

## The Martinstown Storm of 18<sup>th</sup> July 1955 – A 60 year retrospective



Sixty years ago the Dorset village of Martinstown recorded the highest observed 24 hour rainfall in the UK of 279.4mm. This figure still remains the record today for the standard 9:00 to 9:00 period.

The location of Martinstown

The rainfall was measured in the garden of the Chantry in a standard collecting rain gauge although an unofficial catch of 355mm in an oil drum on the hills above the village was also measured (Rodda, et al 1977).



The Chantry in Martinstown

The storm was mapped and described in British Rainfall 1955 (Meteorological Office, 1957). The following text, map and tables are reproduced below from the British Rainfall Digital Archive BRDA (Rodda *et al*, 2009):

*The weather from July 11 to 18 was generally warm, and scattered thunderstorms occurred, culminating in the heavy rains of the 17th mainly in Kent and on the 18th especially in Dorset. Of the 36 entries qualifying for inclusion for the 17th and the 78 entries for the 18th only those reaching or exceeding 3 inches have been included.*

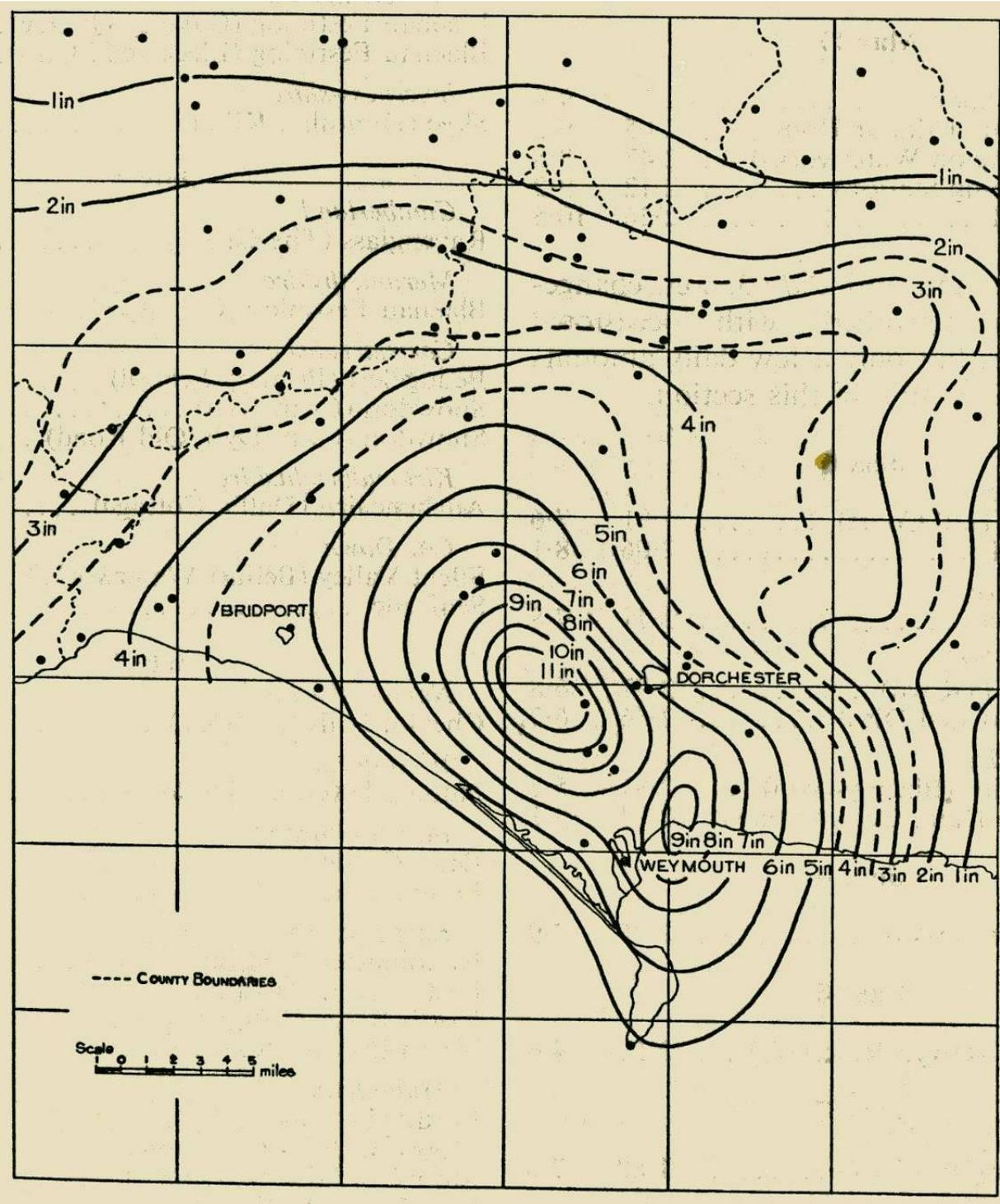
The rainfall distribution on the 18th, over the greater part of Dorset and parts of the neighbouring counties is shown on the accompanying map. This was prepared on the basis of about 70 reported readings, the positions of the stations being indicated by dots. There were fewest readings to the north-east of Dorchester and the distribution there may have been more irregular than that indicated between the 3 in. and 4.5 in. isohyetal lines. There may have been a separate centre of heavy rainfall off Portland Bill, leaving an area of relatively low rainfall (less than 4 in.) in the centre of the Isle of Portland, but the map gives the best interpretation of the information available.

The area over the land with 6 in. or more during the rainfall day is estimated at 133 square miles with perhaps a further 20—30 square miles over Weymouth Bay. A comparison of the areas covered by this heavy rain with that of outstanding earlier rains is given below:

Rainfall (in.)	1912 Aug 26 Norfolk	1916 Oct.11 Glenquoich	1917 June 28 Bruton	1924 Aug.18 Cannington	1948 Aug.12 Tweed	1952 Aug. 15 Exmoor	1955 July 18 Dorset
More than 10							14
More than 9			2	1			28
More than 8		10	13	3		17	48
More than 7	21	40	29	5			83
More than 6	268	205	85	7	8	42	133
More than 5	720	400	288	10	130		195
More than 4	1071	693	809	13	800	153	317

The distribution of rainfall in time was rather complex, taking into account variations reported from the fringes of the heavy rainfall area; but over the central area, enclosed by the 6 in. isohyet, it seems that almost everywhere the heavy rain began in the afternoon and continued well into the evening. During the evening there was a lull, and after that there was more heavy rain, continuing until about midnight before giving way to moderate and light rain in the early hours. About two thirds of the total amount fell before the evening lull. In the area with over 6 in. the heavy fall began at about 14h.30m. on the 18th and rain continued until about 5h. next morning, moderating during the evening lull and after midnight. Intensities reached 1 in./hr. for at least an hour at some time between 15h. 30m. and 19h. and at the centre of the storm the intensity probably reached 2 in./hr. At Martinstown 7.50 inches was recorded by about 19h. and at Upwey (Friar Waddon) 6.55 inches by about 20h. 30m.

A study of the synoptic situation has confirmed deductions which may be drawn from the rainfall observations in out-lying areas, especially those from the coastal belt to the west. A compact area of rainfall travelled slowly and obliquely across the Channel, having probably originated in the Bay of Biscay, became stationary over Dorset and intensified to give the two heavy bursts described, and later, in its decaying stages, withdrew again over the Channel along a path slightly eastward of that of the approach. Floods occurred in many places, the most serious large-scale flooding being at Weymouth, where Radipole Lake rose rapidly and inundated nearby urban areas. In some other places, in particular in villages upstream of Weymouth, the sudden rush of water down steep slopes did great damage to roads and stone walls, transporting great loads of debris to the flatter ground over which these fast-moving floods then spread. Over a large area nearer to Dorchester, especially in the valley of the South Winterborne, which runs through Martinstown, and which received the heaviest rainfall of the day, the severity of the flooding was mitigated by the effects of the underlying chalk, which rapidly absorbed the rainfall and released it again through innumerable springs at a relatively low rate. The gentler floods of this nature continued for a week, whilst the violent and destructive floods were very short-lived.



Isohyetal map of the Martinstown storm from British Rainfall (Meteorological Office, 1957)

The rainfall was not just restricted to Dorset, heavy falls were also observed in Devon and Glamorgan as shown in the table below.

**Falls > 2.5 inches (63.5mm) measured on 18th July 1955 (Meteorological Office, 1957).**

Date	County	Gauge Name	Rainfall (inches)	Rainfall (mm)
18/07/1955	Dorset	Evershot (Melbury House)	4.90	124.5
18/07/1955	Dorset	Crewkerne (Chedington)	3.30	83.8
18/07/1955	Dorset	Ryme Intrinica (The Court House)	3.52	89.4
18/07/1955	Dorset	Portland Bill Lighthouse	4.91	124.7
18/07/1955	Dorset	Portland (Secondary Modern Sch.)	3.86	98.0
18/07/1955	Dorset	Weymouth (Westham)	7.15	181.6
18/07/1955	Dorset	Chickerell (Lower Putton)	6.43	163.3
18/07/1955	Dorset	Abbotsbury (West Street)	6.71	170.4
18/07/1955	Dorset	Martinstown (The Chantry)	11.00	279.4
18/07/1955	Dorset	Upwey (Friar Waddon)	9.50	241.3
18/07/1955	Dorset	Upwey (Higher Well)	9.00	228.6
18/07/1955	Dorset	Upwey (Elwell)	8.31	211.1
18/07/1955	Dorset	Warmwell	6.66	169.2
18/07/1955	Dorset	Litton Cheney (Primary School)	7.32	185.9
18/07/1955	Dorset	Burton Bradstock (White House)	4.89	124.2
18/07/1955	Dorset	Dorchester (Queen's Avenue)	7.50	190.5
18/07/1955	Dorset	Dorchester (Waterworks)	7.20	182.9
18/07/1955	Dorset	Dorchester (Stinsford)	5.11	129.8
18/07/1955	Dorset	Dorchester (Birkin House)	5.11	129.8
18/07/1955	Dorset	Lyme Regis (Penard)	3.62	91.9
18/07/1955	Dorset	Bridport (Island View)	4.65	118.1
18/07/1955	Dorset	Bridport (Morecombelake)	4.45	113.0
18/07/1955	Dorset	Wynford House	7.90	200.7
18/07/1955	Dorset	Beaminster (East Street)	4.53	115.1
18/07/1955	Dorset	Minterne	4.60	116.8
18/07/1955	Dorset	Glanvilles Wootton (Manor House)	4.25	108.0
18/07/1955	Dorset	Holwell (Little Westrow)	3.10	78.7
18/07/1955	Dorset	Childe-Okeford Manor	3.30	83.8
18/07/1955	Devonshire	Bovey Tracey (Yarner Wood)	3.50	88.9
18/07/1955	Devonshire	Beer (Windyridge)	3.40	86.4
18/07/1955	Devonshire	Seaton (Marlpit Lane)	3.22	81.8
18/07/1955	Devonshire	Seaton (Millmead)	3.41	86.6
18/07/1955	Devonshire	Lyme Regis (Pinhay)	3.10	78.7
18/07/1955	Devonshire	Colyton (Colyford)	3.25	82.6
18/07/1955	Glamorgan	Felindre (Lower Lliw Reservoir)	3.29	83.6
18/07/1955	Glamorgan	Neath (Cimla Reservoir)	3.58	90.9
18/07/1955	Glamorgan	Neath (Gnoll reservoir)	3.59	91.2

As indicated in the British Rainfall account, flash flooding occurred in the towns of Weymouth, Dorchester and surrounding villages. Two fatalities were reported, a young boy fell into a swollen river at Upwey and a man was reported to have died of a heart attack from the shock of the lightening. A total of 600 people were evacuated from homes and caravans, and the flood waters rose to 1.3m deep in the centre of Weymouth. A study by Croker (2012) attempted to reconstruct the flood and to consider the impact on the current land use. Using photographs, observational evidence and field measurements the extent of the flood around Weymouth was mapped and techniques from the Flood Hazard Research Centre (Middlesex University, 2012) were applied to estimate the cost of the damage. The study concluded that a total of 902 residential and 109 commercial properties would be flooded in Weymouth alone, with damage in excess of £70 Million.



Flooding at Westham Coach Park, Weymouth (Environment Agency, 2008)



Flooding from the River Wey at Upwell (Environment Agency 2008)

## References

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