

548681

80

## RAINFALL AT Chester Waterworks Tower

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

Diameter							5				
Height							10				
Altitude							867				
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	

5<sup>t</sup> Paul's Church, Broughton 700 ft S  
Tower with tank on top 71 ft high 109 ft N.E.

## METHODS OF RETROSPECTIVE

548681

RGB: 55(33) A18666

BLV: 84-31 - 26

9/2/72

548681

2797  
80

## RAINFALL AT Chester Waterworks Tower

Lat. .... Lon. .... County of Cheshire

Snowdon Rain Gauge, by Observer J. Dugdale Esq.

Dec-4.

Diameter .....					5						
Height .....					10						
Altitude .....					85 ft						
Year.....	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	M. 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, Boughton 700 ft S  
 Tower with tank on top 71 ft high 109 ft N.E.

MET.O. 6770  
RETROS

548681

NGR: 55(33) 418666

ALT: 84.31 m = 26

Date of review

5/2/75

## RAINFALL AT Chester Waterworks

Lat.

Long.

County of

Cheshire

Acc - 4.

Rain Gauge, by

Observer

J. Dugdale Esq  
abel Esq

Diameter	5										
Height	0.10										
Altitude	85 ft										
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	4.96	2.12	2.150
June	2.20	5.62	2.88	1.34	1.68	2.22	2.30	2.15	3.58	2.63	2.650
July	2.74	2.69	2.51	2.35	3.19	4.65	2.79	.44	.72	2.43	2.457
August	3.07	4.27	3.54	2.81	2.80	1.75	3.10	3.01	3.34	1.88	2.959
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	2.218
TOTALS	25.10	30.53	31.98	20.76	21.97	26.65	20.94	No 25.03	25.34	27.58	26.186

1890 St Pauls Doughton 700 ft S  
 Tower 91' 3" high 109° NE

MET-O-B RAMSTAD  
RETROSPECTIVE SITE REVIEW NUMBER

548681

NOR: SJ(33) 418666

ALT: 84-31 II = 26

metres Date of review:

2/2/1977

## RAINFALL AT Chester Water Works

C. L. D. C. G.

Lat.

Lon.

County of Cheshire

Rain Gauge, by

Observer: Angela Bell Eng

See - 4.

Diameter ..	5										
Height ....	0 . 10										
Altitude ..	85 ft										
Year ....	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	MRAINS.
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 Paul's Church 700 ft 5  
Chester Station

MET.O.B. RAINMASTER  
RETROSPECTIVE SITE REVIEW

548681

NGR: SJ(33) 418666

ALT: 843 ft m 26

metres. Date of review:

3/2/1979

548681

10 8797

RAINFALL at Chester Water Works

County of Cheshire

Observer aBelt

River Basin Dee

4

Sunderon Rain Gauge, by.

1912 Water Towne 90 ft high 130 ft NE

Cottages 15° . . 130° W

1915 New Engine Ho

38 " 60 "

5486R

55(33) 418666

~~84.31~~ ft = 26

metres. Date of review: 5/2/73

Date.	Lat. N.	Long.	Railway Station.	Distance.	Direction.	Church.	Distance.	Direction.
53° 12' 23"	2° 53' 45"	Chester General	3 1/4 m	W	St Paul's	200 yds	5	

RAINFALL at Chester Water Works

County of Cheshire

Observer Alfred Bennett Esq

River Basin Dee

44

London

Rain Gauge, by N & }

Diameter ...					8					
Height .....					23					
Altitude ...					85					
Year ...	1910	1911	1912	1913	1914	1915	1916	1917	1918	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	.86	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  
Buckshaw 40. - 50. E

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

Date.	Lat. N.	Long.	Railway Station.	Distance.	Direction.	Church.	Distance.	Direction.
53° 12' 21"	2° 52' 0"		Chester	3/4 mi	W	St Pauls	270 yds	SE

RAINFALL at Chester Water Works (Tower)

County of Cheshire

Observer C. W. Bennett Esq.

River Basin Dee 4

Engines - Glaser W.H.

5-inch Snowdon Rain Gauge, by

*Onyx* *Onyx*

Diameter ...	5"											
Height .....	0 . 10											
Altitude ...	85'											
Year .....	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930. MEAN	
January ...	2.96	3.12	3.56	1.57	2.09	1.72	1.97	2.06	3.78	1.82	3.66	Totals 27.83
February ...	2.40	1.25	1.97	3.63	1.78	3.75	2.21	1.23	1.60	.84	.27	18.93
March .....	3.12	.87	1.90	.89	1.74	.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	20.81
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	2.44	1.26	1.40	2.04	.02	1.34	4.17	4.44	1.86	.76	20.65
July .....	6.26	.67	3.68	3.56	4.68	2.65	2.86	3.18	1.34	2.66	5.42	36.99
August .....	1.37	3.70	3.44	3.20	4.48	3.29	3.33	4.42	2.15	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	30.58
October.....	2.11	2.51	.25	3.68	3.13	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	3.74	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
	1	2	3	4	5	6	7	8	9	10	11	12

1920. Water Tower 90 ft. high 1309 ft. N.E.  
of town.

Cottages 16 " " 130 " "

Engine House 38 - " 60 - E.

NO. 87(33) 1981

REG. NO. 5(33) 4186  
M.T. 8A.31 26

548681

Motress Date of review: 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	Parish Church.	Distance from gauge
1920	55° 12' 23"	2° 55' 48"	Chester General	3/4 mi W	St. Pauls	200 yds S

## RAINFALL at Chester Water Works (Rockery)

County of Cheshire

Observer G. W. Bennett Esq.

River Basin Dee 4

8" Snowdon Rain Gauge, by H. G. J.  
~~100 (16)~~

Diameter ...	9								8	5	
Height .....	2.3	6.0							1	1	
Altitude ...	85	89							84.8	84.8	
Year .....	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929 MEANS.	
January ...	3.05	3.22	3.27	1.61	2.03	1.67	1.96	2.12	3.87	1.42	3.72
February ...	2.42	2.7	1.94	3.63	2.63	3.56	2.15	1.26	1.61	.90	.29
March .....	3.19	.95	1.87	.91	.74	.51	.62	2.81	1.67	.19	3.87
April.....	4.29	1.37	2.20	1.75	1.70	1.42	.71	1.94	1.46	.98	2.59
May .....	3.12	1.34	.50	2.72	5.16	2.82	3.42	1.32	1.27	.98	1.39
June .....	3.77	.25	1.23	.38	1.98	.02	1.16	4.06	4.75	.91	.87
July .....	6.29	.70	3.68	3.50	4.49	2.58	2.56	3.09	1.39	2.73	5.59
August .....	1.43	3.80	3.39	2.99	4.33	3.22	3.25	4.30	2.58	3.17	3.20
September...	2.93	.74	2.82	2.68	3.31	3.12	3.20	3.66	1.64	1.78	3.49
October.....	2.07	2.57	2.7	3.63	2.96	3.40	1.92	2.43	3.41	4.02	4.03
November...	.51	2.03	93	1.69	1.43	2.56	4.52	2.93	3.87	4.80	3.08
December...	2.03	2.31	3.56	3.46	2.45	1.93	.91	1.32	2.01	4.19	4.06
TOTALS...	35.10	(19.55)	25.60	28.93	31.21	26.71	26.38	31.24	29.83	28.07	36.18
	D	D	D	D	D	D	D	D	D	D	D

1920 Lille House 27 ft high 54 yds W. { 1921 50 yds NE.

Water Tower 90 " 200 " W { 1921 107 " W.

Beck Trees 40 " 50 " E

1921. Gauge moved Gell 31<sup>st</sup> 100 yds W.

Stone Shed 18 ft high 32 yds S.

1927. Check - N. &amp;

1928. Moved gauge 4<sup>th</sup> Jan 1928. 266 ft. E. & check up.

1929 Chester Rd.

1930 — —

Position of Station on reduced Ordnance Survey } No. of Map Reference No.  
Map, 2 miles to 1 inch Series }

Date.	Lat. N.	Long.	Railway Station.	Distance from gauge	Direction	Parish Church.	Distance from gauge	Direction
1920	53° 12' 21"	2° 52' 0"	Chester General	3/4 mi	W	St. Pauls	370 yds	S E 12°

548681

2797  
31

## RAINFALL at Chester (Waterworks)

County of Cheshire

Observer C. Wilfrid Bennett, Esq. (left)

River Basin Dee - 4

The Engineer (1939)

Type of Gauge Inception

Annual Average 26.4 in. based on 21 years obs. un-weighted. Period of average 1901/1925 Ref. S

667276/26.

Diameter	S.														
Height	0.10.														
Altitude	95.														
Year	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	Means				
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	0.04	2.40	2.22	2.07	1.90	3.90	4.46	2.65	2.04		18.05			
March	2.27	1.56	2.08	1.48	6.5	1.36	1.33	5.7	1.60	2.13		13.03			
April	2.54	2.92	8.8	2.01	2.10	1.70	3.10	1.15	1.39	1.88		18.67			
May	2.60	4.01	1.07	1.15	1.47	1.88	2.15	2.30	1.28	2.24		19.15			
June	5.22	4.43	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	1.99	1.18	2.74	1.42	2.37	5.41	3.24		23.84			
August	6.52	1.20	8.5	2.54	1.34	1.75	1.24	4.51	1.74	.41		22.10			
September	3.58	1.99	1.45	1.39	5.31	3.99	1.61	1.98	1.99	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	2.65	1.74	3.02	3.56	5.01		30.30			
December	1.33	.79	6.8	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.														

Walls Lower 90' high 38 yds NE: Cottage 15' high 38 yds W: Engine No. 38' high 25 yds E. 9/26  
 1935. Autograph 9. (No 3) mounted at Sewage Works (Valve Box) 8 ft 373642/28 7/1/29

MET. O.  
RETROG.

548681

HOR: 55(33) 418666

EAST 8431 26

Date of report 2/2/29

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

Date.	Lat. N.	Long.	Railway Station.	Distance from gauge	Direction	Parish Church.	Distance from gauge	Direction
1931.			Chester General	3/4 m.	W.	St Paul's	200 yds.	S.

Station No. 2797

41

## RAINFALL at Chester (Waterworks)

County of Cheshire  
 River Basin Dee 4  
 Type of Gauge Standard B.H.

Annual Average 26.4 in. based on 31 years obs. unweighted. Period of average 1881-1915. Ref. 3

File No. W.W.Y.276/26

Diameter	5"			548.681							
Height	0' 10'			1							
Altitude	85'			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	.34	Totals 26.02
February	2.61	1.40	1.47	1.04	1.57	3.14	1.07	1.04	.99	4.81	18.64
March	2.72	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	1.56	25.17
August	2.93	1.99	2.51	2.58	1.98	4.04	.36	2.23	1.50	3.42	23.54
September	.56	1.31	3.26	3.22	1.23	2.32	2.26	1.21	.63	3.82	19.85
October	3.54	1.97	3.66	4.08	3.43	.84	.41	1.52	2.62	1.58	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	2.92	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	25.48	23.54	26.51	27.02	252.11

1941 Water Tower 90' high 38 yds. N.E. cottages 15' high 38 yds. W. Engine House 38' high 25 yds. E

MET.O.S. RAINMASTER  
RETROSPECTIVE SITE REVIEW

548861

ROR: SJ(33) 418666

ALT: 84.31 ft = 26

metres. Date of review: 5/2/79

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 Lys.	1/2 m.	W.	St. Pauls.	200 y.	S.

BRITISH RAINFALL ORGANIZATION

Station No. 2797

51

## RAINFALL at Chester (Waterworks)

County of Cheshire

Observer The Engineer

River Basin Dee - 4

Type of Gauge B.A.

Annual Average 26.4 in. based on 31 years obs. un-weighted. Period of average 1881-1915 Ref. S  
 27.27 " 35 " 1916-1950 1916-1950 P  
 File No. 267274/26

Diameter ...	5"			548	681						
Height ...	0' 16"				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	1.35	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	23.13	19.88	33.53	22.01	26.30	24.52	29.65	23.93	31.15	
	D	D	D	D	D	D	np	D	D	np	

1951 walls lowered 90' at 28° N.E. height 15' at 38° W. engine 40°. 38° at 25° E.

1957 np - low.

1959 np - low.

1960 np low

Position of Station on Ordnance One-Inch map : No. of Map ..... National Grid Reference 3314211665

Date.	Lat. N.	Long.	Railway Station.	Distance from gauge	Parish Church.	Distance from gauge
1951			Chester Gen.	4 m. W.	St Pauls	200 x 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
	V	V	V	V	V