

RAINFALL AT Chester Waterworks Tower

Lat. Lon. County of Cheshire
 Instrument Rain Gauge, by J. Dugdale Esq. Observer J. Dugdale Esq.

Dec-4.

Diameter					5						
Height					10						
Altitude					88 ft						
Year	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	MEANS.
January						1.16	3.40	3.03	.98	.56	
February						2.37	.84	.41	.85	1.93	
March					2.10	2.94	1.57	1.05	1.52	2.24	
April .....					.83	1.58	1.46	.68	1.04	2.62	
May					1.19	1.42	6.58	1.89	.54	1.58	
June					2.04	2.34	2.15	1.37	1.90	.68	
July					3.40	1.03	2.53	2.27	5.65	3.01	
August .....					.82	1.47	.95	1.57	3.18	3.07	
September....					2.01	3.01	3.20	2.70	1.14	2.68	
October					1.23	5.42	3.14	2.42	.87	2.80	
November....					1.84	2.83	2.54	1.00	3.81	2.14	
December					2.27	.90	3.71	1.73	1.59	2.19	
TOTALS						26.47	32.07	20.12	23.07	25.50	

St Paul's Church, Broughton 700 ft S
 Tower with tank on top 71 ft high 109 ft N.E.

MET. OBS. STATION
 RETROS.

548681

NGR: 55(33) 418666

ALT: 84.31 ft = 26

date of review 9/2/75

RAINFALL AT Chester Waterworks Tower

Lat.

Lon.

County of, Cheshire

Snowdon Rain Gauge, by

Observer J. Fugdale Esq.

Dec-4.

Diameter					5						
Height					10						
Altitude					85 ft						
Year	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	MEANS.
January						1.16	3.40	3.03	.98	.56	
February						2.37	.84	.41	.85	1.93	
March					2.10	2.94	1.57	1.05	1.52	2.24	
April .....					.83	1.58	1.46	.68	1.04	2.62	
May					1.19	1.42	6.58	1.89	.54	1.58	
June					2.04	2.34	2.15	1.37	1.90	.68	
July					3.40	1.03	2.53	2.27	5.65	3.01	
August .....					.82	1.47	.95	1.57	3.18	3.07	
September....					2.01	3.01	3.20	2.70	1.14	2.68	
October					1.23	5.42	3.14	2.42	.87	2.80	
November					1.84	2.83	2.54	1.00	3.81	2.14	
December					2.27	.90	3.71	1.73	1.59	2.19	
TOTALS						26.47	32.07	20.12	23.07	25.50	

5th Paul's Church, Broughton 700 ft 5
 Tower with tank on top 71 ft high 109 ft n.e.

MET.O.B. 548681
RETROS

548681

NGR: 55(33) 418666

ALT: 8431 ft = 26

date of review

9/2/75

548681

2797

RAINFALL AT *Chester Waterworks*

Lat. _____

Lon. _____

County of *Cheshire*

Rain Gauge, by _____

Observer *J. Dugdale Esq*
Abell Esq

Acc. to _____

Diameter	5										
Height	0 10										
Altitude	85 π										
Year	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	MEANS.
January	2.95	1.19	2.54	1.26	1.30	3.06	1.09	1.48	1.25	3.57	1.969
February ....	.52	.18	1.57	2.42	1.82	.40	.75	2.15	1.69	1.26	1.276
March	1.26	.78	1.22	.73	.91	1.93	3.35	2.26	.81	1.10	1.125
April.....	1.14	1.57	1.19	.55	1.27	1.52	.93	1.74	1.28	2.61	1.380
May	1.82	3.01	2.84	1.48	2.59	.77	.34	1.57	1.96	2.12	2.150
June	2.20	5.62	2.88	1.34	1.63	2.22	2.30	2.15	3.53	2.63	2.650
July	2.74	2.69	2.51	2.35	3.19	4.65	2.79	.44	.72	2.43	2.451
August	3.07	4.27	3.54	2.81	2.80	1.75	3.10	3.01	3.34	1.88	2.957
September....	1.46	3.41	2.78	1.83	.56	1.33	3.77	3.93	.59	2.91	2.257
October	2.05	2.72	6.43	1.68	2.36	3.57	3.74	1.21	3.81	3.38	3.095
November....	5.36	2.32	1.88	1.00	1.71	3.51	1.34	2.61	1.25	1.50	2.248
December ....	.53	2.77	2.60	3.31	1.83	1.94	3.44	2.48	2.11	2.17	2.318
TOTALS	25.10	30.53	31.98	20.76	21.97	26.65	26.94	^{No} 25.03	25.34	27.56	26.186

1890 St Pauls Boughton 700 ft S
 tower 91' 3" high 109 NE

 METEOR. BUREAU
 RETROSPECTIVE SITE REVIEW

NO. 548681

NGR: 55(33) 418666

ALT: 84.31 ft = 26

metro. Date of review: 9/2/1973

548681

2797

RAINFALL AT *Chester Water Works**C. 155 Co.*

Lat.

Lon.

County of *Cheshire*

Rain Gauge, by

Observer *Angela Bell Esq**Dec-14.*

Diameter ..	5										
Height	0.10										
Altitude ..	85K										
Year	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	MEANS.
January ..	3.05	3.63	1.67	2.42	2.06	.84	4.09	1.11	1.79	1.90	2.256
February ..	3.24	1.35	1.82	1.37	3.12	1.04	1.96	1.16	1.72	.43	1.721
March	1.12	1.85	2.12	4.19	1.69	2.50	1.49	1.53	2.52	1.98	2.099
April	1.08	1.94	1.94	1.66	.72	1.72	.77	1.71	2.81	1.92	1.627
May	1.56	1.32	4.26	2.59	1.83	.53	2.54	3.30	2.81	.97	2.201
June	2.97	2.44	1.59	1.14	2.11	2.95	1.27	3.64	1.78	2.50	2.239
July	2.64	3.95	2.23	3.40	1.75	2.79	1.07	2.77	3.07	3.35	2.702
August	6.32	3.36	2.95	3.50	3.58	2.79	2.49	2.40	2.64	2.54	3.257
September ..	.96	1.05	1.24	3.73	2.00	1.36	1.17	.49	3.37	2.67	1.804
October	4.34	3.14	3.59	6.07	1.20	1.67	4.40	3.41	1.85	3.31	3.298
November ..	4.26	2.83	1.40	3.11	1.62	2.73	1.85	2.23	1.93	.83	2.279
December ..	2.92	4.29	2.52	1.41	2.38	.43	2.83	1.82	1.99	3.81	2.440
TOTALS ..	34.46	31.15	27.33	34.59	24.06	21.65	25.93	25.57	28.28	26.21	27.923

1903 St Pauls Church 700 ft 5
Chester Station

MET. O.S. RAINMASTER
RETROSPECTIVE SITE REVIEW

548681

NGR: 55(33) 418666

ALT: 8431 ft = 26

metres. Date of review: 9/2/1979

RAINFALL at Chester Water WorksCounty of CheshireObserver A Bell EsqRiver Basin Dee 4Wheeler Bennett EsqSnarden Rain Gauge, by _____

Diameter ...	5											
Height	10											
Altitude ...	85 K											
Year ...	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	MEANS.	Totals
January ...	1.46	.46	2.61	2.11	1.27	2.63	.59	1.99	1.44	2.22		16.79
February ...	1.72	.92	.68	.76	1.73	2.22	2.67	1.28	1.21	1.52		6.24
March .....	.79	.90	2.55	2.79	2.39	1.09	2.07	2.33	.81	5.14		6.68
April	2.42	.58	.06	2.80	.53	.94	1.29	1.43	1.16	1.50		10.35
May	1.82	.74	2.04	2.07	1.67	1.81	2.43	3.73	3.21	.66		5.38
June	2.37	1.97	2.51	1.56	2.12	.69	1.11	1.69	1.17	1.36		10.03
July	3.35	.47	1.84	1.06	4.34	2.97	1.11	1.17	3.58	1.17		5.33
August	2.76	2.28	3.91	2.47	2.09	3.87	2.66	8.12	2.36	3.34		7.03
September ..	.34	3.24	.76	1.46	2.39	.58	2.22	1.19	5.53	2.26		16.48
October ...	2.85	1.76	2.13	2.50	1.45	1.53	3.54	4.48	1.27	3.59		11.20
November ..	4.48	1.55	2.90	1.89	2.46	2.78	2.04	2.15	1.35	2.24		12.88
December ...	2.68	3.19	1.40	1.43	4.59	4.53	1.62	1.19	3.89	4.52		7.78
TOTALS ...	27.04	18.01	23.39	22.90	27.03	25.64	23.35	30.75	26.98	29.52		110.60
		2	2	2	2	2	2	2	2	2		488

1912 Water Tower 90 ft High 120 ft NE
 Cottage 15 " 120 " W
 1915 New Engine Ho 38 " 60 " E

MET. O.S. RAINMASTER
RETROSPECTIVE 202 REVIEW20-22 IN
1 INCH 548681

NGR: 55(33) 418666

No. 84.31 ft = 26

metres. Date of review: 9/2/73

Small

Date.	Lat. N.	Long.	Railway Station.	Distance.	Direction.	Church.	Distance.	Direction.
53-12-23	2-53-48		Chester General	3/4 m	W	St Paul's	200 yds	S

RAINFALL at

Chester Water Works

County of

Cheshire

Observer

C. W. Alfred Bennett Esq

River Basin

Dee

L.

London

Rain Gauge, by

No 3

Diameter ...					8						
Height					2 3						
Altitude ...					85						
Year ...	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	MEANS.
January ...					1.26	2.67	6.	1.94	1.41	2.30	
February ...					1.75	2.34	2.60	1.28	1.20	1.43	
March					2.45	1.08	2.05	2.27	.85	4.97	
April .....					.55	.95	1.30	1.25	1.14	1.45	
May					1.70	1.79	2.43	3.69	3.06	.63	
June					2.12	.70	1.17	1.67	1.19	1.34	
July					4.32	2.99	1.15	1.23	3.67	1.14	
August					2.23	3.74	2.73	8.10	2.39	3.36	
September ..					2.44	.62	2.24	1.20	5.44	2.31	
October ...					1.47	1.63	3.63	4.51	1.30	3.51	
November ..					2.55	2.69	2.04	2.13	1.36	2.26	
December...					4.67	4.68	1.65	1.12	3.81	4.56	
TOTALS ...					27.51	25.88	23.59	30.39	26.82	29.26	

1914 Water Tower 90 ft high 200 yards W

Beach has 40. 50. E

1914. Gauge 250 yards E. of old g. and later exposed.

Date.	Lat. N.	Long.	Railway Station.	Distance.	Direction.	Church.	Distance.	Direction.
	53. 12. 2	2. 52. 0	Chester	3/4 m	W	St Paul	270 yds	SE

RAINFALL at Chester Water Works (Tower)County of CheshireObserver C. W. Bennett EsqRiver Basin Dee #Engineer Glenn W. W.Stake Snowdon Rain Gauge, by

Diameter ...	5"											
Height	0.10											
Altitude ...	85											
Year	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930. MEANS.	
January ...	2.96	3.12	3.56	1.59	2.09	1.72	1.97	2.06	3.78	1.82	3.66	Totals. 27.83
February ...	2.40	.25	1.97	3.63	.78	3.75	2.21	1.23	1.60	.84	.27	18.93
March	3.12	.87	1.90	.89	.74	.85	.68	2.88	1.62	.18	3.56	16.99
April	4.28	1.34	2.26	1.81	1.77	1.48	.71	2.06	1.71	.93	2.46	26.81
May	3.07	1.23	.47	2.96	5.38	2.87	3.52	1.35	1.25	1.90	1.34	25.34
June	3.82	.24	1.26	.40	2.04	.02	1.34	4.17	4.74	1.86	.76	20.63
July	6.26	.67	3.68	3.56	4.68	2.65	2.86	3.18	1.37	2.66	5.42	36.99
August	1.37	3.70	3.44	3.20	4.48	3.29	3.33	4.42	2.45	3.07	3.01	35.76
September...	2.89	.72	2.89	2.74	3.49	3.22	3.39	3.86	1.55	1.76	3.57	30.68
October	2.11	2.51	.25	3.68	3.15	3.49	1.97	2.48	3.24	3.86	4.01	30.75
November...	.49	2.12	.99	1.76	1.46	2.74	4.52	3.03	3.77	4.66	3.09	28.63
December...	2.02	2.37	3.69	3.66	2.38	2.00	.92	1.43	1.90	4.00	4.19	28.56
TOTALS...	34.79	19.14	26.36	29.88	32.44	27.78	27.42	32.15	28.98	27.04	35.34	321.32
	D	D	D	D	D	D	D	D	D	D	D	446

1920. Water Tower 90 ft high 130 ft N.E.
 Cottages 16 " " 130 " W.
 Engine House 38 " " 60 " E.

NET OF RAINFALL
 RESPECTIVE WIND DIRECTION

548681

No. 55(33) 418666

Alt. 84.31 ft = 26

metres. Date of reading 9/2/79

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
1920	53° 12' 23"	2° 53' 48"	Chester General	3 1/4 mi	W	St. Pauls	200 yds	S

RAINFALL at Chester (Waterworks)

County of Cheshire

Observer

C. Wilfrid Bennett, Esq. (lft)River Basin Dec - 4The Engineer (1939)Type of Gauge SnowdonAnnual Average 25.4 in. based on 31 years obs. un-weighted. Period of average 1901/1935 Ref. S

667276/26.

Diameter	5.											
Height	0.10.											
Altitude	85.											
Year	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	Means	Totals
January	2.44	1.89	1.38	1.27	1.37	6.24	2.28	3.02	4.54	2.61		26.04
February	2.37	.04	2.40	.22	2.07	1.90	3.90	.46	2.65	2.04		18.05
March	.27	1.56	2.08	1.48	.65	1.36	1.33	.57	1.60	2.13		13.03
April	2.54	2.92	.88	2.01	2.10	1.70	3.10	.15	1.39	1.88		18.67
May	2.60	4.01	1.07	1.15	1.47	.88	2.15	2.30	1.28	2.24		19.15
June	5.22	.43	1.29	1.31	2.71	4.78	1.25	2.18	2.26	1.28		22.71
July	1.74	3.64	1.11	.99	1.18	2.74	1.42	2.37	5.41	3.24		23.84
August	6.52	1.20	.85	2.54	1.34	1.75	1.24	4.51	1.74	.41		22.10
September	3.58	1.99	.45	1.39	5.31	3.99	1.61	.98	.99	3.18		23.47
October	1.45	5.13	3.47	2.99	4.17	1.37	2.51	2.92	2.94	3.19		30.14
November	4.13	2.28	1.55	2.30	4.16	2.55	1.74	3.02	3.56	5.01		30.30
December	1.33	.79	.68	4.50	3.56	2.47	2.63	2.92	1.82	2.14		22.84
TOTALS	34.19	25.88	17.21	22.15	30.09	30.73	25.16	25.40	30.18	29.35		270.34
	D.	D.	D.	D.	D.	D.	D.	D.	D.	D.		946

Water Tower 90' high 38yds NE: Cottage 15' high 38yds W: Engine No. 38' high 25yds W.
 1935. Antiquarian 9. (N 3) maintained at Swage Works (note Encl SAT 27264/28 7/1/25)

MET. O. F.
RETROS.

HGR: 55(33) 418666

M3: 24.31

548681

Date of review 9/2/39

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
1931.			Chester General	3/4 m. W.	St Paul's	200yds S.

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

Station No. 2797RAINFALL at Chester (Waterworks)

41

County of Cheshire Observer The EngineerRiver Basin Der - 4Type of Gauge English B.H.Annual Average 26.4 in. based on 31 years obs. un-weighted. Period of average 1881-1915 Ref. 3File No. 667276/26

Diameter	5"				5.48	6.81						
Height	0' 10"				1							
Altitude	86'				41							
Year	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	Means	
January	2.99	2.51	3.90	2.93	1.93	2.34	1.60	5.28	2.20	1.84		Totals 26.02
February	2.61	1.40	1.47	1.04	1.57	3.14	1.07	1.04	.99	4.31		18.64
March	2.42	2.03	.74	.67	.70	.74	4.31	.79	2.27	1.13		16.10
April	1.26	1.13	1.12	.94	1.00	.60	2.28	1.49	2.42	2.91		15.21
May	2.02	3.01	2.02	1.42	2.97	2.38	2.76	.69	3.15	.78		21.17
June	.69	.14	2.21	1.13	1.77	2.92	2.16	3.12	.43	1.26		15.73
July	2.25	2.59	3.09	1.82	2.42	2.91	3.04	2.05	3.44	1.86		25.17
August	2.93	1.39	2.51	2.58	1.98	4.04	.36	2.23	1.50	3.42		23.54
September	.86	1.31	3.26	3.22	1.23	2.32	2.26	1.21	.63	3.85		19.25
October	3.54	1.97	3.66	4.08	3.43	.89	.41	1.52	2.62	1.88		23.73
November	2.46	.55	3.48	4.29	.28	3.26	2.86	1.40	3.38	3.21		25.19
December	.95	2.32	1.13	1.24	1.98	3.07	2.57	2.72	2.48	2.70		21.76
TOTALS	24.93	21.61	28.59	25.36	21.26	28.61	25.18	23.54	25.51	27.02		252.11

1941 Water Tower 90' high 38 yds. N.E. Cottages 18' high 38 yds. W. Engine House 38' high 25 yds. E

MET. O.S. RAINMASTER
RETROSPECTIVE TYPE

NO. 55(33) 418666

ALT. 84.31 ft = 26

metres. Date of review 9/2/79

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.
1941			Chester Egn.	1/2 m.	W.	St. Pauls.	200 y.	S.

BRITISH RAINFALL ORGANIZATION

Station No. 2797

51

RAINFALL at Chester (Waterworks)County of CheshireObserver Lt. EngineerRiver Basin Dec - 4Type of Gauge B.A.Annual Average 26.4 in. based on 31 years obs. up-weighted. Period of average 1881-1915 Ref. S
27.27 - " 35 " " 1916-1950 1916-1950
File No. 66/274/26 P

Diameter ...	5"			548	681						
Height ...	0' 10"				1						
Altitude ...	95'				51						
Year ...	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	Means
January ...	1.50	2.52	.84	1.57	1.71	3.17	.94	2.47	3.16	3.85	
February ...	1.75	.77	1.25	2.16	1.82	.33	1.96	3.64	.20	2.14	
March ...	4.30	.69	.60	1.84	1.84	1.09	1.14	1.19	.75	1.32	
April ...	1.25	1.49	2.23	.65	1.36	1.95	.56	.27	2.74	1.03	
May ...	3.11	1.48	1.83	2.32	2.36	.53	1.46	1.90	1.39	1.94	
June ...	1.52	1.27	1.28	3.16	3.46	2.04	1.12	3.36	3.45	0.83	
July ...	3.77	2.17	2.99	3.79	.28	4.78	4.21	2.72	1.99	2.17	
August ...	2.17	1.18	2.11	3.52	.82	6.44	2.57	3.53	.86	4.69	
September ...	1.58	2.66	2.52	2.11	2.44	1.70	6.31	4.08	.12	3.42	
October ...	.77	4.19	1.22	4.77	1.81	1.51	1.62	2.14	1.95	3.63	
November ...	5.31	1.73	1.86	4.89	1.53	.76	1.29	1.59	3.59	3.79	
December ...	2.67	2.98	1.15	2.75	2.60	2.00	1.34	2.76	3.73	2.34	
TOTALS ...	30.50 D	23.13 D	19.88 D	33.53 D	22.01 D	26.30 D	24.52 np	29.65 D	23.93 np	31.15 np	

1951 Water Tower 90' at 38° N.E. battage 15' at 38° W. Engine 40. 38' at 25° N.E.
 1957 np - low.
 1959 np - low.
 1960 np low

Position of Station on Ordnance One-Inch map : No. of Map National Grid Reference 33/421665

Date.	Lat. N.	Long.	Railway Station.	Distance from gauge	Direction from gauge	Parish Church.	Distance from gauge.	Direction from gauge.
1951			Chester Gen.	1/4 m.	W.	St Pauls	200*	S.

Summary of Earlier Records from 10-year Sheets :

1916-1950 P-accepted

Record D, or d	1910-19	1920-30	1931-40	1941-50	1951-60
	✓ 27, 12, 13, 17-19	✓ ✓	✓ ✓	✓ ✓	✓ ✓