

VIII. *An Account and Abstract of the Meteorological Observations communicated to the ROYAL SOCIETY, for the Years 1731, 1732, 1733, 1734 and 1735. By Geo. Hadley, Esq; F. R. S.*

Read Dec. 9.
1742.

THE Diaries that continue throughout the said Five Years, are only those kept at *Crane-Court, Southwick, and Coventry*. The *Kentish* Diary for the Year 1731 is wanting, and ends with the Year 1734. I have, in my former Account of the Years 1729 and 1730, given an Account of the Method and Contents of the Two First. Mr. *Henry Beighton's*, from *Griff* near *Coventry*, contains the Height of the Barometer at several times of the Day, in Inches and Decimals, and the Weather. That from *Upsal* by Mr. *Celsius*, from *Hudicksval* by Mr. *Broman*, and from *Abo* by Mr. *Sporing*, go no farther than the Year 1731; for which Year there is also one from *Lunden* by an Author whose Name I do not find; for it appears not to be Mr. *Conrad Quensel's*, whose end in the Year 1730, from the same Place: It contains Observations on the Barometer twice a Day, in *Swedish* Measure, which I have reduced to *English*; the Wind and Thermometer, which is a particular one of his own.

Mr. *Weidler's* Diary from *Witemberg* continues to the End of the Year 1734. In the Year 1732, he alters his Method of the Barometrical Heights, from *Paris* to *London* Measure, and the Days of the Month from the *New Style* to the *Old* one, to make them

the better correspond with our Observations. He gives a very accurate Account of the *Phænomena* of several Northern Lights in the Ends of the Years 1731 and 1733, and Beginning of the Year 1734. His Diaries also contain some few Astronomical Observations, and extraordinary Occurrences.

Captain *Christopher Middleton's* Journal of his Voyage to *Hudson's-Bay* is published already in *Philosophical Transactions*, N^o 418. The *Naples Diary* by Dr. *Cyrrillus* ends in the Year 1732, and also that from *New-England* by Mr. *Dudley*.

For the Year 1734, that from Dr. *Pack*, at *Canterbury*, exhibits in one View, by a Table for every Month of the Year, in the First Column, the Quantity of Rain, and the Evaporation: In the Second, Third and Fourth, the greatest and least and middle Heights of the Barometer, Thermometer, and Hygrometer: In the Fifth, the Meteors, by Variety of Marks, which he gives an Explanation of: In the Sixth, the Direction and Strength of the Winds. He gives also a Description of the Instruments he invented, and made use of, for Observation of the Quantity of Rain and Evaporation, and the Hygrometer, with a Draught of each. For the Month of *January*, there is a particular Table, containing great Variety of Observations for every Day of that Month. The Thermometer is peculiar to himself, as far as I know; and he gives no Rule to reduce it to the Standard. There is a Letter of his, relating to a Chart of the Levels of *Kent*, which, he thinks, are so contrived as to cause a Circulation of Air from the Sea, which is of great Use. Mr. *Forth's* Diary, at large, from *Darlington*, begins in the Year 1737; but he has given an Abstract for the Three
pre-

preceding Years: In which the greatest, least and middle Height of the Barometer is given for every Month; which Mean, upon Examination, I take to be found in the way used in these Tables, and therefore I have put them in as such. By a Letter of his it appears, his Thermometer stands at Forty-five Degrees, when Mr. *Hawksby's* stands at Thirty-three, which is Twelve Difference; and, I suppose, he means they differ so much throughout the Scale; so by that Rule I have reduced his Observations to the Table. *Quare*, At what Time of the Day the Observations were made, and where the Thermometer was placed; for the mean Heights differ but little from those at *London*, as he observes in his Letter. There is an Extract of a Letter from *Signor Didacus de Revillas* to Dr. *Mortimer*, containing an Account of the Rain that fell at *Rome*, beginning with *August* 1734, and ending with *July* 1735, in *Paris* Measure, which I have reduced to *English*.

Marquis *Poleni's* Diaries, at large, from *Padua*, end in the Year 1730; but he sent an Abstract of his Observations for the Six following Years, which was published in the *Philosophical Transactions*, N^o 448. in which the Account of the Depth of Rain being intire, I have inserted it in the Table, for the reader comparing it with other Places.

These are all the Manuscript Observations communicated to the ROYAL SOCIETY, relating to *Meteorological Observations*. I have added the Observations of the Barometer, Thermometer, and Rain, at *Edinburgh*, from the Four Volumes of Medical Essays; and Mr. *Doppelmaier's* Barometrical Observations,

tions, from the printed ones at *Norimberg*, to make the Tables as general as I could. The Tables are drawn up in the same manner as those for the Years 1729 and 1730; and from them various Observations and Comparisons may be made, in the same manner as has been done by several Hands heretofore, particularly, *Dr. Plot*, *Dr. Derham*, *Mr. Locke*, *Marquis Poleni*, and others, as appears in the *Transactions* of this SOCIETY; and many more such Observations may be added, by those that are curious in these things, at their Pleasure.

A Table of the monthly mean Heights, and also of the greatest Ascents and Descents of the Barometer, observed in several Places, and communicated to the ROYAL SOCIETY, for the Year 1731, in Inches and Decimals.

1731.	Crane-Courts London. Lat. 51° 31'	Southwick in Northamptonsh. Lat. 52 31	Coventry in Warwickshire. Lat. 52 34	Upsal in Swe- den. Lat. 59 48	Hudicksväl in Sweden. Lat. 62°
January	29,83	29,61	29,44	29,71	29,69
February	78	57	31	98	74
March	30 20	92	72	71	99
April	29 71	51	31	79	86
May	30 00	72	52	79	74
June	29 92	66	48	57	71
July	95	72	51	63	76
August	86	65	48	85	92
September	96	70	49	65	59
October	93	67	47	84	82
November	77	54	33	61	56
December	88	61	39	66	88
Mean of the whole Year	29,89	29,68	29,45	29,74	29,77
∅ Highest	30,50 Mar. 7	30,11 May 30	29,96 May 31.	30,48 Oct. 29	30,52 Dec. 23
Lowest	29,00 Feb. 12.	28,82 Feb. 12	28,59 Feb. 12.	28,66 Dec. 6.	28,59 Dec. 6.
Differ.	1,5	1,29	1,37	1,82	1,93

The foregoing Barometrical Table continued.

1731.	Lunden in Swe- den. Lat. 59° 48	Abo in Find- land. Lat. 60 40	Wittenberg in Saxony. Lat. 52°	Naples in Italy. Lat. 41.	Edinburgb in Scotland. Lat. 56 20
January	29 37	29 54	29 48	29 09	
February	43	52	60	11	
March	57	45	70	30	
April	43	55	48	03	
May	65	58	86	14	
June	51	48	73	29	29 05
July	53	48	77	01	07
August	48	66	71	03	07
September	64	47	78	17	06
October	59	28 87	82	06	03
November	34	29 21	47	14	08
December	29	46	77	32	05
Mean of the whole Year.	29 48	29 44	29 56	29 14	29 58
∅ Highest	30,91 Jan. 10.	31,12 Dec. 21.	30,21 June 1.	29 4	34
Lowest	29,1 Jan. 29.	28,90 Dec. 7.	28,66 Jan. 29.	28,76	Jan. 29.
Differ.	1,81	2,22	1,55	00,64	

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A Table of the monthly mean Heights, and also of the greatest Ascents and Descents of the Thermometers, observed in several Places in the Year 1731, and communicated to the Royal Society.

1731.	Crane-Court.	Southwick.	Upsal.	Abo.	Wittenberg.	Naples.	Edin- burgh.
January	70 58	72	76 58	93 33	82 54	54 5	
February	64 4	66 5	71 1	98 5	79 9	45 9	
March	57 2	57 5	66 7	91 5	72 2	45 4	
April	56 2	57	60 1	82	62 9	38 3	
May	39 9	42	43 2	68	46	26 6	
June	36 1	38	38 3	50 5	43 7	17 7	48
July	32 1	36	37 4	50	41 3	12 7	41
August	33 1	37	40 3	49	39 7	14 3	45
September	38 4	42	47 2	61 5	48 9	18 9	49
October	46 6	49	56 3	73	60 7	26 3	57
November	59 9	59 5	65 7	83	66 4	36 9	69
December	63 1	63 5	72 9	90	77 9	49 9	74
Mean of the whole Year.	49 58	52 50	56 53	74 51	60 51	32 53	
Thermom Highest	8 July 31.	10 June 31.	16 Aug. 2.	20 June 21.	26 June 27.	5 June 20.	28 July 4.
Lowest	82 Jan. 31.	89 Jan. 8.	91, 6 Jan. 31.	120 Jan. 31.	108 Jan. 13.	60 Jan. 23.	95 Nov. 18.
Difference	74	79	75	100	82	55	67

A Table, in Inches and Decimals, of the Depth of Rain which fell in several Places, in the Year 1731, communicated to the Royal Society.

1731.	Crane- Court.	South- wick.	Upsal	Wittem- berg, N. S.	Naples.	Padua.	Edin- burgh.
January	125	.81	574	1 557	2 60	2 546	
February	82	1 04	330	934	2 8	3 093	
March	05	15	2 544	1 775	478	976	
April	1 26	2 07	587	801	2 478	3 434	
May	30	33	669	2 610	1 130	602	
June	2 30	3 38	3 074	1 616	870	4 253	2 05
July	2 085	1 65	2 681	1 513	347	3 402	54
August	1 73	1 54	1 402	222	3 239	7 372	1 85
September	55	1 47	1 913	1 898	213	2 216	2 02
October	1 36	1 34	1 171	1 068	3 0	4 354	1 47
November	1 53	1 49	460	2 699	4 04	1 653	1 42
December	1 40	2 30	397	1 927	6 76	306	3 12
Total.	13 60	17 57	16 002	18 620	27 955	34 307	

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The Barometrical Table for the Year 1732.

1732.	Crane-Court.	Southwick.	Kent. Lat. 51.	Coventry.	Witttemberg.	Naples.	Edinburgb.
January	20 75	20 54	29 53	29 27	29 54	29 08	29 3
February	87	65	62	38	53	11	4
March	76	57	52	33	35	14	6
April	71	52	04	27	43	28 95	5
May	70	50	36	26	54	96	5
June	96	71	71	52	54	97	8
July	91	65	55	46	54	29 38	7
August	95	70	66	52	64	03	9
September	91	63	70	47	64	22	6
October	58	68	27	15	39	10	3
November	30 00	75	89	88	47	24	8
December	29 74	47	48	28	52	10	8
Mean of the whole Year.	29 82	29 627	29 53	29 337	29 51	29 1	29 60
Highest	30 5	30 13	29 Sept. 25	29 96	30 25	29 40	31 9
Lowest	29 0	28 70	32 April 5	28 54	28 38	28 82	28 2
Differ.	1 5	1 43	1 97	1 42	1 524	58	2 8
						Jan. Sept. 17	Aug. 18.
						May 28.	Nov. 18.

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The Thermometrical Table for the Year 1732.

1732.	Crane-Court.	Southwick.	Wittenberg.	Naples.	Edinburgb.
January	66 1	67 5	86 5	53 5	75
February	53 8	57	67 4	43	65 5
March	57	58 5	66 8	39 8	65 5
April	47 9	52	53 7	34 3	63
May	45 3	48 5	42 2	22 4	54
June	37 6	40	38 8	19 2	41 5
July	32 8	36 5	35 3	8 3	43
August	36	40	41 6	15 9	46
September	42	44	53 9	23	54
October	47 8	51	58 9	24 5	61
November	62 1	64 5	78 8	42	72
December	64 2	66	84 5	49 2	73 5
Mean of the whole Year.	49 3	52	58 8	31 3	59 5
Thermom.					
Highest	19 Aug. 20.	20 Aug. 13.	3 5 July 16.	4 July 17.	28 July 7.
Lowest	80 Dec. 12.	38 Dec. 11.	113 Dec. 11.	57 Jan. Sepe.	89 Dec. 14.
Difference.	61	68	109 5	53	61

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A Table of the Depth of Rain for the Year 1732.

1732.	Crane-Court.	South-wick.	Kent.	Wittembergs	Naples.	Padua.	Edin-burgh.
January	525	9	537	399	5 370	2 129	1 28
February	1 90	1 2	2 276	1 464	52	1 959	2 409
March	1 15	1 4	1 216	917	33	2 765	79
April	2 765	1 2	1 310	2 514	1 30	5 432	3 1
May	3 2	3 4	3 494	1 864	434	1864	4 62
June	1 05	6	803	2 308	2 08	2 872	1 19
July	1 13	1 8	1 527	2 929	1 20	1 585	3 19
August	1 5	1 7	931	1 390	1 13	3 112	1 62
September	1 14	7	825	1 833	78	089	0 00
October	2 39	3 7	3 295	1 346	4 70	9 164	2 52
November	1 2	1 2	1 269	1 435	3 34	957	41
December	1 705	2 6	1 471	1 524	4 82	3 528	3 61
Total.	19 655	20 5	18 954	19 923	26 334	35 456	24 82

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The Barometrical Table for the Year 1733.

1733.	Crane-Court.	Southwick.	Kent.	Coventry.	Wittemberg.	Edinburg.
January	29, 06	29, 68	29, 65	29, 43	29, 78	29, 58
February	81	55	54	31	67	6
March	65	43	35	21	49	6
April	89	65	54	43	62	7
May	89	70	80	50	57	8
June	91	67	68	44	68	8
July	90	67	51	46	65	7
August	81	56	43	36	55	6
September	89	62	53	41	99	6
October	97	72	30 04	48	70	8
November	30 01	75	06	50	74	7
December	29 85	53	29 66	36	68	5
Mean of the whole Year.	29, 87	29, 63	29, 65	29, 40	29, 67	29, 68
High at Lowest Differ.	30, 55 28, 95 1, 6	30, 17 28, 69 1, 48	30, 52 28, 53 1, 99	19, 30 25, 28 1, 51	19, 98 18, 62 2, 56	31, 50 28, 4 2, 6
	Oct. 18 Mar. 22	Oct. 19 Jan. 1.	Oct. 19 Sept. 25	Oct. 18 Feb. 2.	Sept. 22 Nov. 12.	Jan. 18. Sept. 26.

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The Thermometrical Table for the Year 1733.

1733.	Crane-Court.	Southwick.	Wittenberg.	Edinburgb.
January	60 1	61 5	78 8	70
February	59	60	70	68 5
March	59	59 5	68 6	68 5
April	52 8	51 5	53 6	59
May	45 3	47	50 5	51
June	35 2	36	38 3	41
July	28 5	32 5	36 1	38
August	35 9	39 5	41 7	47
September	45 4	48	57 2	54
October	53 4	56	72 5	62 5
November	56	58	68 7	62 5
December	54	55 5	68 9	62
Mean of the whole Year.	47 9	50	50 4	57
Thermom.				
Highest	16 June 26.	10 June 25.	3 5 June 28.	28 June 26.
Lowest	72 5 Jan. 21.	85 Jan. 22.	99 Jan. 19.	86 5 Jan. 21.
Difference.	56	75	95 5	58 5

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A Table of the Depth of Rain for the Year 1733.

1733.	Crane- Court.	South- wick.	Kent.	Wittem- berg.	Padua.	Edinburgb.
<i>January</i>	1 69	1 0	1 235	562	1 855	1 37
<i>February</i>	1 16	1 4	1 925	562	405	2 52
<i>March</i>	2 145	2 2	2 161	1 183	5 642	2 63
<i>April</i>	1 70	1	1 815	621	3 816	81
<i>May</i>	55	0 05	216	1 642	5 33	08
<i>June</i>	2 65	2	1 742	2 208	2 712	2 13
<i>July</i>	1 54	2 2	979	1 45	3 874	63
<i>August</i>	3 225	3 6	3 354	2 308	3 679	2 67
<i>September</i>	1 37	1 4	1 499	517	589	1 83
<i>October</i>	91	6	790	828	2 788	1 08
<i>November</i>	52	5	1 081	3 61	382	32
<i>December</i>	2 44	1 7	3 201	3 151	1 065	3 62
Total.	18 39	17 5	19 998	18 742	32 337	19 69

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The Barometrical Table for the Year 1734.

1734.	Crane-Court.	Southwick.	Kent.	Coventry.
January	30,06	29,80	29,88	29,53
February	29,85	60	69	39
March	76	52	61	28,99
April	95	69	84	29,49
May	82	54	52	33
June	87	55	65	44
July	87	63	65	44
August	77	57	60	37
September	30,04	56	65	37
October	00	47	46	30
November	38	74	79	53
December	29,76	22	24	02
Mean of the whole Year.	29,92	29,58	29,63	29,43
☽ Highest	30,75	Nov. 28. 130,25	Jan. 12. 30,34	Jan. 11. 30,95
Lowest	28,07	Dec. 15. 28,10	Dec. 15. 28,19	Dec. 15. 27,9
Differ.	2,05	2,15	2,15	2,15

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The foregoing Barometrical Table continued.

1734.	Darlington	Wittenberg.	Noremburg.	Edinburgb.
January		29, 8	28, 58	29, 59
February		72	96	6
March	29, 40	51	34	5
April	6	59	97	8
May	30 10	54	65	8
June	29 8	63	42	8
July	8	56	66	7
August	9	60	63	6
September	7	37	71	6
October	8	07	48	5
November	3	66	71	9
December	8	57	5	0
Mean of the whole Year.	29, 87	29, 56	28, 63	29, 64
Highest		30, 35	Jan. 11. 29, 2	Jan. 22. 30, 6
Lowest		28, 45	Dec. 14. 27, 66	Dec. 26. 28
Differ.		1, 89	1, 53	2, 6

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The Thermometrical Table for the Year 1734.

1734.	Crane-Court.	Southwick.	Darlington.	Wittenberg.	Edinburgh.
January	67	68		81 .2	75
February	58 .7	57 .55		66 3	65
March	51 7	54	60 .6	63 9	61
April	47 6	50	51 1	53 4	54
May	45 3	47 5	46 3	40 6	55
June	36 9	39	40 2	32	43
July	34 7	35 5	35 6	33	41
August	34 6	37	37 3	34 5	46 5
September	45 6	47	45 4	49 5	55
October	56 4	56 5	55 6	71	61
November	61 1	64	60 3	88 6	72
December	63 5	65	63 .4	76 7	74
Mean of the whole Year	49 3	52		57 .55	58 .55
Thermom.					
Highest	20 Aug. 8.	23 Aug. 23.		9 June 28.	19 .55 June 19.
Lowest	77 .5 Jan. 16.	87 Jan. 10.		102 Nov. 27.	92 Jan. 13.
Differ.	57 .55	64		93 .55	72 .55

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A Table of the Depth of Rain for the Year 1734.

1734.	Crane-Court.	South-wick.	Kent.	Canter-bury.	Darling-ton.	Wittem-berg.	Rome.	Padua.	Edin-burgb.
January	1 01	5	1 63			3 86		1 03	59
February	1 935	2 6	2 43			2 04		1 73	59
March	1 79	1 8	1 98	574	3 25	2 95		1 55	2 12
April	45	6	59	75	1 7	55		1 7	1
May	4 17	5 1	3 89	1 49	2 1	3 7		4 37	3 31
June	3 21	1 3	2 13	3 59	2 4	1 67		4 55	2 21
July	1 11	1 8	1 4	1 94	1 6	2 47		7 01	7
August	1 76	4	2 16	2 34	2 4	1 09	3 59	3 08	1 28
September	1	1 7	1 59	1 54	1 35	2 01	5 83	2 89	1 17
October	2 1	2 8	3 13	3 94	2 4	2 08	5 83	4 39	1 32
November	1 77	9	1 49	1 61	2 3	73	5 15	1 3	1 6
December	4 27	4 4	7 26	6 52	1 7	75	6 02	4 9	2 33
Total.	24 57	27 5	29 572	23 598	21 32	20 395		38 56	19 22

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The Barometrical Table for the Year 1735.

1735.	Crane-Court.	Soub-wick.	Coventry.	Darlington.	Norimberg.	Edinburgb.
January	30 ,09	29 ,47	29 ,13	29 ,51	28 ,3	29 ,5
February	1	63	42	4	7	7
March	29 84	36	15	73	41	3
April	30 03	49	26	45	00	7
May	14	60	42	30 7	54	8
June	11	56	35	29 92	63	
July	02	50	32	65	64	
August	31	72	46	92	83	
September	23	69	52	97	86	
October	19	69	44	30 10	72	
November	00	45	26	20 65	60	
December	13	59	27	80	71	
Mean of the whole Year.	30 ,09	29 ,56	29 ,34	29 ,75	28 ,63	
Highest	31 Jan. 4.	30 ,17 Feb. 11.	30 Feb. 2.		29 ,22 Nov. 24.	
Lowest	28 .6 Jan. 8.	3 ,00 Jan. 8.	27 ,9 Jan. 8.		28 ,02 Jan 10.	
Difference		27	2, 1		1, 19	

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The Thermometrical Table for the Year 1735.

1735.	Crane-Court.	Southwick.	Darlington.	Edinburgb
January	65 2	65	62 8	73
February	62 8	62 5	66 3	74
March	55 9	60	56 2	69
April	49 7	50 5	49 3	61
May	46 5	48	45 2	54
June	39 5	41 5	39 1	
July	35 8	37 5	36 2	
August	31 6	38	34	
September	39 7	42	44 3	
October	55 9	56	56 2	
November	55 1	56 5	58	
December	61 5	62	64 2	
Mean of the whole Year.	50 11	52	50 9	
Thermom Highest	21 Aug. 13.	21 Aug. 13.		
Lowest	76 Dec. 16.	8: Dec. 23.		
Difference.	55	60		

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A Table of the Depth of Rain for the Year 1735.

1735.	Crane-Court.	South-wick.	Darlington.	Padua.	Rome.
<i>January</i>	2 36	2 1	1 65	4 05	6 26
<i>February</i>	1 78	7	2 40	2 42	67
<i>March</i>	2 24	2 2	2 26	5 16	5 30
<i>April</i>	1 16	1 7	1 18	1 45	2 72
<i>May</i>	2 04	1 5	1 50	2 08	2 68
<i>June</i>	2 08	2 4	2 21	3 86	3 22
<i>July</i>	3 14	2 3	3 11	4 99	0 00
<i>August</i>	1 49	3 2	2 03	72	
<i>September</i>	1 56	3 2	1 04	1 28	
<i>October</i>	98	1 7	1 98	1 67	
<i>November</i>	2 69	1 7	3 87	54	
<i>December</i>	1 5	2 1	1 84	63	
Total.	22 83	25	24 07	29 68	

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