

Received January 27, 1768. Read March 10, 1768.

XI. Meteorological Observations for 1767, made at Carlisle, Bridgwater, and Ludgvan; and communicated by the Bishop of Carlisle, F. R. S.

OBSERVATIONS made by Dr. CARLYLE at CARLISLE in CUMBERLAND,

N. B. Under column 1. stand the months. Column 2. contains an account of the barometer; in which are noted, the highest and lowest morning and evening stations of the mercury, in the month, included within the same lines; when two or more numbers are put before any station, it denotes it to have been alike on these several days. Column 3. contains an account of the thermometer; noted in like manner as the barometer. Column 4. contains an account of the hygrometer; the first line notes the day of the month on which the greatest quantity of rain fell that month, and what that quantity was, in inches and decimals; the second the total depth of rain in the month. Column 5. contains the state of the winds, weather, &c.

Month.	Barometer.	Thermometer.	Hygrometer.	State of the Winds, Weather, &c.
January	Highest.	Highest.	22. 0.955 Total 1.647	The month opened with very stormy winds from the North; succeeded by frost, and some snow: but on the 10th began to fall the deepest and longest continued snow remembered here; it was measured to full 14 inches deep, on the level, in Carlisle, in the evening of the 11th; and the ground remained covered thus with it till the 26th and 27th; while the first snow fell, the wind was North; when the great one fell it was South-West, and very high. The remainder of the month it was chiefly southerly. Though the snow went off remarkably gently, yet it occasioned two very great floods, on the 26th and 27th; till which time, the thermometer had kept mostly considerably under 40. The 10th it was the lowest for the whole day I ever remember it.
	4. Morn. 30.1	31. Morn. 45		
	4. Even. 30.125	31. Even. 47		
	Lowest.	Lowest.		
	11. Morn. 28.925	10. Morn. 25		
	11. Even. 29.05	10. Even. 25		

M 2

February

State of the Winds, Weather, &c.

Month.	Barometer.	Thermometer.	Hygrometer.	State of the Winds, Weather, &c.
February	<p>Highest. 25. Morn. 29.95 3. 24. Even. 29.95 Lowest.</p> <p>14. Morn. 29.0 13. 26. Even. 28.975</p>	<p>Highest. 1, 2, 4, 5. Morn. 47 2, 3, 4, 11. Even. 48 Lowest.</p> <p>7, 11, 19, 21, 28. Morn. 43 28. Even. 43</p>	<p>24. 0.41</p> <p>Total 2.426</p>	<p>Weather pretty mild and open, but cloudy, with frequent rains. A flood on the 17th. Wind till the 8th, from the South; then northerly nigh a week; afterwards mostly in the southern points. On the 20th a storm from South-West.</p>
March	<p>Highest. 30. Morn. 30.125 9. Even. 30.125 Lowest.</p> <p>19. Morn. 29.075 18. Even. 29.2</p>	<p>Highest. 31. Morn. 50 31. Even. 51 Lowest.</p> <p>15. Morn. 35 14. Even. 38</p>	<p>18. 0.366</p> <p>Total 1.586</p>	<p>Weather cloudy, with small rain till the 6th; when it became fair and frothy till the 15th; the middle of the month was very wet, and snow fell on the hills; the latter end was mild and fair. Winds mostly in the West quarter till the last week, when it turned easterly. The barometer was in general high.</p>
April	<p>Highest. 30. Morn. 30.45 30. Even. 30.475 Lowest.</p> <p>22. Morn. 29.6 22. Even. 29.7</p>	<p>Highest. 1, 2, 10, 14. Morn. 52 30. Even. 55 Lowest.</p> <p>17, 18. Morn. 43 16, 17, 18. Even. 46</p>	<p>1. 0.135</p> <p>Total 0.211</p>	<p>Barometer in general very high through this month; the weather fair and dry. On the 16th and 17th very hard frost; on the 18th ice one-tenth of an inch thick on the roads; on the 19th all the hills covered with snow. Wind in the beginning from South and East; afterwards often from the North and East.</p>
May	<p>Highest. 1. Morn. 30.475 1. Even. 30.4 Lowest.</p> <p>30. Morn. 29.225 29, 30. Even. 29.3</p>	<p>Highest. 3. Morn. 58 18. Even. 60 Lowest.</p> <p>6. Morn. 47 5, 7. Even. 49</p>	<p>30. 0.908</p> <p>Total 3.141</p>	<p>Barometer lower in general than last month. Weather favourable till the 9th; rainy and moist till the 13th; dry and dusty till the 24th; after this rainy, till the end. Wind in the middle of the month North and East. Its beginning and end South and West. Cuckow heard on the 12th.</p>
June	<p>Highest. 9, 10. Morn. 30.4 9. Even. 30.4 Lowest.</p> <p>1. Morn. 29.575 1. Even. 29.575</p>	<p>Highest. 11. Morn. 61 9, 10, 11. Even. 62 Lowest.</p> <p>4, 5. Morn. 49 3. Even. 49</p>	<p>24. 0.174</p> <p>Total 0.559</p>	<p>Weather to the 14th bright and fair. Winds North or East. After that frequent showers, to the end of the month, from the North-West or South-West quarters.</p>

Month.	Barometer.	Thermometer.	Hygrometer.	State of the Winds, Weather, &c.
July	<p>Highest. 17. Morn. 30.05 16. Even. 30.05 Lowest. 4. Morn. 29.25 3. Even. 29.15</p>	<p>Highest. 20. Morn. 62 19, 20, 30. Even. 62 Lowest. 2, 6, 16. Morn. 56 1. Even. 53</p>	<p>6. 0.414 Total 3.941</p>	<p>Very few days quite fair this month, yet the rain fell so much in showers, or in the night, the hay harvest was not much interrupted by it. Wind mostly from the South or West points. Thunder on the 12th and 20th, with violent rains to the East of us. On the 23d great lightnings.</p>
August	<p>Highest. 27, 28. Morn. 30.2 27. Even. 30.225 Lowest. 15. Morn. 29.375 14. Even. 29.35</p>	<p>Highest. 5. Morn. 67 4, 29. Even. 68 Lowest. 19. Morn. 55 19. Even. 55</p>	<p>14. 0.296 Total 2.03</p>	<p>Weather very variable, as were the winds, with frequent and sudden changes of showers and sunshine; towards the end of the month more settled weather. Barometer in general low. Thunder, with severe showers, on the 4th. N. B. The thermometer at Rose Castle, in the open air, hung against the North wall of the tower, on the 4th rose to 80 at noon; at 1 p. m. was at 78; at 2, 77; at 3, 76.</p>
September.	<p>Highest. 21. Morn. 30.45 21. Even. 30.45 Lowest. 7. Morn. 29.55 4, 6. Even. 29.575</p>	<p>Highest. 21. Morn. 65 21, 24. Even. 64 Lowest. 30. Morn. 54 30. Even. 54</p>	<p>14. 0.552 Total 3.065</p>	<p>The wind mostly southerly. On the 6th thunder with severe showers. From the 16th to the 26th bright clear weather, without a shower. Some blustering winds from the North-West in the end of the month.</p>
October	<p>Highest. 13, 14. Morn. 30.35 12, 13. Even. 30.35 Lowest. 4. Morn. 29.0 4. Even. 29.15</p>	<p>Highest. 26. Morn. 58 24, 26. Even. 57 Lowest. 9, 11. Morn. 43 8. Even. 45</p>	<p>7. 0.572 Total 2.954</p>	<p>Wind mostly in the West. The 3d and 4th very stormy from the West and North-West. On the 8th a flood, and the hills covered with snow. The 9th and 10th hard frost, with thick ice upon the waters; which was succeeded by rain. From the 18th were high winds from the South-West for nigh a week. The 29th, 30th, and 31st, were also very stormy from the same quarter.</p>

Month.	Barometer.	Thermometer.	Hygrometer.	State of the Winds, Weather, &c.
Novemb.	<p>Higheft. 28. Morn. 30.3 23. Even. 30.225 Lowest.</p> <p>14. Morn. 28.65 14. Even. 28.95</p>	<p>Higheft. 10. Morn. 55 9. Even. 54 Lowest.</p> <p>16. Morn. 38 15. Even. 41</p>	<p>14. 0.593 Total 4.084</p>	<p>Winds mostly from the South or West, with almost constant rains till the 16th; inasmuch that we had a remarkably high flood on the 7th; and three other very considerable ones on the 10th, 12th, and 14th. On the 15th the hills all round were covered with snow. We had very stormy winds on the 10th, 11th, and 13th. On the 14th hail, thunder, and lightning: the lightnings had been very frequent in the nights, particularly from the 8th, and continued to the 22d, though thunder was rarely heard. On the 16th a smart frost fell in for three days. On the 19th was another, but less flood; from thence cloudy and showery to the end of the month. On the 26th coughs were almost universal among the horses, both in town and country; though very few died.</p>
Decemb.	<p>Higheft. 3. Morn. 30.575 2. Even. 30.55 Lowest.</p> <p>7. 8. Morn. 29.45 7. Even. 29.45</p>	<p>Higheft. 16. Morn. 50 15. Even. 49 Lowest.</p> <p>31. Morn. 26 30. Even. 27</p>	<p>14. 0.203 Total 0.624 Tot. for the Y. deep 26.268 to the end of the month.</p>	<p>Winds in the West to the 16th. Weather cloudy and showery, with snow on the hills. From the 16th to the end bright, with frost. Winds from the East. Snow began to fall on the 24th; on the 27th it fell 2 inches and a quarter deep; which, coming with hard frost, remained on the ground 26.268 to the end of the month.</p>

G. Carlyle.

OBSERVATIONS at BRIDGWATER, SOMERSET.

Month.	Barometer.	State of the Weather and Wind.	Fahrenheit's Thermometer.	Ombrometer.
January 1. 14.	In. Dec. 30 ,23 28 ,85 Highest Lowest	The first part of the month frosty. Wind N. E. and N. W. The latter part stormy, with high winds, and variable from N. W. to S. W. The 11th the snow was 6 inches deep, undriven.	Deg. 50 13 Highest Lowest	In. Dec. 1 ,265
February 24. 20.	30 29 Highest Lowest	Stormy throughout. The wind in general either S. W. or S. E.; and in the latter part of the month high.	51 36 Highest Lowest	3 ,372 $\frac{1}{2}$
March 6. 19.	30 29 Highest Lowest	The first part cloudy and sunshine alternately. The latter part intermixed with storms. The wind generally S. W. in the first part; and variable to N. W. and S. E. in the latter.	51 34 Highest Lowest	1 ,802 $\frac{1}{2}$
April 30. 21.	30 29 Highest Lowest	The first and last parts settled, with sunshine and cloudy intermixed. From the 20th to the 26th some rain. The wind generally N. E.	53 37 Highest Lowest	1 ,217 $\frac{1}{2}$
May 1. 30.	30 29 Highest Lowest	The first part settled fair. The middle stormy, and the latter part changeable. The wind for much the greater part N. W.	59 41 Highest Lowest	1 ,147 $\frac{1}{2}$
June 8. 3.	30 29 Highest Lowest	The first week stormy. The remainder settled fair. The wind N. W. or N. E.	67 43 Highest Lowest	,920
July 27. 5.	29 29 Highest Lowest	Unsettled, and rainy in general. The wind almost constantly S. W.	67 53 Highest Lowest	4 ,107 $\frac{1}{2}$ August

Month.	Barometer.		State of the Weather and Wind.	Fahrenheit's Thermometer.		Ombrometer.
	In. Dec.			Deg.		In. Dec.
August	27. Highest 14. Lowest	30 ,15 29 ,44	The first week settled fair. The remainder unsettled and rainy. The wind generally N. W. and gentle.	4. Highest 17. Lowest	66 52	2 ,870
September	21. Highest 4. Lowest	30 ,32 29 ,50	The first part changeable and stormy. The latter part settled fair. The wind variable. The first and latter part rather strong; in the middle gentle.	4. Highest 29. Lowest	64 52	2 ,245
October	13. Highest 3. Lowest	30 ,34 29 ,18	From the 1st to the 9th windy and stormy. Settled to the 17th; and from thence to the end unsettled. The first part the wind generally N. E. and N. W. The latter part S. W.	26. Highest 13. Lowest	60 36	3 ,572 $\frac{1}{2}$
November	28. Highest 14. Lowest	30 ,37 28 ,08	The first part unsettled, with high winds. The latter part cloudy and foggy, with gentle wind. In the beginning and latter part the wind N. W.; and in the middle generally S. W.	9. Highest 17. Lowest	59 31	1 ,902 $\frac{1}{2}$
December	3. Highest 19. Lowest	30 ,57 29 ,20	To the 22d generally cloudy; and from thence to the end frothy. The wind through the whole month gentle, and generally either N. E. or N. W. At 10 A. M. On the 3d of this month the mercury in the barometer stood at 30 ,59.	9. Highest 31. Lowest	52 17	,427 $\frac{3}{4}$
Total of Rain				24		,850

OBSERVATIONS at LUDGVAN, in MOUNT'S-BAY, CORNWALL.

1767. Month.	Barometer. Nonius's Division.	General State of the Weather and Wind.	Fahrenheit's Therm. high, low, and Med. of three Obs. each Day; the Therm. constantly exposed in the Air, never to the Sun.			Ombr.
	In. Dec.			Med.	In.	
January	1. Hightest 30 ,17 13. Lowest 28 ,50	Colder than usual. On the 8th snow began to lie upon hard frost. On the 11th snow near 8 inches deep in plains. On the 13th a quick thaw; and on the 14th 8 a. m. snow and frost all gone. Wind mostly N. and E. Stormy.	27. Hightest 48 12. Lowest 31	}	41 $\frac{1}{3}$	3 725
February	24. Hightest 29 ,91 20. Lowest 28 ,89	Misty, stormy, rainy. On the 12th a storm from mid-night to 4 a. m. On the 20th a violent storm, with much rain. Wind mostly W.	7. Hightest 49 23. Lowest 42		46 $\frac{1}{3}$	6 370
March	5. Hightest 30 ,8 27. Lowest 29 ,7	Cloudy. Calms. In the middle, for two days, fleet, calms, and frost; rest variable, calm, wind, and rain. Winds variable.	31. Hightest 50 16. Lowest 39	}	45 $\frac{1}{3}$	3 600
April	30. Hightest 30 ,26 23. Lowest 29 ,5	Misty. Fair. Calms. Winds mostly N. E. and W. nearly equal.	26. Hightest 51 19. Lowest 43		47 $\frac{2}{3}$	2 000
May	1. Hightest 30 ,27 31. Lowest 29 ,15	Variable.	26. Hightest 57 6. Lowest 47	}	53 $\frac{5}{31}$	1 900
June	8. Hightest 30 ,20 2. Lowest 29 ,37	Variable; but mostly mists and calms. Winds generally had some point of the N.	25. Hightest 67 4. Lowest 46		57 $\frac{4}{3}$	0 500
July	1. Hightest 29 ,90 8. Lowest 29 ,34	Frequent rain and flowers. Wind mostly W.	22. Hightest 62 $\frac{1}{2}$ 5. Lowest 50	}	57 $\frac{1}{31}$	5 775
						August

Month.	Barometer. Nonius's Division.	State of the Weather and Wind.			Fahrenheit's Thermometer. Highest, Lowest, and Medium, of three Observ. each Day.			Ombr.
	In. Dec.	Calm.	Sunshine.	Showery.	Winds variable,	nearly		
August	26. Highest 30 ,10 20. Lowest 29 ,45						Highest 67 Lowest 52	In. 58 $\frac{1}{2}$ 2 200
September	20. Highest 30 ,24 4. Lowest 29 ,37	Variable Winds ; the West prevailing, Misty calms, fogs, with sunshine mornings.					Highest 66 Lowest 51	57 $\frac{2}{3}$ 2 390
October	13. Highest 30 ,13 4. Lowest 29 ,20	Rainy. Stormy. Calms. Windy ; mostly from the West.					Highest 59 Lowest 41	52 $\frac{1}{2}$ 4 140
November	28. Highest 30 ,26 16. Lowest 28 ,93	Misty showers and rain. Stormy. Violent Storm on the 13th from S. S. W. Thunder and lightning, with showers ; the extreme at 11 p. m. Wind mostly West.					Highest 57 Lowest 40	50 $\frac{4}{5}$ 2 580
December	3. Highest 30 ,42 19. Lowest 28 ,80	Calm mists. In the middle of the month stormy with rain. On the 19th a storm. On the 20th ditto ; rest hard frost with some snow.					Highest 53 Lowest 29	40 $\frac{1}{2}$ 1 920
Total of Rain this Year at Ludgvan 37 $\frac{100}{1000}$								

William Borlase.