmere High Close 3.47	Lune overflowed and flooded to a greater extent than for 12 years. The Hampson observer suggested heavy rain had occurred in the upper catchment because little at his station. Rain was accompanied by a severe gale.
14 Dec 1902 BR	Ambleside Skelwith Br 2.62 Ambleside Gale Ho. 2.54 Ambleside Lesketh Howe 2.57 Elterwater 3.00 Rydal 2.72 Dungeon Ghyll 3.50 Grasmere 2.70 & 3.72	
27 Jan 1903 BR	Hampson in Ellel 0.57 Yealand Conyers 0.74 K Lonsdale Casterton 2.83 K Lonsdale Barbon Manor 3.02 Ravenstonedale 4.11 Oughtershaw Hall 3.00 Ingleton 4.11 Sedbergh 3.40, 3.42, 3.37, 3.23 Wray 2.20	
24 Feb 1903 BR	Grasmere High Close 2.85" Grasmere The Wray 3.19"	
8 Sep 1903 Westmorland Gazette 12 Sep	Prolonged rainfall lasting 14 hours. Rainfall 2.40 inches in 24 hours, the worst since 1898.	Kendal: River Kent overflowed its banks. The water rose suddenly over the banks from Stramongate to the Lound. Gooseholme and Miller Field were under water and it was 1 foot deep on Colonel's Walk Abbot Hall and the Grebe Grounds were under water. There was 2 feet of water in cellars in Aynam Road (and 1 and half feet

24 Jul 1904 BR	No mention of thunder. Cartmel Cark 0.76" in 20 mins Bowness Lindeth Howe 1.07" in 45 mins Windermere Storrs Pk 0.99" in 54 mins	deep on Aynam Road). Observer reported cellars and cottages in the village were flooded.
Westmorland Gazette Jul 30		Note the occurrence of very severe thunderstorms and flooding in the Huddersfield area with total up to 5.00"
		Kendal: Thunderstorm of unusual violence. Streets became flooded, notably in Stramongate near the Grosvenor Hotel, at the foot of Kent Street, along Aynam Road. When the water receded, a thick layer of mud remained. Cattle and sheep were killed in the neighbourhood.
		Staveley: Residents noted that both Kent and Gowan were flooded and could not remember a time when the Gowan rose so much in so little time.
		Consiton: Streams rose with great rapidity. Some basements were flooded.
		Cark: 0.75 inch fell in 20 minutes. The water rushed into cellars and low lying rooms.
8 Nov 1904 BR	Ambleside Skelwith Br 5.62 Ambleside Gale House 3.07 Elterwater Hall 5.58 Rydal Stepping Stones 2.88 Loughrigg Silverthwaite 3.24 Grasmere High Close 3.40 Grasmere The Wray 3.40 Dungeon Ghyll 3.95	
22 Nov 1905 BR	Ambleside Skelwith Br 2.85 Elterwater hall 2.59	
28 Jan 1906 BR	Elterwater Hall 3.16 Rydal 2.60 Grasmere high close 3.21 Grasmere The Wray 3.09	
23 Jun 1906 Westmorland Gazette 30 Jun	Thunderstorm No reference to flooding	Kendal: Rainfall for more than one hour – no flooding noted Sedgewick: Works were struck by lightning; one man was injured Holme: A house at Holme Mills was struck and damaged.
16 Feb 1907 BR	Ambleside Skelwith Fold 2.95 Skelwith Bridge 4.09 Ellerwater Hall 3.40 Dungeon Ghyll 3.75 Grasmere high Close 2.55	
16 Mar 1907 BR Westmorland Gazette 8 Jun	Grasmere high Close 2.55 Grasmere the Wray 3.04	Reference was made to the March flood and the combined effect of river and tide at Levens, Heversham, Milnthorpe and Foulshaw Mosses. A relief fund was to be set up with respect to restoration of damaged embankments.
30 May 1907 BR	Broughton in Furness 2.81	Observer notes 'wettest day for 15 years'
Westmorland Gazette 1/8 Jun		No reference was found to rainfall or flooding

9/10 Jun 1907 Westmorland Gazette Jun 15	Thunderstorms following oppressively hot weather Reported daily rainfalls were less than 1.5"	Natland: the village green was flooded and water entered some houses. Water flowed down the lane from Helmside and water flowed down the road from Natland to Kendal. The Kent was high but not overflowing its banks. There was considerable damage to crops especially hay. Lightning effects; A horse was killed at Underbarrow, and other animals at Beetham; a barn was struck at Levens. Killington: Heavy rain washed soil out of fields carrying turnips and potatoes into a field below. Silverdale: Following rain and hail roads became rivers. Tebay: The road to Old Tebay was covered to a depth of several feet. Chapel Terrace was flooded. Thunderstorms were also reported at Sedbergh, Dent Gaisgill: Hailstones of remarkable size were reported. WG had no reference to rain or flooding
13 Jun 1908 BR Westmorland Gazette 13/20 Jun	Ambleside Skelwith Fold 2.61 Skelwith Bridge 2.88 Elterwater Hall 2.50 Grasmere The Wray 2.87 Ingleton 3.00 Sedbergh 2.60	
16 Sep 1908 BR Westmorland Gazette 19 Sep 27 Jun 1909 Westmorland Gazette 3 Jul	Cartmel Carke 1.51 Broughton in Furness 2.92 (wettest for 16 years)	Cartmel observer notes fields of corn and potatoes under water between Grange and Levens and the valley of the Winster The storm was of brief duration and there were several cases of minor damage to houses but no reference to flooding. During a storm on the Lune catchment, 4 cattle were killed by lightning in the Kirkby Lonsdale area. There was no reference to flooding
19 Oct 1909 BR	Hawkshead Tower Bank Sawrey 2.53 Seathwaite Vic. 2.55 Skelwith fold 2.71 Cleator Moor 2.95 Ullock 2.55	
23 Oct 1909 BR	Kendal Holmcroft 2.18	Observer noted that rain caused the greatest flood for 16 years.
9 Dec 1909 BR	Rydal 2.63 Loughrigg High close 2.73 Ambleside Rydal fm 2.50 Grasmere The Wray 3.64	Mainly orographic rainfall affecting high ground in Scotland and the Lake District.
15 Jan 1910 BR	Sedbergh Dent 2.71 Sedbergh Akay 2.75 Sedbergh Cemetery 2.88 Sedbergh Croasdale beck 2.88	BR notes this was a winter depression
1 Mar 1910 BR	Seathwaite Vic. 2.54 Dungeon Ghyll 3.52	
10 Jun 1910	Ambleside 1.55" in 1 hr+	'From March wind to midsummer heat' It had been cold over the weekend of 4 th with winds of hurricane fury in

BR Westmorland Gazette 11/18 Jun	Rydal 0.80 in 45 mins Wansfell 1.52 in 15 mins Storms were very isolated but multiple
28 Aug 1910 Westmorland Gazette 3 Sep	Wet August followed by persistent rain 25 to 28 th No reference to thunder
31 Oct 1910 BR	Ambleside Skelwith Br 2.77 Rydal Stepping Stones 2.60 Loughrigg High Close 2.60 Grasmere The Wray 3.28
14 May 1911 Westmorland Gazette 20 May	Thunderstorm with some hail
11 Sep 1911 Westmorland Gazette	Thunderstorm
29 Oct 1911 BR Westmorland Gazette 4 Nov	Cartmel Aynsome 2.30 Grasmere The Wray 4.90 in 22 hr Ambleside Rydal Fm >5.00 in 24 hr Kendal Holmcroft >3.00 in 24 hr (over 2 raindays) Windermere Fellside 3.20 Windermere Holehird 3.83 Windermere Brockhole 3.80 Ambleside Wansfell 4.03 Ambleside Skelwith Br 4.30 Ambleside Gale Ho 3.51 Ambleside Lesketh Howe 3.55 Rydal Stepping Stones 4.25 Loughrigg High close 3.88 Loughrigg Silverthwaite 3.80 Ambleside Rydal Farm 4.17 Dungeon Ghyll 4.85

which roofs were damaged at Kendal. By 7th the heat was oppressive and thunderstorms occurred on 8th. A donkey was killed by lightning.

Hawkshead: Torrential rain occurred but little on the east side of Esthwaite Lake). Hailstones 1" diameter and pieces of ice did damage to garden crops; glass was broken in green houses, lambs were killed and trees struck by lightning. Streams rose rapidly to overflowing; houses and cellars were filled and sandy deposits left everywhere.

Ambleside: Rain and hail for one hour causing houses to flood - but no rain at Troutbeck. In the Stock Valley a severe thunderstorm above Grove farm a runner from Wansfell swelled and burst out, ploughing up the cartroad and washing down a wall. At Grove Farm, water entered at the back and went right through the house. At Low Grove branches and large stones were piled against the bridge.

Storms were also reported at High Wray, Lowick, Orton and Beetham but no flooding of property was noted.

Kendal : Although wet the highest daily rainfall in August was 1.19"

Hornby: The River Lune was in quite a big flood. The blacksmith's shop and a cottage near the Wenning at Hornby was flooded to a depth of 1 foot.

Bowness: High lake level and the pier was covered.

Milnthorpe: The River Bela was bankfull and a bullock was carried away in the flood.

Kendal: Rain for close to 1 hour with damage to gardens and Animals killed by lightning and a house struck.

Kirkby Lonsdale: Hail with rain; streets were flooded

Howgill: Hail as big as peas; animals killed by lightning.

Kendal: Rain for more than 1 hour. Some portions of the streets were flooded.

High Wray: Hailstones the size of marbles fell

Storms were also reported at Milnthorpe, Endmoor, Newton in Cartmel. The rain was generally welcomed after a long drought. Little reference was made to flooding.

A large and deep depression passing far to the north of Scotland brought a steady and strong southwesterly wind over the west of Great Britain with the heaviest rain in the Lake District and western Scotland but also some rain in Wales and Dartmoor.

Lake District Rainfall >4 inches covered an area of 272 square miles

Lake District rainfall >5 inches covered an area of 102 square miles

Kendal: Water reached the railway embankment which it had not done since the 1898 flood. Brocky was flooded. There was a flood down the Blind beck and a road near the top of Gillingate was flooded. New Road and the Sand Area were flooded early and Waterside was blocked to pedestrians. Near Netherfield Bridge the water was within one foot of the top of the arches. Although the rain stopped at Kendal the river continued to rise suggesting higher rainfall in the headwaters. Cellars in Aynam Road were partially filled.

Ambleside: The River Rothay overflowed along its entire length. Under Loughrigg Road was impassable and many houses were flooded.

Thirlmere: The lake rose 5 feet.

	Grasmere The Wray 4.90 Kendal Low slack 2.80 Kendal Eller Green 2.72 Coniston Holywath 3.97 Coniston Water Park 2.83 Hawkshead Tower Bank 3.42 Hawkshead Esthwait Mt 3.90 Sedbergh Dent Vic. 3.64 Sedbergh Akay 2.63 Sedbergh Centerey 2.50 Sedbergh Croasdale Beck 2.52	Grasmere: Becks seemed to increase all at once and great waves swept down the meadows dashing against the walls and sweeping over the wooden bridge next to the sports field. Some houses near the main road were flooded including Hollins North Lodge, Black Syke, Whitebridge and Townend. Hornby: the river Lune overflowed low lying land and sheep were washed away. Burneside and Longseddale: The River Sprint did not flow over the wooden bridge at Peach Hill as on some previous occasions but much meadow land was flooded. Windermere: Cottages were flooded; floods were considered equal to 1898. Leven valley: The flood did not reach the level of the 1898 flood
11 Jun 1912 Carlisle journal 14 Jun Westmorland Gazette 15 Jun	Thunderstorm	A thunderstorm of unusual severity occurred at Maryport lasting from midnight to 2 am. No damage was reported. [Thunderstorms elsewhere – see Eden and northeast]
26 Oct 1912 BR	Ulverston 2.51 Broughton in furness 2.52 Cartmel (Holker Hill) 2.52 Greenodd 3.06 and 3.26 Blawith Vic. 2.54 Coniston 2.78 and 3.26 Ambleside Skelwith Br 2.79 Loughrigg (Silverthwaite) 2.50	Rainfall was associated with secondary depressions on the outskirts of a large deep cyclonic system off the west of Ireland
13 Dec 1912 BR	Ambleside White Craggs 2.62 Ambleside Lesketh Howe 2.52 Rydal Stepping Stones 3.32 Rydal 3.92 Dungeon Ghyll 3.81 Grasmere the Wray 5.14	The wettest day of the year in much of the lake District
9 Jun 1913 BR Westmorland Gazette 14 Jun	Dungeon Ghyll 3.68 Grasmere The Wray 3.09 Grasmere Michaels Fold 2.87 Rydal High Close 2.60	Ambleside: Heavy rain caused streams to rise and overflow becks – no reference to flooding or thunder
17 Jun 1914 BR Westmorland Gazette 20 Jun	Kendal (Holmcroft) 0.64" in 40 mins	A terrible thunderstorm burst on Red Shaw Hill near Newby Head 2 ½ miles from Gearstones and flooded the Dent Valley (Upper Ure) as well as the Ribble. The water was very muddy and a kind of marl deposit was left on the bed of the river. The backwaters were several inches thick with the stuff. A few tons of stones were removed by the torrent. WG has no reference to rainfall or flooding.
21 Jul 1914 BR Westmorland Gazette 25 Jul	Kirby Lonsdale Casterton 1.50" in 20 mins Two days of oppressive heat followed by thunderstorms with hailstones	Kendal: various parts of the town were partially flooded and water accumulated quickly. The storm was accompanied by pieces of ice the size of coat buttons. Trees were struck and buildings damaged and cattle killed by lightning. Staveley: the storm was accompanied by a whirlwind which caused havoc with hayfields. Ice, ½ inch square fell.

8 Aug 1914
BR
Westmorland
gazette 8/15
Aug

Cartmel W. W. (Newton Reservoir) 2.70
Rusland Hall 2.50
Greenodd (Summerhill) 2.68
Coniston (Holywath) 4.29
Hawkshead (Tower Bank, Sawrey) 3.31
Cartmel Fell Schoolhouse 2.50
Seathwaite 4.71
Rosthwaite 4.13
Grange 4.72
Bowness (Dawstone) 3.18
(Fallbarrow) 3.50
(Fellside) 3.25
Windermere (Holehird) 3.33
(Brockhole) 3.22
Ambleside (Wansfell) 3.36
Ambleside (Gale House) 3.25
(Tweenway House) 3.39
Dungeon Ghyll 3.55
Kendal (Crosthwaite Vicarage) 2.80
,, (Vicarage Terrace) 2.64
,, (Holmcroft) 2.72
,, (Birchfield) 2.83
,, (Low Slack) 2.81
Kirkby Lonsdale (Casterton) 2.70

9 Sep 1914
Westmorland
Gazette
17 Dec 1914
Westmorland
Gazette 19/26
Dec

Sedbergh (Dent PO) 2.58
Wharfedale (Oughtershaw) 2.50
Ambleside Skelwith Fold 3.87
Ambleside Skelwith Br 4.07
Ambleside White Craggs 3.50
Ambleside Gale Ho 3.25
Ambleside Rydal Farm 3.30
Rydal Stepping Stones 3.50
Rydal High close 3.40
Rydal Silverthwaite 3.35
Grasmere The Wray 3.38
Kendal Ellergreen 3.05
Tebay Orton 3.44

Burneside: Hailstones, 1" and over in length caused the roof of the paper mill to be damaged and eventually fall in. Parts of the mill were flooded and some houses in the village. Gardens suffered from hailstones. Several people were injured by lightning. Rainfall of 1.38" in 45 minutes was reported.

Kirkby Lonsdale: Although no significant rain was reported at KL the Lune sprung in level. At nearby Casterton flooding occurred and roadways damaged Kirfit Hall was flooded and greenhouse glass broken with hailstones. Big floods were reported in Lake District and North Wales where over 6 inches fell in the Snowdon area. Thunder was not reported but rain was associated with a depression to the north of Britain.

WG makes no reference to flooding but notes that after a long dry spell the high water in the River Kent was a 'rouser' for salmon.

An exceptionally prolonged spell of dry weather was interrupted by thunder and heavy rain. A watersout was reported east of Casterton. WG has no reference to flooding.

Rainfall was mainly in the south of the Lake District but Grange also had 4.86 inches.

WG has no reference to flooding

16 Feb 1915
BR
Westmorland
Gazette 19/27
Feb

Rydal high close 2.60
Ambleside Skelwith Br 2.91
Grasmere The Wray 2.81
Grasmere Michaels Fold 2.87

Squally SW winds blew over England and Wales and rain fell in the uplands of the SW, Wales and the Lake District.

WG has no reference to flooding

27 Jun 1915
Westmorland
Gazette 3 Jul

Thunderstorm after long drought

Thunderstorm which from Kendal seemed centred over Whinfell and the Howgills. The rain lasted 40 minutes at Kendal but had little effect as the land was parched. Cattle and sheep were killed by lightning at Kirkby Lonsdale, Barbon and at Grayrigg sheep and a horse were killed. The storm was also reported at Windermere and Grasmere. An angler's report says streams remained at their lowest summer level.

24 Jun 1916
Westmorland
Gazette 1 Jul

A thunderstorm occurred which was said to be the severest for a couple of years. The highest total rainfall at Kendal was 1.21 inches and Entry Lane resembled a water fall and streams coursed down Fellside. One heifer was killed by lightning nearby. At Cartmel a farmhouse was struck and damaged. And at Windermere an ancient oak tree was struck and destroyed. A thunderstorm was also reported at Coniston but there was no further reference to flooding.

21 Jul 1916
BR
Westmorland
Gazette 22/29
Jul

Kendal Holmcroft 0.80" in 20 mins
Kendal Birchfield 1.00" in 32 mins

WG makes no reference to thunder or to flooding

28 Dec 1916
BR

Bowness Lindeth Howe 2.50
Bowness Howgill School 2.58
Bowness Fellside 2.66
Windermere 2.65
Windermere Hammar bank 2.70
Windermere Holehird 2.76
Windermere Borckhole 2.82
Ambleside Wansfell 3.09
Ambleside Skelwith Fold 3.06
Hawkshead Tower Bank 2.66
Ambleside Skelwith Br 3.70
Ambleside White Craggs 3.35
Ambleside Gale house 3.51
Ambleside Loughrigg Brow 3.65
Ambleside Tweenway House 3.52
Rydal Stepping Stones 4.14
Rydal High Close 3.65
Rydal Silverthwaite 3.28
Dungeon Ghyll 5.10
Kendal Ellergreen 2.52
Sedbergh Dent PO 2.53
Sedbergh Howgill School 2.58
Hawes Junction 2.64

[Not investigated on WG]

15 Aug 1917
Westmorland

After a fortnight of virtually no rain, the weather was unsettled for 7 days and then thunder occurred on 15th and 3 inches of rain was reported at Kendal. At Mealbank a school was struck and damaged (children were on

Gazette 18 Aug

holiday). At Arnside a house was struck. At Burton the thunderstorm lasted 2 hours and a horse was killed by lightning. The storm occurred in North Westmorland where it was the first of the year. The rain was welcomed due to the previous dry weather. There was no reference to flooding. WG has no reference to flooding.

21 Feb 1918

Seathwaite 4.45
Ambleside Gale Ho 2.91
Rydal Stepping Stones 3.02
Rydal High close 3.50
Dungeon Ghyll 4.47
Grasmere The Wray 3.75

BR

Westmorland
Gazette 23

Feb/2 Mar

16/17 Jul 1918

Kendal 0.75 inches in 2 hours on
16th: nearly 1 inch on 17th
Chesterton 3.0 inches in 3 hours

There was no reference to flooding and limited damage from lightning.

Westmorland
Gazette 20 Jul

23 Jul 1918

Kendal 0.75 inches in 1 hour

More thunderstorms. 'The river has been very full' but there was no reference to flooding of land or property.

Westmorland
Gazette 27 Jul

15 Sep 1918

Widespread rainfall affected the
Rivers Kent, Lune, Duddon as well as
adjacent areas of West Riding which
were in high flood caused by
prolonged rainfall.

A near stationary low pressure system which became deeper during the day brought very widespread rainfall in the north of England N Ireland and the Snowdonia are of Wales, affecting the Lake District and Northeast England

Westmorland
Gazette 21 Sep

Rain began on Saturday morning and
continued with little break until
Monday afternoon with 3.74 to 4
inches in Kendal.

The flood at Kendal was several feet in level below the great flood of 1898. The brooks and rivers rose but unlike 1898, the plain faces of the fells did not become waterchutes. The flood overflowed the meadows and invaded many Kendal houses. Much corn in sheaves was swept away. A farmer from Underbarrow reported that the land between there and Whitbarrow was like a lake and water extended from bridge Inn to Lyth, four miles in width and 2 miles wide. The flood got as far as the house at Carus Green. In Kendal the first footway to be submerged was that which runs beside the river at Dockray Hall Mills to Sandes Avenue bridge. Benson's Place became an island. It was possible at all times to walk along the riverside from Sandes Avenue to Stramongate Bridge. Below the latter the river had a wide course and covered all but a few square yards of Gooseholme. It rose on to the footway by St George's church but it never quite reached the railings. The flood rose rapidly until the houses in the Sand area were inaccessible except by wading through a couple of feet of water. At Stramongate corner of the new road the pillar box stood in a sea of water. The greater part of the New Road was impassable to pedestrians and water lapped on the steps of the RC church. On Stramongate the water came up the drains and flooded cellars as far as the Nag'e Head. The flood was out on to the dip on Milnthorpe road and got into the lowest of the dwellings. The flood also penetrated the leather cellar at Netherfield Works. The houses on Aynam road suffered as usual, the water backing up the drains. At the iron bridge, the river rose on to the road and inundated all but the top end of Queen Katherine Street. The river also was on the road about the Almshouses and reached their steps. All but the highest portion of Millerfield by the fire Station disappeared from view. At its peak the river was less than a foot below the peak for 1881 at Millers Bridge. The peak marks for 1874 and 1898 were therefore well above water. (There were also great floods in 1832 and 1852)

BR

Barrow in Furness STW 2.70
Urswick Sch 2.74
Ulpha 2.76
Bardsea Sch 3.01
Cartmel Carke 2.66
Cartmel holker Hall 2.74
Ulverston 2.54
Rusland Hall 3.30
Consiston Water Park 3.40
Hawkshead Tower Bank 3.35
Hawkshead Esthwake L 3.36
Skelwith Fold Ambleside 3.20
Grange over sands Nutwood 3.03
Grange over Sands Sch 2.95
Bowness Dawstone 3.05
Bowness fellside 3.10
Windermere Hammar bank 3.06
Windermere Holehird 2.84
Windermere Brockhole 3.00
Ambleside Wansfell 3.02

Several footbridges on the River Gilpin have been washed away and several houses in Crosthwaite were under water. At Windermere the boat piers at Bowness and Millerbridge were submerged. Some damage was done to the roadway of the steep land leading to the Gasworks and near the Green farm the rayrigg road was flooded

22 Sep 1918 Westmorland Gazette 28 Sep	<p>Ambleside White Craggs 2.85 Ambleside Loughrigg Brow 2.86 Ambleside Lesketh Howe 3.01 Rydal 3.09 Kendal Crosthwaite Vic. 2.90 Kentmere 3.18</p> <p>The were no reports of thunder.</p> <p>Again prolonged rainfall with no thunder but no record from British Rainfall</p>	<p>lightly.</p> <p>Ambleside: The Stock, Scandale beck and River Rothay overflowed their banks. On the Green at fisherbeck and elsewhere houses were flooded.</p> <p>Arnside: drains burst and overflowed in many places flooding the roads. Water penetrated the Electric Supply Station and flooded the engine room causing the village to be left in darkness.</p> <p>Cartmel: A high wall gave way at Clogger beck and houses on 'The Falge' suffered severely.</p> <p>Cark: The railway station was flooded to one foot depth.</p> <p>Leven valley: All the low lying lands presented the aspect of a lake. Many houses were flooded particularly in Low Row , Backbarrow where the water ran across the road.</p> <p>A second flood followed rapidly on the one on 15th. The river rose with a suddenness that people believed that the reservoir at Kentmere had been opened. [But was there any evidence for this?] The river walk from Stramongate to Sandes Avenue which was dry during the previous flood was covered by the waters. The whole of Waterside and Colonel Walk disappeared. The lower portions of Aynam road were engulfed. The Almshouses were practically surrounded. Trees left stranded by the previous flood were picked up. Water got into basements half way up Parr street. In Queen Katherine Street only the houses at the top escaped. The Drill Hall was 2 feet deep in water. In the dip in Milnethorpe road beyond Nether Bridge houses were flooded to a depth of two feet and the water rose up well into Poor House Lane. The mark on the Miller Bridge was within a few inches of that in 1881, a good 18 inches higher than on the previous Monday.</p> <p>Between Arnside and Grange the railway embankment was breached causing long delays to trains.</p> <p>Staveley: Houses were flooded twice in a few days, the second rising many inches higher than the first flood.</p> <p>'In consequence of official restrictions on publication of weather reports, this feature of local news is discontinued. It is hoped to resume on the discontinuance of hostilities'. The respriction must have applied for a limited time as descriptions of the thunderstorm were given in the paper on 17 May the flowing year (1919).</p>
19 Oct 1918 Westmorland gazette 19 Oct	<p>Coniston Holywath 2.75 Rydal Stepping Stones 2.98 Ambleside Lesketh Howe 2.61 Dungeon Ghyll 2.63 Grasmere The Wray 2.54</p>	Not investigated in Westmorland Gazette
1 Jan 1919 BR	<p>Hassness 3.03 Dungeon Ghyll 3.19</p>	Not investigated in Westmorland Gazette
10 May 1919 BR Westmorland gazette 17 May	<p>Dungeon Ghyll 2.60 Grasmere The Wray 2.51</p> <p>Thunderstorms following the hottest day of the year at Windermere where the temperature reached 75F.</p>	<p>At Kendal there was a thunderstorm but only trivial rainfall and no damage was reported.</p> <p>Arnside: Rain was mingled with hail and soon the main streets were transformed into torrents which bore down stones and flooded houses, causing much damage to furniture and carpets.The road surface on the Promendae was broken through in places. Fruit trees were stripped of blossom.</p> <p>Silverdale: Storm rainfall lasted for an hour and a half. Hail covered the ground to an inch or two in depth and penetrated vegetables etc. Houses and gardens were flooded.</p> <p>Thunderstorms with animals killed by lightning were also reported at Lowick and Ulverston</p>
1 Sep 1919 BR Westmorland	<p>Seathwaite Vic 2.83 Pennybridge Sch 2.82 Coniston Holywath 3.61</p>	<p>Rain was associated with a secondary pressure system on the outskirts of a large depression lying between Iceland and the British isles.</p>

Gazette 6 Sep	Hawkshead Esthwaite lodge 2.65 Skelwith Fold 2.79 Rydal Stepping Stones 3.07 Rydal 3.36 Rydal High close 3.32 Dungeon Ghyll 2.62 Grasmere The Wray 2.98 Kentmere 2.50	WG has no reference to rainfall or flooding
9 Feb 1920 BR	Coniston Holywath 2.80 Hawkshead Esthwaite L 2.78 Ambleside Skelwith Fold 4.13 Windermere Holehird 2.85 Windermere Brockhole 2.98	A gale continued throughout the day. Kendal: The River Kent rose rapidly and at many places overflowed its banks. The Waterside between Dockray Hill Mills and Sandes Avenue Bridge was impassable. At the Glebe Walk the water threatened the Kirkland School yard.
Westmorland Gazette 14 Feb	Ambleside Wansfell 3.36 Ambleside Whitecraggs 3.54 Ambleside market Sq 3.96 Ambleside Lesketh Howe 3.30 Rydal Steeping Stones 4.35 Rydal 3.10 Rydal High Close 4.78 Dungeon Ghyll 6.81 Grasmere The Wray 5.12 Kendal Potter Tarn Res 2.97	Crosthwaite: The gale and rain was accompanied by thunder and hail and the low lying moss land was partly submerged. Windermere: Grounds on the shores of the lake were submerged and the lake level reached nearly a record height. The road from Windermere to Ambleside was under water in places due to culverts being choked; similar conditions prevailed from Ambleside to Grasmere. 'Luckily the floods rose gradually'. Grasmere: The daily rainfall was the second highest in a record of 36 years, the highest being on December 13 1912. Langdale: 'The deluges was supposed to have been the greatest for over 20 years. Kirkby Lonsdale, Ingleton and Hornby: The river Lune was in high flood, said at Hornby to be the greatest for 16 year whereas the Greta was said to be higher than it has been for 40 years, although the Dee was not so big. The Grubity Beck overflowed in many places near Ingleton Colliery and the colliery had to close. WG reported an exceptionally wet 4 month start to the year with 100 wet days and second highest 4 month total since 1872 at Kendal.
5 May 1920 BR	Dungeon Ghyll 4.13 Kendal Potter Tarn Resvr 2.78	A high wind and rain did damage to fruit trees and cause chimney damage. Persistent rain caused the River Kent to overflow the meadows. Sheep and lambs were carried away and in Kendal, the riverside walks were awash. One child of 2 ½ fell in a was drowned.
Westmorland Gazette 8 May		
2 Jul 1920 Westmorland Gazette 10 Jul	Thunderstorm In some places large hailstones fell.	Coniston: Culverts failed to carry off the downpour and gardens and houses were flooded. Farm animals were killed by lightning and trees were felled. Sawrey and Hawkshead: Fire was threatened at the Ferry Hotel. There was damage to roads, washing away all the macadam. Horses and cattle were killed by lightning at various places. [WG 17 Jul notes that the first 6 months of the year were the highest rainfall on record since 1872 and 10 inches above normal] Steady rain over NW England and Wales.
4 Aug 1920 BR	Ulpha 2.61 Seathwaite Vic. 2.80 Egremont 2.84 Rydal Steeping Stones 2.69 Rydal 2.84 Coniston 3.12 Ambleside Skelwith Fold 2.54 Whitehaven 2.60 & 2.66	WG has no reference to rainfall or flooding.
Westmorland Gazette 7/14 Aug		

8/9 Jan 1921 BR	Grasmere The Wray 2.56 8 th Ambleside Lesketh Howe 2.71 Rydal High close 3.08 Dungeon Ghyll 6.10 Grasmere The Wray 2.60	Flooding followed 48 hours of rain. Windermere rose several feet but did not reach record levels. The landing steps at Lowwood only had the high end above water. Rothay and Brathay were in high flood. WG had no reference to flooding of houses or property or to thunder.
Westmorland Gazette 15 Jan	9 th Hassness 2.56 Rydal Hall 2.68 Dungeon Ghyll 4.12 Grasmere The Wray 3.65 Patterdale Greenside 2.60	
15 Mar 1921 BR	Rydal 2.53 Rydal Hall 2.55 Grasmere The Wray 3.36	WG has no reference to rainfall or flooding
Westmorland Gazette		
19/26 Mar		
Jul 1921 Westmorland Gazette 23 Jul		Drought is referred to several times through July. Then on 23 July a thunderstorm was reported but with very little rain. The rain was welcomed on a parched ground. Again a drenching downpour on August 6 had insufficient rainfall to produce flooding. In this event there was no reference to thunder.
16 May 1922 BR	Egremont 3.19 Silecroft 2.63 Dungeon Ghyll 3.24	The only reference was with respect to ‘angling’ which reported that the heavy rain brought the stream s up but they are still very low. There was no reference to thunder or to flooding.
Westmorland Gazette 20 May		
17 May 1923 Westmorland Gazette 19 May		It was the heaviest fall of rain of the year but with snow on the higher fells. There was no reference to flooding
2 Aug 1923 BR	Dungeon Ghyll 2.77 Grasmere The Wray 2.68	‘Summer gale’ refers to the effects of wind but there was no WG reference to flooding
Westmorland Gazette 16 Aug		
29 Oct 1923 BR	Coniston School Gdn 2.86 Hawkshead highfield 2.72 Ambleside Skelwith Fold 3.01 Hassness 3.84 Ambleside White Craggs 2.76 Ambleside Market Sq 2.81	Kendal: Following a very wet October with 30 rainy days, a night of contiuous rain caused the River Kent to rise very rapidly. The Waterside was impassable to pedestrians. New Road was completely covered and the basements of low lying properties on Aynam road and Wattsfield were flooded.
Westmorland Gazette 3 Nov	Rydal The Stepping Stones 2.66 Rydal The hall 2.58 Dungeon Ghyll 3.65 Grasmere The Wray 2.79 Kentmere Mags Howe 2.90 Kentmere Head Resvr 3.30	
3 Nov 1923	Rydal High Close 2.65	It was one of the highest floods on the Brathay (perhaps since 1903). The river overflowed at Ashleigh Green and

BR
Westmorland
Gazette 10 Nov
12/13 Nov 1923
BR
Westmorland
Gazette 17 Nov

Dungeon Ghyll 2.90
Grasmere The Wray 2.79

Coniston School Garden 3.01
Hawkshead Highfield 2.55
Ambleside Skelwith Fold 2.51
Ingleton 3.52
Sedbergh Brigg flats 2.69
Sedbergh Havera Bank 2.75
Hassness 3.47
Dungeon Ghyll 3.27
Grasmere The Wray 2.65
Killington Resvr 2.81
Kentmere head Resvr 2.54

The rainfall was accompanied by a fierce gale but no thunder.

26 Jul 1924
BR
Westmorland

Hawkshead 0.46 in 15 mins

at Jiffy Knotts the water was 2 feet deep on the roads. At Skelwith Bridge the road opposite the hotel was impassable to walkers. The Langdale Valley was turned into a vast lake.

After continuous heavy rain overnight there was a big flood in the morning on the River Kent. Colonel's Walk was soon under water 2 ½ feet deep and many houses in the lower part of town had water in their cellars. Miller field was covered and the Gooseholme was awash. New road was under water. There was flood water in Wildman Street and Castle Crescent was under water. Cellars in Aynam road were flooded. At its height the river was in the lower end of Kirkland below Nether Bridge. It was the biggest flood for a few years – but a moderate one. Sleet and snow fell at the end of the event even in Kendal which had a couple of inches on the ground and the fells were covered.

The River Gowan overflowed along its banks to where it meets the Kent at Staveley but the houses at overStaverley, although threatened did not flood. From there the Windermere Road was covered to a depth of 2 feet in places.

The flood in the Langdale valley reached alarming proportions. The river rose very rapidly. The Dungeon Ghyll area was covered, the water reaching a great height.

At Skelwith Bridge the Brathay valley was again flooded the river rising higher than it did on 3 November At Ashley Green the water had risen to the top of the wall.

At Hawkshead the persistent rain resulted in the highest floods of the year. The road from Randapike to Pull woods at Angle Wood was impassable for vehicles. Flooding of roads was also reported at Underbarrow and Crosthwaite.

The River Lune was in high flood and at one point its width was half a mile. Again low lying roads were impassable and there was much erosion of the banks.

At Endmoor it was said that it was 25 years since the district had experienced such a flood with much farmland and roads flooded but no reference to house flooding. At Halfpenny on Stainton Beck two footbridges were washed away.

The River Bela was at its highest for 35 years. The Falls paper mill and Dobson's comb work were at a standstill (it doesn't say they were flooded) and the furnace fires at the gas works were extinguished. At Beetham the flood was said to be the highest for 40 years; it ran across the road at the southern end of the Beetham Bridge flooding the parsonage orchard and the lower buildings of the yard. The school boiler house was flooded. Severe flooding was also reported at Burton and Warton. The river Lune rose so rapidly that farmers had difficulty saving their animals and sheep were drowned at Melling. The river Wenning overflowed its banks near Hornby Castle and flooded the Post Office and several houses where the water was up to 2 feet deep.

At Burton in Lonsdale the river Greata rose rapidly It was noted that the heaviest flood there was on September 2 1892 when the potter fires by Burton Bridge were put out of action.

At Sedbergh the dam at Farfield Mills was swept away and the mills closed and the main road to Dent was closed at the Hippings.

[There was also a great Wensleydale flood]

WG has no reference to thunder, rainfall or flooding

Gazette 2 Aug 22 Nov 1924 BR	Seathwaite Vic. 2.91 Ingleton 3.65 Hassness 2.70 Rydal High Close 2.54 Dungeon Ghyll 3.35	WG has no reference to rainfall or flooding
26 Dec 1924 BR	Windermere Holehird 2.58 Ambleside White Craggs 3.51 Ambleside Market Sq 3.50 Rydal Stepping Stones 4.12 Rydal 3.76 Rydal high close 3.74 Rydal The hall 4.04 Dungeon Ghyll 3.65	Not investigated
1 Jan 1925 BR	Ullswater Hallsteads 2.50 Watermillock Mell Fell Ho 2.51	Heavy falls of rain with strong gales covered the whole country. Most of the rain was associated with a warm front. Rainfall was also associated with a small secondary depression situated to the W of the Scilly Isles at 6pm and over Kent at 1 am next morning Not investigated.
26/27 Oct 1925 BR Westmorland Gazette 31 Oct	Dungeon Ghyll 2.71 on 26 th and 2.78 on 27 th	The summer of 1925 was very hot and dry. On Aug 1 WG referred to 8 weeks of fine weather with the grass not so burnt since 1887 and temperatures up to 90F. On 26 Sep the WG angling correspondent noted that 'after a wait from 1 May the rivers are in flood again but only enough to clean the river bed'. The River Kent was the highest that it has been this year following torrential downpours and a southwesterly gale. There was no reference to thunder or to the flooding of roads or property. A large Atlantic depression centred near Iceland extended its influence over the British Isles on 14 Feb. Not investigated
14 Feb 1926 BR	Ambleside Skelwith fold 2.59 Buttermere Hassness 2.72 Silecroft 2.78 Ambleside White crags 2.67 Rydal Stepping Stones 3.07 Rydal High close 3.05 Rydal The Hall 2.75 Grasmere The Wray 2.75	
14 Apr 1926 BR Westmorland Gazette Apr 17	Seathwaite Vic 3.15 Rydal The Stepping Stones 2.55 Rydal 2.74 Rydal High Close 3.05 Rydal The Hall 2.66 Dungeon Ghyll 2.50 Grasmere The Wray 3.28	Rainfall partly orographic in character. A broad current of air over the British Isles between a depression near Iceland and an anticyclone over Central Europe. WG has no reference to rainfall or flooding.
8 Jul 1926 Westmorland Gazette 10 Jul		Very localised thunderstorms occurred at Kirkby Lonsdale and Casterton where 6 heifers were killed by lightning. At Kirkby Lonsdale the rain was accompanied by hail but there was no rain 2 miles north of the town. No flooding was reported.
18 Jul 1926 Westmorland Gazette 24 Jul	Terrific heat was reported before the storm. The lightning was apparently exceptional where the storm was said to be the worst for 50 years or	Widespread thunderstorms. There were numerous reports of deaths of animals, mainly sheep, killed by lightning. At Crosthwaite houses were flooded from surface water. The vicarage bowling green was flooded. Levens and Milnethorpe also had houses flooded from surface water which 'went in one door and out the other'. At Beetham the streets were flooded and water found its way through the churchyard into the church.

21 Sep 1926 Westmorland Gazette 25 Sep	<p>25 years but there were no reports in BR of heavy rainfall and limited reports of flooding.</p> <p>Thunderstorm. Preceding high temperatures 81F recorded at Kendal. Kendal 1.08</p>	<p>Houses were flooded at Holme. At Carnforth drains were blocked and cellars flooded. The storm was also reported in Ambleside, Grasmere and Langdale with a horse and other animals killed by lightning. Some houses were flooded at Sedbergh and Melling and Hornby where the booking office and stationmaster's office at Wennington station were also flooded.</p> <p>'September storm'. The streets in Kendal were transformed into miniature rivers but damage was limited compared with the July storm; one house was struck and damaged. Several sheep were reported killed by lightning. Some rivers were said to be in flood notably at Langdale with meadow land submerged but limited damage. The storm was reported also at Windermere, Ambleside, Hawkshead, Grasmere, Langdale, Endmoor, Milnethorpe, Silverdale and Kirkby Lonsdale.</p> <p>At Broughton in Furness large hailstones were reported causing damage to hot houses and apple trees. The cellars and kitchens of some houses were flooded.</p>
6 Oct 1926 Watkins & Whyte (2007) Westmorland Gazette 16 Oct	<p>There are no entries for heavy rainfall on this date for anywhere in the country</p>	<p>An intense convectional storm on Gale Scarth Pass, caused intense erosion and moved huge boulders in Longsleddale valley.</p> <p>'October storm'. A storm of wind and rain lasted for six hours was concentrated at the head of the Longsleddale valley. The flood which descended from the Mosedale side of the hill reduced Gate Scarth Pass to a tumbled mass of rock and earth for two miles. The road to the pass from Sedgill also suffered from the torrent. At Sedgill the water spread out over pasture lands. The water was so high as to flood over the bridge which leads to Fishwick's farm. The road down the valley to Sedgill had a channel 2 to 7 feet deep cut in the middle with boulders on either side piled up weighing up to 2 tons. A rough estimate of the debris carried was made at 15,000 to 20,000 tons. The cloudburst must have occurred over the whole of Buckbarrow Crag. The Kent at Kendal rose 2 feet and subsided two feet within an hour.</p> <p>Kentmere valley was flooded and Kentmere Hall had furniture floating about in the main building and outbuildings were also submerged. In the Troutbeck area of Windermere lower apartments were well under water. Considerable damage was caused by the wind with many trees blown down. At Levens gardens were devastated and fruit strewn on the ground. Both the Kent and the Gilpin overflowed. Torrential rain and hail fell in the Lyth Valley at Crosthwaite and Lyth; the road from Johnscales to Thorper Bridge was flooded and impassable to pedestrians.</p>
4 Nov 1926 BR Westmorland Gazette 13 Nov	<p>Ulpha 2.68 Duddon Seathwaite Sch 4.43 Hawkshead Tower Bank 2.87 Ambleside Skelwith Fold 3.75 Windermere Hammar Bank 2.68 Windermere Holehird 3.18 Windermere Brockhole 3.21 Ambleside White Craggs 3.64 Ambleside Wansfell 3.32 Ambleside Market Sq 3.57 Rydal Stepping Stones 3.91</p>	<p>Heavy rainfall was also reported at Shap, Swindale, Rosgill, and Bampton flooding the Swindale and Wet Sleddale Becks. Craggs Mill bridge across the Lowther was damaged. Part of Rosgill Bridge was swept away and the Parish Crag bridge between Rayside and Rosgill was also damaged.</p> <p>Rain was widespread in western Britain in the southern portion of a depression the centre of which skirted the NW coast of Scotland. Heaviest rain fell on high ground. Many rivers overflowed their banks and caused considerable damage by flooding, roads were made impassable and railway services were delayed.</p> <p>BR has rainfall distribution map and synoptic charts for 4 and 5 Nov.</p> <p>Heavy rain through the night and the following day caused severe flooding, said to be the worst for 20 years in some parts of the lake District. The rain was augmented by melting snow from the summits. Rivers rose rapidly so that farmers had difficulty in getting their stock to safety. The river Kent rose higher than it had been for the last two years and house cellars in Kendal were flooded. The effects of heavy rainfall over Windermere were</p>

	Rydal 3.96 Rydal High Close 3.18 Rydal The hall 4.02 Dungeon Ghyll 3.28 Grasmere The Wray 4.29	counteracted by the initial low level but surrounding areas were still affected when the lake level rose rapidly. Roads were badly flooded in the Hawkshead area notably on the Ambleside Road at Angle Wood below Randapike and between Brathay Hall and the home farm. Houses were flooded in Ambleside. Poultry near the banks of the Rothay were swept away. At Skelwith Bridge water was over the roads on each side of the hamlet to a depth of 3 feet.
	No reference to thunder.	Grasmere: Following the damage caused by the snowstorm in October the floods caused considerable damage, said to be the worst for 28 years [1898]. Greenhead Ghyll brought much gravel down and altered its course in places. Numerous houses were flooded to a foot or more at Holly Grove, Church Bridge and Townend. Walls were broken down and a rustic bridge carried away at Above Beck and Greenbank. Langdale: Rain and hail were accompanied by a hurricane wind throughout the night. Large tracts of land were submerged between Elterwater and Skelwith. Many houses in the dale were flooded. At Bayesbrown Farm more than 30 sheep were drowned in the flood.
14 Jul 1927 BR Westmorland Gazette 23 Jul	Grasmere the Wray 1.51" in 1 hr 30 mins	A severe thunderstorm occurred in the centre of the Lake District, notably at Grasmere and Langdale. Serious flooding occurred in parts of Grasmere, including Town End, Knott House Cottages and Moss Grove. Gardens were damaged on the Hollens estate. Rain was accompanied by huge hailstones. Langdale: It was supposed that a cloudburst had occurred over Lingmoor and the flood invaded the Busk Farm in Little Langdale. Water on the adjoining road reached a depth of 4 feet. The storm there lasted 2 hours.
28 Jul 1927 Westmorland Gazette 30 Jul	Kendal 1.24 inches most of it in ¼ hour.	Kendal: Surface water flooding occurred as the result of the intense rainfall. Stramongate was flooded by a rushing river deep enough to reach the axles of cars. The River Kent hardly rose – assumed there was little rain further up the valley. Sedberg: A cow and sheep were killed by lightning and trees struck. Burton and Bentham: Crop damage was reported. A 2 year old child was carried away and drowned at Stainmore at Stargill in Kaber Parish. The child's body was found in the River Belah.
9 Aug 1927 Westmorland Gazette Aug 13		
20 Sep 1927 BR Westmorland Gazette 24 Sep	Seathwaite vic 2.61 Hawkshead 2.61 Rydal High close 2.65 Grasmere The Wray 2.65 30 hours continuous rainfall	The River Kent was in higher flood than it has been for a year or two. Flood water was on New Road and was about 15 inches deep on Colonel's walk The Riveer Lune was at a higher level than the Kent and many thousands of acres were under water. The bridge between Gressingham and Hornby was unapproachable from the Gressingham side where the water was 4 to 5 feet deep on the road. At Kirkby Lonsdale the island just off the gasworks was almost covered. Some flooding of cellars took place from the stream that flows along the side of Market Street. At Arkholme, the flood was said to be the worst in living memory. Higher up the Rawthey was in big flood. Severe agricultural losses were reported. WG has a (poor) photo of the Lune at Gressingham Bridge. The level of Windermere was raised several feet. Severe flooding was reported around Elterwater. At Crosthwaite thunder and hailstones were reported during part of the storm.
28 Sep 1927 BR Westmorland gazette 1 Oct.	Seathwaite vic 2.75 Dungeon Ghyll 2.51	No reports of rain or flooding in the South Lakes were found in WG but there is reference to a child being drowned in a tributary of the Eden.
1-3 Nov 1927	1st	The resulting flood was said to be 21 inches lower in Kendal than 1898 and 12 inches lower than 1874. On the

Hawkshead Tower Bank 2.72
Hawkshead Bettyfold 3.29
Ambleside Skelwith Fold 2.88
Bowness Dawstone 2.50
Ambleside white Craggs 2.52
2nd
Seathwaite vic 2.83
Grange over Sands 2.60
Lindale Ellerhow 2.82
Cartmel Fell 3.04
Rydal The Hall 2.59
Grasmere The Wray 2.60
Heveersham Plumtree Hall 2.95
Grange over Sands 2.61
Old Hutton 3.48
Killington resvr 2.63
Kendal Vicarage Ter 3.62
Kendal Highgate 2.87
Kendal Burnside 2.72

The total of 3.62 inches at Kendal (Vicarage Terrace), mostly fell in 12 hours whilst the total for 2 and 3 November was 5.66 inches.

The storm was accompanied by gale force winds.

railing at Millers bridge the level reached the 91st rail. Eight roads and 17 bridges were damaged by the flood. Many houses even in the higher parts of town were flooded due to poor drainage and streams descending from the surrounding hills. The flood had been preceded a few days before by storm force winds and an associated very high tide in Morecambe Bay which breached a new embankment at Meathop Mosses

The Westmorland Gazette printed several flood photographs as follows:

1. The Kent from the foot of Lowther Street showing the railing on which flood levels have been recorded.
2. Blindbeck flooding Kirkland
3. The flood in Kirkland
4. The scene on the New Road
5. A boat leaving the Provincial offices at Stramongate

Elsewhere in the Lake District the 40 feet high Kepple Cove Tarn dam at Glenridding gave way and bore down on the village and into Ullswater.

In Stramongate in Kendal the water was so deep that Sir Samuel Scott sent for rowing boats from Windermere to provide access to the Provincial Insurance Cos offices and water was a foot deep in the offices themselves. Stramongate School was flooded and it and the Castle Street and Grammar School were closed. Stock Beck overflowed and emptied itself into Ann Street flooding the grounds of Braithwaites Works. Both Shap and Appleby Roads were flooded and houses on Vineyard Terrace were flooded. At Mint Bridge the road was impassable. An old pumping station was flooded to a depth of several feet. A rugby field nearby had a hole 8 to 10 feet deep scoured out and the field was covered with boulders and driftwood.

The arches at Miller Bridge were almost submerged. Aynam Road was flooded and water entered the houses at Castle Mills. Siddall Almshouses were flooded to a depth of 9 inches. Kirkland schools had several feet of water in them. The road between Abbot Hall entrance and Nether Bridge was under water to a depth of three feet. Blind Beck as in previous events surcharged the culvert and flowed into the road. Gardens, tennis courts and bowling green at Abbott Hall were flooded. Netherfield Works was again flooded and the water was knee deep on the way to Nether Bridge. The Drill Hall in Queen Katherine Street was flooded to 4 feet.

The weir at Netherfield sustained damage and the sluice gates at Low Mills were also damaged.. The sewage works was inundated and the houses on Stone Mill island were inundated. At Hawes Bridge the water almost filled the arches. The weir at the powder mills was broken.

The lower reaches of the Kent and tributaries appear to have been particularly affected by this event with serious flooding in Endmoor where the boy's school at Preston Patrick and the girl's school at Endmoor were flooded. The Skippy river overflowed into houses. Houses at Millness also suffered. The River Bela was said to reach a height beyond previous records and at Beetham Bridge was several feet deep on the road. At Bridge End Farm the corn mill had over six feet of water in the engine room. Dobson's comb works was flooded above the

level of the workmen's benches (3 feet 6 inches). Belaside cottages were under water. Houses were flooded on the Strands Road and the fires at the Gas Works were extinguished. The Bela overflowed the tram bridge and inundated the tram lines to Kaker Mill where the water was 18 inches deep on the road. Outside the Gunpowder Works the water was 18 inches deep on the road and the works were flooded. Water flowed through the Saw Mill yard and into the workshops. At Mill Bridge the road was four to five feet under water. Bridge End post office was flooded. Houses were flooded at Stainton from St. Sunday's Beck, although it was said that marks made by villagers in the 1898 flood were considerably higher.

Upstream at Burnside, with the exception of the slight flooding of five houses in Bridge Street, the Kent did little damage.

Crosthwaite: The Crosthwaite and Lyth valleys and mosses were all inundated. A large number of sheep were drowned in the lower reaches.

Lancaster: Three patients in Luneside TB sanatorium were drowned in a tidal wave which overflowed the banks of the Lune and flooded the hospital grounds to a depth of 5 feet. They were occupying open-air huts in the grounds and were overwhelmed before they were able to escape. Two men were found in their beds but a woman was swept out and her body found in a neighbouring field. WG said the wave had come in from a breached sea bank.

Severe damage from the gale was reported at Endmoor, Burton, Carnforth, (the River Keer also overflowed), Arkholme and Ingleton. Milnthorpe and Sandside were flooded mainly from breaching of sea embankments but in Milnthorpe houses near the River Bela suffered, the furnaces at the Gasworks were extinguished WG has no reference to rain or flooding but see below.

28 Jun 1928
BR
Westmorland
Gazette 30 Jun

Sedbergh (Brigg Flat) 3.05
Sedbergh (Havera Bank) 2.96
Grasmere (The Wray) 3.1
Killington Reservoir 3.05
Kendal (Vicarage Terrace) 2.55
Kendal (Highgate) 2.63
Kendal (Greenside) 2.86
Kendal (Burnside) 2.8
Kendal (Potter Fell) 3.33
Barbon Manor 2.75
Barbon (The Stores) 2.72
Bowness Dawstone 2.58
Grasmere the Wray 3.07

1 Jul 1928
BR
Westmorland
Gazette 7 Jul

No reference to thunder

July was ushered in with drenching downpours of rain with several prolonged spells during the week. The River Kent was bank high on three occasions. On 1 July levels were high and the river rose 18 inches in 30 minutes at Romney Bridge and at the peak the water was across the road just below Nether bridge in Kirkland. On Aynam road the water was on the steps of the Almshouses. Water surged half way up Queen Katherine Street but no houses were affected there. In Stramongate houses at Sand Aire some houses were flooded to a depth of 6 inches.

Large areas of Levens and Crosthwaite areas were submerged causing crop damage.

Langdale: large tracts of land were flooded. Elterwater Tarn grew into a huge lake.

River Lune: The flood was an exceptional occurrence for June. The island at Kirkby Lonsdale was almost covered and overbank flow damaged meadows and a large area of potato was covered to several feet.

Endmoor: The road by Challon Hall and Kaker Mill was flooded to 2 to 3 inches. Water entered farm buildings at

<p>10 Jul 1928 BR Westmorland Gazette 14 Jul</p>	<p>Hawkshead (Tower Bank Sawrey) 2.6 Hawkshead (Bettyfold) 3.00 Yealand Conyers (Beechfield) 3.26 Yealand Conyers (Morecombe Lo) 3.00 Lindale (Ellerhow) 2.66 Cartmel Fell (The Schoolhouse) 3.25 Burton (Under Fell) 3.94 Heversham (Plumtree Hall) 3.15 Grange-over-Sands (Witherslack) 2.87 Killington Reservoir 3.38 Kendal (Vicarage Terrace) 3.14 Kendal (Highgate) 2.87 Kendal (Greenside) 3.08 Kendal (Ellergreen) 2.68 Kendal (Burnside) 2.66 Kendal (Potter Fell) 3.07 No reference to thunder</p>	<p>Overthwaite Bottoms. Underbarrow: The iron girder bridge at Greenridge Mill collapsed through the walls being undermined. The beck near the Punch Bowl overflowed and flooded ellerbeck cottage. Potatoes and turnips are ruined in flood fields. Roads were blocked in the Melling district including at gressingham Bridge. Lands were also flooded in Furness and in the Dent valley. Associated with a secondary depression. The low lying lands on both sides of the Grange level resemble swamps and the Lyth Mosses are flooded. Endmoor: the Rivere Bela was in flood though some feet short of the level last November. Similar problems to 1 July were experience at challon Hall and the adjacent farmyard. Beetham: Twelve hours of rain flooded the road between Blackhead and Beetham from the river Bela and marooned some inhabitants Cellars were flooded and also the church, the school boiler house and the new tennis courts. Carnforth: the River keet overflowed on the main road near the river bridge. Milnethorpe: At Thoughts Lane end, Storth the roadway had over 5 feet of water on it and a house in the neighbouring hollow had 2 feet of water in it. The Gas Works were flooded. There was flooding at the junction of Church street and Park Road and at the Post Office water forced up the sewer flooded the Post Office and neighbouring houses.</p>
<p>20 Aug 1928 Westmorland Gazette 25 Aug</p>		<p>Thunderstorms were experienced in many pars of the country but there is little reference to floods in South Lake District, though serious flooding on the River Eden.</p>
<p>29 Aug 1928 Westmorland Gazette 1 Sep</p>	<p>Thunderstorm</p>	<p>A thunderstorm lasted one hour. A fireball was reported at Burton and one cow was killed. There was no reference to flooding.</p>
<p>14 Nov 1928 BR</p>	<p>Rydal 2.80 Rydal (High Close) 2.90 Rydal (The Hall) 2.78 Grasmere (The Wray) 3.00</p>	<p>WG has no reference to rainfall or flooding.</p>
<p>23 Nov 1928 BR</p>	<p>Coniston (School Garden) 3.06 Rydal (The Stepping Stones) 2.51 Rydal 2.59 Rydal (The Hall) 2.56 Grasmere (The Wray) 2.54</p>	<p>Not investigated.</p>
<p>8 Jun 1929 Westmorland Gazette 15 Jun</p>	<p>Thunderstorm</p>	<p>Endmoor: Culverts and sewers could not take the flos, grates were choked and the road flooded. One building was struck at the ICI Works at Bouth. A thunderstorm was also reported at Bourton in Holme but with little rain.</p>
<p>30/31 Jul 1929 BR Westmorland</p>	<p>Kentmere Head Reservoir 3.62 Rosthwaite (The Moraine) 2.5 Bowness (Dawstone) 2.5</p>	<p>At the end of July Kendal reservoir was reported to be empty and Thirlmere at a low level. WG reported 'Rain at last'. Rain fell on several days during the week. River Kent was in full spate and highest for</p>

Gazette 3 Aug
 There was no reference to thunder

11 Nov 1929
 BR
 Westmorland
 Gazette 16 Nov

Seathwaite Vic	2.95
Ambleside (White Craggs)	2.59
Rydal (The Hall)	2.57
Grasmere (The Wray)	2.62

At Skelwith 2.3 inches fell in fuvve hours
 Some rain fell as thunderstorms with hail

almost a year but the main reference is to effects on reservoir levels.
 Ambleside: Stock and Scandale Becks rose rapidly and overflowed. A cow was carried off but landed safely downstream.
 Rainfall was widespread throughout England and Wales and a total of 8.31 was recorded in the Rhondda valley. Full description with synoptic chart in BR 1929.

The whole Lake District, Furness, and South Westmorland were affected by flooding.
 At Prizet and Staveley the roads were flooded to a depth of more than 2 feet. Nine sheep were killed by lightning near Grayrigg on 9th. On 11th the rain fell for 7 hours. The valleys of Kentmere, Longsleddale, Grayrigg and Bannisdale were badly flooded; hen huts were carried away. In Kendal water backed up drains in Wildman Street and into the doorways of lower lying shops. Stramongate was flooded. New Road was submerged to 1 foot depth. Castle crescent suffered flooding from the Stock beck but not past the doorsteps. Cellars in Aynam Road were flooded to a depth of a few inches and the Drill Hall to one foot.
 Windermere: The lake rose several feet and covered all the smaller landing stages at Bowmess Bay. Troutbeck was in high flood. Rayrigg Road was flooded through choked drains.
 Ambleside: Stock Beck was 6 or 7 feet above normal and Scandale beck and River Rothay were overflowing onto the road. Houses were flooded in The Green, Rydal Road and Lowfold.
 Coniston: The Mines Beck burst its bank above Forge Cottages, flooding houses and shops in Yewdale Road and then flooding the Church and the Crown Hotel and along Tilberthwaite Avenue towards the Yewdale Beck. The schoolyard and the school were rapidly flooded and the children moved to safety.
 Langdale: the land up Great Langdale was flooded to a depth of several feet.
 Hawkshead: the stream which runs along Vicarage Lane was blocked and overflowed through Flag Street through the town and flooded all the low lying houses and shops. The Colthouse and Sawrey Roads near Pool Bridge and the road at Green Bank and along the west side of Esthwaite Water were under water.
 Staveley: Houses at the south end of the village and in the square were flooded to nearly one foot. Paxtons bobbin mill on the banks of the River Gowan was flooded. Infiltration of water caused the gas supply to be cut off.
 Skelwith: The worst damage was on the main Coniston to Skelwith road at Oxenfell. Much sand and gravel was washed down from the fell, fence walls were levelled and deep gulleys cut along the roadside.
 Milnethorpe: The River Bela overflowed its banks and a 16 foot wall at Parkside collapsed into the main road.
 Crosthwaite: Hailstones the size of pea occurred on 9th. All the low lying land at Warton near the River Keer was submerged.

18 Nov 1929
 BR
 Westmorland
 Gazette 23 Nov

Coniston (School Garden)	3.05
Ambleside (Wansfell)	2.53
Kentmere Head Res.	3.1

28 Dec 1929
 BR

Windermere (Holehird)	2.62
Ambleside (White Craggs)	2.61
Ambleside (Market Square)	2.74

Severe flooding was also reported at Furness, Endmoor, Levens and the Rusland Valley.
 No reference was made to renewed rainfall or flooding

WG was not investigated for flooding

	Rydal (Stepping Stones) 2.81	
	Rydal 2.87	
	Rydal (High Close) 2.91	
	Rydal (The Hall) 3.02	
	Grasmere (The Wray) 3.1	
9 Jun 1930 BR Westmorland Gazette 14 Jun	Beckfoot Eskdale Vic 1.34 in 30 mins	WG has no reference to rainfall or flooding
18 Jun 1930 Carlisle Journal	Thunderstorms at Carlisle and elsewhere	In the village of Staveley near Windermere hailstones the size of marble fell with rain fell for 30 minutes and the main street was flooded. The storms were local and whilst one place received a deluge others within 2 miles had no rain.
20 Jun Westmorland Gazette 21 Jun	Storms were preceded by very hot dry weather for more than two weeks except for 9 th and 10 th . Kentmere: 3 inches in 1 hour.	A cloudburst on Stile End at the head of the Kentmere valley (accompanied by large hailstones on the Longsleddale side) was a culmination of a week of fine weather. The storm was more intense In the Kentmere and Staveley areas. Walls were demolished near Brockstones after flooding High Bridge House and High Bridge Cottage on Green Quarter. The water came down Elwell Lane cutting cavities 4 feet deep to Low Bridge near Kentmere Post Office. The culvert there choked and burst flinging huge stones aside. The foundations of the lane were torn up and great cavities formed and gravel and sand accumulated in the valley below. Water entered the porch of Kentmere School and children about to leave were imprisoned until the flood receded. At Staveley rain was accompanied by hailstones the size of marbles. In a very short time the streets were flooded. In a little over 1 hour 1.8 inches fell at Middle Reston. At Abbey House the main Kendal to Windermere road was flood to 1 foot and many houses were flooded. Damage was done to gardens and crops The River Kent became a turgid flood and in less than 1 hour it rose from summer level to flood height and damage was done at the Kentmere Works. The River Sprint rose several feet in 'a remarkably short' time.
		Bentham: A thunderstorm lasted 1 ½ hours but was welcomed by cottage gardeners due to the preceding dry weather. Kendal escaped and had only 0.10 inch rain
20/21 Aug 1930 BR Westmorland Gazette Aug 23/30	20 th New Dungeon Ghyll Hotel 3.85 Kendal (Ellergreen) 2.65 Kentmere Head Reservoir 2.65 21 st Grasmere the Wray 3.00 It was reported to be the hottest August for 54 years.	A violent thunderstorm was a prelude to a heatwave with temperatures reaching 90 F. The thunderstorm lasted 2 hours and affected many districts. Little damage to livestock was reported. Telephone communications were stopped at Crook; a house was damaged at Bolton le sands. Kirkby Lonsdale had hail of a considerable size. A house at Bentham was badly damaged.
31 May 1931 Lancs Evg Post 1 Jun		Barrow: Heavy rain was accompanied by hail. Roads and footpaths were flooded but there was no reference to property.
14 Jun 1931 BR Westmorland	Barrow-in-Furness (Gas Works) 3.00 Barrow-in-Furness (Sewage Works) 2.65 Little Urswick (North View) 2.66	Concurrently line squall gave thunderstorms and intense rains in the Midlands and a tornado in Birmingham. In the Lake district there was a 'cloudburst at Bootle as follows: THE CLOUDBURSTS NEAR BOOTLE (CUMBERLAND) JUNE 14th, 1931.

Gazette 20 Jun
Lancashire
Evening Post 15
Jun, BR

Ulverston (Poaka Beck)

3.5

F. Hudleston

Over 1 inch in 2 hours at Kendal and similarly for places as far apart as Grasmere and Bentham

On the afternoon of Sunday, June 14th, 1931, thunderstorms and very heavy rain occurred over the whole of north-western England and cloudbursts were reported at various places in Cumberland especially in Corney Fell and Waberthwaite Fell, near the market town of Bootle, where the damage caused by the resulting floods was of unprecedented extent.

The Meteorological Office has supplied me with the catches on June 13th, 14th and 15th of the 104 rain-gauges in Cumberland, Westmorland and North Lancashire (i.e., about 2,000,000 acres) and I have summarised the catches of June 14th, as follows.

6 gauges, mostly in the Upper Eden Valley, caught from 0.67 to 1 in.

28 gauges, mostly to the south of Kendal, caught from 1 to 1½ in.

6 gauges, mostly in the outer part of the Lake District, caught from 1½ to 2 in.

27 gauges, mostly in the inner Lake District, caught from 2 to 2½ in.

6 gauges, mostly in the Scafell area, caught from 2½ to 3 in.

1 gauge, at Ulverston (Poaka Beck), caught 3.50 in.

The previous day, Saturday, June 13th, was wet at 102 of these stations but the top catch was only 0.38 inch at Rosthwaite, but Monday, June 15th, was decidedly wet all over north-west England and some half a dozen stations in the Scafell, Skiddaw and Helvellyn area recorded catches between 1.06 and 2.18 inches.

The general rainfall on June 14th over the whole area of 2,000,000 acres, judging from the distribution of the records before us must have been quite 1½ inches, so that the total rain we got that Sunday evening was 300 million tons, which at the average supply of 30 gallons per day per head of population (i.e., approximately 1 ton per week per person) is about sufficient for a whole year's supply for the population of greater London, i.e., 6 million people, and most of it fell in less than two hours.

Road traffic was held up at innumerable low lying spots and many slips occurred in steep banks of roadsides which added to the confusion, but the damage done by floods was much greater at the little market town of Bootle than at any other place. We have, unfortunately, no rain-gauge records from places near Bootle, but a gauge at Muncaster Castle, 5 miles north of Bootle is reported to have caught 2.68 inches, while Ulverston (Poaka Beck), 10 miles away to the south-east got the top record of 3.50 inches. My own gauge here at Hutton John, 33 miles north-east of Bootle, caught 1.87 inches in less than two hours that evening and nearly every gauge between me and Bootle that sends daily returns to the Meteorological Office was in excess of mine.

The scouring action of a cloudburst flood must be seen before one can appreciate it, but I know of no figures to put forward in illustration of the difference between a cloudburst flood and a big winter flood, except what I myself was able to obtain last year after I had sent in my article to British Rainfall, 1930, on the Stainmore cloudbursts of June 18th, 1930. The farmer at Spuring End showed me a place in the gorge of the Borrowdale Beck between the waterfall and the farm road bridge, i.e., more than a mile below the scar marked C in the map British Rainfall, 1930, p. 287, where the flood had actually touched the root of a certain thorn tree; I took a

carefully levelled cross-section here which gave an area of six hundred and twenty five square feet. Now the water-way through the stone arched bridge that used to carry the farm road of Spuring End over this same beck was less than forty square feet, yet it had sufficed for many generations to deal with winter floods and withstand them even if it got "drowned." There was nothing whatever left of this bridge or its abutments after 17h on June 18th, 1930, and the bed of the stream was laid bare down to the limestone rock.

On June 14th, 1931, cloudbursts were reported on Muncaster Fell, Waberthwaite Fell and Corney Fell, all of them near Bootle. The water from Muncaster Fell flowed into the river Esk and nothing particular seems to have been noted, save that the raingauge at Muncaster Castle caught the 2.68 inches mentioned above and 2.58 inches were caught on Eskdale Green just north-east of Muncaster Fell and 4 miles from Muncaster Castle. The cloudburst on Waberthwaite Fell brought down sufficient debris to obstruct its natural waterway down to the Esk. which diverted much of the intense rainfall into the gathering ground of the river Annas and so past Corney Church where a short length of road was converted into a bye-pass channel and the whole of its "road metal" was carried away. The cloudbursts on Corney Fell and Stoneside Fell went down Buckbarrow beck, Kinmont beck and Crookby beck into the river Annas so that almost all the rain falling to the west of the watershed line from Waberthwaite Fell to Black Coombe concentrated on Bootle.

The surface soil of the hillsides seems to be mainly of glacial deposit covered with a carpet of strong, tough, mountain grass, and I could not find, or even hear of, any "scars" such as I saw in the peat moss of Knipe Moor and described in British Rainfall, 1930, but the scouring out of the banks of the three becks mentioned above was on a bigger scale than anything I saw along the Borrowdale beck at Stainmore a year and a half ago.

Buckbarrow Bridge carrying the old (disused) fell-road from Broughton to Ravenglass over the Buckbarrow beck (a tributary of Kinmont beck) was demolished by the flood down the upper part of the beck and a new channel cut into the cliff of glacial deposit on the right hand bank a few chains below the bridge, with a curiously piled up new left-hand bank consisting of boulders up to one or two tons weight. I observed an exactly similar bank of boulders some 20 feet away from this left hand bank which was of ancient standing and covered with lichens, which I take to be evidence of some former flood of much the same volume, and therefore, proof that this western slope above Bootle has been the scene of other cloudbursts many years ago.

The fell above Buckbarrow Bridge rises to 1,750 feet above sea level; the bridge itself is on the 800-foot contour while the alluvial land on the left bank of the Annas at Bootle is barely 60 feet above sea level. The distance from Buckbarrow Bridge to Bootle measured along the Kinmont beck is about 2½ miles and the rapid descent of the stream, which had ample power to transport boulders along its bed for about 1½ miles, had flattened out before its junction with the Annas at Cross House. The flood was therefore only able to carry comparatively fine gravel and mud when it reached Bootle and the farms round the town, where it and the Crookby beck, which drains the north-western slopes of Black Combe, deposited their gravel and mud impartially over many acres of good pasture land and on the gardens of Mr. Grice's house at Millholme, which lie on the left bank of the Annas. The house itself is on the higher right-hand bank of the river and the flood waters did not quite rise to the level of the entrance door.

The main road for the whole distance between Millholme Bridge (over the river Annas) to Brookfield, a 500-foot length of level alluvium with high ground at each end of it, was crossed by a stream of water a foot or two deep, which stopped all road traffic for some hours as the Millholme bridge was quite inadequate to pass the flood through it. On the downstream or south side of this road many fields were completely covered with water but little or no permanent damage resulted for most of the gravel and mud had been deposited on the land north of the road where hedges and turf dykes had improvised many settling ponds. Both the Annas river and Crookby beck have been banked up in times past so that in many places the beds of these streams are as high as the land outside; the Crookby beck breached its left-hand bank below Fellside Bridge - some 500 yards east of Bootle - and this relieved the main channel of the Annas through the little town but increased the trouble in the meadows between the Annas and the hillside east of it.

I am myself inclined to doubt if the rainfall near Bootle on June 14th, 1931, was at any spot quite so intense as what must have occurred on Stainmore on June 18th, 1930, at the big scars lettered A and C on the map in British Rainfall, 1930, p. 287. The far greater damage to land at Bootle seems to be due to the fact that the configuration of the hills there collected all the rainfall into one channel that happened to be surrounded by cultivated lands, whereas the rain on Knipe Moore had two outlets into Yorkshire, which ran into two entirely separate reservoirs, as well as three or four outlets into Westmorland which only met the river Eden at places where its channel was far larger than that of the Annas at Bootle. I can put forward no positive evidence in support of this doubt but I cannot believe that a widespread thunderstorm like that on June 14th, 1931, is likely to have the same degree of power to produce cloudbursts as might be inherent in a very concentrated thunderstorm similar to the one over Stainmore on June 18th, 1930.

The most stupendous cloudburst known to have occurred in the Lake District is that of the night August 22nd to 23rd, 1749, on the northern and western slopes of Great Dodd. It is on record that all that night the farmers near Mell Fell were leading their corn home as is customary when they fear ill weather and no rain fell there. Yet Mell Fell is only 3 or 4 miles east of Mosedale beck where the greatest devastation occurred, which even now furnishes the most impressive example, in these parts, of a cloudburst flood.

WG notes that June was set to break rainfall records for the month.

Kendal: Surface water caused flooding in many parts of the town and at Sandylands gardens were damaged. Any roads were flooded in the Crosthwaite and Lyth valleys.

In the Levens area several houses were flooded.

Kirkby Lonsdale: Roads were impassable and culverts were unable to cope with the rush of water.

Langdale: Campers at Wall End Farm sheltering in a barn which was struck by lightning and two people were injured.

Ambleside: The River Rothay, Scandale and Stock Becks overflowed and the lower part of Rothay Park was impassable.

Windermere and Grasmere: Severe thunder and lightning were experienced but there was no evidence of flooded houses.

Barrow: there were floods in various parts of the town. Rain lasted from 1 pm to 7 pm. Salthouse road near the

6 Jul 1931
Westmorland
Gazette 11 Jul

Thunderstorm

Salthouse railway Bridge became impassable. The flooding extended from the Salthouse Road to the end of Frederick Street in Roose Road. The cellars of the Washington Hotel were flooded. Water came pouring down Durham Street, Moorfield Street, St Luke's Street, Cambridge Street and North Street and also from Abbots vale as if a river had broken its banks. There were floods at Hollow Lane and Old Newbarns where there was 10 feet of water in one farmyard, Newbarns and North Scale Walney. There was much water between Greengate bridge and Risedale Road and water rushed down to the entrance to the public park. In Ramsden Street and Dalkeith Street in the centre of town cellars were flooded including at the Kings Arms Hotel in Dalton Road. The main effects were on the Thirlmere side of Helvellyn.

Another local storm occurred over Kirkby Lonsdale lasting for one hour during the afternoon. At Whittington within 2 miles there was no rain. Trees were struck and damaged and at Sedbergh two cows were killed by lightning.

Grayrigg: Rain was accompanied by hailstones the size of peas.

Carmel: A girl was killed by lightning and two others injured.

A one hour thunderstorm was experienced at Kendal but there were no reports of flooding.

[Note that the Keppel Dam burst again and deluged Glenridding]

16 Aug 1931
BR
Westmorland
Gazette 22 Aug
2/3 Nov 1931
BR

Kentmere Head Resvr 2.52
Thunderstorm

Heavy rain occurred in SW England Wales and the Lake District. Rainfall lasted for 36 hours in the Lake District and affected all parts. Considerable erosion occurred as the heavy rain ran off steep slopes.

BR shows the synoptic chart for the day with an intense low off the NW coast of Scotland with trailing fronts and a strong southwesterly airstream.

Westmorland
Gazette 7 Nov

2 nd		
Rydal (High Close)		2.67
Rydal (The Hall)		2.63
Kentmere Head Reservoir		2.89
Grasmere (The Wray)		2.81
3 rd		
Hawkshead (Tower Bank Sawrey)		3.70
Ambleside (Skelwith Fold)	5.3	
Hawkshead (Bettyfold)	3.13	
Bowness (Dawstone)	3.13	
Windermere (Nurseries)	3.18	
Windermere (Hammarbank)	3.68	
Windermere (Holehird)	4	
Windermere (Brockhole)	3.7	
Ambleside (Wansfell)	3.73	
Ambleside (White Craggs)	4.26	
Ambleside (Market Square)	4.01	
Rydal (The Stepping Stones)	5.41	
Rydal (High Close)	4.75	
Rydal (The Hall)	5.23	
Kendal (Greenside)	3.3	
Kendal (Burneside)	3.55	
Kendal (Skelsmergh)	3.04	
Kendal (Potter Fell)	4.5	
Kentmere Head Reservoir	4.3	
Grasmere (The Wray)	5.28	

A gale of wind and rain lasting 21 hours occurred causing a trail of havoc in Westmorland.

Kendal: River Kent was in high flood. Showmen's stalls on the New Road were damaged. Shops houses and offices on the new Road were flooded to a depth of 2 to 3 feet and water at the junction of new Road and Stramongate reached a height of 3 ½ feet. Kirkland suffered equally. Aynam road was submerged to several feet and a 5 lb pike was caught on the road. Neterfield Works was surrounded but sandbags prevented entry to the factory. Also affected were Lound and Castle Crescent.

In Kentmere only the tops of hedges could be seen. In Longsleddale roads were submerged to a depth of 4 feet. The mains South Road to Levens was flooded in several places, the water being 2 to 3 feet deep at Sizergh Lodge. At Levens Park a wooden bridge was washed away.

Windermere rose from one of its lowest levels to a great height. Rivers Brathay and Rothay both overflowed causing flooding to meadow land.

Ambleside: At the foot of Rothay Park where the Stock beck joins the Rothay, footpaths were washed away.

Grasmere: The fields from the Swan Hotel to Townend were one sheet of water. Damage was done to the waterworks at Tongue Ghyll. All the cellars in the district were flooded. At

Flooding of land was also reported at Langdale and Hawkshead.

River Lune was at its highest level since 1927 at Kirkby Lonsdale. Timberwork for a new bridge over the river was washed away and deposited at Tunstall Aire three miles away.

Grange: Water level in the ornamental gardens rose 2 to 3 feet. Ruslandfields and roads were flooded

. Flooding also occurred at Levens, between Ings and Staveley and Crosthwaite.

23 Nov 1931
BR
Rydal (High Close) 2.81
Rydal (The Hall) 2.66
Kendal (Potter Fell) 2.71
Grasmere (The Wray) 3.68

Not investigate in WG

23 Dec 1931
BR
Hawkshead (Tower Bank Sawrey) 2.65
Hawkshead (Bettyfold) 2.55
Ambleside (White Craggs) 2.52
Rydal (The Stepping Stones) 2.69
Rydal (The Hall) 2.92

Not investigated in WG

2 Jan 1932
BR
Ambleside (Skelwith Fold) 2.64
Ambleside (U.D.C.) 2.78
Ambleside (King's School) 2.65
Ambleside (Market Square) 2.97
Rydal (The Stepping Stones) 2.66
Rydal (High Close) 3.09
New Dungeon Ghyll Hotel 4.34
Grasmere (The Wray) 2.64

Heavy rainfall in the Lake District and SW Scotland. Severe flooding was noted at Kilmarnock.

Not investigated in WG

30 Jun 1932
BR
Westmorland
Gaxette 2/9 Jul
New Dungeon Ghyll Hotel 2.7
Kentmere Head Reservoir 3.7
Kendal (Potter Fell) 3.07

WG has no reference to rainfall or flooding.

1 Sep 1932
BR
Westmorland
Gazette 3/10
Sep
Hawkshead (Larch Ghyll) 2.74
Hawkshead (Bettyfold) 2.6
Ambleside (Market Square) 2.54
Rydal (Stepping Stones) 3.06
Rydal (High Close) 3.31
New Dungeon Ghyll Hotel 4.03
Kentmere Head Reservoir 2.99
Grasmere (The Wray) 3
Kendal (Potter Fell) 3.07
Kendal (Ellergreen) 2.7

WG had no reference to rain or flooding in the south Westmorland area.

16 Dec 1932
BR
Westmorland
Gazette 24 Dec
Hawkshead (Bettyfold) 3.1
Hawkshead (Larch Ghyll) 3.52
Bowness (Dawstone) 2.65
Windermere (Nurseries) 2.92
Windermere (Hammar Bk.) 2.67
Windermere (Holehird) 2.71
Ambleside (U.D.C.) 3.38
Ambleside (Wansfell) 2.98
Ambleside (White Craggs) 3.19
Ambleside (Market Square) 3.16
Rydal (Stepping Stones) 3.03
Rydal (The Hall) 3.02
New Dungeon Ghyll Hotel 4.1

WG had no reference to rain or flooding in the south Westmorland area.

	Grasmere (The Wray)	3.33	
	Kendal (Potter Fell)	3.5	
	17 th		
	Coniston (School Garden)	2.5	
	Hawkshead (Larch Ghyll)	2.59	
2 Jan 1933	New Dungeon Ghyll Hotel	3.43	WG had no reference to rain or flooding in the south Westmorland area.
BR	Grasmere (The Wray)	3.78	
Westmorland Gazette 7 Jan			
31 Jan 1933	Windermere (Holehird)	2.57	The heavy rains was associated with the passage of a deep depression across Iceland with strong to gale SW winds .
BR	Ambleside (Wansfell)	3.01	
	Ambleside (White Craggs)	3.8	
	Ambleside (King's School)	3.34	
	Ambleside (U.D.C.)	3.91	Not investigated in WG
	Ambleside (Market Square)	4.07	
	Ambleside (Lesketh How.)	3.54	
	Rydal (The Stepping Stones)	3.46	
	Rydal (High Close)	3.26	
	Rydal (The Hall)	3.43	
	New Dungeon Ghyll Hotel	3.3	
	Grasmere (The Wray)	3.75	
	Kendal (Greenside)	2.5	
	Kendal (Burneside)	2.51	
	Kendal (Potter Fell)	3.3	
	Kentmere Head Reservoir	3.4	
	Kentmere	3.04	
13 Jul 1933	Kendal	1.25	Kendal: A man was paralysed by lightning at Crook House. Arkholme: three cows were killed by lightning Bolton le Sands: A house was struck by lightning. Kirkby Lonsdale: Several houses were flooded to a depth of 1 foot. Beetham Church was flooded due to surcharged drains Burton in Lonsdale: Schools and houses were flooded Endmoor: 5 sheep were killed and a house struck and damaged by lightning. No reference was found to rainfall or flooding.
Westmorland Gazette 15 Jul	Thunderstorms accompanied by hail		
17 & 19 Jul. 15	Thunderstorms		
Westmorland Gazette 21 Jul			
30 Sep 1934	Patterdale Hall	2.66	Rainfall was associated with a slow moving cold front with a belt of continuous rain behind it.
BR	Patterdale (Greenside Mine)	3.39	
	Rydal (The Stepping Stones)	2.55	No reference was found to rainfall or flooding
	Rydal (High Close)	3.02	
	Rydal (The Hall)	2.89	
Westmorland Gazette 6 Oct	New Dungeon Ghyll Hotel	2.56	
	Kentmere Head Reservoir	2.65	
	Grasmere (The Wray)	2.96	
6 Oct 1934	Kentmere Head resvr	2.85	The only reference in WG was a photograph of 'floods at Skelsmergh where fields were under watr after heavy weekend rain.
BR			

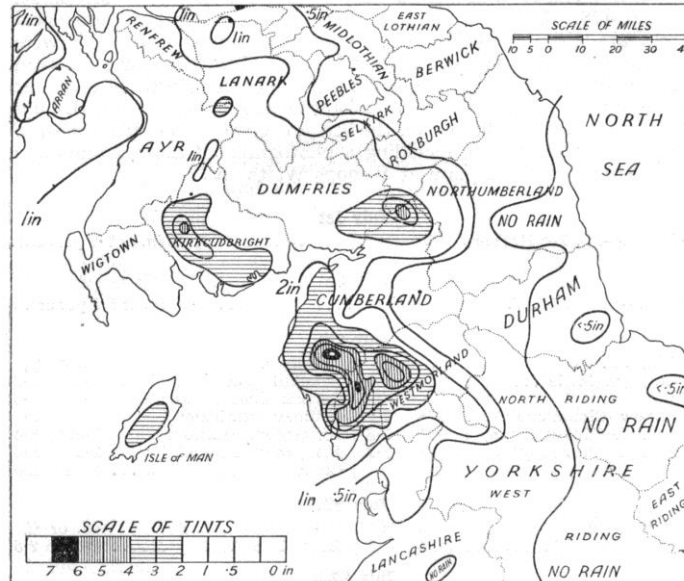
Westmorland Gazette 13 Oct 23 Jun 1935 Lancs Evg post 24 Jun	Thunderstorm		Furness: The storm lasted half an hour and two adjoining houses in Barrow and elsewhere were struck by lightning. No flooding was reported.
5 Jan 1936 BR Westmorland Gazette 11 Jan 11 Jan 1936 BR Westmorland Gazette 18 Jan 4 Sep 1936 Westmorland Gazette 12 Sep	Rydal (High Close) 2.6 Grasmere (Huntingstile) 2.69 New Dungeon Ghyll Hotel 4 Kentmere Head Reservoir 2.67		Flooding occurred in the north of England including the Mersey, Irk, Irwell and Conway. No reference in BR to the south Lakes (and no rainfall totals for S Lancs).
11 Jan 1936 BR Westmorland Gazette 18 Jan 4 Sep 1936 Westmorland Gazette 12 Sep	Patterdale Hall 2.64 Grasmere (Huntingstile) 2.55 New Dungeon Ghyll Hotel 2.62 Grasmere (The Wray) 2.94		No reference to rainfall or flooding in WG WG refers only effects of strong winds with highways blocked by fallen trees; nothing pon flooding.
4 Sep 1936 Westmorland Gazette 12 Sep	Thunderstorm		Milnethorpe: fields were flooded and and an electricity pylon struck by lightning. Grange: Water at Windermere Road rose to 3 feet and was impassable on foot. Cellars and shops on the main street were flooded.
14 Sep 1936 Westmorland Gazette 19 Sep	Local thunderstorm		At Kents Bank station water drilled a hole on the road. In the ornamental garden seats were submerged. At Sedbergh it was said to be the heaviest storm for many years with 1.5 inches rain in under 1 hour. Water rushed down Kings Yard and continued to the Parish Church which was badly flooded. The Methodist Chapel at Millthorpe was also flooded due to the rising of the river. Cellars in the town were inundated and telephones cut off.
24 Oct 1936 BR Westmorland Gazette 31 Oct	Ambleside (Skelwith Fold) 2.75 Hawes Junction (Moorland C.) 3.64 Ambleside (White Craggs) 2.5 Ambleside (Market Square) 2.54 Rydal (Stepping Stones) 2.84 Rydal (High Close) 2.9 Rydal (The Hall) 3.27 New Dungeon Ghyll Hotel 3.1 Grasmere (The Wray) 3.68 Grasmere (Huntingstile) 3.19 Kentmere Head Reservoir 2.9		At Middleton 4 miles away there was no rain. Gale damage was reported in town and country. Mountains over 2000 feet were capped with snow. Ambleside: low lying ground was flooded. Marooned sheep were rescued. River Rothay overflowed. Rydal Road was flooded in parts
13 Dec 1936 BR	Coniston (Thwaite Cottage) 2.68 Hawkshead Hill 2.78 Hawes Water (Burn Bks.) 3.72 Patterdale Hall 3.22 Rydal (High Close) 3.05 Rydal (The Hall) 2.9 New Dungeon Ghyll Hotel 3.5 Grasmere (The Wray) 3.5 Grasmere (Huntingstile) 3.6 Kentmere Head Reservoir 3.41		Lancaster was isolated from the south for the greater part of 14 th with rail communication cut off from Preston. Extensive heavy rainfall also occurred in Wales and caused flooding on the River Usk and in N Wales. Not investigated in WG.

1 Jun 1938	Kentmere Head Reservoir	3.15
BR		
Westmorland		
Gazette 4 Jun		
29/30 Jul 1938	Broughton (Hesketh Hall)	4.64
BR	Torver (Greystones)	2.9
Watkins	Coniston (School Gardens)	6.06
&Whyte (2007)	Coniston (Thwaite Cottage)	5.47
	Coniston (Holywath)	6.06
	Hawkshead (Low Ho.)	3.84
Westmorland	Hawkshead (Bettyfold)	3.98
Gazette 6 Aug	Hawkshead Hill	4.98
	Highwray (Wray Castle)	3.93
	Ambleside (Skelwith Fold)	4.14
	Windermere (Hammer Bank)	3.65
	Windermere (Holehird)	4.03
	Windermere (Brockhole)	3.72
	Ambleside (Wansfell)	3.9
	Ambleside (White Craggs)	4.48
	Ambleside (The Lake)	4.02
	Ambleside (Market Sq.)	4
	Rydal (The Stepping Stones)	4.25
	Rydal (High Close)	3.31
	Rydal (The Hall)	3.52
	Grasmere (Huntingstile)	3.16
	New Dungeon Ghyll Hotel	5.05
	Grasmere (The Wray)	3.32
	Kendal (Crosthwaite)	2.67
	Kendal (Ellergreen)	2.52
	Kendal (Potter Fell)	2.9
	Kentmere Head Reservoir	5.8

The only reference in WG was to an angler rescuing a 7 year old boy from the flooded River Kent after the boy fell in. At Orton a Festival had to be abandoned.

Reported in October 1954 as higher than that flood.

The rainfall occurred in a pronounced southwesterly current mostly in the warm sector close to a slow moving cold front which was so poorly defined that its position on the map can only be given approximately. No thunder was reported in BR.



WG reported big Westmorland floods after 36 hours rain.

Kendal: Had its worst floods for 10 years. Streets were flood and tons of hay was washed from fields. Streets worst affected by flooding were New Road and Aynam Road where basements of several houses were flooded. The municipal putting green was flooded to several feet.

Staveley: The Rivers Kent and Gowan rose very rapidly and houses at the lower end of the village were flooded. Between Eagle and Child Hotel the water was 18 inches deep.

Ambleside: Tents and caravans in the vicinity of the River Rothay where the water rose to the level of car windows. Campers had to beat a hasty retreat. Roads between Skilwith and Ambleside were flooded and the River Brathay was very high. Lawns at Water Edge Hotel were 18 inches high. Elterwater Lake was 6 times its normal size and the village was cut off for several hours.

Coniston: The lake level rose rapidly and the gondola cafe was flooded. Roads along the banks were flooded to 2 feet and campers were inundated.

Hawkshead: Many low lying houses were flooded and the stream flowing under the town from Flag Street burst

6 Aug 1938
Lancs Evg Post 6
Aug

Short thunderstorm

out. The greatest depth was at Angle Wood between Randapike and Pull woods. Levens and the Lyth Valley also had much flooding of roads and meadow land – as well as in the Duddon and Woodland valleys.

Barrow: The thunderstorm lasted 20 minutes causing flooding of streets. At the central railway station the subway was flooded. The cellars of several businesses in the centre of town were flooded and also on Dalton Road and Dalkeith Street.

12 Aug 1938
BR
Westmorland
Gazette 13/20
Aug

Kendal Crosthwaite Low Fell 1.08 in
55 mins

Affected Lingmell Gill (which is outside the catchment on the west side of Great Gable)

WG has no reference to rainfall or flooding.

2-6 Oct 1938
BR
Westmorland
Gazette 8 Oct

Daily totals 2nd

Edenfield (Scout M. Res.)	2.74
Coniston (School Gardens)	2.5
Coniston (Holywath)	2.81
Hawkshead (Bettyfold)	2.85
Hawkshead Hill)	3.17
Ambleside (Skelwith Fold)	2.56
New Dungeon Ghyll Hotel	3.2
Daily totals 3rd	
Windermere (Brockhole)	2.76
Ambleside (Wansfell)	2.7
Ambleside (White Craggs)	2.54
Ambleside (The Lakes)	2.52
Ambleside (Market Square)	2.76
Rydal (The Stepping Stones)	3.4
Rydal (High Close)	3.52
Rydal (The Hall)	3.31
Grasmere (Huntingstile)	4.21
New Dungeon Ghyll Hotel	3.6
Grasmere (The Wray)	4.5
Kentmere Head Reservoir	3.29

Daily totals 6th

Ambleside (Skelwith Fold)	2.51
Thirlmere (Dale Hd. Hall)	2.53
Hawes Water (Burn Banks)	2.52
Rydal (The Stepping Stones)	3.2
Rydal (High Close)	2.57
Rydal (The Hall)	3
Grasmere (Huntingstile)	2.58
Grasmere (Huntingstile)	2.59
Grasmere (The Wray)	2.58
Kendal (Potter Fell)	2.8
Kentmere Head Reservoir	2.6
Kirkby L. (Stoop Lane)	2.6
Sedburgh (Northwaite)	2.6

Between 2 and 5 Oct depressions moved north-east over Scotland with very unsettled weather with severe gales on 4th and widespread thunderstorms on 5th.

WG reports gales and floods.

Kendal: The River Kent was in continuous flood for 36 hours but there no reports of flooding of roads or property.

Windermere: Roads wre flooded and the stream which runs from heathwaite to Brookside rose to its second highest level this year. Windermere rose and flooded the lawn at Wateredge Hotel.

Grasmere: Houses were flooded at White Bridge.

Hornby: the River Lune overflowed. For a time the road at Gressingham Bridge was flooded and impassable to traffic.

Minor effects were reported at many other locations but mainly from the gale.

12 Oct 1938
BR
Westmorland
Gazette 12 Oct

WG reported that the River Kent was at flood level throughout last week and many low lying parts of the town were flooded. Oxeholme Road was one of the worst affected due to the overflow of sewers.

Lyth Valley: Hundreds of acres have been under water for more than a week with dykes broken down. Winster, Crosthwaite districts suffered the most.

Lune Valley: Also had much land and roads flooded. At Kirkby Lonsdale the Mill Ayre island was completely

12 Nov 1938 BR	Rydal (High Close) 2.59 Grasmere (Huntingstile) 3.06 New Dungeon Ghyll Hall 3.83 Grasmere (The Wray) 3.7 Kentmere Head Reservoir 2.83
7/8 Jan 1939 BR Westmorland Gazette 14 Jan	7 th Middlefell Farm 3.32 Grasmere (Huntingstile) 2.54 Kentmere Head Reservoir 2.7 8 th Grasmere (The Wray) 2.59 Kentmere Head Reservoir 2.75 Sedbergh (Northwaite) 3
20 Jul 1939 Westmorland Gazette 22 Jul	
28 Jul 1939 BR Westmorland Gazette 5 Aug	Coniston (School Garden) 3.22 Coniston (Thwaite Cottage) 2.65 Ambleside (Skelwith Fold) 2.61 Rydal (The Stepping Stones) 2.55 Rydal (The Hall) 2.53
25 Nov 1939 BR Westmorland Gazette 2 Dec	Coniston (School Garden) 3.16 Coniston (Thwaite Cottage) 2.89 Hawkshead Hill 2.66 Ambleside (Loughrigg Brow) 2.63 Rydal (Stepping Stones) 2.6 Middlefell Farm 4.5 Grasmere (Huntingstile) 3.07 Grasmere (The Wray) 2.89 Kentmere Head Reservoir 2.8
30 Nov/ 1 Dec 1939 BR Westmorland Gazette 2 Dec	30 Nov Grasmere (Huntingstile) 2.58 Kentmere Head Reservoir 3.7 1 Dec Patterdale (Greenside Mine) 2.71 Middlefell Farm 2.52
16 Sep 1940 BR	Middlefell Farm 3.83 Kendal (Potter Fell) 3.24 Kirkby (Stooplane) 3
5 Oct 1940 BR	Coniston (School Garden) 2.8 Coniston (Thwaite Cottage) 2.65 Coniston (Holywarth) 2.81 Hawkshead Hill 2.79 Ambleside (Wansfell) 2.5 Ambleside (The Lakes) 2.69

submerged for the first time for several years. A horse stranded there was up to its knees at the highest point of the island.

Not investigated in WG

WG had no reports of flooding in South Westmorland [but showed a photo of flooding in Appleby]

A man was killed by lightning at Coniston Old Man. There was no further information on rainfall or flooding.

No mention of thunderstorms or intense rainfall in BR.

Some lightning damage to trees occurred in the higher parts of Kendal. There were no reports of rainfall or flooding.

WG has no reports of rainfall or flooding.

WG has no reports of rainfall or flooding.

Not investigated but no reports expected given war restrictions

	Ambleside (Loughrigg Br.)	2.67	
	Ambleside (Kirkstone Pass)	2.53	
	Ambleside (Market Square)	2.71	
23 May 1941	Coniston (Thwaite Cottage)	2.77	Not investigated but no reports expected given war restrictions
BR	Coniston (Holywath)	2.83	
9 Oct 1941	Broughton-in-Furness (Hesketh Hall)	3.41	Not investigated but no reports expected given war restrictions
BR	Cartmell Fell (Tower Wood)	3.03	
	Torver (Greystones)	3.95	
	Coniston (Thwaite Cottage)	3.46	
	Coniston (Holywath)	3.98	
	Hawkshead Hill	3.13	
	Rydal (Stepping Stones)	3.05	
	Rydal (High Close)	3.17	
	Grasmere (The Wray)	3.32	
	Burton (Under Fell)	3.1	
	Kendal (Crosthwaite)	3.1	
	Kendal (Potter Fell)	3.63	
	Kirkby Lonsdale (Stoop Lane)	3.01	
	Barbon Manor	3.63	
22 Jul 1942	Coniston (Thwaite Cottage)	2.64	Not investigated but no reports expected given war restrictions
BR	Coniston (Holywath)	3.24	
4 Sep 1942	Torver (Greystones)	2.83	The total for the 4 th and 5 th was 6.28 at Borrowdale the Moraine and 6.15 at Watendlath Farm. There was considerable flooding in the valleys of the Kent Lune and Esk due to the ground being already saturated from the frequent rains of August.
BR	Coniston (Thwaite Cottage)	3.38	
	Coniston (Holywath)	4.03	
	Hawkshead Hill	3.45	
	Highway (Wray Castle)	2.71	
	Troutbeck (Wellbank)	2.57	
	Windermere (Hammar Bank)	2.76	
	Windermere (Holehird)	2.61	
	Windermere (Brockhole)	2.5	
	Ambleside (Wansfell)	2.55	
	Ambleside (The Lakes)	2.96	
	Ambleside (Loughrigg Br.)	3.29	
	Ambleside (Market Square)	2.73	
	Rydal (Stepping Stones)	3.04	
	Rydal (High Close)	2.83	
	Rydal (The Hall)	3.01	
	Grasmere (The Wray)	3.48	
	Kendal (Kent Lea)	2.5	
	Kendal (Potter Fell)	3.8	
9 Oct 1942	Coniston (Thwaite Cottage)	3.2	On 9 th three fronts associated with a deep depression to the N of Scotland followed each other rapidly across the British Isles. There was widespread heavy rain and local thunder.
BR	Coniston (Holywath)	3.55	
	Hawkshead Hill	3.21	
	Windermere (Brockhole)	2.63	
	Ambleside (Wansfell)	2.7	
	Ambleside (The Lakes)	2.76	
	Ambleside (Loughrigg Br.)	3.19	
			Not investigated but no reports expected given war restrictions

	Ambleside (Market Square)	2.93	
	Rydal (Stepping Stones)	3.25	
	Rydal (High Close)	4.7	
	Rydal (The Hall)	3.71	
	Grasmere (The Wray)	4.53	
16 Jan 1943	Coniston (Holywath)	2.71	Not investigated but no reports expected given war restrictions
BR	Ulpha	2.55	
	Ambleside (Loughrigg Brow)	2.55	
	Rydal (Stepping Stones)	2.87	
	Rydal (High Close)	2.58	
	Rydal (The Hall)	2.57	
28 Jan 1943	Hawkshead (Keen Ground)	2.53	Not investigated but no reports expected given war restrictions
BR	High Wray (Wray Castle)	2.7	
	Windermere (Brockhole)	2.6	
	Troutbeck (Yew Tree)	2.57	
	Ambleside (Lakes U.D.C.)	2.5	
	Ambleside (Loughrigg Brow)	2.6	
	Rydal (Stepping Stones)	2.57	
	Rydal (High Close)	2.67	
	Rydal (The Hall)	2.69	
	Grasmere (The Wray)	2.9	
14 Jul 1943	Coniston Holywath	2.69	Not investigated but no reports expected given war restrictions
BR			
28/29 Aug 1943	Rydal (Stepping Stones)	2.68	BR notes: 'On 28 th and 29 th there were 48 hours of almost ceaseless rain in the lake District resulting in flooding'. Not investigated but no reports expected given war restrictions
BR	Rydal (High Close)	2.63	
	Rydal (The Hall)	2.68	
	Grasmere (The Wray)	2.97	
24 Aug 1944	Torver (Greystones)	3.47	Not investigated but no reports expected given war restrictions
BR	Coniston (Thwaite Cottage)	3.9	
	Coniston (Holywath)	3.9	
	Hawkshead (Keen Ground)	2.72	
	Hawkshead Hill	2.79	
27 Nov 1944	Torver (Greystones)	2.58	Not investigated but no reports expected given war restrictions
BR	Coniston (Holywath)	2.56	
	Hawkshead Hill	2.5	
24 Oct 1945	Hawkshead Hill	3.16	WG has no reports of rainfall or flooding
BR	High Wray (Wray Castle)	2.91	
	Patterdale Hall	4.07	
	Ambleside (Market Square)	3.31	
	Rydal (High Close)	3.43	
	Rydal (The Hall)	3.28	
	Grasmere (Meadow Brow)	2.85	
10 Sep 1946	Torver (Greystones)	2.68	WG shows a Photo of a flood scene of farmland at Bridge End Levens due to 'harvest floods' following extended heavy rain. There was no further text.
BR	Coniston (Thwaite Cottage)	3.1	
Westmorland	Coniston (Holywath)	3.47	
Gazette 21 Sep	Hawkshead Hill	2.78	
	High Wray (Wray Castle)	2.5	
	Watendlath Farm	2.63	

	Hallthwaite (Braystone Reservoir)	2.57	
	Ulpha	3.06	
	Grasmere (Meadow Brow)	2.84	
	Kendal (Potter Fell)	2.55	
10 May 1947 Westmorland Gazette 17 May	Thunderstorms in S Westmorland and W Riding.		Burneside: cows killed by lightning Killington, Howgill, Sedbergh, Dent: Sheep and lambs killed by lightning. WG had no reference to rainfall or flooding
11 Nov 1947 BR Westmorland Gazette 15 Nov	Coniston (Holywath)	3.4	Unsettled conditions with frequent heavy rains in northern and western districts characterised November 1947. On the 11th, which provides the longest lists of heavy falls for any day in 1947, more than 3 inches was recorded widely in the Pennines and the English Lake District and more than 4 inches locally in North Wales. In view of the large number of entries, 44 falls below 3 inches have been omitted from the printed list. There was more than half-an-inch over most parts of central and southern Scotland, the Pennines and northern England and over Wales. There was serious flooding in Wensleydale and other parts of Yorkshire and Lancashire. WG reported a record rainfall of over 4 inches at Sedbergh, the heaviest since 1939 – bringing a long drought spell to a close. Roads in Dentdale were impassable and also in Garsdale. A period of record temperatures came to an end. Kendal: houses were damaged by lightning and electricity affected. Kirkby Lonsdale, Mansergh, Middleton: Stock losses due to lightning WG has no reference to flooding The falls on 3 rd occurred at the tip of a warm sector of an Atlantic depression.
	Hawes Junction (Moorland Cottage)	3.28	
	Ambleside (Market Square)	3.36	
	Rydal (High Close)	3.62	
5 Aug 1948 Westmorland Gazette 7 aug	Thunderstorm		Following three months of abnormally low rainfall, the River Kent was swollen. A child who fell in was rescued. No other reference to flooding.
3 Apr 1949 BR Westmorland Gazette 9 Apr	Coniston (Holywath)	2.78	Following summer drought WG reported ‘heavy rain at last’ the rain was considered beneficial to water supplies. Kendal: The River Kent was nearly level with the top of embankments. Low lying fields were inundated. A thunderstorm with hailstones occurred on 20 October. Grasmere: The lake rose 2 feet overnight. Houses at White Bridge, Town End and others were flooded from streamlets from the fells. Not investigated in WG WG had no reference to rainfall or flooding
	Windermere (Brockhole)	2.53	
	Windermere (Briery Close)	2.51	
	Troutbeck (Yew Tree Cottage)	2.75	
	Ambleside (The Lakes U.D.C.)	2.82	
	Rydal (High Close)	2.97	
	Rydal (The Hall)	3.16	
	Grasmere (Meadow Brow)	2.91	
17 Oct 1949 BR Westmorland Gazette 22 Oct	Rydal (High Close)	2.56	
	Grasmere (Meadow Brow)	2.93	
6 Jan 1950 BR	Great Langdale (Long House)	3.92	
	Grasmere (Meadow Brow)	2.72	
8 Aug 1950 BR Westmorland Gazette 12 Aug	Great Langdale (Long House)	2.98	
	Grasmere (Meadow Brow)	2.6	
22 Aug 1950 BR Westmorland	Ulverston 1.04 in 56 mins		Observer commented on the steadily increasing blackness of the sky which gave ample warning of the approach of the thunderstorm. The rain was accompanied by much sheet lightning. Kendal: Kent was in spate. Poultry and lambs were seen carried down the river. Two men were injured by

Gazette 26 Aug

lightning in a garage.

Dent, Garsdale and Ingleton: Lightning was widespread. The rivers were reported to rise so quickly that a cloudburst on the fells was suspected.

Dentdale: two cows were washed away by floods.

Grange: Shops were flooded in Main Street.

Ingleton: Shops were flooded from a cloudburst on Whernside. The road to Hawes became impassable. The stream overflowed near New Village flooding the Laundry to 18 inches and the main Kendal to Keighley road. Gravity Beck overflowed.

Bentham: houses were flooded and it was 18 inches on the road when the River Wenning overflowed.

Rivers Clough and Dee rose rapidly. In Garsdale village houses were flooded to a depth of 9 inches and even the Police Station.

6 Sep 1950

Haverthwaite (Outwood)	2.91
Coniston (Thwaite Cottage)	3.89
Coniston (Holywath)	4.55
Hawkshead (Keen Ground)	3.36
Ulpha	4.25
Patterdale Hall	3.2
Ambleside (The Lakes U.D.C.)	3.55
Rydal (High Close)	3.78
Rydal (The Hall)	3.58
Great Langdale (Long House)	3.92
Grasmere (Meadow Brow)	3.44

With a depression centred over Iceland, a vigorous secondary which had travelled east-north-east across the Atlantic was deepening rapidly, during the morning of the 6th, in a position off north-west Ireland. The centre moved across northern Scotland during the latter part of the day, and afterwards along the west coast of Scandinavia. All parts of the British Isles were affected by the rain and strong winds which swept the country, though the rain was not heavy in the south-east. In the mountainous belts in the west, extending from Glamorgan to Inverness-shire, falls were commonly 2 ½ inches or more for the 24 hours ending at 09h. on the 7th; actually most of the rain fell during the first half of this period. The Lake District, Snowdonia and the high ground on the south-west of Scotland, in that order, received the heaviest falls, and there was serious flooding, much of it in towns, in Scotland, Northern Ireland, Westmorland, Cumberland and Lancashire. Gales were severe in exposed places, with resultant damage and obstruction added to the effects of the floods. Damage to crops and losses of farm stock were particularly serious in the Lake District.

Leven at Newby Bridge 1939-09 AMS Rank 3 AM 52

Overning heavy continuous rainfall was accompanied by a gale. On many farms stock was marooned by rising water and drowned and crops were ruined.

Kendal: The River Kent overflowed and flooded Wildman Street, New road, Castle Crescent, Aynam Road, Stramongate and Kirkland. At an early stage water was across Miller Field and Miller's Tongue. People in Peppercorn Lane were marooned when Blind Beck which flows under Kirkland and Abbot Hall Park overflowed into the main street. Paving stones in Peppercorn were torn up by the raging flow and there were several feet of water in houses. The main Lancaster to Kendal road was blocked for several hours. The Kendal to Windermere road was covered to a depth of 3 feet

Ambleside: The Stock and Rothay overflowed and trees were uprooted and soil was washed onto the Rydal road. Houses at Low Fold were flooded to several inches.

Coniston: Hotels were flooded.

Grange: The ornamental Gardens were flooded.

Cartmel: Some houses were flooded to a depth of 1 foot and the cellar of the King's Arms Hotel was flooded.

Ulverston: The railway line was blocked by flood waters. The damage was caused by the bursting of a dam at Pennington (Rosside). Part of an embankment and the foundations of a bridge were washed away. Flooding occurred on The Weint, Buxton Place, Fountain Street and The Ellers when the town beck overflowed and rose about 9 feet above normal level. 'Like a river it went down the Weint through Market Street and down the Ellers

Hiflows UK

Westmorland

Gazette 9 Sep

Lancs Evg News

7 Sep

22 Mar 1951 Rydal (High Close) 2.82
BR Great Langdale (Long House) 3.35

Westmorland
Gazette

22 Jul 1951
Westmorland
Gazette Jul 28

14 Sep 1951 Coniston (Holywath) 2.74
BR Hawes Water (Burn Banks) 2.54
Lancs Evening Ambleside (The Lakes U.D.C.) 2.64
Post 15 Sep Rydal (High Close) 2.53
Westmorland Great Langdale (Long House) 2.67
Gazette 22 Sep Grasmere (Meadow Brow) 2.58

24 Sep 1951 Martindale (Howtown) 3.12
BR Rydal (High Close) 2.58
Westmorland Rydal (The Hall) 2.73
Gazette 229Sep Great Langdale (Long House) 4.02
Grasmere (Meadow Brow) 3.74

26 May 1953
Lancs Evg News

16 Jun 1953 Sedbergh (Briggflatts) 3.5
BR Sedbergh School 4.16

Westmorland
Gazette 20 Jun Howgills and Dentdale received little
rain; no rain less than 3 miles away

25/26 Jun 1953 Windermere Holehird 2.84 in 55
BR mins
Watkins and Newby bridge Fell foot 2.01 in 60
Whyte (2007) mins
Westmorland Windermere Brockhole 2.32 in 90
mins

into Hill Fall and back into the beck'. The landslip was at Three bridges half a mile on the Lindal side of Ulverston Rail Station. Water was up to the top of the platform at Ulverston Rail Station. 50 men were engaged in clearing up debris on the rail line

Rainfall was associated with a depression which travelled rapidly northeast to N of Scotland on 21st. Kendal: A child was drowned in the fast flowing River Kent. However, there was no reference to flooding.

Staveley: thunderstorm affecting houses and the hay crop. Cows were killed by lightning.

[An inquest was held on the death of a boy drowned in the River Eden at Kirkby Stephen by a wall of water]

Heavy rain preceded a depression (originally a tropical hurricane) which crossed the country early on 15th; the Lake District in particular was affected. The level in Lake Windermere rose 6 inches (Lancashire Evening Post 15 Sep).

WG has no reference to rainfall or flooding.

Thundery rain was common on 24th to 27th giving the heaviest daily fall of the year at Thirlmere.
WG has no reference to rainfall or flooding

A thunderstorm was accompanied by a fall of hail > ½ inch across.

On this date although thunderstorms occurred over much of Eastern England, the most intense rainfall was concentrated in a small area near Sedbergh and in the adjoining area of the Lune valley from Killington to Firbank. Houses were flooded and roads and crops were damaged.

Four inches of rain fell in the Killington and Sedbergh area and roads were undermined by the flood. The road from Tebay to Kirkby Lonsdale was undermined near Killington Bridge and the main road from Sedbergh to Kendal was closed. Many tons of earth were moved from the fields. AWG photo shows a great hole in the road. The rain lasted from 2 to 6 pm. Drainage systems were surcharged and the water ran down Main Street. Houses in Loftus Hill were affected as the water ran down Finkle Street and Loftus Hill. Some houses in the Main Street with cellar kitchens were flooded to a depth of 2 feet. Below the railway bridge on the Kendal side of Sedbergh station the water reached a depth of more than 5 feet; a ten foot cavity was created in the road where an undermined culvert ran underneath.. Channells were created at the side of the road down Black Horse to a depth of more than 1 foot. Farmhouses were flooded. At Underbank root crops were washed away. A cottage was flooded at Farfield Mill.

Thunderstorms affected Troutbeck, Wansfell, Kirkstone Pass (including the headwaters of the River Leven).

The very heavy fall at Holehird is the heaviest fall on record for a duration of 2 hours or less in Westmorland. The greatest damage occurred in the Troutbeck valley. One holiday maker was swept to his death and several other people narrowly escaped drowning. At Brockhole the observer reported hailstones of very uneven shape. At one

Gazette 4 Jul 11
Jul

Ambleside 2.15 in 90 mins
Watermillock 1.40 in 2 hr
Rydal The Hall 1.28 in 2 hr
Cartmel Fell 2.77
Holehird 3.32

Just over the border in Dumfries & Galloway, HEAVY RAIN at Eskdalemuir produced 107mm in one event, of which 80mm fell in 30 minutes.

Preceding temperatures had reached 86 F in a heatwave.

time the lawn was white and there was much damage to paths running downhill. Vegetation suffered badly, fruit was badly bruised and lettuce reduced to a pulp. The Observer from Gt Langdale said that telephone and electric fuses were blown and that after one lightning flash there were strong 'sulphuric' fumes.

The Kirkstone Pass road was blocked with boulders and other sections of the road were deeply scoured. At Troutbeck a torrent 7 feet deep suddenly flowed down from the fells. A 25-year old tourist who was helping to rescue ducks and chickens just below the Mortal Man Hotel was quickly swept out of sight and drowned. A woman was also swept away but rescued. The stream normally a mere trickle was last night 20 feet wide and 15 feet deep, scoured out by the flood. The road had become impassable beyond the Queen's Head hotel with huge craters in the road and boulders strewn. The worst effects were seen just beyond the Mortal Man Hotel; the culvert carrying the Scot Beck under the road collapsed. AT Yew Tree a wall of water had smashed open a locked door and filled the room to a depth of 4 feet; they had a foot of sludge and debris in the house when the flood receded. The Scot Beck then continued across a meadow and crossed the road at Greengate at a depth of about 6 feet. A small runner became a torrent at Stonethwaite and swept away a wall as it approached Ing Bridge causing gaps in walls through which rocks and rubble were carried into hayfields. At Cherry Tree the flood piled the road with rubble and flooded the house.



The Scot Beck below the Mortal man Hotel where a man was carried away and drowned. Channel erosion is evident.

The main Keswick Kendal road was blocked just south of Ambleside when a torrent carrying tree branches and boulders could not get through a bridge under the road. Over two feet of water on the road held up hundreds of vehicles and a wall had to be broken to liberate the flood which soon covered Windermere in floating logs and debris. The Troutbeck concrete tank providing water supply to houses at Town Head was almost completely washed away.

The Wansfell beck scoured the Grove Farm Road, broke out of its culvert, removing earth to a depth of 15 feet.

The Wansfell Beck bared three pipes of the Manchester Aqueduct, removing the earth to a depth of 15 feet. Above the Grammar School, the culvert was blocked and water ran down the Stock Ghyll Road breaking the surface for up to 210 yards. Stock Beck burst its banks and flowed down Stoney Lane across the Grammar School field depositing debris. The Holbeck was a torrent 15 feet deep and 30 feet wide and demolished the council's footbridge. The road to Low Skelghyll farm was washed away and a 30 foot chasm was created on one side. . [The information about Ambleside on a different page was missed] The Ambleside STW was put out of action. The storm struck in an area about 3 square miles extending from the lake at Lowwood Hotel both sides of Wansfell Pike and most seriously on the Troubeck sideknown as the Hundreds. Starting with hailstones the side of pennies the intense rain then continued for two hours.

A Flood Relief Scheme was set up for Troutbeck and Ambleside

Kendal streets were awash. At Underbarrow 3 sheep were killed by lightning and 10 sheep oin Langdale. Seven cows were killed at Ravenstonedale. No reference was made to flooding ther than Kendal

Rainfall at the end of August was associated with depressions.

'Torrential rain turned roads into rivers'. The heaviest rain was recorded in the Great Langdale area.

The River Kent and tributaries overflowed their banks at many points up to a depth of 3 feet, causing damage to corn crops. Scot Beck in the Troutbeck valley again became a fast flowing river and dislodged boulders down the widened course of the beck.

The Kendal to Windermere road was flooded at several points. The railway line near Ings was inundated. Ingleton: The River Greta was said to have reached the highest level in memory. At Ingleton Gas Works the water entered the furnace subway and the water entering the furnaces was only averted by Fire brigade pumping.

Kirkby Lonsdale: Sidewalks leading to the main streets were converted to streams. The Lune rose rapidly to its highest level of the year and most of Mill Ayre Island was submerged. Low lying parts of the Kendal Road near Spital and at Burrow on the Lancaster road were under water.

Grange: The ornamental gardens were flooded and the water reached the top of seats.

River Rothay overflowed near the head of the lake

Newton in Cartmel's daily rainfall of 2.11inches only exceed 6 times since 1911

A very deep depression affected western districts.

Leven at Newby Bridge 1939-09 AMS 2 AM 49

The intense rainfall was followed by persistent rain which in total reached 6.29 in 17 hrs at Gt Langdale.

'Lakes roads flooded'. No further details.

18 Jul 1953	Thunderstorm	
Westmorland		
Gazette 25 Jul		
31 Aug 1953	Ulverston (Pengwerne)	2.63
BR	Coniston (Holywath)	3.06
Westmorland	Lindale (Ellerhow)	2.58
Gazette 5 Sep	Ulpha	2.52
	Rydal (The Hall)	2.73
	Great Langdale (Long House)	3.48

No mention of thunder

21 Sep 1953	Coniston (Holywath)	3.09
BR	Ulpha	2.77
	Martindale (Howtown)	2.66
	Ambleside	2.68
	Rydal (The Hall)	2.89
Hiflows UK	Great Langdale (Long House)	3.37
	Grasmere (Meadow Brow)	2.59

30 Sep 1953	Great Langdale Long Ho	1.24 in 2 hrs
BR	Tot=	5.05
Westmorland	Coniston (Holywath)	5.18
Gazette Oct 3	Hawkshead (Wraymires Fisheries)	2.96
	High Wray (Huyton Hill School)	

26 Nov 1953
BR

	3.13
Windermere (Nurseries)	2.59
Windermere (Briery Close)	2.56
Rydal (The Hall)	3.22
Great Langdale (Long House)	5.05
Grasmere (Meadow Brow)	2.97
Coniston (Holywath)	4.1
Hawkshead (Wraymires Fisheries)	4.25
High Wray (Huyton Hill School)	3.08
Windermere (Holehird)	2.97
Windermere (Brockhole)	2.72
Windermere (Briery Close)	3.1
Ambleside	3.44
Rydal (The Hall)	4.32
Great Langdale (Long House)	4.19
Grasmere (Meadow Brow)	4.1
Ulpha	4.6

Rainfall was caused by the passage of a depression.

Not investigated in Westmorland Gazette

18 Jan 1954
BR

Wet Sleddale (Mirethwaite)	3.4
Great Langdale (Long House)	3.14
Grasmere (Meadow Brow)	2.75

Not investigated in WG

15 Jun 1954
BR
Westmorland
Gazette 19 Jun

Langdale (4.33") and Grasmere (4.37") had more than 4 inches in 24 hours.	
Cartmel Fell (Tower Wood)	2.72
Coniston (Holywath)	3.88
Near Sawrey (Ferry House)	2.96
Far Sawrey (Righting House)	2.67
Hawkeshead (Wraymires Fisheries)	2.77
High Wray (Huyton Hill School)	3.05
Ulpha (Intake)	2.71
Wet Sleddale (Mirethwaite)	3.21
Windmere (Nurseries)	3
Windmere (Holehird)	2.83
Windmere (Brockhole)	2.63
Windmere (Briery Close)	2.7
Ambleside	2.7
Rydal (The Hall)	3.44
Great Langdale (Long House)	4.33
Grasmere (Meadow Brow)	4.37
Milnethorpe (Crooklands)	3.05
Levens (Beathwaite)	2.68
Levens (Bridge End)	2.52
Killington Reservoir	3.21
Kendal School	3.02
Kendal (Fisher Tarn Reservoir)	

A small active depression brought heavy rain to Snowdonia and the Lake District
Kendal: Ground floor rooms were flooded in Kendal from the River Kent. Waterside, New road, Aynam road, Wildman Street, Castle Crescent and Kirkland were flooded. At Castle Crescent, the Stock beck overflowed while in Kirkland Brock Beck poured over the main street.
Hundreds of acres in south Westmorland were flooded and crops were flattened. Windermere Lake rose more than 2 feet as a result of the rain.
Killington: A 2 year old boy from Light Oak cottage Killington was drowned when he strayed from his home into the swollen stream, a tributary of the river Lune.

		3.05	
	Kendal (Ellergreen)	3.62	
	No reference to thunder.		
23 Jul 1954	Coniston (Holywath)	3.7	No reference in WGto rainfall or flooding.
BR	Gosforth (Netherwasdale)	3.15	
11 Sep 1954	Kendal rainfall just less than 1 inch.		Sedbergh: Many roads were flooded to a depth of more than 1 foot.
Lancs Evg post			Kendal: The road from Kendal to underbarrow was the worst affected. The River Kent overflowed but did not affect houses.
11 Sep			
18 Oct 1954	Ulpha 1.75 in 25 mins on 18 Oct 17th		In an extraordinarily wet autumn, successive floods occurred, each worse than the last with the culminating flood on Dec 2 being the highest since 1898 made the worse by the saturated catchment at the onset of rainfall.
Westmorland	Rydal (The Hall)	2.6	
Gazette 23 Oct	Great Langdale (Long House)	3.23	
	Grasmere (Meadow Brow)	2.58	
			The rainfall at Ulpha on 18 Oct occurred towards the end of a wet period from 15 th to 18 th . It is the largest amount on record in 30 mins or less in the four northern counties of England. The noteworthy fall at Ulpha was associated with an active depression moving northeastward across the north of Scotland. Flooding occurred in many places including Cumberland but was the result of more sustained general rainfall rather than individual intense falls.
			Kendal: Wildman Street and New Road were impassable to an extent not equalled since July 30 1938. Shops in Wildman Street were flooded. The depth of water reached at New Road adjacent to the Provincial Insurance Building was 2 feet. No houses on Waterside were flooded but the pathway was impassable. In Aynam Road the putting green was under water and there was water in the cellars in Aynam Road. There was also extensive flooding of low-lying farms in the lower Kent and Gilpin Rivers and the levens Bridge to Grange road was flooded at many points.
			Staveley: The Kent also overflowed in the Staveley, Burneside and Ings area; at Ings land was flooded next to the River Gowan.
			Rydal Water and Grasmere were almost one and the whole valley of Langdale was transformed into a lake.
			Lake Windermere level taken by the FBA was 133 feet and 3 inches, the highest for 16 years (1938) and was up 5 feet. [Record levels were July 1938 133' 4"; November 1898, 134' 6"; 1831 no date, 134' 8"]
			Kirkby Lonsdale: The River Lune reached its highest level of the year. Only a small portion of the greensward on Mill Ayre island was visible.
			Bentham: Houses in the main street in High and Low Bentham and Wenning Avenue were flooded from stream flowing into the River Wenning.
			Ingleton: Roads were flooded in New village, Laundry Lane and the New Road. Houses and the cellars of Mason;s Arms Hotel were flooded.
			Hundreds of acres of land were flooded in the Lyth valley.
11 Nov 1954	Ulpha 1.19 in 75 mins on Nov 11		The flood of 11 Nov reached a similar level to 18 Oct following twelve hours of heavy rain and gale force winds.
Westmorland			A total of 3.14 inches was recorded in Kendal in 3 days. Worst flooding was reported on New Road, Waterside and Castle Crescent whilst the Stock Beck overflowed onto Castle Crescent.
Gazette 13 Nov			Langdale: Road between Old and New Dungeon Ghyll was under 4 feet of water in places.
			Sedbergh to Dent road ws flooded in places to 1 foot to 18 inches.
2 Dec 1954	30th		There was daily rainfall total of 2.91 inches in Kendal in the severe flood of Dec 2. No comparisons of levels with
	Great Langdale (Long House)	2.50	

BR	1 Dec	
	Coniston (Holywath)	3.39
	Near Sawrey (Ferry House)	2.7
	Hawkeshead (Wraymires Fisheries)	2.6
	High Wray (Huyton Hill School)	2.59
	Sedburgh (Brigg Flats)	3
	Sedburgh School	2.62
	Windermere (Nurseries)	2.5
	Windermere (Holehird)	2.64
	Windermere (Brockhole)	2.58
	Windermere (Briery Close)	2.76
	Ambleside	2.97
	Rydal (The Hall)	3.45
	Great Langdale (Long House)	3.97
	Grasmere (Meadow Brow)	3.56
	Levens (Beathwaite)	2.68
	Levens (Bridge End)	2.52
	Kendal School	2.73
	Kendal (Fisher Tarn Reservoir)	2.71
	Kendal (Ellergreen)	2.59
	No reference to thunder in any of these events.	

9 Jan 1955	Hawes Water (Burn Banks)	3.02
BR	Great Langdale (Long House)	2.96
	Grasmere (Meadow Brow)	2.92

16 Jul 1955
Westmorland
Gazette 16 Jul

Heatwave with temperature 85 F in the shade; exceeded 80F for 8 days in a row before thunderstorm

18 Oct 1955	Gt Langdale Long House	2.67
BR		

27 Dec 1955	Great Langdale (Long House)	2.84
BR		

? May 1956
Westmorland
Gazette 12 May

12 Jun 1956

earlier floods were found in the newspapers and in particular there was no reference to the level at the Miller Bridge railings. However, the flood stone at Waterside placed by North West Water Authority after the completion of their Flood Alleviation Scheme places it at 15 inches below the flood of 1898 and about 3 1/2 inches above the flood of 1927.

Nearly 600 houses, shops and industrial premises suffered water damage and many factories were forced to close for the day. The number was greater than in previous floods due to intervening development. The area of land inundated in Kendal was 392 acres (159 hectares). The usual areas of Wildman Street, Ann Street, New Road, Castle Crescent, Waterside and parts of Aynam road were flooded and the left the main channel at Nether Bridge along Lound Road joining the main river at Natland Road. Factories of Somervell and Low Mill were surrounded by several feet of water. Milnethorpe Road was closed south of Nether Bridge by four feet of water.

Families were rescued by police from Heslington mill cottages which with the adjoining snuff mill were flooded to waist depth. A new bridge at Burnside was undermined and collapsed.

It is probable that descriptions were not so full in this event as for some previous lesser floods since the public had had full flood stories over the previous 2 months.

Although a flood scheme for the town had been put forward by the Lancashire River Board which was subject to government grant, the Kendal Town Council meeting after the flood reached no decision with respect to the scheme and only limited work was done to the river over the next 10 years (See below)

Not investigated in WG

Long Marton: a 13 year old boy was killed by lightning sheltering under a tree.

Bowness: Thunderstorm for ½ hour with hail but very localised. No flooding was reported.

Kirkby Lonsdale: Thunderstorm

After long dry spell reservoirs are still low but 'heavy rain at last' was reported.

River Kent overflowed at one point and was at its highest for several months. No reports of roads or houses flooded.

Not investigated in WG

'Marooned Lune angler rescued by ropes and dinghy' An angler was marooned on Mill Ayre Island within 20 minutes of having gone there. The river rose 2 feet so rapidly and the current was so great that his retreat was cut off. The footbridge to the island had been washed away by a previous flood so he had waded to the island. His colleague working on the near side of the island escaped but he was trapped and had to wait 5 hours before he was rescued by ropes and a dinghy. The anglers said 'We have never known the river to rise 2 feet in 15 minutes' and 'there must have been a lot of rain somewhere'.

Kendal: River Kent rose to its highest level in 14 months and was at bank top.

Langdale had more than half an inch of rain in ½ hour and fields were flooded. At Ambleside the bust station was

Lancs Evg Post 12 Jun			flooded.
11 Jul 1956 BR Barrow News Westmorland Gazette 14/21 Jul	Gt Langdale Long House 1.12 in 27 mins		Widespread thunderstorms occurred on the same day throughout the country including a remarkable 6.09 inches in 109 minutes at Hewenden Reservoir near Bradford (the highest ever in less than 2 hours in the UK. The Barrow News reported that there was little rain at Mickleden 3 miles up the valley and no rain at Little Langdale 2 miles to the south. WG had no reference to rainfall or flooding
1 Aug 1956 BR Westmorland Gazette 4 Aug	Ulpha 2.60		A depression moving east to northern England brought heavy rain to northwest Wales and northwest England. WG reports that a 'downpour greeted August but 'downpour eases Kendals water supply position'. WG has no reference to flooding.
1 Sep 1956 Westmorland Gazette	Thunderstorms		Three people were injured by lightning, one in the Sedbergh and 2 in the Killington area (whilst milking cows). A house was struck nearby. The stom travelled up the Lune valley.
19 Oct 1956 BR	Sawrey (Ferry House) 2.6 Far Sawrey (Righting House) 2.61 Hawkeshead (Wraymires Fisheries) 2.79 High Wray (Huyton Hill School) 2.69 Thirlmere (The Nook) 2.61 Ennerdale (Bleach Green) 2.53 Ulpha 3.08 Windermere (Brockhole) 2.72 Ambleside 2.53 Rydal (The Hall) 2.58 Great Langdale (Long House) 3.4 Grasmere (Meadow Brow) 3.24		A complex depression moved north-eastward over NW Scotland with heavy falls in N Wales and northwest England. Not investigated in WG
26 Jul 1957 Westmorland Gazette 26 Jul			A cloudburst occurred at Hawes End on the eastern slopes of Wether Fell (Lake Semerwater). Streams became ragin torrents. Farmsteads were hit at Carr End to a considerable depth. It burst open a garage door and reached the seats of a car. The floods were worst above Buttersett and one home was reported flooded. [Note this is either of Swale or S Yorkshire] WG hs no reports of rainfall or flooding.
17 Sep 1957 BR Westmorland gazette 20 Sep	Gosforth (Netherwasdale) 4.69 Ennerdale (Bleach Green) 2.77 Millom (Lanthwaite) 3.5		
7 Dec 1957 BR	Coniston (Holywath) 2.81 Great Langdale (Long House) 2.57		Not investigated in WG
10 Aug 1958 http://www.cumbria.gov.uk/eLib	0.28 in 30 mins at Austwick following a hot and sultry day		After one of the hottest days of the year violent thunderstorms broke out in various parts of England. Severe and long lasting T/storms Scafell area. Rainfall estimated at 6" per hour. Changed the look of the screes for ever more. Large boulders ended up as far away as Eskdale.

[rary/Content/Internet/536/4042394623.pdf](#)

Westmorland
gazette Aug 15

18 Aug 1958
Westmorland
Gazette 22 Aug
6 Sep 1958
Westmorland
Gazette 19 Sep

Thunderstorm

Hawkshead: Cottages were gutted by lightning in a thunderstorm.

Satterthwaite: 2 cottages were destroyed by fire.

Grange: Flooding occurred in many parts of the town. Kents Bank House was flooded up to residents knees. It was up to 1 foot deep on Linedale Road near Netherwood Hotel. Some cellars in New Street were flooded. Water flowed down Highfield Road.

Sedbergh: Storm damage was reported with 2 houses struck by lightning. There was no reference to flooding.

Thunderstorm Census Organisation staff visited the Lake District and reported spectacular damage from Crinkle Craggs to near Ravensglass. One mile SW of Crombe Craggs huge sections of fellsides were scattered by a cloudburst. Four small ghylls feeding Lincove beck were strewn with newly fallen rocks and turf. Near Great How 1 ½ miles SSW of Scafell a rock gully was struck by lightning and rocks were swept down. The storm disrupted telephone communications in Eskdale on 6 Sep.

[This seems to be the same storm reported on the website for 10 Aug. It is unclear which is the correct date but the loss of telephone communications on 6 Sep at Eskdale gives credence to the later date.

Not investigated in WG

12 Oct 1958
BR

Gt Langdale 2.75

11 May 1959
Westmorland
Gazette 15 May
Lancs Evg Post
11 May, BR

Barrow 1.35" in 40 m

A cloudburst occurred at the head of Garsdale which caused the Ure to overflow and cause extensive flooding in the Hawes area. Within half an hour the river changed from a very low state to a raging muddy torrent. The main road from Hawes to Sedbergh was blocked beyond Appersett and the Ingleton road was also flooded. Widdale Fell was much affected and a shepherd received cuts from hailstones. A man at Snaizelholme was up to his waist in water and some sheep and lambs were washed away. [South Yorkshire file]

Hailstones broke windows in Barrow in Furness and caused flooding in various parts of the town. The drains were inadequate and manhole popped up like corks. BR notes that the storm was reported to be unequalled in severity in 36 years of detailed records.

<Wigton>: A farm worker was killed by lightning

Rain followed a long dry spell. Langdale had less than 2" in 30 days but then had 4.26" in 6 days and 2.06 in less than 8 hours. The rainfall caused the River Kent to rise rapidly but no flooding was reported.

7 Jun 1959
BR
Westmorland
Gazette 12 Jun

Coniston Holywath 2.62

26 Oct 1959
BR
Westmorland
Gazette 30 Oct

Great Langdale (Copt Howe) 3.39
Rydal (The Hall) 2.8
Great Langdale (Long House) 3.84
Grasmere (Woningsworth) 3.34

An intense depression which moved across northern Scotland was preceded by exceptionally large falls of pressure resulting in gale force winds and widespread heavy rain.

The rain eased water problems after a long drought. The daily rainfall at Langdale was the highest since 1954. The rain was accompanied by high winds.

The River Lune rose so quickly at Kirkby Lonsdale that within a few hours the island of Mill Ayre was covered for the first time since 1954. The River Kent reached bank top level at Kendal.

There were no reports of property flooding.

21/22 Jan 1960
BR

21st
Grasmere (Woningsworth) 2.95

Lake Windermere reached a very high level and only the steamer pier remained above water.

Melting snow was the biggest factor in this flood.

Westmorland Gazette 29 Jan	22 nd Coniston (Holywath) 4.67 High Wray (Huyton Hill School) 3.49 Ulpha 2.67 Hawes Water (Burn Banks) 2.94 Windermere (Nurseries) 2.5 Windermere (Holehird) 3.04 Windermere (Brockhole) 3.01 Windermere (Briery Close) 3.1 Ambleside 3.64 Great Langdale (Copt Howe) 3.15 Rydal (The Hall) 3.66 Great Langdale (Long House) 3.06 Grasmere (Woningsworth) 2.93	Kendal: The river rose 1 foot in an hour. A few cellars were flooded but no houses. It was noted that river alterations may have saved Kendal properties – the weir had been rebuilt and lowered and the river dredged. Ambleside: Houses were flooded on Rydal Road. There was extensive flooding on Hawkshead Road. A WG comment suggested that it was not since the flood of Feb 9 1831 that melting snow has been a major factor in flooding.
30 Jan/ 2 Feb 1960 BR	Coniston (Holywath) 2.98 Windermere (Brockhole) 2.57 Great Langdale (Copt Howe) 2.54 Great Langdale (Long House) 2.99 Grasmere (Woningsworth) 2.91 2 Feb Hawes Water (Burn Banks) 2.93 Great Langdale (Copt Howe) 5.03 Rydal (The Hall) 2.89 Great Langdale (Long House) 4.13 Grasmere (Woningsworth) 4.86	Not investigated in WG
26 Feb 1960 BR	Gt Langdale Copt Howe c 2.00 in 6 hr 15 mins	Not investigated in WG
10 May 1960 BR	Barrow in Furness STW 1.35 in 40 mins	There was extensive flooding in Barrow after a ‘remarkable’ fall during a storm reported to be unequalled in severity in 36 years of detailed records. Thunderstorms were unusually severe and lightning unusually frequent over much of northwest England. At Wigtown Cumbria a farm worker was killed by lightning and two others were knocked unconscious. WG has no reference to rainfall or flooding.
Westmorland Gazette 13/20 May		Thunderstorm. A climber was killed on Pillar when lightning struck and dislodged a large rock which struck him.
6 Jun 1960 Lancs Evg News		
6 Jun		
1* Jun 1960 Lancs Evg News		LEN refers to a thunderstorm at Ambleside when 2 ½ inches fell in 3 hours. It refers to a ‘Wansfell deluge’ but does not give a date – only ‘the other day’.
17 Jun		
1 Nov 1960 BR	Great Langdale (Copt Howe) 2.57 Great Langdale (Long House) 2.66 After the driest October for 7 years	WG reports gale and unspecified flood damage but notes that the River Kent was below warning level.
Westmorland Gazette 4 Nov		
25 Dec 1960	Hawes Water (Burn Banks) 3.32 Great Langdale (Copt Howe) 2.61	Not investigated in WG

BR Rydal (The Hall) 2.57
Great Langdale (Long House) 2.91
Grasmere (Woningworth) 2.85
Thunderstorm

12 Jul 1961
Guardian 13 Jul
3 Aug 1961
BR

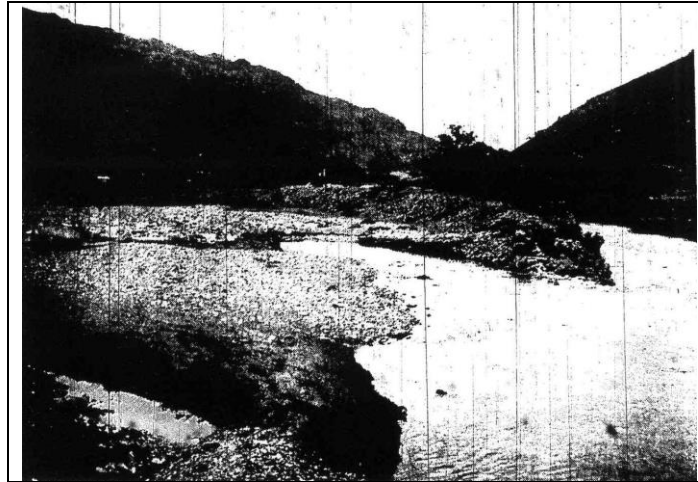
Langdale 3.5 inches in 6 hrs
Langdale 0.80 inches in 1 hour

Westmorland
Gazette 11 Aug

Long House 3.58
Langdales 3.57
Grasmere 2.63
Rydal Hall 2.63
Ambleside 2.55
High Wray 2.82
Holehird 2.8
Windermere Nurseries 2.8
Ferry House 2.5
Bryerswood 3.01
Righting House 2.62
Hawkshead 2.92
Tower Wood 2.75
Haverthwaite 2.7
Grizedale 3.07
Coniston 3.37
Ulpha 2.71
Ennerdale 2.82
Mungrisedale 2.53
Wastdale Hotel 4.2

<Barrow in Furness>: Mystery Plays at Furness Abbey had to be cancelled because of the storm which affected much of Lancashire. Six bus loads of people who had travelled were disappointed.
A depression caused orographic rainfall rather than thundery weather. Warm and cold fronts of depression crossed Scotland.

The main effects were noted in Langdale. Campers were marooned and some had to wade waist deep to reach higher ground. Near Stool End Farm the Exendale Beck became blocked by boulders at the bridge and water took to the roadway. Within a few minutes a 700 yard stretch of the road to Dungeon Ghyll was damaged in some places scoured to a depth of 3 ½ feet. Farmers said they had never seen the river rise so swiftly. A bridge at Middlefell failed to contain the flow and water poured out and entered the farmhouse. A caravan was surrounded and the occupants had to be guided to safety through the waters at night. There were many breaches of the banks.



Great Langdale washout causing silt to cover hayfields
Winds SW; orographic; warm and cold fronts

12 Sep 1961 Rydal Hall 2.54
BR Coniston 2.51

Westmorland
Gazette 15 Sep

11 Feb 1962 Long House 5.2
BR Langdale 4.42
Grasmere 4.26
Rydal Hall 3.65
Ambleside 3.96
High Wray 4
Briery Close 3.38
Brockhole 3.41

WG has reference only to a gale and wind damage

Winds W strong to gale; frontal orographic; warm and cold fronts moving quickly east.
Not investigated in WG

	Holehird	2.9
	Windermere Nurseries	3.26
	Ferry House	2.84
	Bryerswood	3.1
	Righting House	2.97
	Hawkshead	3.35
2 Apr 1962	Pickup Bank	2.1
BR	Kendal School	2.14
Westmorland	High Wray	2.99

WG has no reference to rainfall or flooding

Gazette 6 Apr
10 Jul 1962

Thunderstorm

Windermere: The Mountain Ash hotel was flooded as well as lowlying land in the neighbourhood.

Westmorland
Gazette 13 Jul
1 Aug 1962

Leven at Newby bridge 1939-09 AMS Rank 1 AM 44

Hiflows UK
Westmorland
Gazette 3/10
Aug

WG has no reference to rainfall or flooding. Hiflows date may be wrong and should be 10 Aug?

10 Aug 1962
BR
Westmorland
Gazette 17 Aug

	Kendal School	2.1
	Crook	2.25
	Long House	5.02
	Langdale	4.73
	Grasmere	4.36
	Rydal Hall	3.58
	High Wray	3.28
	Brockhole	3.35
	Windermere Nurseries	2.79
	Ferry House	2.63
	Bryerswood	2.95
	Righting House	2.73
	Hawkshead	3.06
	Tower Wood	2.51
	Grizedale	3.5
	Coniston	4.09
	Wastwater Hotel	5.06
	Ennerdale	3.37

Winds SW fresh to strong; frontal, orographic; warm and cold fronts moving quickly east.

WG suggests the Lake District flooding was the worst since 1954 from rainfall lasting 10 hours. Damage was caused to embankments, bridges, walls, roads, culverts and hay crops

Langdale: The Langdale beck rose so rapidly that two young men had to swim to safety at their camping site and others had to wade from submerged tents and flooded caravans. The breach on the north bank of the Langdale beck near Dungeon Ghyll was 70 yards in length (compared with 40 yards last year); hay crops were buried under 4 feet of water. Stickle Gill was unable to pass under two bridges, water backed up and broke down walls to the New Dungeon Gill Hotel where the basement was flooded. The main road from Ambleside to langdale was impassable in several places.

Grasmere: The lake rose rapidly and the river Rothay was about 8 feet above its normal level. Streets were inundated to a depth of 1 foot and shops and a school were flooded. Campers had to be evacuated The A 591 was closed to traffic because of water cascading across the road from the mountains. Easedale river overflowed from Brimmer Head farm to Goody Bridge where it swept across the road and washed away a 5 foot garden wall. From Butterfly How where the Easedale meets the Raise River, the water continued to White Bridge through fields to Holly Grove Cottages which were flooded to some depth. The houses across the river were also flooded. The road there and the adjoining recreation ground were flooded. Houses in College Street also suffered.

Kendal: It was the worst flooding since 1954 with flooding to a depth of several feet on New Road where cars and caravans were abandoned. Aynam Road was also impassable. Houses in Kent Place were flooded. Kendal Catholic Church escaped flooding though the water was just lapping on the church steps; there was 2 inches in the presbytery nearby. The River Kent was said to have risen with startling rapidity. Houses on Waterside were

flooded. There was severe dislocation of traffic with 3 mile queues on the busiest day of the year. The A6 became flooded at Shenstone Hotel and traffic was diverted at Dockacres, Carnforth and through Burton. Thousands of acres of land on the outskirts of Kendal and in the Lyth valley were submerged.

Kirkby Lonsdale: The island at Mill Ayre was completely submerged; railings and fencing along the river were uprooted.

Old Tebay was flooded and houses were reinforced with sods to keep the water out.

There was chaos on the roads again as traffic was brought to a halt and hundreds of acres of land inundated. The main road over Shap fells and the alternative route via Tebay were both blocked.

Kendal: The flood warning siren sounded at 4.00 pm but by that time the rain had stopped but the river was observed to be rising 'so quickly that the change was noticeable every few minutes'. At its peak the water was 2 feet deep at Waterside and Stramongate, Aynam Road, Kent Place and Queen Katherine Street were affected. Cellars of many houses were flooded. A house at 10 Kent Place was flooded to 18 inches.

WG for 27 September is missing from the microfilm (oct 4 had no reports)

WG has no reports of rainfall or flooding though snow then flooding was reported at Hawes (Ure) on 22 Nov.

Grange: parts of the town were flooded including the ornamental gardens. No reference was made to property.

Kendal: Unspecified flooding of roads

Frontal; occlusion moving east followed by cold front with wave

WG has a single photo of meadow land flooding but notes 'floods follow long dry spell'. There was no further text.

This was described as the heaviest flooding in Kendal since 1954 which followed 5.5 inches of rain in 3 days.

More than 100 houses were flooded on Waterside, Queen Katherine Street, Ann Street, Castle Crescent, Aynam Road and Lound Road, to depths of up to 3 feet, while many cellars were flooded. It was reported that the flood level was less than one foot lower than the flood in 1954. The paper suggested that in spite of the lower level that the peak discharge was higher than in 1954 with the greater conveyance of deepened channels; convincing evidence was not provided. The extent of damage at locations upstream and downstream of Kendal was nowhere near as severe as described in earlier events.

Measurements by the Lancashire River authority in Kendal indicate a peak discharge of 221 cumecs for this event, the highest listed in FSR Vol IV in a record from 1963 to 1969.

25 Aug 1962 Westmorland Gazette 31 Aug Lancs Evg post 27 Aug	12 hour downpour Rydal 2 ½ inches in 6 to 7 hours	
26 Sep 1963 BR	Langdale August 3 rd -3 ins in 6 hrs 11th -5 ins in 10 hrs 26th -2 ¼ in 9 hrs Sep 9 -4 ins in 15 hrs Langdale 1.51 in 2 hr	
12 Nov 1963 BR Westmorland Gazette 15 Nov	Long House 4.5	
14 May 1964 Westmorland Gazette 15 May	Heaviest rain for 7 months; sunshine 10 miles away; no reference to thunder Fisher Tarn 0.96	
6 Oct 1964 BR Westmorland Gazette 9 Oct	Langdale 106.4 Grasmere 104.9 Rydal Hall 102.6 Ambleside 88.1 High Wray 81.5 Briery Close 75.4 Hawkshead 72.9 Tower Wood 71.4	
7-9 Dec 1964 BR	7 th Kendal School 57.1 Rydal Hall 98.3 Ambleside 75.7 8 th Levens, Lowgate House 52.6 Rydal Hall 96.5 Ambleside 89.2 High Wray 105.2 Briery Close 79.8 Hawkshead 74.7	

Houses in Staveley were flooded to depths of up to one foot and at Mintsfeet industrial estate water flowed over fields and surrounded cars parked in a motor depot.

Not investigated in WG

Frontal; occlusion moving east.

WG has no reference to rainfall or flooding

20 Aug 1965

Ulpha

86.4

BR

Westmorland

Gazette 27 Aug

17 Jun 1966

Westmorland

Gazette 24 Jun

13 Aug 1966

The thunderstorm lasted for more than 6 hours at Langdale which was lit up by 200 flashes of lightning which struck a number of crags.

Cumberland

News Aug 19

Westmorland

gazette 19 Aug

A thunderstorm occurred in south Lakeland. Lightning struck and damaged a house at Levens. WG has no reference to flooding.

Worst ever flood sweeps two counties:

The thunderstorm produced a night of terror for Langdale. Half a dozen streams burst their banks, sweeping away stone walls and parts of the road. The waters raged through 2 hotels, a farm and inundated the National Trust camp site at the head of the valley to a depth of four feet. Cars were swept away. Two cows survived being carried downstream for four miles. New Dungeon Ghyll Hotel was flooded to a depth of 3 feet. The waters from the Mill Ghyll swept in the rear of the hotel and out the front door, flooding the entire ground floor. 'Some of the boulders which careered down the hill and finished up in the back garden must weigh half a ton; the noise it made was terrifying'. I have never known anything like this and I have lived here for more than 30 years. A few hundred yards up valley Ressett house had its garden removed when the river changed its course. A family in a caravan in his garden had to evacuate through a window as debris and water swirled around their caravan. Rossett Ghyll swept away a road bridge at Stool End Farm. At the National Trust campsite a camper said 'It all happened in about 5 minutes. The water must have built up behind a wall and when this collapsed it swept across the site flooding it to a depth of about 4 feet. [The blockage behind a wall is unlikely; simply a wall of water generated by intense rainfall] A party of scouts camping near Angle Tarn abandoned their tents at the height of the storm. The whole hillside was awash'. Initial estimates of the damage was put at £15,000 – a later estimate put it at £100,000 for Borrowdale.

WG notes that the storm was the most severe in South Lakeland since late June 1953. Floods swept through hotels, farms and houses and washed a car 40 feet off the road. Two cows were carried four miles down the Langdale Beck to Chapel Style where they were rescued unharmed. Some sections of the Dungeon Ghyll were scoured out to bed rock. There were also landslips adding to the rubble being carried into the valley below. The route from Little Langdale up to the summit of Wrynose Pass was also impassable. The storm struck the Ambleside, Windermere and south Lakeland areas some time after Langdale and there was widespread flooding but on a smaller scale than in Langdale. Worst affected was near Lowwood and along the Ecclerigg level between Windermere and Ambleside. Telephone lines were also cut off. Houses were damaged by lightning in the Storth district.



Photo 2 shows the road near the New Dungeon Ghyll Hotel a day after the flood

3 Sep 1966
BR
Westmorland
Gazette 9 Sep

Barrow-in-Furness, Hill Road 52.1
Wastwater Hotel 114.3
Anthorn 51.3
In Kendal more than 2 ½ inches rain
in 3 days but on each day less than 1
inch

Many hours of continuous downpour

Frontal, orographic; warm front moving east followed by cold front with minor waves.
For the second time in 3 weeks torrential rain swamped the Langdale valley, undoing the subsequent repair work. Flooding again affected houses, washed campers out of their tents, and made roads impassable. Hundreds of thousand of tons of boulders and gravel blanketed fields and gardens. Rosset House was flooded again. In Kendal the River Kent rose to reach the streets at Waterside and New Road but receded before traffic had to be diverted. There was 2 feet of water on roads north and south of Kendal and at Dunmail Raise.



Lightning struck and damaged a farmhouse at Endmoor. WG has no reference to flooding.

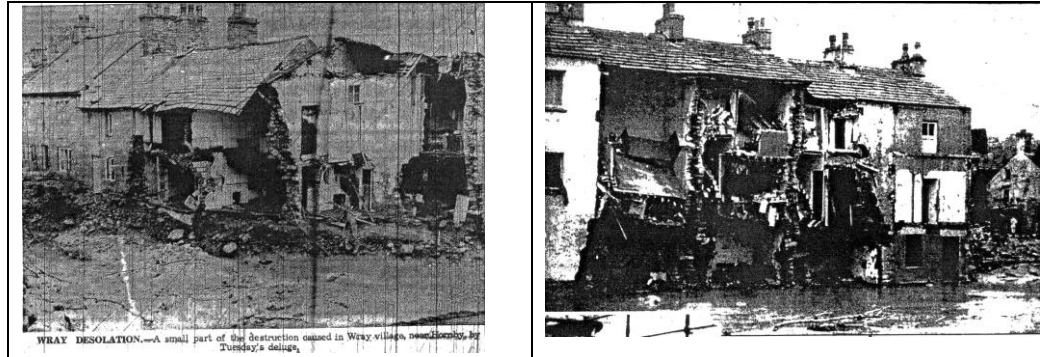
11 May 1967
Westmorland
Gazette 12 May
13 Jul 1967
Lancs Evg post
14 Jul

Thunderstorm

Thunderstorms especially in
Lancashire.

Ambleside: A house struck and set alight by lightning.
Shap: A barn with much hay was set alight at Bampton.

30 Jul 1967 BR Westmorland Gazette 4 Aug	Sedbergh Killington Res. Lipton Res. Persistent rain – no reference to thunder.	59.4 66.3 69.8	Frontal; cold front moving slowly southeast. Incessant rain over Saturday and Sunday blocked roads. At one time only the Kendal road out of Sedbergh was open – the roads to Kirkby Stephen, Hawes and Kirkby Lonsdale were affected. The flood at Kirkby Lonsdale was the highest this year. Campers were evacuated at the Kirkby Lonsdale site.
8 Aug 1967 Westmorland Gazette 11 Aug and 29 Sep	Thunderstorm		<p>The village of Wray 1 ½ miles east of Hornby in the Lune valley became a disaster area when a cloudburst created a 20 foot wall of water in the Rivers Hindburn and Roeburn which join as they enter the village. Part of the village was demolished in the space of a few minutes, wrecking 9 houses and rendering homeless 16 families totalling 37 people. ‘Seven cottages were crumpled like a pack of cards as a six foot wall of water smashed into them’. On resident reported: ‘The door suddenly cracked and burst open; the water rushed into the living room; I sat in the kitchen sink but the sink filled up; I got on to the cooker but it floated away; I grabbed a pan and smashed a window and scrambled to the top of a bank. Another said: ‘It took just 10 minutes to wash away our home’.</p> <p>Emergency services were hampered by the destruction of a bridge over the River Roebuck giving access from Lancaster. Work had already begun on the demolition of houses damaged beyond repair. Many of the villagers were not insured. It was reported by the residents that Bridgend cottage was demolished in just 10 minutes. Another resident said that the River Roeburn rose at an amazing rate until it soon overflowed the bridge and was soon lapping at her door. Then the door burst open and flooded the house with the cooker and washing machine both floating away. She had to break a window to climb out to higher ground. Wm Brown a farmer at Backsbottom said ‘We were dipping sheep in the farmyard when we heard a roaring sound from the river, and I turned round to see a wall of water rushing at us. It shattered walls and destroyed buildings and we had to rush to higher ground to escape’. He lost 39 of his 40 cows and 195 out of 200 of his sheep. Backsbottom farm lay directly in the path of the River Roeburn and was the first home to be devastated by the flash flood which swept away houses, bridges, animals, cars furniture and personal possessions in 30 minutes . The flood destroyed a farm, 13 houses and 7 bridges.</p> <p>Several villagers went several miles away not daring to look at the remains of their homes. Another string of villages in the Valley – Claughton, Hornby and Farleton were cut off when the River Lune rose 30 feet in half an hour. The river normally 40 yards wide swelled to 1 ½ miles in some places. Walls were washed away, and electricity, gas and telephone services cut. Bentham villagers barricaded shop doors and sandbagged homes. The villagers of Wray surmised that the freak tidal wave that hit the village and destroyed the houses was caused by a blockage or tree trunks and rocks further up the fells which then blocked the narrow stone bridge so that the water could not get through but smashed over the top and round the sides taking the homes with them.</p> <p>A disaster fund had already brought in £1000. A further report on 29 Sep noted that more than £10,000 had now been contributed to the Wray appeal. The relief fund finally reached £30000.(More detailed descriptions in Garnett).</p>



Wray: The village faced a second storm over the fells although only the fringe of the second storm touched the village itself. A river of ousing mud flowed down the main street hampering mopping up arrangements.

9 aug 1967
 Lancs Evg post
 10 Aug
 13 Aug 1967
 Lancs Evg post
 14 Aug
 18 Aug 1967
 Westmorland
 Gazette 25 Aug
 Lancs Evg Post
 19 Aug

The storm followed a heatwave with temperature rising to upper 70s. WG has no reference to thunder. Three day total at Kirkby Lonsdale was 5.51 inches Clapham 2.55 inches in 21 hours (See also Lancs chronology)

A second flood occurred in the Lune Valley when the Lune burst its banks after heavy rain during the previous 24 hours. The River Lune burst its banks. Burrow Bridge over the Leck beck on the Kirkby Lonsdale to Lancaster Road was swept away by the flood. The bridge was built in 1733 and widened in 1913. Roads elsewhere were impassable including the Kendal to Sedbergh and the Kendal to Burton Road. At Farleton the road was flooded to 1 foot for a distance of 100 yards. Flooding also occurred along the Levens Bridge to Grange road in the Lyth Valley. Lindale Brow was awash with swirling water and debris. A Milnethorpe it was feared that the flood might extinguish the gas furnaces but it receded before reaching. LEP reports a farmer who was flooded from the Farleton Beck a second time with the water cutting through his 17th century farm, as laying the blame on the County Council for raising the bank downstream causing back up, in improving the road from Lancaster to Kirkby Lonsdale.

The River Roeburn in Wray swirled through through the village and further undercut the foundations of 3 houses that escaped the first flood. A stone wall erected to divert the river back to its original course was washed away; cattle were washed away.

Hornby: Several cottages were awash for a second time. The River Wenning rushed through the historic Hornby castle grounds and into the main street along the same path as the previous flood. Barrels of beer were floating in the cellar of the Hornby Oak Hotel.

Gressingham: A motorist was swept into a ditch when the water suddenly broke through a hedge and hit the car.

Wennington: The road between Hornby and Clapham was flooded.

Kirkby Lonsdale: In the Keastwick district cottages and farmhouses were threatened. One farm was flooded on the Underley Estate.

Lupton and heversham: Flooding was also reported.



FLOOD DEVASTATION. — Birrow Bridge, on the Kirkby Lonsdale to Lancaster road, was almost completely demolished by the terrific weight of flood water during Friday night's storm. Picture by Gazette photographer F. Wood.

3 Sep 1967 Westmorland Gazette 3 Sep	Thunderstorm lasting nearly 1 hour.	Thornton: A child was drowned when washed into a culvert – a tributary of the River Wyre. Lightning killed 8 cows and 2 sheep at Preston Patrick. WG has no reference to rain or flooding.
4 Oct 1967 Westmorland Gazette 6 Oct	Kendal 1.50 in on Sunday and 1.40 on Tuesday	Torrential rain over 3 days resulted in extensive flooding in the northwest. Many roads in the Lake district and Furness were impassable. The water was waist deep on the road between Windermere and Grasmere. Between Ambleside and Grasmere motorists had difficulty negotiating the flooding at Scandale Brow. Ecclerigg Level near the entrance of Whitecross Bay caravan site was flooded to a depth of 3 feet. For the third time in a few weeks a tributary of the River Scandle at Ravenstonedale overflowed and flooded a dining room at the Kings Head Hotel. Further flooding occurred from persistent rainfall in Westmorland. In Kendal the River Kent burst its banks and the Provincial Insurance Building was surrounded. Wildman Street was flooded twice as drains proved inadequate. Shops were flooded when waves sent into doorways. 18 Wildman Street shop was flooded four times in 5 days. There was a foot of water in New Road. Only the first few houses of Queen Katherine Street were flooded with a few inches in their cellars. The River Bela overflowed and the road to Arnside was blocked to traffic. On an unclassified road from Heversham to Hincaster the water was 5 feet deep at one point. Windermere rose to within 2 inches of its record level in 1954 Not investigated in WG
8/9 Oct 1967 BR Westmorland Gazette 13 Oct	8 th Langdale 39.6 in 4 hrs 9 th Langdale 43.2 in 4 hrs	
14 Oct 1967 BR	Langdale 50.5 in 6 hrs	
22 Jun 1968 BR Westmorland Gazette 28 Jun	Sedbergh 60.5	WG has no reference to rainfall or flooding.
1/2 Jul 1968 Westmorland Gazette 5 Jul 3 Sep 1968 Westmorland Gazette 6 Sep	Thunderstorms	'Violent storms left a trail of havoc in Westmorland'. Power supplies and electricity were cut off at Windermere, Bowness, Staveley. Buildings were struck at Crook. In Kendal the newly opened superstore was flooded to several inches and Burneside Yout Club was also flooded. Lightning cut power at Langdale, Hawkshead and Coniston but there was no reference to flooding in WG.

12 Sep 1968
Westmorland
Gazette 20 Sep

Thunderstorm

'Wall of water' A man was rescued from the Hardraw Road. He was driving towards Sedbergh when he was suddenly met by a large wall of water from the nearby River Yore opposite Fry House Farm. He was carried half a mile back on the Hardraw Road where the car became jammed against a wall. He scrambled out of the car which was quickly almost out of sight. He was rescued by two policemen with a rope to the car.

1 Oct 1968
BR
Westmorland
Gaz 4 Oct

Poaka Beck 57.4

Cold front moving south over northern England followed by a warm front moving east over area. Higher totals on lower Derwent and west coast.

22 Apr 1970
Hiflows UK
Westmorland
Gaz. 24 Apr

Persistent rain over 5 days

WG has no reference to rainfall or flooding

Kent at Sedgewick 1968-09 AMS Rank 2 AM 29

Lune at Killington New Bridge 1969-09 AMS Rank 2 AM 19

Rawthey at Brigg Flatts 1968-09 AMS Rank 2 AM 14

Serious flooding was said to have occurred in many parts of the Lake District following a record April rainfall. No serious flooding was reported at Kendal but a WG phot shows flooding on the Underbarrow Road about 1 mile outside the Kendal boundary.

13 May 1970
Westmorland
Gazette 15 May

Thunderstorm with very high preceding temperatures but rainfall totals only 0.45", 0.08" and no rain at Lupton.

Howgill: Heavy rain caused the adjacent Chapel beck to rise rapidly by the side of Holy Trinity Church and caused 14 yards of the churchyard wall to be washed away. Some graves and gravestones were damaged.

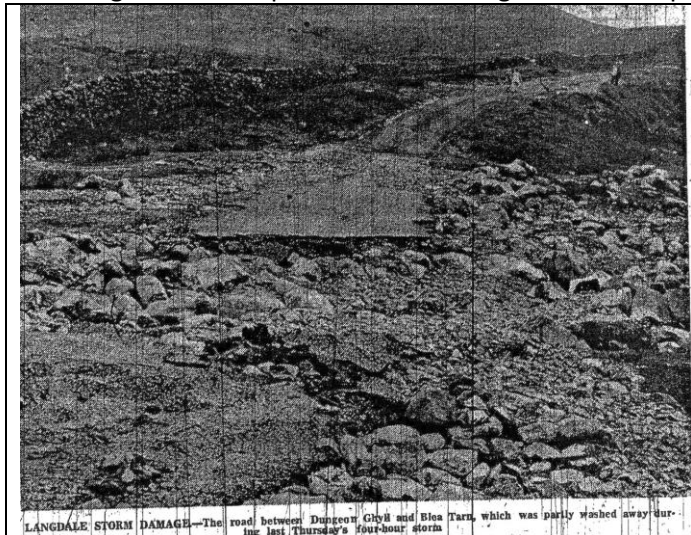
Kendal: A very localised storm occurred with rain and hail. Lightning struck and damaged a house and the power was cut off in some areas.

11 Jun 1970
<http://www.cumbria.gov.uk/eLibrary/Content/Internet/536/4042394623.pdf>
Westmorland
Gaz. 19 Jun

Thunderstorm MO recorded nearly 1000 flashes in 4 hours and cloud tops up to 42,000 feet. Peak intensity near chapel Style reached 60 mm per hour but was estimated at 127 mm per hour at the head of the valley. Thunderstorms were scattered and there was little relief from the continuing drought

Thunderstorms Langdale to Blea Tarn Rd washed away. Hail 3/4" diameter.

At the head of Great Langdale the Redacre Burn burst its banks, and did great damage to the road linking dungeon Ghyll with Blea Tarn and Little Langdale. Parts of the road were buckled or torn up and 50 yards was buried under hundreds of tons of boulders and rubble. The storm water raced down breaking walls and scattering debris over pastures and through the NT campsite.



LANGDALE STORM DAMAGE—The road between Dungeon Ghyll and Blea Tarn, which was partly washed away during last Thursday's four-hour storm

17 Sep 1970
Hiflows UK
Westmorland
Gaz. 18 Sep

Sprint at Sprint Mill 1969-09 AMS Rank 1 AM 8
Mint at Mint Bridge 1970-09 AMS Rank 2 AM 7

Kendal: After a night of torrential rainfall there was the most severe flooding of the streets for three years. Several roads were closed and traffic diversions brought into operation. New Road and Aynam Road (2 feet deep) were flooded from the River Kent where a number of cars were trapped and some business premises were flooded. The river burst over its banks at several places between Victoria Bridge and Nether Bridge. North of the town the water swept over the Minsfeet Industrial Estate and covered low lying land between Kendal and Burneside where several houses were flooded. Water crept into garage premises on New Road. Cellars were flooded on Aynam road as were the tennis court and putting green. Flooding also occurred on Queen Katherine St and Parr Street. Waterside was flooded to a depth of about 5 feet and water entered several storage buildings. The floods were said to be the worst at Kendal since October 1967
Lightning stuck an overhead line and cut off electricity supplies to Natland, Old Hutton, Sedgwick and Oxenholme areas.

10 Jun 1971
Hiflows UK
Westmorland
Gazette 11/18
Jun

Kent at Sedgwick 1968-09 AMS rank 1 AM 15

WG has nothing except effects on sporting events.

5 Jul 1972
Hiflows UK
Westmorland
Gazette 7 Jul
23 Jul 1972
ww.cumbria.gov
.uk/eLibrary/Content/Internet/536/4042394623.pdf

More than 30 hours of continuous rain at Kendal (2.28 inches) following the wettest June since 1954.

Bela at Beetham 1969-09 AMS Rank 2 AM 35

River Kent was above bank level in Kendal and caused minor flooding in one part of the town (Waterside)

Westmorland
Gazette Jul 28
5 May 1973
Westmorland
Gazette 11 May
5 Aug 1973
Hiflows UK
Westmorland
Gazette 10 Aug
8 Sep 1974

After a week of almost continuous sunshine.
Thunderstorms: 43mm in one hour
Ambleside

Power and phones cut as storms bring floods (WG headline only – the microfilm copy is too faint to read).
Elsewhere it is noted that the rain spelled disaster for carnivals.

Thunderstorms

Cows were killed by lightning at Milnthorpe and the electricity cut off. There was no reference to flooding.

Lune at Killington New Bridge 1969-09 AMS Rank 3 AM 36

WG refers to the month's opening deluge and effects of thunder and lightning at sheepdog trials at Rydal, there was no reference to flooding or other effects.

Cunsey Beck at Eel House Bridge 1968-09 AMS Rank 2 AM 36 (no more summer AM floods)

Hiflows UK

Westmorland
Gazette 13 Sep
23 Sep 1974

Westmorland
Gazette 27 Sep

Thunderstorm
Milnthorpe nearly 1.5" in 2 hours
Heversham 1.60 inches in 24 hours.
46 lightning flashes were counted
during the storm

8 Aug 1975
Westmorland
Gazette Aug 15
25 Sep 1975

Thunderstorms with strong winds
after a week of oppressively high
temperatures
Kendal 2.35" in 24 hours

Hiflows UK

Westmorland
Gazette 26 Sep

17 Sep 1976
Westmorland
Gazette 17 Sep
28 Sep 1976
Westmorland
Gazette 1 Oct
22 Apr 1977

Thunderstorm
Thunderstorms
Kendal daily rainfall 1.5"

Hiflows UK

Westmorland
Gazette 29 Apr
4 Aug 1977

Coniston 65.6

COL
30 Oct 1977
BR

Coniston 81.7
Ambleside 71.9
Ulpha 90.2
Grasmere 168.2
Rydal 105.2

27 Jun 1979
Westmorland
Gazette 29 Jun

Thunderstorm
Downpour for 1 hour

16 Jun 1980
Westmorland
Gazette 20 Jun

20 minute deluge of 1.5"

22 Sep 1981

Thunderstorm

Bela at Beetham 1969-09 AMS Rank 3 AM 37
Kent at Victoria bridge 1974-09 AMS rank 1 AM 29

WG has no reference to rainfall or flooding
Flooding closed the A6 road between Kendal and Milnthorpe with queues building up for several miles. Reaches affected were at heversham and a 150 yard stretch of the road near the Shenstone Hotel south of Kendal with water up to 18" deep. At Milnthorpe flooding occurred at Bela side and heversham Station Bridge and blocked the A6 north and south of the village. Park Road was flooded and two houses (No 23 and 25) and also affected Kirk's shop and Daffady's on Beetham Road. Water flowed into the entrance hall of the primary school and at one time the water was 2 feet deep. The football club's dressing room had about 8 inches of water (and mud). Winds caused the capsizing of many boats on Windermere and electricity supplies were cut off (possibly due to storm winds). 'Huge' hailstones occurred for 15 minutes at Windermere but there was no reference to heavy rain or flooding.

Mint at Mint Bridge 1970-09 AMS Rank 3 AM 9
Lune at Killington New Br 1969-09 AMS Rank 1 AM 6

Water reached withing 9 inches of the top of the bank. Some flooding was reported at the junction of Blackhall Road and New Road.

'Violent storms hit county'. Lightning was accompanied by strong winds with falling trees bringing havoc. Lightning damaged a farm building at Crook. There was no reference to flooding.

Thunderstorms in parts of South Lakeland disrupted electricity. Some roads in Kendal, Sedbergh Road and Oxenholme Road were flooded due to leaves blocking drains.

Rawthey at Brigg Flatts 1968-09 AMS Rank 3 AM 25

WG reports nothing on rainfall or flooding.

Low moved NE across Scotland with heavy rain in wales and W Scotland and Lake District

Highest total at Grasmere since 1890
Flooding occurred in on both sides of the Scottish border.
Not investigated in WR.

Hailstones as big as marbles with rain blocked the main A65 south of Kendal. A 30 yard stretch of road was flooded with more than one foot of water and ice. Kendal itself remained in sunshine.

The rainfall was welcomed by NWWA to fill reservoirs but caused a problem for farmers. The rainfall flooded Kendal streets and created traffic problems on the main street.

Power loss was widespread mainly due to branches being blown on to overhad lines. Flooding occurred on the

Westmorland
Gazette 23 Sep

Rain was accompanied by gale force winds.

6 Jun 1982

Thunderstorm

Very high preceding temperatures >25° WG notes that it was the warmest day in the NW since 1976. Heavy rainfall in 2 blocks centred on Carlisle and Skipton
Carlisle Daily 66mm and 32.5 mm in 1 hr.

Harvey (1986)

Westmorland
Gazette 11 Jun,

Jarvis (Date?)

Recent storm
damage in
northern
England

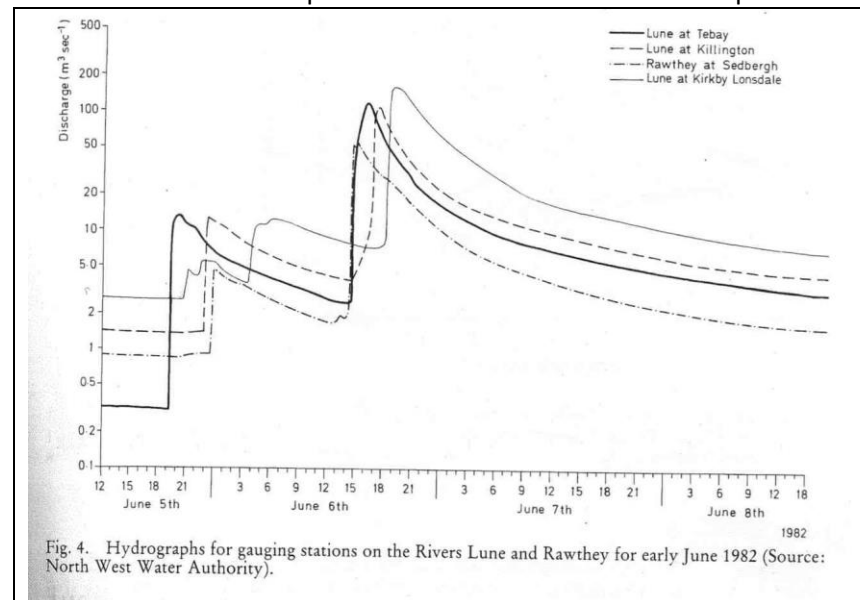
Hawks Beck in the Coniston area and a number of houses were flooded. The main A593 from ambleside was flooded. Stock were killed by lightning including separate groups of 7 and 5 lambs. Flooding occurred at Park lodge, Storrs.

Significant geomorphological effects in Howgill Fells. It caused a flash flood in the Bowderdale and Langdale headwaters of the River Lune, hillslope erosion and deposition and dramatic channel changes.

Harvey paper shows radar rainfall map and assesses rainfall in the storm centre in the Howgills. The resulting hydrographs show near vertical rises at stations on the upper Lune and Rawthey. At Tebay the Lune rose from 3 cumecs to >50 cumecs in less than 30 mins and to a peak of 124 cumecs in less than 3 hours. Harvey makes estimates of peak discharge on affected headwater tributaries from cross sectional data.

The upper part of Bowderdale (NGR 678005) caught the brunt of the storm and debris fans were deposited at the foot of five gully systems but the storm also caused landslips unrelated to the gulying. The deluge so saturated the upper part of the soil profile that it began to slide downhill with its turf intact leaving ironpan bare. The material eventually broke into blocks which tumbled away to the valley floor. Bowderdale beck was briefly dammed in two places but it soon burst through, forming a flood crest which damaged buildings at Bowderdale Farm. Bowderdale Beck became choked with stones and boulders. The five gully fans were estimated to comprise 10,350 m³ and the landslips a further 2500 m³. (Jarvis manuscript has B&W copies of photos of Bowderdale beck and also Langdon Beck (1983).

The worst effects were felt at Newbiggin on Lune where the Lune burst its banks. Water and debris flooded across the A685 trapping a car and a caravan. Sheep marooned by rising flood water were rescued. A farmer in the area lost a number of lambs, walls and fences were destroyed and a stone bridge was brought down. Electrical storms caused power failures with 250 incidents reported and 26000 customers affected.



Jarvis (undated
Ms)

18 May 1983 Westmorland Gazette 20 May	Thunderstorm.	Lightning struck and killed a man on a bridge at Grange. Power cuts occurred in Kendal, Windermere and Bowness for 6000 people. WG had no reference to flooding.
17 Jul 1983 ww.cumbria.gov .uk/eLibrary/Content/Internet/536/4042394623.pdf	Thunderstorm with very high preceding temperatures said to be higher than in 1976.	Severe thunderstorms. A man was killed by lightning near Easdale Tarn, Grasmere and his wife injured. Water flooded through Dove Cottage Museum where the drains blocked on the hills behind the house. The water came straight down the stairs and washed coal into downstairs rooms where the water was 6" deep.
Westmorland Gazette Jul 22		
29 Jul 1985 Westmorland Gazette 29 Jul	Thunderstorm	Lightning was reported to black out homes. Minor road flooding occurred.
11 Oct 1983 COL	Coniston 79.5	WG has no reference to rainfall or flooding
Westmorland Gazette 14 Oct		
3 Sep 1984 Westmorland Gazette 7 Sep	No thunder was reported Grange 2.13" in 24 hours Windermere 1.25" in 24 hours	Grange: Shops at the bottom of Grange Fell Road were flooded to a depth of several inches.
7 Jul 1985 Hiflows UK		Duddon at Ulpha 1971-09 AMS Rank 3 AM17
17 Jul 1985 Hiflows UK		Kent at Burneside 1980-00 AMS Rank 1 AM 15
Westmorland Gazette 19/26		Cunsey Beck at Eel House Bridge 1968-09 AMS Rank 1 AM 34
Jul		Sprint at Sprint Mill 1969-09 AMS Rank 3 AM 35
26 Jul 1985 Westmorland Gazette 2 Aug	Thunderstorms following the wettest July for about 20 years. Kirkby Lonsdale: 2 inches in 5 hours.	WG notes that storms wreaked havoc throughout the county. The National Park Centre at Brockhole was closed due to flooding and at Garsdale part of the road at Back Lane near Linsay Close Farm was swept away after debris blocked a culvert. About 300 yards of the road was ripped apart and farmers had to remove cars to prevent them from being washed away. There was considerable disruption of electricity supplies. Kirkby Lonsdale: Firemen cleared water from around Queens Square
24 Aug 1985 Hiflows UK	Monthly rainfall at Grasmere 21 inches	Duddon at Duddon Hall 1967-09 AMS Rank 2 AM 4
Westmorland Gazette 30 Aug		Brathay at Jeffry Knotts 1970-09 AMS Rank 3 AM 32
		Rain was reported to wreak havoc on the show season and to put farmers on the brink of disaster after a very wet July and possibly a century record of monthly rainfall in August. There was no reference to thunder or flooding.
21 Sep 1985		Bela at Beetham 1969-09 AMS Rank 1 AM 24

Hiflows UK
Westmorland
Gazette 27 Sep

21 Dec 1985

26 Aug 1986
Lancs Evg post
26/27 Aug
23 Aug 1987
Westmorland
Gazette Aug 28

1 May 1988
Westmorland
Gazette 6 May
30 Aug 1989
BR
Westmorland
Gazette

19 Feb 1990
COL
4 Jul 1990
COL
Westmorland
Gazette

2 Oct 1990
COL
Westmorland
Gazette 5 Oct

1 Apr 1991

The tail of Hurricane Charley with gale force winds following the wettest August for 50 years. Almost 2 inches of rain fell in Preston
Thunderstorms
Only rainfall total of 0.75" reported

Thunderstorms

Coniston	54.8
Ambleside	46.0
Hawkshead	49.7

Ambleside	55.1
Coniston	45.7
Coniston	57.4
Ambleside	45.7
Near Sawrey	40.3
Hawkshead	45.7

Ambleside	53.1
Coniston	68.6
Hawkshead	49.8

Coniston	73.1
Ambleside	56.9

Kent at Victoria Bridge 1974-09 AMS Rank 3 AM 33
Rawthey at Brigg Flatts 1968-09 AMS Rank 2 AM 24
Lune at Lunes bridge 1979-09 AMS Rank 1 AMS 30

WG has no reference to rainfall or flooding

This is the highest listed discharge at Sedgewick (downstream from Kendal) in the gauged record provided by the Environment Agency, with a record from 1976 to 1997. The discharge for this event was 282 cumecs, although as shown by recent concurrent measurements at Victoria Bridge in Kendal and at Sedgewick the discharge through the town is likely to be less than at the lower gauging station.

Information on the extent of flooding during the period of gauged records was not investigated as it was considered that full descriptions and levels would be held by the Environment Agency. However, local residents report that no flooding has occurred on Aynam Road or on the adjacent terraces since 1964, this being an indication of the severity throughout the town. The water level has almost reached the level of the riverside railings but has not spilled out into the road.

Not investigated in WG.

Twenty incidents of house flooding were reported (without locations). Trees were blown down. Altogether 9 people were believed dead in the storm but the damage was mainly from the wind and not the floods.

Burton show was badly hit by thunder and lightning which brought porceddings to a halt and cancelled the Grand parade.

A 14 month toddler was drowned in a shallow stream at the end of the garden in Far sawrey Cottages. Two men died when two groups of walkers were struck by lightning, one group at Camstye Cam on Helvellyn and the other at Great Rigg Man near Ambleside. Others were injured. Building were also struck.

WG has no reference to rainfall or flooding

A very deep depression passed between Scotland and Iceland on 19th with its associated frontal system moving quickly across Scotland but becoming slow moving across northern England causing flooding.

Frontal depression

WG has no reference to rainfall or flooding

WG has no reference to rainfall or flooding

Not investigated.

COL	Hawkshead	55.7	
	Windermere	54.1	
	Near Sawrey	50.1	
7 Oct 1991	Coniston	48.6	WG has no reference to rainfall or flooding
COL	Windermere Whasdyke	45.7	
Westmorland	Hawkshead	43.5	
Gazette Oct 11	Near Sawrey	43.4	
	Ambleside	43.2	
	St Bees	43.0	
15 Oct 1991	Coniston	61.2	Not investigated
COL	Hawkshead	41.6	
	Near sawrey	41.6	
8 Jun 1992			'Summer storms cause havoc' The rainfall caused flooding in Grasmere [location not specified] and in the Kirkfield area of Ambleside. The storm affected electricity supplies at Preston Patrick, Windermere, Burneside and Milnthorpe and 2 cows were killed by lightning.
Westmorland			A warm front was moving across the country during the morning.
Gazette 12 Jun			
18 Jul 1992	Coniston	52.9	
Westmorland	Grizedale	49.9	
Gazette 24 Jul	Windermere Whasdyke	46.9	WG has no reference to rainfall or flooding
	Near Sawrey	43.0	
	Ambleside	37.4	
	Hawkshead	36.3	
7 Sep 1992			Kent at Burneside 1980-00 AMS Rank 3 AM 20
Hiflows UK			WG has no reference to rainfall or flooding
Westmorland			
Gazette 11 Sep			
13 May 1993	Near Sawrey	48.0	Sleet and snow fell in places
COL	Coniston	47.9	
Westmorland	Grange over Sands	45.7	WG has no reference to rainfall snow or flooding.
gazette 13/21	Ambleside	36.8	
May			
31 May 1993			Brathay at Jeffry Knotts 1970-09 AMS Rank 1 AM 18
Hiflows UK			WG has no reference to rainfall or flooding.
Westmorland			
Gazette Jun 4			
20 Jul 1993	5 hour downpour		Flash Flooding Sedbergh area 700mm [??] in 5 hrs following a t/storm
http://www.cumbria.gov.uk/eLibrary/Content/Internet/536/4042394623.pdf			Flooding swept away the patio and part of a garden of the Cedars on Thorne Lane and water was 2 feet deep in the garage by the adjacent Settlebeck Ghyll. A three year old was swept off his feet in Thorne Lane. Houses were also affected in Loftus Hill. It was said to be the first re-occurrence since 1969.
Westmorland			
Gazette 23 Jul			
3 Aug 1994	Near Sawrey	39.7	Wave front brought rain to northern England on 3 rd .

COL	Grizedale	37.5
Westmorland	Coniston	37.1
Gazette 5 Aug	Ambleside	34.8
	Grange over Sands	32.7
	Sellafield	32.4
26 Aug 1994	Thunderstorms	
Westmorland		
Gazette 26 Aug		
31 Jan 1995	30 th	
Johnson and	Coniston	92.8
Warburton	Ambleside	81.3
(2002)	Hawkshead	59.0
	Near Sawrey	50.0
	Grange over sands	28.5
	2 day 30/31 st	
	Coniston Haws Bank	146.2
	Ambleside	139.7
	Coniston Holywath	139.4
	Hawkshead	106.7
11 Jul 1995	Thunderstorm	
http://www.cumbria.gov.uk/eLibrary/Content/Internet/536/4042394623.pdf		
Westmorland		
gazette 14 Jul		
2 Oct 1995	Coniston	57.6
COL	Ambleside	56.6
Westmorland		
Gazette 6 Oct		
28 Jul 1996	Hawkshead	60.1
COL	Ambleside	52.1
	Grange	37.0
Westmorland	Coniston	32.6
Gazette 2 Aug	Eskmeals	31.6
	Windermere Blackmoss	30.2
28 Sep 1996	Ambleside	81.8
COL	Coniston	81.1
Hiflows UK	Windermere Blackmoss	73.1
	Sellafield	35.5
	Eskmeals	28.4
Westmorland	Seaton	27.0
Gazette 4 Oct	Aspatia	26.9

16.50 to 19.30 Thunder widespread in Cumbria.

Lightning affected the Library service (Kendal?) and resulted in the cancellation of sporting fixtures. There were no reports of flooding.

Levens: Twelve cows (in a group) were killed by lightning. Electricity was cut at 3000 homes.

Raise Beck, a small mountain torrent (1.27 km²) is described in the ESPL paper. 164 mm rainfall occurred in the 24 hours preceding the flood. The peak discharge using palaeohydrological methods gave 27-74 cumecs and rainfall runoff methods 4 to 6 cumecs. The flood transported boulders with b-axes up to 1400 mm. Two major historical events are identified in mid nineteenth century

Violent thunderstorm Cartmel and Furness areas. Cartmel Priory struck by lightning. Roads blocked by rubble in Great Urswick.

Many roads were flooded and traffic was at a standstill on the A590 Ulverston to Kendal road at Great Urswick. Flooding also occurred at The Ellens, Ulverston and Park Road Swarthmoor. Cellars at the Three bridges in Ulverstone had to be pumped out with 6 feet of water. The storm was confined to west of areas between Coniston and Grange over Sands.

After a long summer drought, six inches of rain fell from 1 to 3 Oct. The rainfall boosted the failing reservoir stocks but WG had no text reports of flooding although there was one photo of Langdale with flooded fields.

A frontal system crossed much of the UK on 28/29th with thundery showers in the south. (no ref to thunder in the Lakes).

WG had no reference to rainfall or flooding

Warm/cold fronts swept across Ireland and Scotland during the night of 28th/29th. The cold front moved more slowly across England and minor waves formed along it.

Duddon at Ulpha 1971-09 AMS Rank 2 AM 14

Kent at Burneside 1980-00 AMS Rank 2 AM 19

Kent at Sedgewick 1968-09 AMS Rank 3 AM 35

Sprint at Sprint Mill 1969-09 AMS Rank 2 AM 10

Kent at Victoria Bridge 1974-09 AMS Rank 2 AM 31

Rainfall widespread but no reports of thunder following a September with 56% of normal rainfall

Brathay at Jeffry Knotts 1970-09 AMS Rank 2 AM 28

Lune at Lunes Bridge 1979-09 AMS Rank 2 AM 31 (no more summer AM floods)

Ulverston: High tide, a strong wind and heavy rain made the A5087 impassable. A car was submerged.

A6 Kendal to penrith Road was flooded at one pont to a depth of 4 feet.

A591 in the vicinity of Thirlmere was flooded to 2 feet.

Cold front

WG has no reference to rainfall or flooding

A broad frontal system linked to an Icelandic low cross the area.

Duddon at Duddon Hall 1967-09 AMS Rank 1 AM 2

Duddon at Ulpha 1971-09 AMS Rank 1 AM 2

Keer at High Keer weir 1971-09 AMS Rank 2 AM 16

Ambleside: Two children were rescued from Stock Ghyll behind the Salutation Hotel. The children had been playing in the water before being flushed downstream by a flood (said to be 31 Jul). The children were stranded on rocks with heavy floodwater cascading round them. The rescue involved police, firemen and medics and a Mountain rescue Team.

A disaster was reported for farmers in the Lake District with crops ruined by heavy rainfall. A Torver farmer lost 20 sheep washed into a beck during torrential rain and eventually into Coniston Water (presumably they were overtaken suddenly). Unspecified flooding also was reported at Ulverston during the previous week.

WG has no reference to rainfall or flooding

WG has no reference to rainfall or flooding

Kent and Eden did not quite top their banks. Flooding occurred on many roads throughout the area. A landslide partly blocked the Kendal to Keswick Road at Dunmail Raise. The Furness coast area suffered the most from strong onshore winds.

In January 1999, homes in parts of Lowther Park, Silverdale Drive and a small area of Calder Drive in Kendal were flooded after Stock Beck burst its banks. The inundation led to £3million being spent on defence works - the Stock Beck Flood Alleviation Scheme completed in 2007.

WG has nothing on rainfall or flooding

WG has nothing on rainfall or floods

Whilst most areas basked in hot sunshine with temperatures up to 25 C, flash floods hit areas of north

16 Sep 1997
COL
Westmorland
Gazette 19 Sep

Coniston	54.2
Ambleside	37.8
Aspatria	30.1

3 Aug 1998
COL
Hiflows UK
Westmorland
Gazette 7 Aug

Coniston	59.2
Coniston Haws Bank	57.5
Ambleside	33.0
Sellafield	28.4

Date ?
Westmorland
Gazette Aug 14

No mention of thunder

16 Oct 1998
COL
Westmorland
Gazette 16 Oct

Grizedale	75.0
Windermere Blackmoss	68.1
Coniston Haws bank	62.2

20 Oct 1998
COL
Westmorland
Gazette 23 Oct

Ambleside	77.5
Coniston	68.0
Keswick	61.6

28 Oct 1998
Westmorland
Gazette 30 Oct
Jan 1999

Shap Fell 2" of rain fell in a few hours

Westmorland
Gazette website

5 Jun 1999
COL

Aspatria 25.0 mm in 1 hr

26 Jun 1999
COL

Thunderstorm
Eskmeals 32.0 mm in 2 hours

10 Jul 1999

More than 2" fell in 40 minutes

Westmorland
Gazette 16 Jul

Lancashire, affecting Carnforth, Bolton le Sands, Over Kellet and Nether Kellet. At over Kellet, there was more than 2 feet of standing water in The Narrows and water pressure lifted a manhole and caused a plume 2 to 3 feet high. Hall Cottage was flooded to a couple of inches. 'It came in the front and went out the back'. The Post Office was lightly flooded. Dunaldmill Lande was under 2 feet of water. In Nether Kellet, Jubilee Cottages were flooded. Nether Kellet Post Office was flooded to a couple of inches (photo) and there was an 18" mark on the garage door. Lancaster Road between Carnforth and Bolton le Sands was flooded in three places and was standing outside the BP garage. Two locations on Detrongate were under 1 ½ feet of water. Water streamed down Packet Bridge Hill Bolton le Sands and the cricket field became like a river. Motorists on the M6 pulled onto the hard shoulder because of the intense rainfall. Other thunderstorms were reported at Carlisle and Eskdalemuir.

2 Jul 2000
COL

Sellafield 44.2

Slow moving fronts over northern England led to flash floods. At Walney island Cumbria 46 mm fell in 6 hours. (Severe thunderstorms were reported in Chester, Nottingham, Stoke and Derby).
WG has nothing on rainfall or flooding

Westmorland
Gazette 7 Jul

18 Sep 2000

Westmorland
Gazette 22 Sep

24 Sep 2000

Grasmere 54.5

COL

Ambleside 43.8

Westmorland
Gazette 29 Sep

Coniston 41.8

Aspatria 33.1

Eskmeals 28.4

6 Jul 2001

Windermere Blackmoss 66.1

COL

This was an isolated rainfall. No reports of thunderstorms though.

Westmorland
Gazette 13 Jul

Lightning struck a home in Windermere but WG has nothing on rainfall or flooding.

27 Sep 2001

Coniston 53.3

COL

Grange 50.0

Westmorland
Gazette 28

Grizedale 48.6

Ambleside 46.3

Windermere 35.0

Sep/4Oct

WG has nothing on rainfall or flooding.

24 May 2002

Grasmere 59.0

COL

Aspatria 38.9

Coniston 35.9

Showers were especially persistent across Cumbria.

A 10-year old boy was drowned in the Glenridding Beck but WG had no other information on rainfall or flooding.

Westmorland
Gazette 31 May

5 Jun 2002

Thunderstorms

Power cuts occurred widely, affecting Ulverston, Coniston, Grange Over Sands, Windermere, Levens and Heversham. A house was struck at Kendal and the fighting cocks Hotel in Arnside. WG had no reports of flooding.

Westmorland
Gazette 7 Jun

2 Aug 2002

Persistent rain

Keer at High Keer Weir 1971-09 AMS Rank 1 AM 6

Hiflows UK

Following relentless rain a pensioner's house in Holme was flooded. Shops including Argos at Westmorland Shopping centre in Kendal had puddles on their floors mainly from leaks through the roof. WG had no further

Westmorland

Gazette 9 Aug			references to flooding or thunder.
3 May 2003	Coniston	78.9	No thunder was reported
COL	Grasmere	58.5	Keer at Bowston 1999-09 AMS Rank 1 AM11 (no more Summer AM in record).
Hiflows UK	Keswick	42.3	WG has no reference to rainfall or flooding.
Westmorland	Windermere	37.3	
Gazette 9 May			
22 May 2003			Keer at High Keer Weir 1971-09 AMS Rank 3 AM 22
Hiflows UK			WG has no reference to rainfall or flooding
Westmorland			
Gazette 23 May			
9 Aug 2004	Thunderstorms		In the Lake District heavy rain and some road flooding occurred. A man was drowned in the River Kent attempting to rescue a boy in the swollen river. The boy was saved.
Westmorland			A severe thunderstorm affected Kirkby Lonsdale and shops were struck. Water was running like a river down Main Street and staff at the Snooty Fox Hotel managed to restrict the water to their entrance hall. There was deep surface water on the A5087 at the entrance to conishead Priory.
Gazette 13 Aug			
18 Aug 2004	Ambleside	58.8	Thunder reported elsewhere in the country but not in NW.
COL	Grasmere	46.7	Flash floods occurred in the centre of Kendal notably in Highgate where the Iceland shop was flooded to a depth of 6 inches. Homes in arnside were without electricity for several hours.
Westmorland	Windermere, Blackmoss	41.6	
Gazette 20 Aug	MO said probably 1 inch in one hour occurred		
12 Sep 2004	Coniston	74.4	No thunder was reported in the area.
COL	Grasmere	61.0	WG has no reference to rainfall or flooding
	Windermere	45.8	
	Ambleside	45.0	
1 Oct 2004	Grasmere	80.3	No reports of thunder
COL			WR has no reports of rainfall or flooding
3 Oct 2004	Grizedale	63.0	No reports of thunder
COL	Coniston	52.3	WR has no reports of rainfall or flooding
	Windermere	50.1	
5 Apr 2005	Grasmere	55.3	Thunder not reported.
COL	Coniston	45.1	Duddon at Duddon Hall 1967-09 AMS Rank 3 AM 26
Hiflows Uk	Ambleside	38.8	
	Keswick	38.7	
	Windermere	28.6	
23 Aug 2005	Coniston	94.7	A deep depression of NW Scotland caused gales and widespread strong winds on the 24th, while associated fronts spread rain across the entire British Isles during the day. The rain was relatively slow to clear S England, and gave some heavy falls in places here, with heavy rain also across some upland areas further N.
COL	Grasmere	70.2	No thunder reported
Westmorland	Ambleside	53.8	WG has no reference to rainfall or flooding.
Gazette 26 aug	Grizedale	44.1	
	Bolton le Sands	42.1	
	Windermere	41.3	
28 Sep 2005	Coniston	52.7	No thunder reported
COL	Ambleside	42.5	WG has no reference to rainfall or flooding
Westmorland	Grasmere	42.2	
	Shap	33.2	

Gazette 30 Sep	Windermere	32.6	
11 Oct 2005	Grasmere	75.7	The front moved very little on the 11th, although wave depressions along it did cause some significant variation in the weather. By the end of the day there was flooding in parts of W Cumbria, and flooding also affected
COL	Keswick	73.4	
Westmorland	Coniston	72.9	Pembrokeshire and Gwynedd.
Gazette 14 Oct	Ambleside	53.8	WG has no reference to rainfall or flooding.
8 Jul 2006	Coniston	59.1	A depression headed towards NW Ireland - and the rain had also reached Wales, N and Cent England by
COL	Grasmere	44.0	midnight 8/9th.
	Ambleside	31.3	Low pressure over and to the N of Scotland on the 9 th brought frontal systems across the British Isles. This meant
Westmorland			widespread cloud and spells of rain or showers during the day.
Gazette 7/14 Jul			WG has no reference to rainfall or flooding on 8 July. However, WG 7 Jul notes that previous period (date unspecified) a heatwave (28C at Carlisle) was followed by a local thunderstorm in which ½ inch rainfall fell in 2
			hours but no flooding or other effects were noted.
19 Aug 2006	Grizedale	95.0	The low centre remained slow-moving on the 19th across S Scotland. With associated frontal cloud lying
COL	Sellafield	51.2	predominantly to the N this meant a rather cloudy day with rain for Scotland; rainfall also occurred over Ireland
Westmorland			with more showery conditions generally across England and Wales.
Gazette Aug 26			Some of the showers developed into isolated thunderstorms.
			WG has no reference to rainfall or flooding.
2 Sep 2006	Coniston	68.7	A depression centre crossed the British Isles across Northern Ireland and N England on the 2nd, with widespread
COL	Grasmere	52.4	rain to the S as a result.
Westmorland	Grizedale	49.5	No thunder was reported. Elsewhere in the N rain lasted 6 hours and reached an intensity of 17.5 mm in an hour
Gazette 8 Sep	Ambleside	48.3	at Pateley Br.
	Windermere	41.4	WG notes that the rainfall took its toll on the Town Fair and other events but there is no reference to flooding or
			to thunder.
23 Apr 2007	Coniston	73.8	After a generally sunny month, the 23rd was rather on the cloudy side as frontal bands of cloud and rain spread
COL	Grasmere	65.7	eastwards across the British Isles.
Westmorland	Grizedale	58.5	WG has no reference to rainfall or flooding
Gazette Apr 27	Windermere	58.2	
	Ambleside	25.5	
3 Jul 2007	Coniston	51.3	Low pressure moved E just to the N of Scotland during the morning of the 13th and another low centre
COL	Grasmere	44.4	deepened as it moved NE over Ireland during the afternoon, being located over SW Scotland (997mb) by
Westmorland	Ambleside	28.8	2400GMT. A warm sector spread N over England and Wales during the day giving a cloudy day here with some
Gazette 6 Jul			moderately heavy rain in places
			WG refers only to an event at storth affected by rainfall but no reference to flooding.
17 Jul 2007	Incessant July rainfall with 112 mm		A downpour led to flash flooding around Grange over Sands and Lindale, closing roads and flooding businesses
Westmorland	in first two weeks		to several inches. Water cascaded down Grange fell, pooling on Main Street, flooding the Spar shop, the AT
Gazette 20 Jul			Home cafe and Higginson's butchers (8" deep). Residents at Windermere Road had water lapping their
			doorsteps. At Lindale the roundabout at the bottom of Lindale Hill and flooded the Lindale Inn to 2 feet. Several
			events were cancelled.
15 May 2008	Thunderstorm interrupted a hot		In Ingleborough there was 40 minutes of heavy rain and hail which flooded roads and caves. It caused power
Westmorland	spell with temperature in the low		cuts in Grange and Cartmel.
Gazette 16 May	20sC		

17/18 Jun 2008 COL Westmorland Gazette 21 Jun	17 th Coniston 18 th Windermere	53.0 30.7	Low pressure remained close to NW Britain throughout the 18th, resulting in a generally unsettled and breezy day across the British Isles. An area of persistent rain affected much of Wales and Cent and W England in the morning and this pushed N to S Scotland in the afternoon. A wave developed on the front in the evening (995mb over Cumbria by 2400GMT) and this then drove frontal rain SE to SE England by midnight. No thunder reported WG has no reference to rainfall or flooding.
21 Jun 2008 COL	Ambleside Grasmere Sellafield	58.3 58.2 40.0	Rain spread N during the morning of 21st, with heavy falls over N Ireland and parts of N England in the afternoon. By the evening the rain had reached S Scotland - with cloudy and damp conditions continuing further S. According to the Met Office there were thunderstorms over parts of Wales and Northern Ireland and the heavy rain in Ireland was also thundery. No thunder reported for Cumbria
4 Oct 2008 COL Westmorland Gazette Oct 10	Coniston	74.0	Early in the day there was low pressure close to N Scotland, while a further low approached SW Ireland later in the day. Gales affected some W and S coastal areas and during the day some of the rain was very heavy from SW Scotland to N Wales. WG has no reference to rainfall or flooding.
25 Oct 2008 COL Westmorland Gazette Oct 31	Grasmere Coniston Coniston, Haws Bank Ambleside Windermere	132.2 126.2 107.9 97.5 86.6	Skies soon clouded over from the W as the fronts over (and to the W) of Ireland moved quickly E and only the SE corner of England saw much sunshine during the day. By midday there was a large pressure gradient across the British Isles, with readings of 977.3mb at North Rona and 1030.8mb at Jersey Airport. As a result it was a stormy day over N and W parts of the British Isles; according to the Met Office Lerwick recorded a wind gust of 93mph and North Rona a gust of 111mph. During the day there were some very heavy falls of rain over Ireland, Wales, Scotland and NW England; places in Cumbria and W Scotland reported local flooding during the day. By sunset hundreds of people taking part in a run in the Original Mountain Marathon near Keswick were stranded by flooding and torrential rain. About 12 people were taken to hospital with hypothermia and minor injuries, Northwest Ambulance Service said. Shap Fell recorded 73.8mm of rain from around lunchtime to the early hours of Sunday, according to the Met Office. As vast amounts of rain flowed over the saturated ground, rivers across the Lake District rose to dangerous levels - notably the River Cocker, which burst its banks overnight into Sunday. WG notes that the heavy rainfall also affected the South Lakes with many blocked roads with gardens of homes in Kendal and Staveley flooded. At Canforth, the Truckhaven Hotel was flooded and two dozen people had to be rescued after a river overflowed.
Nov 2008 Westmorland Gazette 8 May 2009			WG refers to an inquest on a woman drowned in a flood on the River Dee at Hall Road Dent said to be in November 2008 but possibly referring to the October floods. The car was carried a mile downstream but the body was found 7 miles downstream. It was stated that Hall Road often flooded after rain.
19 Jun 2009 Westmorland gazette 19 Jun	Thunderstorm		A house was struck, set alight and damaged by lightning at Kentmere near Staveley. There was no reference to rainfall or flooding.
28/29 Jul 2009 COL Westmorland Gazette 31 Jul	28 th Grasmere Ambleside Windermere 29 th Coniston	88,7 63.0 42.3 91.5	Frontal cloud early on the 28th spread rain to Ireland, SW Scotland, Wales and other parts of W Britain by dawn. E Britain remained mainly dry overnight before precipitation became widespread N of a line Exeter to Hull. Across Wales and N parts of England there were some heavy falls during the day. No thunder was reported E parts of Ireland, Wales, W England and much of mainland Scotland was wet overnight into the 29th. WG notes that campsites were under water in Great Langdale (as well as Keswick and Bassenthwaite)
31 Aug 2009	MO reported 40 mm rainfall		Mint at Mint Bridge 1970-09 AMS Rank 1 AM 5

Hiflows UK
Westmorland
Gazette 3 Sep

(where?) but the culmination of 264
mm for August which was 2.5 times
the average

14 Sep 2010
COL
Westmorland
Gazette 16 Sep
28 Jun 2012
COL

Coniston 75.7

Houses and shops were affected by surface water in flash floods in Kendal. Amongst those reported flooded were two houses in Low Garth, Hallgarth estate, Milnthorpe Road, Castle Stores on Castle Estate and on Shap Road. Also affected was High Borrow Bridge at selside, Burneside Road, Brigsteer Road, Romney Road, Wildman Street and Longpool. Parts of Parkside Road in Kendal were also submerged

The cold front spread S'wards across all of the UK on the 14th; it remained windy in most areas as pressure remained low across N Scotland. There were further showers across N Britain during the day. Some of the showers in the N were heavy with thunder.

WG has no reference to rainfall or flooding.

Flooding affected Barrow-in-Furness and Kendal, whilst landslips on both the East Coast and West Coast main railway routes effectively cut off rail links between England and Scotland for many hours, stranding hundreds of passengers.

A thundery cell of precipitation passed over Morecambe bay in the afternoon. Rainfall totals for the day included 35.1 mm at Sandside (Arnside) and 48 mm at Levens Hall. [Severe flooding in NE England]

Changes in the River channel

As noted in the introductory sections, to make the best use of historical information, a sequence of observations should be available at a single site which has remained unchanged through the period of observation. If such a site continues through the period of scientific measurement of river flows it can provide a basis for computation of historical discharges.

With respect to the River Kent, the railing downstream from Miller Bridge provided a consistent record of levels over a period of 100 years. This enables floods to be placed in rank order from the beginning of the nineteenth century until 1927. Unfortunately no observation was made at the site in 1954 and the subsequent changes in the channel mean that present levels represent different (higher) discharges. There is therefore no simple means of converting historic levels to discharge and concatenating them with the observed record in flood frequency analysis.

The bridges of Kendal act partly as level controls through the city. Miller bridge was built in the early nineteenth century to replace a stone bridge erected nearly a century earlier. Earlier still had been a wooden bridge on stone piers which in 1689 took the place of one built entirely of timber and carried away by a flood. (Jervoise, 1973). Stramongate Bridge is a medieval bridge constructed around 1380 and reconstructed in 1794, whilst Nether Bridge is also an ancient bridge with three segmental arches with a total opening of 42 metres (18 metres less than Stramongate). The Victoria Bridge with its narrow metal piers offers little obstruction to flow.

Weirs and the channel conveyance also determine flood levels for a given discharge. These are thought to have remained fairly constant from the end of the eighteenth century until after 1954, although the weir at Low Mills was removed in 1932.

After the December 1954 floods, the Lancashire River Board dredged a large amount of material from the river Bed between Miller Bridge and Nether Bridge in 1955. They also removed the old weir at Stramongate Bridge and built a new and lower one, filled in the old Castle Mills head race and marginally widened the channel between Stramongate and Miller Bridge.

As a result of the 1964 floods, the Kendal Borough Council asked the Lancashire River Authority to prepare a comprehensive flood relief scheme for Kendal. A set of six alternative schemes was prepared by Dobbie and Ptnrs in 1970 at costs varying from £775,000 to £1,365,000 with a recommendation in favour of a scheme at £895,000 to cope with a discharge of 354 cumecs. An alternative scheme was prepared by the Lancashire River Authority itself for opening out the river from Miller Bridge to Helsington Mill, a distance of 3.5 miles. The latter scheme to contain a flood of 284 cumecs was eventually adopted. The floods of 1927 and 1954 were estimated by Dobbie and Ptnrs to have a discharge of 280 cumecs whilst that in 1898 was estimated at 368 cumecs.

The adopted scheme consisted primarily of channel modifications to increase the channel conveyance, by widening from Akrigg Avenue to below the tailrace of Heslington Mills by amounts varying from 5 to 60 feet. It is unclear to what extent the bridge openings especially of the narrower Nether Bridge, were modified. The channel was shortened, thus increasing slope and the channel roughness was reduced by dredging and lining bed and banks with stonework. An embankment was built to protect a reach only from Busher Walk to Dockray Hall Mill;

elsewhere space restricted the use of bank protection. A sediment trap was sited upstream from the town at Kentrigg to reduce siltation in the protected reach.

No reference was found to culvert conveyance of the Blind Beck under Kirkland where flooding was reported up to 1927, and it is unclear whether this remains a potential problem.

The land between Mintsfeet and Burnside was designated a washland zone for flood storage. It was considered that development and protection of this area would significantly increase the downstream discharge.

Comparison and ranking of floods

The inclined railing below Millers Bridge which still exists provides a reasonable indication of the comparative magnitude of floods. It is a sensitive measure in the sense that a comparatively small change in level would have resulted in an increase in the number of rail openings through which the water flowed. However it had the disadvantage of a situation downstream from the bridge where turbulence in high flows is inevitable, and the still water level could be quite different from the surge level. The level might have been interpreted differently in successive events. Nevertheless the following is a ranking of events on the basis of reported levels both at Miller bridge and from descriptions of flood levels and extent.

Table 1 **Ranking of historical floods**

Rank	Year	No of rails	Approx diff. from 1898 flood
1	1898	126	-
2	1874	102	13.5 ins
3	1954	-	15
4	1927	91	19.5
5	1861	82 (?93)	24.5
6	1831	78	27
7	1852	3 1/2 to 6 inches lower than in 1831	31.5
8	1829	36	50.5

It is probable that a number of other events equalled or exceeded the level in 1829 but that no unlisted flood between 1800 and 1954 exceeded the level in 1852. The flood in 1964 is problematic, for although it was stated at the time that the flood discharge was greater than in 1954 (but the level lower in Kendal), the evidence from outside Kendal where little flooding was reported, suggests that it was further down the flood ranking. Before 1800 the flood of 1794 was probably of a similar order to the 1831 flood whilst the floods of 1771 and 1772 may well have approached the severity of the highest ranked flood in the above list. Information is insufficient for these and for the floods of the seventeenth century to place them in the ranked list.

Flood Seasonality

The floods listed in the above descriptions may be considered in terms of their seasonality of occurrence.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
0	2	0	0	0	0	1	0	2	7	5	3

By far the predominant flood period is in the last three months of the year when 15 (75%) of the listed floods occurred, with 7 in October, 5 in November and 3 in December. Only one flood (in February 1831) is described as having a major snowmelt component. Summer floods are notably lacking with the exception of the lower magnitude 1938 flood.

Conclusions

1. The railing below Miller bridge provides a useful basis for flood ranking for the hundred year period from 1829 to 1927. The 1898 flood was clearly the greatest of this period and of the 200 years since 1800.
2. Given the changes which have occurred in the river through Kendal since 1954, it is difficult to make comparisons of flood discharges before and after that date on the basis of observed levels. The discharges computed as part of the Flood Relief Scheme design, based on hydraulic conditions in the channel offer the only basis for comparative estimates.
3. The flood of December 1954 on which the Flood Relief Scheme was designed appears to be the Rank 3 flood in 200 years (Gringorten plotting position = 78 years).
4. The predominant season of severe flooding on the River Kent is the autumn months from October to December. Many floods were preceded by prolonged periods of above normal rainfall which saturated the catchment.

References

British Rainfall (annual 1863 -)

Cowper, H.S. (1897) *The Oldest Register Book of the Parish of Hawkshead in Lancashire 1568-1704* (London).

Crisp, D.T., Rawes, M, Welch, D. (1964) A Pennine peat slide. *Geog. Jnl.* 130 519-24.

Curwen, J. F. (1900) *Kirkbie- Kendall*, Titus Wilson, Kendal

Dobbie, C. H. and Prtnrs (1970) *Feasibility Report of the River Kent, Kendal Improvement Scheme*.

Ford, J. R. (ed) (1906) *The Beetham Repository, 1770*, by the Rev William Hutton, Vicar of Beetham 1762 - 1811. CW Tract Series, vii.

Garnett, E. (2002) *The Wray Flood of 1967 – Memories of a Lune valley Community*. Centre for North-West Regional Studies, Lancaster University.

Garrett, W. (1818) An account of the great flood in the Rivers Tyne, Tees, Wear and Eden etc. on 16/17 November 1771, Typographical Society Publications Misc IV Vol 5.

Harvey, A.D.M (1986) Geomorphic effects of a 100-year storm in the Howgill Fells, North West England. *Zeitschrift für Geomorphologie*. 30 71-91.

Jarvis, R.A. (Date?) Landslips and bog bursts; recent storm damage in northern England, Manuscript. 1980s.

Jervoise , E. (1973) *The Ancient bridges of the north of England*, EP Publishing Ltd. (Written on behalf of the Society for the Protection of Ancient Buildings).

Kelly, H. M. (1980) *Flood Hazard and Response on the River Kent - An Examination and Assessment*, Unpublished Dissertation, Padgate College, (Copy at Kendal Library).

Natural Environment Research Council (1975) *Flood Studies Report* (5 vols.) NERC, London.

Parson and White, (1829) *History, Directory and Gazetteer of the Counties of Cumberland and Westmorland with that Part of the Lake District in Lancashire Forming the Lordships of Furness and Cartmel*, Leeds.

Sedgwick, A. (1870) Prof Sedgwick on an extraordinary thunderstorm, *Symon's Monthly Meteorological Magazine*, 5, 105-108.

Tobin, G. (1979) When the waters rose in Cumbria, *Cumbria - Lake District Life* 29, 2 78-81.

Tufnell, L. (1983) Environmental observations by Rev William Hutton of Beetham Cumbria. *Trans. Cumberland and Westmorland Antiquarian and Archaeological Soc.* 83, p 141-149.