



RAINFALL AT *Birkenhead Bidstone Observatory*Lat..... Lon..... County of *Cheshire*Rain Gauge, by..... Observer *John Hartnup Esq.*  
*L. Henry - 3.*

Diameter .....	8	.										
Height .....	6	.										
Altitude .....	182	.										
YEAR .....	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	MEANS.	
January.....	2.07	1.33	3.48	2.19	2.26	3.00	.80	4.61	2.82	1.60	2.416	
February.....	1.07	1.53	2.28	.49	1.22	1.16	2.50	3.15	1.06	2.64	1.715	
March.....	1.44	.02	2.27	2.70	1.55	.64	1.98	2.34	1.24	1.08	1.606	
April.....	1.32	1.99	2.60	.47	.87	.59	2.45	2.23	1.18	2.31	1.601	
May.....	.93	1.45	1.57	1.17	1.73	1.93	.40	1.98	3.99	2.26	1.733	
June.....	1.22	2.37	4.32	1.49	.46	2.18	1.66	1.14	2.96	3.51	2.131	
July.....	.41	3.77	7.51	2.93	2.76	4.08	2.40	4.53	1.07	2.92	3.238	
August.....	2.21	1.18	2.17	2.75	2.76	2.60	3.03	4.92	4.25	6.21	3.208	
September.....	2.79	3.95	6.57	3.75	2.41	4.38	3.67	2.99	4.15	3.08	3.774	
October.....	5.46	5.22	6.53	3.18	3.45	4.88	2.55	3.05	2.37	1.16	3.780	
November.....	3.12	1.94	2.86	1.76	3.53	3.01	4.38	5.05	1.61	1.41	2.867	
December.....	2.40	1.72	3.56	.82	2.42	.97	4.41	3.24	1.85	1.61	2.300	
TOTALS .....	24.44	27.32	45.66	23.70	25.42	29.37	30.23	39.23	28.55	29.79	30.371	

C C C

RAINFALL AT *Birkenhead, Bidston Ch.*

Lat. \_\_\_\_\_

Lon. \_\_\_\_\_ County of *Cheshire*

Rain Gauge, by \_\_\_\_\_

Observer. *L. Hartnup, Jun., Esq**L. Henry - 3.*

Diameter ....	8										
Height .....	6							1.0			
Altitude ....	162 T							189 T			
Year .....	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	MEANS.
January ....	7.4	1.09	2.22	2.78	2.91	1.46	3.62	2.42	1.27	.71	1.922
February ....	1.25	3.29	1.51	1.46	2.13	2.35	1.08	.49	1.08	2.10	1.674
March .....	1.79	2.86	2.08	1.03	2.23	1.74	2.11	1.34	2.06	2.05	1.929
April .....	1.06	1.54	3.14	.85	1.04	1.83	1.39	.92	1.10	3.04	1.591
May .....	2.13	2.72	1.05	.77	1.13	1.32	4.72	1.80	.55	2.45	1.864
June .....	2.42	2.35	4.25	2.21	.78	2.02	.95	1.42	2.03	.84	1.927
July .....	4.69	2.60	4.55	2.99	3.76	2.29	3.72	1.10	4.99	2.11	3.280
August .....	1.57	4.34	2.19	2.27	2.38	1.94	1.70	1.95	2.81	3.95	2.504
September....	2.91	1.61	2.56	5.30	2.83	4.12	3.41	4.03	.68	1.97	2.942
October.....	4.66	3.06	2.46	5.00	1.48	6.21	4.94	2.27	1.66	3.02	3.476
November....	3.12	2.47	4.61	2.75	1.88	2.76	3.17	1.20	4.48	2.44	2.888
December ....	5.06	2.74	3.85	1.52	2.73	1.49	3.81	1.88	1.38	2.69	2.715
TOTALS ....	31.84	30.67	34.47	28.93	25.28	29.53	34.62	20.82	24.09	27.37	28.712



2790/1

RAINFALL AT Birkenhead Bidston Observatory

Lat. \_\_\_\_\_

Lon. \_\_\_\_\_

County of Cheshire

Rain Gauge, by \_\_\_\_\_

Observer \_\_\_\_\_

L. Murray - 3.J. Hartnup Esq.  
W.E. Plummer Esq.

Diameter ....	8											
Height .....	1 0											
Altitude ....	189 $\pi$											
Year .....	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	MEANS.	
January ....	2.92	1.15	2.83	1.47	1.69	2.90	1.22	1.23	1.58	2.93	1.792	
February ....	.56	.11	1.74	2.87	3.18	.31	1.06	2.07	1.81	1.46	1.517	
March .....	1.61	.78	1.46	.53	1.56	2.80	3.19	2.35	.75	1.11	1.614	
April .....	1.15	1.90	1.53	.50	1.60	1.78	1.14	2.26	1.91	2.26	1.603	
May .....	1.65	1.85	2.62	1.66	2.47	.42	.39	1.05	4.51	2.21	1.813	
June .....	2.89	4.32	3.32	1.54	1.96	.99	2.08	2.67	2.33	2.99	2.509	
July .....	2.15	3.10	2.30	3.14	3.28	3.81	2.55	.69	.47	2.22	2.371	
August .....	4.52	4.62	3.57	2.34	3.06	1.85	2.50	3.58	3.84	2.20	3.208	
September...	1.48	4.15	3.10	3.40	.92	1.09	4.46	4.19	1.39	3.49	2.767	
October .....	2.01	2.58	6.39	2.64	3.99	5.44	3.57	1.71	3.50	2.92	3.475	
November...	5.03	3.32	1.93	1.42	1.99	2.44	1.07	3.70	1.67	1.09	2.366	
December...	.85	3.76	2.24	3.03	2.21	2.44	3.40	3.08	1.96	2.93	2.590	
TOTALS ....	26.82	31.64	33.03	24.54	27.91	26.27	26.63	28.58	25.72	27.81	27.895	

1870

RAINFALL AT Dickenhead, Bidston Observatory

Lat. ....

Lon. ....

County of Cheshire

Rain Gauge, by .....

Observer W. E. Plummer EsqL. Murray - 3.

Diameter ..	8											
Height ....	1 0											
Altitude ..	189 <del>ft</del>											
Year ....	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	MEANS.	
January ..	4.51	1.84	2.02	1.99	2.09	1.07	4.38	.99	1.52	1.42	2.185	
February ..	3.23	1.25	2.20	1.60	3.60	1.14	1.84	1.28	1.86	.51	1.861	
March ....	1.12	1.69	1.51	2.99	1.79	3.38	1.99	1.54	2.92	2.40	2.133	
April .....	1.22	1.59	1.94	1.69	1.08	2.10	.85	1.44	3.27	2.10	1.738	
May .....	1.79	.96	3.24	2.51	2.11	.42	2.69	2.64	2.91	1.24	2.051	
June .....	2.71	1.91	1.96	1.91	1.33	2.17	1.38	4.71	1.98	2.54	2.260	
July .....	1.54	2.49	2.75	2.34	1.34	3.17	1.02	1.91	3.69	3.12	2.337	
August ....	5.47	2.83	2.31	3.37	3.53	3.22	3.21	2.94	2.40	2.45	3.173	
September ..	.59	1.18	.87	4.22	2.78	1.40	1.63	.56	2.73	2.43	1.849	
October ....	4.21	3.01	3.03	7.37	1.48	1.98	4.80	4.19	1.82	3.37	3.526	
November ..	3.04	3.04	1.57	2.77	1.54	3.45	1.48	2.09	1.87	.88	2.173	
December ..	2.62	3.40	2.16	1.56	2.51	.51	2.81	2.18	1.82	5.99	2.556	
TOTALS ..	32.05	25.19	25.57	34.42	25.18	24.01	28.08	26.57	28.90	28.45	27.822	

Gauge read at 9 hrs.

H. E.

RAINFALL at Birkenhead Bidston ObservatoryCounty of Cheshire Observer W.E. Plummer EsqRiver Basin Lower Mersey & C 3

Rain Gauge, by

Diameter ...	8											
Height .....	1.0											
Altitude ...	189 $\bar{N}$											
Year ...	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	MEANS.	
January ...	2.17	.64	3.70	2.71	1.02	3.10	1.35	1.54	1.68	2.48		7.05
February ...	2.37	1.84	1.09	.58	1.30	2.48	3.06	1.72	1.93	1.06		7.77
March .....	.64	1.13	3.61	2.57	2.62	1.01	1.67	2.89	.92	4.91		10.39
April .....	2.34	1.80	.20	2.58	.56	1.34	1.44	2.25	1.22	1.08		5.99
May .....	2.07	.59	1.59	<del>2.29</del> <sup>4.0</sup>	1.48	1.31	2.77	3.45	2.36	.96		9.49
June .....	2.60	2.34	2.35	2.10	2.14	.80	1.94	1.71	1.60	1.40		6.65
July .....	3.03	.47	3.51	1.63	4.16	2.73	1.18	1.24	4.12	1.76		8.30
August .....	3.49	3.11	5.86	1.83	1.32	4.78	1.90	5.72	1.98	3.74		13.34
September ..	.46	5.11	1.17	2.33	2.62	.44	2.35	1.13	6.39	2.90		12.77
October ...	2.54	2.47	2.92	2.56	1.71	2.25	3.38	5.30	2.69	2.67		13.45
November ..	4.19	2.19	2.15	2.69	2.76	2.10	2.17	2.29	1.54	1.32		7.32
December ...	2.67	3.58	2.02	1.91	4.34	4.49	1.66	1.35	6.14	4.84		13.99
TOTALS ...	28.59	25.27	30.17	<del>25.89</del>	26.02	26.83	24.47	30.59	31.93	29.12		116.51

Gauge read at 9 hrs.

Date.	Lat. N.	Long. W.	Railway Station.	Distance.	Direction.	Church.	Distance.	Direction.
	53° 24' 5"	3° 4' 20"	Bidston	1/2 m	W by N	Bidston	3/4 m	W by N



RAINFALL at Birkenhead Bidston ObservatoryCounty of CheshireObserver M. E. Plummer Esq. Dist.River Basin Lower Mersey & C. 3

Site Director

(1925) N.O. Rain Gauge, by

1929 Rain Gauge?

Barometric height. Read at 74.

Diameter ...	8											
Height .....	10											
Altitude ...	189									200?	198'	
Year .....	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930 MEANS.	
January ...	2.66	2.94	3.45	1.27	1.83	1.34	2.06	2.98	4.57	1.54	4.07	
February ...	2.22	1.9	2.75	3.05	.52	4.10	3.23	1.13	1.91	.78	20	
March .....	3.54	1.39	1.46	1.15	.83	.50	.93	2.50	1.17	.28	2.91	
April .....	3.97	.92	1.66	2.25	1.76	1.67	1.66	.81	1.16	.87	2.91	
May .....	2.71	1.80	1.47	2.79	5.25	2.41	3.36	1.29	1.48	1.36	.90	
June .....	3.68	.10	1.55	.30	2.10	.06	1.04	3.73	4.12	1.12	1.71	
July .....	5.37	.62	3.54	2.91	4.07	2.11	3.67	4.02	1.65	3.03	4.67	
August .....	1.63	1.91	3.03	2.82	4.98	3.37	3.01	5.83	3.24	2.64	5.09	
September...	2.58	1.43	2.27	3.13	3.31	3.83	3.34	5.21	1.22	1.54	2.58	
October .....	2.07	2.96	.28	3.98	3.35	3.35	2.88	2.35	3.35	3.76	3.96	
November...	.65	2.01	1.64	3.49	1.77	3.04	4.07	3.74	3.27	4.35	3.69	
December...	2.26	3.00	2.87	3.78	3.10	2.22	.70	1.22	1.97	3.88	3.81	
TOTALS...	33.34	22.47	25.97	30.92	32.87	28.00	28.95	34.81	29.11	25.15	36.50	
	D	D	D	D	D	D	D	D	D	D	D	

1927. House 35' high 20' l.s.s.  
 Hedge 5'6" " 20'6" N.  
 Wall 4' " 33' W.

ground at 74

Q. Cuscuta adnata

Q. Cuscuta adnata  
 20' 21'

W. B. B. B. B.  
 29.11

Position of Station on reduced Ordnance Survey }  
Map, 2 miles to 1 inch Series

No. of Map

Reference No.

Date.	Lat. N.	Long. W.	Railway Station.	Distance from gauge	Direction	Parish Church.	Distance from gauge	Direction
	53° 24' 5"	3° 4' 20"	Bidston	1 1/2 mi	W by N	Bidston	3 1/4 mi	W by N

RAINFALL at Buckenhead (Biddon Obs'y) *g. read at 9 hrs*County of CheshireObserver The DirectorRiver Basin Mersey & Lanc.S. Rain Gauge, by *g. read at 9 hrs.*

Diameter	8"													
Height	1' 0"													
Altitude	139'													
Year	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	Total		
January	2.66	2.94	3.58	1.42	1.86	1.47	2.52	3.30	4.73	1.55	4.17	30.20		
February	2.22	1.19	2.93	3.09	.50	4.26	3.53	1.20	2.02	.81	1.19	20.94		
March	3.54	1.39	1.51	1.14	.91	.71	1.03	2.61	1.18	.28	2.95	17.23		
April	3.97	.92	1.88	2.12	1.68	1.77	.75	1.09	1.17	.93	2.99	19.87		
May	2.71	1.80	1.39	2.75	5.22	2.34	3.48	1.29	1.48	1.47	.91	24.84		
June	3.68	.10	1.55	.29	1.86	.06	1.07	3.80	4.19	1.16	1.74	19.50		
July	5.37	.82	3.57	2.83	3.80	2.36	3.77	4.14	1.74	3.16	4.77	36.33		
August	1.63	4.91	3.11	2.79	4.94	3.30	3.14	6.13	3.34	2.74	5.20	41.03		
September	2.58	1.43	2.30	3.17	3.37	3.88	3.58	5.30	1.24	1.57	2.61	30.98		
October	2.07	2.96	.31	3.95	3.36	3.29	3.01	2.40	3.42	3.94	4.22	32.92		
November	.65	2.01	1.63	3.40	1.88	2.79	4.32	3.79	3.44	4.53	3.86	32.30		
December	2.26	<del>3.00</del> 2.79	2.93	3.89	3.15	2.17	.81	1.13	2.04	4.09	3.89	29.36		
TOTALS	33.34	22.47	<del>6.9</del> 26.76	30.84	32.52	28.40	30.96	36.18	29.99	26.23	87.50	335.12		

1922-29 *calculated* 23/9/34.1922. *corrected for arithmetic, 21/4/56. 4256*Position of Station on reduced Ordnance Survey  
Map, 2 miles to 1 inch Series

No. of Map.....

Reference No.....

Date.	Lat. N.	Long.	Railway Station.	Distance Direction from gauge	Parish Church.	Distance Direction from gauge



RAINFALL at Birkenhead, Bidston Obs<sup>y</sup>County of CheshireObserver W. E. Summer, Esq.River Basin Lower Mersey & C. 3Snowdon Rain Gauge, by \_\_\_\_\_  
(127)

Diameter ...								8			
Height .....								10			
Altitude ...								189			198'
Year .....	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930. MEANS.
January ...								3.26	1.53	4.11	
February ...								1.18	.80	.19	
March .....								2.56	.28	2.90	
April .....								1.06	.92	2.94	
May .....								1.28	1.44	.90	
June .....								3.74	1.14	1.71	
July .....								4.07	2.83	4.69	
August .....								6.02	2.70	5.11	
September...								5.21	1.55	2.57	
October .....								2.37	2.69	4.16	
November...								3.72	4.48	3.80	
December...								1.10	4.03	3.83	
TOTALS...								35.57	NR	2536	36.91
								2	D	D	D

1927. Schack. N. E.  
House 35' high, 24' S.E.  
Hedge 5' 6" " 18' N.  
Wall 4' " 30' W.

1929 Check NR  
1930 — —

These readings do not agree with either  
the ground at 0.6 or 0.7  
from Cassell's Station.

Position of Station on reduced Ordnance Survey  
Map, 2 miles to 1 inch Series

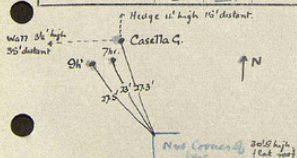
No. of Map

Reference No.

Date.	Lat. N.	Long.	Railway Station.	Distance from gauge	Direction	Parish Church.	Distance from gauge	Direction

RAINFALL at Birkenhead (Bidsdon Obs'y) *9 read at 7.00.*County of CheshireObserver The DirectorRiver Basin Mersey lower & C-3Type of Gauge (+A)Annual Average 27.9 in. based on 35 years obs. un-weighted. Period of average 1881-1915 Ref. Bogn

Diameter	8.										
Height	1.0.										
Altitude	198.										
Year	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	Means
January	2.54	2.22	1.14	1.41	1.28						
February	2.11	.03	2.55	.12	2.22						
March	.26	1.64	1.89	1.21	.76						
April	2.12	2.77	.79	1.69	1.76						
May	2.50	3.42	1.77	1.58	1.70						
June	4.52	1.04	2.10	1.44	3.41						
July	2.14	3.50	1.26	.67	2.27						
August	5.58	1.48	1.76	3.75	1.47						
September	3.11	2.65	.83	2.18	4.83						
October	1.78	5.14	3.48	4.63	3.81						
November	4.47	2.02	1.27	1.79	3.26						
December	1.20	1.31	.54	4.09	3.48						
TOTALS	32.33	27.22	19.38	24.56	30.35						
	D.	D.	D.	D.	D.						



1937. Record ceased on station terminating its telegraphic readings (07h).

Position of Station on reduced Ordnance Survey Map, 1 mile to 1 inch Series } No. of Map..... Reference No.....

Date.	Lat. N.	Long.	Railway Station.	Distance from gauge	Direction from gauge	Parish Church.	Distance from gauge	Direction from gauge

BRITISH RAINFALL ORGANIZATION, EXHIBITION ROAD, LONDON, S.W.7.



RAINFALL at *Bickenhead (Bidston Ob'y)* gauge read at *9hr* M.W.R.

County of *Cheshire* Observer *The Director*

River Basin *Mersey - lower - C - B*

Type of Gauge *Standard (+A)*

Annual Average *27.7* in. based on *27* years obs. un-weighted. Period of average *Ref.*

Diameter	5"											
Height	1' 0"											
Altitude	198'											
Year	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	Totals.	Means
January	2.54	2.35	1.19	1.48	1.27	3.92	1.86	2.70	4.25	2.46	24.02	
February	2.15	1.03	2.69	1.13	2.22	2.12	4.46	2.43	2.15	2.16	18.54	
March	2.25	1.71	1.91	1.26	1.78	1.31	1.31	1.02	1.56	2.25	13.36	
April	2.17	2.87	1.88	1.70	1.81	1.89	2.82	2.22	2.02	1.73	17.11	
May	2.51	3.38	1.72	1.65	1.69	1.01	3.44	2.66	1.30	2.18	21.54	
June	4.55	1.03	2.15	1.47	3.46	4.26	1.81	2.65	2.54	1.09	25.01	
July	2.18	3.52	1.83	1.70	2.27	2.95	1.56	2.71	6.12	3.05	26.39	
August	5.61	1.50	1.78	3.80	1.47	1.50	1.63	4.33	2.19	1.76	24.57	
September	3.08	2.65	1.83	2.26	4.83	2.93	2.09	1.68	1.75	1.99	23.09	
October	1.78	5.26	3.63	4.75	3.82	1.49	2.30	4.01	2.59	3.76	33.39	
November	4.57	2.08	1.80	1.78	3.36	2.76	1.48	3.18	4.41	5.25	30.17	
December	1.28	1.34	1.58	4.13	3.48	3.48	2.89	3.31	2.31	1.87	24.67	
TOTALS	32.67	27.72	19.99	25.11	30.46	28.62	27.65	28.90	32.19	28.55	281.86	

954) It was decided that (1) duration for months ending at 9hr shd. be published & rain-fall record for the 9hr is used.

(2) Both records to be printed in B.R. for a number of years.

(3) New air forms to be supplied.

15 April 1937. It was decided to use average of Tolygraph's data for 9h data in future (see No 2790)

Position of Station on reduced Ordnance Survey Map, 1 mile to 1 inch Series } No. of Map ..... Reference No. ....

Date.	Lat. N.	Long.	Railway Station.	Distance Direction from gauge	Parish Church.	Distance Direction from gauge
			<i>Bidston</i>		<i>Bidston</i>	



Station No. 2790/1RAINFALL at Birkenhead (Bridston Quay) [M.W.R. 307] **41**County of Cheshire Observer The DirectorRiver Basin Mersey Lower 16-3Type of Gauge Standard (+A)Annual Average 27.9 in. based on 5 years obs. un-weighted. Period of average Ref.File No. E 6879/47

Diameter	8"			550	239					5"	
Height	1' 0"				3						
Altitude	198'				41						
Year	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	Means
January	2.16	3.85	3.45	3.52	1.66	3.31	1.93	5.73	2.14	.73	
February	2.65	1.09	1.56	.99	2.44	4.00	.81	1.48	1.10	3.99	
March	2.40	2.26	.54	.82	.77	.80	4.33	.77	2.09	1.30	
April	1.51	1.29	1.18	1.57	1.54	.94	2.42	1.11	2.50	2.80	
May	1.85	3.36	2.11	1.74	3.28	2.19	3.92	1.14	2.86	.72	
June	.44	.19	2.25	1.67	2.58	3.37	2.29	3.06	.89	1.36	
July	1.60	2.94	2.06	2.29	2.73	3.55	4.52	2.58	1.86	1.94	
August	3.46	2.90	3.02	2.75	3.13	5.11	.29	2.36	1.72	5.57	
September	.42	1.81	3.69	4.77	1.36	3.37	2.23	1.62	.85	4.82	
October	2.93	2.67	3.44	3.71	4.11	.59	1.09	1.69	3.32	2.00	
November	2.32	.78	1.97	5.34	.19	3.83	3.25	1.67	3.80	4.41	
December	.84	2.95	1.44	2.23	2.12	2.66	1.98	2.95	3.73	3.08	
TOTALS	23.31	26.09	26.71	31.40	25.91	33.72	29.06	26.16	26.86	32.72	
	D	D	D	D	D	D	D	D	D	D	

Inspected Mr. E. Tunstall 25.4.49. 5" Gauge very old and in poor condition. New gauge recommended. Observatory 20.25' high 25' to SE. Gauge over-sheltered to SE, but no alternative site available, (Has been at present site since 1867). New 5" Gauge ordered 1.9.49.  
 5 Oct. 1949: New 5-inch gauge in use (Encl. 39A, File E 15282/52)  
 W.S. 10.12.53.

Position of Station on reduced Ordnance Survey Map, 1 mile to 1 inch Series No. of Map..... Reference No.....

Date.	Lat. N.	Long.	Railway Station.	Distance from gauge	Direction from gauge	Parish Church.	Distance from gauge.	Direction from gauge.

BRITISH RAINFALL ORGANIZATION

*m. y. R.* 51

Observer By Director[illegible][illegible]

Period of average

Ref B 6 N

29.01. " " 35 " " 1916-1950

File No. E 6879/4

Prop. 11. Girdell 5.5.53. Check page. Muddled to L.F. but no alternative sets.  
1953. Letter from Observatory - bin. gauge was changed that 5 min. in, ground 10 ft ago,  
Prop 11. June 5.54. Copied idea. but not available. g. found r in good condition.  
Insp. by L.S. Torsall 9.5.56 remarks as for 1954.  
Ins. 17.5.58 A. Stewart. g. sound. 30' tower of observation - 15' to ESE. 0.5 C.S.  
Ins. 16.7.60 D.K. HAMILTON 1/5 of building 40' from wall of gauge in good condition. best view to available

National Grid Reference **33/287897**

*Summary of Earlier Records from 10-year Sheets :*

1916-1950 P-accepted

(62) Wt. 13072-359 10M 6/50 T.S. 841

all D. minus copies from obs. 59