

Memoranda
John Aberdeen Esq. Secy
Waltham, England

For.

S. 3k-3.

YEAR - -	1850	1851	1852	1853	1854	1855	1856	1857	1858	1859	MEANS.
January - -	2.20	4.80	5.25	3.97	2.87	.79	2.90				
February - -	1.40	.74	1.20	2.28	.14	1.24	2.77				
March - - -	.55	4.51	.48	.58	.53	2.16	.08				
April - - -	2.40	2.01	.14	.94	.23	.54	2.71				
May - - - -	1.45	.53	1.13	.49	1.73	1.02	2.20				
June - - - -	1.08	2.73	2.36	1.53	1.95	1.50	2.13				
July - - - -	1.44	2.12	1.64	2.13	1.26	2.72	1.46				
August - - -	2.45	2.33	2.65	2.27	.97	2.24	2.85				
September -	2.37	.97	1.73	1.20	1.06	.54	5.10				
October - - -	1.61	1.65	3.23	5.53	2.52	2.16	1.78				
November -	2.10	1.16	4.68	1.97	2.42	1.22	1.31				
December -	.92	.38	5.35	1.65	1.17	2.62	1.62				
TOTALS -	19.97	24.01	29.84	24.58	16.83	18.75	26.91				

Kingall at Montrose Forfarshire

Sy

50

56.42-30N - 2.31W

Observer W. J. Campbell

Authority Off Pub No 62

Montrose Museum

Diurnal 3 in *graze* + ground 3 in

Above Sea Level 8 ft

S. 24 - 3

YEAR - -	1850	1851	1852	1853	1854	1855	1856	1857	1858	1859	MEANS.
January - -									.60	1.05	
February - -									.70	1.22	
March - - -								2.20	1.10	1.88	
April - - -								2.27	.88	2.00	
May - - - -								1.25	1.80	.20	
June - - - -								1.35	2.32	1.72	
July - - - -								1.12	3.10	2.80	
August - - -								.45	2.27	1.00	
September -								1.85	1.85	.98	
October - - -								.55	2.63	3.82	
November -								2.27	2.20	2.18	
December -								.60	3.00	2.20	
TOTALS -									22.42	21.05	

7 Mont. For. Rep.

✓ ✓ ✓

8 March 1860 in L. W. Rep. 1897/97

Usan Montrose

60

For far.

Geo^r Wynef

+ Ground 3 in

+ Sea Level 150

S. L. 3.

YEAR - -	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	MEANS.
January - -		1.20	3.70	2.00	1.90						
February - -		1.20	1.80	.10	2.80						
March - - -		2.00	2.50	.70							
April - - -		.60	1.10	1.10	2.70						
May - - -		1.10	3.10	1.30	1.80						
June - - -		2.10	3.60	2.60	.80						
July - - -		2.50	2.70	.40	1.70						
August - -		1.90	1.90	3.90	1.50						
September -		1.30	2.00	3.90	3.50						
October - -		1.60	3.00	2.50	7.50						
November -		3.40	.90	1.20	3.30						
December -		2.30	2.70	1.90	3.30						
TOTALS -	2	27.20	29.00	21.60	31.10						

27.50
C C C C

Montrose, Bridge St.

60

Forfar.

David Scott

Dec 11 $\frac{3}{8}$ + Ground 3 in + S.L. 25 ft
S. No. 3.

YEAR - -	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	MEANS.
January - -					# 2.17	1.83	2.33	5.22	2.38	3.68	
February - -					3.09	2.21	2.42	.96	1.52	.68	
March - - -					1.90	1.64	2.93	1.99	1.75	.87	
April - - -					.98	.91	1.05	2.49	2.68	.92	
May - - - -					1.24	2.02	1.20	3.00	1.98	1.52	
June - - - -					.94	.27	1.17	.94	.40	1.71	
July - - - -					1.85	3.67	2.16	4.36	.14	.71	
August - - -					1.04	3.47	2.03	2.78	4.20	1.22	
September -					3.44	.32	3.00	1.55	4.76	5.01	
October - - -					6.19	3.72	2.68	2.08	2.08	3.48	
November -					3.55	3.41	1.53	.35	.94	.32	
December -					3.53	2.03	2.65	1.08	6.42	2.55	
TOTALS -					29.92	25.30	25.15	26.80	29.25	22.67	

✓ C C C C C C

1863 Feb 25 - 1865 Jan 11th little snow with rain
first since the snow, they got out with the snow
24th however very little snow, just a little
22nd from 12th weather would not be so cold
for departure, on 6th when the weather was just
brightened the 11th Feb to 20th but only for a few hours

The wind was light

Montrose

60

Fofac.

Waller Light

27.63

25

7^h + ground ^{b.b. 63} 2.6 61

+ Sea level 21 feet

S. Lk - 3.

YEAR - -	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	MEANS.
January - -	3.12	1.45	3.75	2.41	2.45	2.09	1.97	2.78	2.31	3.90	
February - -	1.02	1.45	1.46	.31	3.18	2.05	2.04	.58	1.57	.79	
March - - -	1.88	2.10	2.43	.80	2.11	1.26	2.19	1.26	1.83	.81	
April - - -		.70	1.09	1.53	1.06	.04	.96	2.47	2.64	1.20	
May - - - -		1.28	3.67	1.48	1.75	1.93	1.04	2.89	1.90	1.56	
June - - - -		2.04	4.00	3.37	1.04	.27	1.11	1.11	.53	1.83	
July - - - -		2.11	2.83	.45	1.90	2.96	1.80	4.10	.15	.65	
August - - -		4.30	1.85	3.76	1.03	3.03	2.00	2.60	4.42	.86	
September -		3.86	2.43	3.26	3.46	.28	2.91	1.38	4.79	3.48	
October - -		1.59	3.12	2.56	6.28	3.50	2.49	1.90	1.98		
November -	5.43	3.46	.74	1.67	3.36	3.37	1.33	.36	.92	2.53	
December -	3.95	2.33	2.90	1.85	3.31	1.60	2.34	.98	6.70	1.91	
TOTALS -		25.83	30.27	23.47	30.93	23.26	22.18	22.41	29.74	19.54	

C C C C C C C C C C

1863 July 25th .63 Jan 16th hills covered with snow
 first time this season, May quiet water in the sea in evening of
 24th Aurora very clear, Wild geese passing to the sea.
 22nd, June 13th Swallows arrived, Oct. 14th Swallows collected
 for departure, on 6th when the Earthquake was felt in
 England the θ fell to 28° but only for a few hours.

1860 - Record incomplete

Montrose Forfarshire

S. L.

60

James Campbell Mps. Vol. No. 62

See 7th

DRAIN 3 in + Ground 3 in + Sea Level 8 feet
S. L. - 3. from this time 29 ft + 42 ft 37 + 11 L

YEAR - -	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	MEANS.
January - -	2.33	1.10	2.70	2.00	2.10	2.10	1.98	2.80	2.33		
February - -	.02	.73	1.50	.35	3.18	2.05	2.05	.60	1.55		
March - - -	1.62	1.35	2.42	.85	2.07	1.30	2.03	1.30	1.82		
April - - -	.60	.80	.93	1.18	1.00	.98	.95	2.53	2.68		
May - - - -	1.10	1.25	3.60	1.15	1.73	2.47	.77	2.97	1.92		
June - - - -	3.30	1.87	3.30	2.82	1.40	.21	1.13	1.13	.55		
July - - - -	1.30	2.48	2.20	.50	1.90	3.45	1.85	4.17	.20		
August - - -	4.82	4.55	2.10	2.80	1.25	3.10	2.02	2.63	4.48		
September -	.75	3.70	3.10	2.73	2.50	.27	2.88	1.42	4.85		
October - - -	1.70	.95	2.65	2.00	6.25	2.78	2.55	1.98	2.00		
November - -	3.75	3.35	.85	1.72	3.25	3.12	1.62	.37	.95		
December - -	4.23	1.90	2.25	1.55	3.50	1.55	2.37	.95	6.72		
TOTALS -	26.32	24.03	27.60	19.65	30.13	23.38	22.10	22.85	30.05		

✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

1864 - "We think our old gauge was too much sheltered by the buildings"

1867 - Leighton, says "The Museum register is a copy of my own"

RAINFALL AT *Montrose Bridge Street*

Lat.....

Lon.....

County of *Forfar*

Rain Gauge, by.....

Observer *D. Scott Esq.**S. No. - 3.*

Diameter .....	.11										
Height .....	.3										
Altitude	25.										
YEAR	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	MEANS.
January.....	1.83	.90	3.42	2.87		4.00					
February	2.70	3.28	4.63	1.07		1.71					
March .....	.64	.81	2.33	2.00		1.89					
April .....	.56	5.24	1.94	27		1.17					
May	1.38	.62	1.31	2.14		1.32					
June	1.21	1.42	3.76	1.00		2.65					
July	1.13	3.98	1.88	3.15		2.80					
August .....	.95	1.05	2.25	2.73	5.76	1.65					
September.....	2.45	2.55	4.75	6.26	2.05	4.45					
October.....	4.05	2.70	2.50	2.85	2.43	4.45					
November.....	3.02	2.32	4.82	2.45	2.48	4.48					
December.....	4.10	1.14	3.65	1.90	1.71	2.32					
TOTALS	24.10	26.81	37.23	28.63		52.89					

1874 observations for months previous to Augt mislaid

RAINFALL AT *Montrose High Street*

Lat.....

Lon.....

County of.....

Forfar

Rain Gauge, by.....

Observer *Mr. Walter**Lightfoot**S. No - 3.*

Diameter .....	. 7											
Height	6 . 4											
Altitude	22 .											
YEAR	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	MEANS.	
January.....	1 . 72											
February	2 . 42											
March	3 . 5											
April	4 . 1											
May	1 . 36											
June	1 . 21											
July	1 . 10											
August .....	. 85											
September.....	2 . 16											
October.....	3 . 53											
November.....	2 . 65											
December.....	3 . 81											
TOTALS	21 . 57											

*1870 Bees & Butterflies seen April 20th Very heavy gale from
SE Dec. 19th*

RAINFALL AT *Montrose Museum*

Lat.....

Lon.....

County of.....

Forfar

Rain Gauge, by.....

Observer.....

*G. Buchanan Esq**S. 24k-3.*

Diameter		5									
Height		29.0									
Altitude		37		37 ^π							
YEAR	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	MEANS.
January.....		.75	2.42	3.20	1.23	2.25					
February		3.35		.65	.62	1.30					
March .....		.62		1.88	1.23						
April.....		5.35		.60	.75						
May .....		.62		2.20	2.12						
June.....		1.35		.47	.53						
July		3.52		3.08	1.65						
August.....		1.55		1.87	4.65						
September.....		2.12		4.50	1.67						
October.....		2.40		2.45	2.15						
November.....		1.00		2.10	1.90						
December.....		1.00	3.02	1.68	2.28						
TOTALS		24.87		24.68	20.78						

C C

1873 Jan sent to Mr B. = 9.10 Aug 1875 In Preston Guardian
 Aug 1.82 & total 24.825 while the true sum is 24.63
 no reply to enquiry
 1875 no reply

RAINFALL at Montrose GoughCounty of Forfar

Observer

S. L. Christie Esq. G.L. per S.M.L.River Basin South Esk & C 3

Rain Gauge, by

Diameter ...							5"					
Height							1' 0"					
Altitude ...							16					
Year ...	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	MEANS.	
January ...								1.52	2.68	2.02		
February ...								.94	2.00	2.10		
March								1.34	1.57	1.35		
April .....								.92	.38	2.70		
May								1.89	4.19	.62		
June								1.02	1.45	1.11		
July								1.43	4.64	.66		
August								3.48	1.77	2.49		
September...								.85	1.13	2.72	1.21	
October ...								3.39	2.34	1.85	2.34	
November ..								3.45	2.90	1.57	3.98	
December...								3.93	.90	1.31	4.87	
TOTALS ...								19.81	26.13	25.45		

Calculated 20/9/16. S. in *Thermometer enclosure* (30' x 20'). "Sella" 15' high, 25 yds E. 2000-storey house
32 yds W. On landward edge of a stretch of sandy waste land (2-300 yds broad) along sea front.

Date.	Lat. N.	Long.	Railway Station.	Distance.	Direction.	Church.	Distance.	Direction.

RAINFALL at MontroseCounty of ForfarObserver S. L. Christie EsqRiver Basin South Esk & G. 3.D. Maxwell Esq. 1923M.O. Rain Gauge, by 22.5/1922.

Diameter ...	5			5								
Height	1 0			1 0								
Altitude ...	16			16								
Year	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930 Mean	
January ...	1.33	1.69	3.30	1.68	2.59	1.52	4.02	1.63	4.17	1.29	1.15	
February ...	1.00	.50	1.63	3.99	1.09	2.90	3.85	1.22	.98	2.20	.76	
March	1.53	1.99	1.65	1.39	.62	.96	.61	2.10	3.71	.04	1.04	
April	2.35	1.43	2.38	2.28	2.13	2.43	1.55	1.16	.96	1.09	2.17	
May	3.00	2.25	.59	1.77	3.13	2.89	2.32	2.03	1.20	2.03	.69	
June .....	.54	.91	1.05	.63	1.28	.77	1.94	2.22	2.89	1.40	1.11	
July	3.29	1.73	3.10	1.93	4.37	1.90	2.23	1.89	1.86	2.93	2.09	
August	2.88	1.82	2.37	4.47	3.02	1.91	1.73	2.77	3.60	4.07	6.08	
September...	1.77	1.17	2.55	2.47	4.63	2.96	3.42	6.19	2.18	.37	4.29	
October	2.18	1.39	1.50	2.37	4.55	2.08	5.21	4.94	3.15	2.61	2.50	
November...	2.02	2.24	1.22	2.82	1.75	1.86	4.78	1.90	2.17	3.59	3.08	
December...	3.31	.88	1.25	3.24	2.79	1.87	.27	2.07	2.48	4.38	3.06	
TOTALS...	26.20	18.03	22.59	29.04	31.95	23.05	31.91	30.12	29.35	26.00	28.02	

1922 Gaddie Sheller 15 ft high 40 ft N.E.

1925. Obs. notes R. probably tampered with on July 26th, 7.1 mm adopted.

Position of Station on reduced Ordnance Survey } No. of Map

Map, 2 miles to 1 inch Series

Reference No.

Date.	Lat. N.	Long.	Railway Station.	Distance from gauge	Direction	Parish Church.	Distance from gauge	Direction
1922	56°42'45"	2°27'6"	G.R.	3/4 mi	S.S.W.	- -	1 mi	S.W.

RAINFALL at Montrose M.W.R.County of Angus (Dunfer) Observer D. Macleod, C.E.River Basin S. South Est. & C. The Broughty Burn (1935)Type of Gauge M.O.Annual Average 26.2 in. based on 11 years obs. un-weighted. Period of average 1881-1915 Ref. 5
Average file survey map but is not used in B.R. since 70 values do not fit map.

Diameter	5.										
Height	1. 0.										
Altitude	16.										
Year	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	Means
January	3.24	1.21	1.57	1.23	1.05	4.50	3.52	2.78	3.52	1.27	
February	2.46	.18	1.76	.08	1.77	2.55	2.54	.89	1.66	1.27	
March	.66	2.23	1.28	1.98	1.53	1.46	2.34	.28	2.75	2.72	
April	2.17	1.69	1.56	5.58	2.72	.43	1.66	.38	.54	.99	
May	2.20	2.07	.95	2.14	1.16	1.13	2.04	2.90	1.27	1.25	
June	4.32	.91	.85	.59	3.67	.87	1.79	2.98	1.48	.29	
July	4.87	3.01	2.90	2.55	.98	3.77	3.74	3.22	4.09	5.53	
August	2.20	.43	.86	2.91	1.63	.94	7.21	.58	1.92	1.00	
September	1.57	1.75	.89	3.00	3.48	3.04	1.32	2.78	2.57	2.18	
October	.58	6.27	3.41	2.70	3.50	.86	2.77	2.99	2.31	4.22	
November	5.18	1.00	2.19	.87	4.10	1.05	.70	3.09	3.14	5.71	
December	1.04	1.98	1.26	4.07	2.17	1.71	3.50	2.63	1.10	1.78	
TOTALS	30.49	24.83	19.48	27.70	27.76	22.31	33.13	25.50	26.32	28.21	
	D.	D.	D.	?	D.	D.	D.	D.	D.	D.	

Inspected 26/5/34 by Mr. Horne. Gauge leaky, badly battered, rim out of shape, and pipe broken. Probably over-exposed (see enc 103, 1300477/32). The Eng. engineer will alter exposure as recommended.

Will be New gauge placed 10' further from sloping ground.

1933 up.

1932 Pinned with query.

1940 Obs. suspended due to shortage of staff. will be resumed later

Resuming 31-42

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 from gauge	Parish Church.	Distance from gauge	Direction from gauge
1931.			L. M. S.	3/4 m	SW.	High Street.	3/4 m	WSW.

Station No. 5601

RAINFALL at Montrose (M.W.R.)

41

County of Angus (F. & P.) Observer The Borough Surveyor

River Basin 3 - South Esk & C.

Type of Gauge M.O.

Annual Average 26.2 in. based on 11 years obs. w. weighted. Period of average 1881 - 1915 Ref. S
 Average fits survey map but is not used in B.R. since 70 values do not fit map.
 File No.

Diameter	5				854	647					
Height	0					1					
Altitude	16.					41					
Year	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	Means
January	2.60	3.83	3.15	1.13	3.73	1.42	3.82	3.83	.89	1.33	
February	3.10	(1.47)	1.05	0.84	1.91	1.08	2.28	2.12	1.06	1.74	
March	1.06	1.37	0.39	0.77	0.78	1.57	(2.90)	.34	1.25	1.70	
April	2.01	1.13	1.24	2.51	1.05	.32	2.49	.97	1.72	1.13	
May	-1.00	2.34	3.69	2.26	4.05	1.48	3.32	3.24	1.38	1.08	
June		0.79	0.89	2.11	2.07	3.36	2.00	3.18	1.07	.82	
July		1.86	1.61	1.73	2.79	4.49	1.68	1.97	1.84	3.60	
August		3.04	3.61	1.30	4.25	2.32	.08	5.09	3.08	2.62	
September		2.41	2.12	1.89	3.39	3.00	1.53	1.81	1.68	5.33	
October	-1.00	2.24	2.46	4.17	4.28	.44	1.39	2.43	3.03	1.24	
November	3.39	0.37	1.09	2.43	1.08	5.83	1.77	.88	3.28	2.82	
December	0.73	2.17	.88	2.52	4.33	3.12	1.92	3.17	1.51	1.63	
TOTALS	-1.00	23.02	22.18	22.66	33.71	28.43	25.18	29.03	21.79	25.04	

1941. Obs. suspended owing to absence of staff on war service.

1942. Feb 2 cord for snow.

1947. had adj. for snow.

Inspected 28.11.47 by Mr Ratway gauge sound & not sheltered. Low readings due to interference & distortion of rim. (diff of diameters .4 in.)

Mr. N. Thomson 20.5.49. Gauge sound, measure checked & correct. Gauge sound & correct - Camera sholen but bottle has never overflowed. Map Mr. Thomson 26/4/50. Gauge falling off could be due to interference.

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

RAINFALL at MontroseM. N. R.

51

County of Angus (Forfar)Observer The Borough SurveyorRiver Basin Elph. Bk. + 6.3Type of Gauge M.D.Annual Average 26.2 in. based on 11 years obs. un-weighted. Period of average 1881-1915 Ref. S

File No.

Diameter ...	5 1/2"				8 1/4	6 1/4					
Height ...	1' 0"					1					
Altitude ...	106'					51					
Year ...	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	Means
January ...	4.11	1.18	0.57	1.18							
February ...	2.11	0.75	0.61	2.16							
March ...	1.74	2.74	.25	2.00							
April ...	2.36	1.10	2.86	1.15							
May ...	1.24	2.78	1.73	3.11							
June ...	1.58	2.35	1.28	1.53							
July ...	2.75	2.26	3.62	1.68							
August ...	3.61	2.05	2.19	1.00							
September ...	1.51	0.56	2.58								
October ...	0.77	2.34	1.17								
November ...	6.24	1.72	2.23								
December ...	1.41	1.90	2.92								
TOTALS ...	29.43	21.73	22.01	1.00							
	D	D	D	mc							

Imp. T. Thomson 9.6.53. New circular cover supplied to NRS so hole is closed 1 ft above ground surface. Sump well hole back.
 Imp. T. Thomson 19.6.54. Leak in delivery tube but bottle used & less reliable.

Sump well completed 23/12/53.

Sump well round gage 23.12.53

Position of Station on Ordnance One-Inch map :

No. of Map.....

National Grid Reference 37/724582

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

Summary of Earlier Records from 10-year Sheets :

Record D, or d	1910-19	1920-30	1931-40	1941-50	1951-60
	<u>Comp. 1916</u>	<u>✓</u>	<u>✓</u>	<u>✓ mp. 41</u>	<u>✓</u>
	<u>—</u>	<u>D 21-30</u>	<u>D 31-33. 35-40</u>	<u>✓ mp. 41</u>	<u>✓</u>