

Durham e N 13⁵⁰
 Long. $6^{\circ} 19' 75''$ W. Lat. $54^{\circ} 46' 6''$ N
 Mps. Ret. No. 11

Obs: A Marth Capt. gauge 8 in diam 338¹/₂ ft + ground
 + Sea Level

YEAR - -	1850	1851	1852	1853	1854	1855	1856	1857	1858	1859	MEANS.
January - -	2.54	1.84	1.62	1.87	4.45		2.50	2.42	.33	.58	
February - -	.62	.64	.63	4.26	1.26		1.09	1.02	.66	.60	
March - - -	.44	2.12	.38	1.54	.41	3.79	.32	2.26	.46	1.27	
April - - -	1.60	1.78	.70	.75	.54	.26	2.28	2.46	.54	2.41	
May - - -	1.30	1.39	1.89	.88	2.26	1.81	4.40	2.00	1.39	.26	
June - - -	1.91	2.38	3.38	.95	2.53	3.13	2.49	2.16	1.17	2.08	
July - - -	4.07	2.64	3.37	2.62		2.98	1.75	1.10	3.55	3.08	
August - -	1.21	3.53	4.07	2.01	1.95	3.27	4.12	4.86	2.27	1.16	
September -	1.04	3.62	5.22	2.26	.02	0.29	5.01	3.95	2.48	2.32	
October - -	2.81	.28	3.04	3.02		4.12	1.44	1.55	2.19	2.28	
November -	2.37	.80	3.87	*.11	3.29	2.60	1.41	2.60	2.12	2.62	
December -	.35	.20	3.38	b.70	*.38	1.85	2.84	0.17	1.27	2.91	
TOTALS -	20.26	21.22	31.55	26.97			29.65	26.55	18.73	21.57	

c c c c c c c c c

6-8 in Tyndall Nat Club Trans correctly

Observations before 1850 not reliable

* Mr. Wansley (Durham) f 130164/31 writes:-

1938 - (x 1854) - Aug & Sept incomplete. See total given as over by

also incomplete
G. Wansley, Esq. Durham. July & Oct entirely missing.

(1855) - Jan & Feb missing. April & Dec totals "bracketed":

(1853) - Due total maybe approx., as readings are all even figs.

"I should distrust any record from Durham Observatory from
 1865 to 1879 inclusive, although from 1866 an 8" gauge was running
 the totals from which are in better agreement with neighbouring
 stations."

G. Wansley Esq 7/12/38

Durham Observatory
Edw. G. Marshall

Observer A. Marth Esq. Rep. No. 11

Gauge Dividuum. 1 ft + ground 62 354 64
⁰⁰ 330 63
 341 ft + S. Level 61

YEAR --	1860	1861	1862	1863	1864	1865	1866	1867	1868	1869	MEANS.
January --	3.31	1.21	1.79	2.89	1.02	1.02	1.00				
February--	1.46	2.56	1.18	.42	1.51	1.38	1.47				
March -- -	1.66	1.83	3.98	1.86	2.46	1.04	3.07				
April -- -	.62	1.55	1.06	.63	1.22	1.06	1.94				
May -----	2.33	.72	2.17	1.42	1.47	3.70	1.04				
June-----	3.97	2.94	2.17	4.41	1.50	.76	1.86				
July -----	3.17	3.17	1.50	1.00	.75	1.74	3.50				
August-- -	2.73	1.37	3.20	1.94	1.24	4.33	2.74				
September -	1.61	2.52	1.24	2.01	1.23	.01	4.43				
October --	1.92	1.27	1.57	3.44	5.54	6.29	1.06				
November -	2.79	4.01	.89	2.54	2.11	1.89	1.50				
December -	4.76	1.15	1.07	1.53	3.18	1.58	1.50				
TOTALS -	30.33	24.28	21.82	24.09	23.23	24.80	25.11				

c c c c c c c

After 1866 adjacent shrubs vitiated the readings of this gauge and a new one was adopted as the true record - During 1866 both were used and the difference was incon- siderable.

Mr. Manning writes X1/38 "I showed distinct any rainfall record from Durham Obs. from 1865 to 1879"

RAINFALL AT Durham

Observatory

J. Plummer

Rain $\left\{ \begin{array}{l} \text{By} \\ \text{Gauge} \end{array} \right.$

Diameter, 12 in.

Height above Ground, 4 ft. 6 in.

Above Mean Sea Level, 335 ft.

YEAR	1867	1868	1869	MEANS.
January	4.60	2.64	2.74	
February	- .81	2.06	2.20	
March	3.00	1.41	2.15	
April	1.25	3.65	1.66	
May	1.90	1.17	3.30	
June	1.36	.33	1.42	
July	3.14	.97	.94	
August	2.11	2.57	2.23	
September ...	1.89	4.59	4.03	
October	1.12	2.27	2.53	
November67	2.42	3.03	
December	1.57	6.69	3.33	
TOTALS.....	19.43	30.77	29.56	

c c c

1869 Dec 25th 26th average depth of snow about 10 in.
 though in some places it was drifted to 3 ft. when
 melted nine yielded 1.065 in

RAINFALL AT Durham Observatory

Lat.....

Long.....

County of Durham.....

Side tube Rain Gauge, by..... Observer J. J. Plummer Esq.

Diameter	1										
Height	4.6						4.8				
Altitude	335.				340						
YEAR	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	MEANS.
January	2.30	.86	2.90	2.07	2.28	4.25	.54	6.18	2.51	1.05	2.488
February	1.99	1.69	3.36	1.66	2.06	1.74	2.44	2.19	1.13	3.20	2.146
March	1.49	.73	3.67	2.24	1.54	.70	3.24	4.59	.98	.98	2.016
April	6.3	3.36	3.34	1.21	1.82	1.02	3.23	6.06	2.57	2.15	2.539
May	1.78	1.70	2.43	2.52	3.21	1.14	1.21	3.18	4.09	2.45	2.371
June	2.02	2.85	2.61	1.63	1.42	2.61	2.81	1.69	2.95	4.25	2.484
July	- .57	3.12	3.90	2.73	1.85	4.31	2.90	3.81	.19	4.41	2.779
August	2.14	.81	3.27	2.71	2.77	2.59	2.87	6.08	6.81	3.35	3.340
September	3.4	4.80	4.46	1.81	2.54	3.24	3.14	1.83	2.34	1.23	2.573
October	3.76	1.75	6.31	2.00	2.40	6.69	2.47	3.78	1.93	.68	3.177
November	2.11	1.66	6.16	2.04	4.63	7.13	5.23	3.06	7.41	1.92	4.135
December	5.53	? 3.6	6.06	.49	6.53	1.84	10.20	2.24	3.78	.59	3.856
TOTALS	24.66	24.69	48.49	22.99	33.05	37.26	40.28	44.69	36.69	26.26	33.904

C C C

1871 Do. doubtless the of being broken an older gauge in a somewhat sheltered situation was recorded, the total is therefore somewhat too small. J. J. P.

1877 At the commencement of the year it was found necessary to move the gauge about 1.6m N of its former position

Mr. Hawley writes X/1/38 - "I should distrust any rainfall record from Durham Observatory from 1865 to 1879." So should I

J. G.

RAINFALL AT Durham Observatory

70

Lat.

Long.

County of Durham

Rain Gauge, by

Observer G. A. Goldney Esq

Diameter.....										.8	
Height.....										4.3	
Altitude.....										340	
Year	1870	1871	1872	1873	1874	1875	1876	1877	1878	1879	MEANS.
January.....										1.85	
February.....										2.35	
March.....										.80	
April										1.88	
May.....										2.23	
June										3.57	
July.....										3.98	
August										3.51	
September.....										1.24	
October.....										.68	
November....										1.93	
December60	
TOTALS										23.62	

1879 Tues 30th High 70ft N.W.

S. Margaret in Broadgate church $\frac{1}{2}$ mile N.E.
 1879 Total of the first six months 3 inches too small

RAINFALL AT Durham Observatory **80**

Lat.

Lon.

County of Durham

Rain Gauge, by

Observer J. A. Goldney, Esq.Wear 2

Diameter	12										
Height	4.8										
Altitude	340 ft										
Year	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	MEANS.
January	.48										
February	1.97										
March	1.31										
April	1.91										
May	1.37										
June	2.48										
July	4.22										
August	1.89										
September	5.03										
October	4.06										
November	2.01										
December	2.79 $\frac{1}{2}$										
TOTALS	29.52										

1880. St. Oswald in Ebet $\frac{1}{2}$ mile E.

Gauge so much damaged by frost in Jan 1881 that it had to be discontinued.

RAINFALL AT Durham

Lat.

Long.

County of

Durham

Rain Gauge, by

Observer The Meteor Council

Wear 2

Diameter	12										
Height	40										
Altitude	340										
Year	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	MEANS.
January	2.08	1.01	1.91	1.30	1.06	3.72	.71	1.86	1.00	2.29	1.694
February	1.32	.08	1.93	2.12	2.05	1.34	.50	.94	.75	1.31	1.224
March	2.02	2.72	1.14	.43	.89	1.92	1.84	2.43	1.96	1.24	1.659
April67	1.65	1.31	.37	1.10	1.33	.81	1.65	2.03	2.17	1.309
May	2.33	1.45	2.84	2.33	2.84	.92	.53	1.46	1.63	3.22	1.905
June	2.36	.16	3.16	.81	3.70	1.51	2.00	2.95	1.53	1.73	1.991
July	1.79	4.19	1.68	4.48	1.58	4.96	2.51	1.23	.65	3.03	2.610
August	4.99	5.00	3.92	2.14	2.51	2.32	2.10	2.39	1.78	1.10	2.825
September	1.82	1.86	2.93	1.77	.87	.59	2.22	2.14	.32	2.40	1.692
October	1.48	1.93	5.57	.71	5.07	4.98	5.87	1.42	4.86	1.92	2.381
November	3.27	2.24	1.23	2.36	.78	2.47	1.34	1.75	3.05	1.56	2.005
December	1.73	2.26	.96	1.29	1.28	1.85	4.08	1.59	1.20	2.50	1.874
TOTALS	25.86	24.55	28.08	20.11	23.73	27.91	24.51	21.81	20.76	24.47	24.179

RAINFALL AT

Durham

Lat.

Long.

County of

Durham

Rain Gauge, by

Observer Meteorological Council

Wear 2

Diameter									12		
Height									4. -		
Altitude									340		
Year.....	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	MEANS.
January						1.97	3.79	1.45	.74	.81	
February89	.90	.54	1.24	1.03	
March						2.24	2.45	2.08	4.07	2.27	
April						1.52	1.52	.77	2.43	2.14	
May						3.86	2.85	2.03	.52	1.50	
June						1.70	.92	.25	1.60	.37	
July						1.29	5.08	.82	8.25	2.68	
August						2.74	.92	1.50	1.71	3.22	
September						2.41	1.51	4.51	1.28	.84	
October						4.54	5.06	2.29	.68	3.71	
November						1.89	3.58	2.98	4.10	.90	
December56	3.55	2.29	.72	1.19	
TOTALS						25.61	32.12	21.51	27.34	20.66	

1886 March g. slightly lowered

RAINFALL AT Durham Observatory

80

Lat.

Lon.

County of Durham

Rain Gauge, by

Observer G. A. Goldney, Esq.

Wear 2

Diameter	8										
Height	4.3										
Altitude	340 ft										
Year	1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	MEANS.
January.....	.53	.88	.72	1.89	3.17						
February.....	1.74	2.76	.91	1.66	1.27						
March.....	1.27	2.20	1.48	1.87	2.53						
April.....	2.03	.98	3.60	1.59	2.04						
May.....	1.50	1.25	2.27	1.81	.67						
June.....	2.62	2.16	3.32	2.46	1.02						
July.....	4.18	3.08	3.57	3.73	3.89						
August.....	1.93	3.85	2.88	1.12	.73						
September.....	5.05	3.21	2.10	4.12	1.38						
October.....	4.02	3.68	4.79	2.36	1.51						
November.....	2.24	1.76	3.30	.92	1.78						
December.....	2.76	2.28	4.40	1.53	1.27						
TOTALS	29.87	28.09	33.43	25.06	21.26						

1783-84 from M.D.3 Eastern sheet 9.22

St Margaret Church Grosvenor Durham 1/2 mile NE.

Hedge 5ft 6in high 12ft N

Trees 20ft - 75ft NW

See next sheet for continuation

RAINFALL AT Durham Observatory

Lat.

Lon.

County of Durham

Rain Gauge, by

Observer The Meteor Council

Year - 2.

Diameter ..	12										
Height	4.0										
Altitude ..	340							352			
Year	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	MEAN.
January ..	1.86	1.07	.52	2.29	1.77	.35	2.27	.54	1.08	.60	1235
February ..	3.69	1.13	1.04	1.05	1.65	.71	1.06	1.04	1.09	1.39	1385
March	1.40	1.39	.55	1.20	1.23	1.21	1.34	.85	2.93	4.25	1635
April.....	.95	.97	1.46	1.38	1.01	2.85	.87	2.01	2.79	2.24	1653
May	1.19	1.66	2.28	2.69	2.95	.32	3.73	3.73	1.79	1.32	2166
June	3.14	1.22	1.98	2.39	1.30	.69	.84	3.03	.46	1.91	1696
July	1.12	2.56	2.76	4.83	1.71	.76	1.38	1.56	2.51	2.19	2138
August	5.08	2.16	1.78	1.64	2.48	2.73	2.55	1.49	2.03	2.93	2487
September..	.68	1.39	.90	2.34	.99	2.22	.46	.25	1.65	1.98	1286
October....	5.42	2.38	2.10	7.95	.72	2.24	4.46	5.59	1.32	2.09	3427
November ..	2.40	5.11	1.11	2.05	1.79	4.59	2.85	1.89	1.09	.76	2364
December ..	1.82	1.89	2.05	1.00	1.39	.52	1.98	2.95	.66	3.12	1728
TOTALS ..	28.75	22.93	18.53	30.81	18.99	19.19	23.79	24.63	19.40	24.78	23200 675

H.W.

10
3539RAINFALL at Durham ObservatoryCounty of DurhamObserver Meteorological OfficeRiver Basin Wear2

2. C.H. Carpenter Esq.

A. Robinson Esq. 1918.

Rain Gauge, by _____

Diameter ...	12								8	
Height	4.0								10	
Altitude ...	352			336						
Year ...	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919
January ...	2.17	1.46	3.12	2.53	1.42	2.67	.63	3.15	2.00	2.73
February ...	2.07	.83	1.93	.69	1.30	2.48	2.90	.87	1.24	1.54
March63	1.72	1.93	2.20	1.36	2.06	3.61	2.08	1.24	2.08
April	2.41	1.09	.09	4.01	.34	.57	1.55	1.81	1.45	1.54
May	1.66	.69	2.26	2.50	1.39	2.19	2.42	3.04	1.38	.83
June.....	2.39	3.57	4.41	1.00	4.49	.87	1.66	1.37	.32	.89
July	2.90	.64	3.53	.88	2.63	3.56	2.33	1.03	3.38	1.90
August.....	2.45	1.99	4.17	1.84	1.45	3.01	3.21	6.19	1.41	2.33
September ..	.37	1.63	1.68	2.80	1.64	1.64	1.44	.98	4.60	.98
October ...	2.91	2.43	2.57	2.64	1.90	1.28	2.45	1.97	1.95	4.71
November ..	2.98	3.54	1.99	1.17	3.44	1.58	2.59	.91	1.16	3.60
December ...	1.92	3.40	1.51	1.13	4.53	5.27	2.47	2.62	2.47	2.27
TOTALS ...	24.86	22.99	29.19	23.39	25.89	25.98	27.26	26.02	22.60	26.05
										101.93

Shrubs 3ft - 10yds N.

Date.	Lat. N.	Long.	Railway Station.	Distance.	Direction.	Church.	Distance.	Direction.
1918	56.26	1.35 W.	Durham	1/4 miles	N.E.	St. Margaret's	3/4 mile	E.N.E.

RAINFALL at Durham ^(Durham Observatory) M.W.R.
 County of Durham Observer Miss Obsr. (A. Beaufort.)
 River Basin Wear - 2. (F. Sargent, Esq.) left 1929
 Type of Gauge Standard (+ A)

Annual Average 24.6 in. based on 25 years obs. un-weighted. Period of average 1881-1915 Ref. Bogn.

Diameter	8.										
Height	1.0.										
Altitude	336.										
Year	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	Means Total
January	1.98	1.48	1.67	1.19	2.25	3.41	2.74	1.93	4.80	1.61	23.11
February	1.20	1.04	3.36	1.43	3.20	3.45	3.04	1.12	.73	2.00	19.57
March	1.48	2.20	1.07	2.54	.60	2.34	3.11	.30	2.85	1.84	18.36
April	3.09	1.28	1.04	3.70	3.20	1.46	2.22	.09	1.12	1.56	18.76
May	2.78	4.10	2.33	1.30	.80	1.67	2.78	3.43	1.33	1.56	22.08
June	3.62	1.17	1.43	2.10	2.80	3.47	1.70	2.70	2.48	1.31	22.78
July	4.00	4.35	1.76	2.19	.27	3.03	3.14	2.31	3.11	5.25	29.41
August	2.21	2.68	.95	2.43	1.99	2.06	1.50	1.59	4.29	.83	20.43
September	3.32	2.18	2.13	1.69	5.32	2.70	1.54	2.40	1.38	1.30	23.99
October	1.06	3.99	3.11	3.13	3.62	1.36	1.66	3.15	5.61	3.07	29.76
November	2.10	.74	3.56	2.39	4.06	2.44	1.34	2.34	2.50	3.47	24.94
December	.98	.92	1.97	4.09	1.78	1.77	6.36	4.15	1.27	2.10	25.39
TOTALS	27.82	26.06	24.38	27.18	29.89	29.16	31.16	25.56	31.47	25.90	278.58

Average appears 2" too low on Survey, so may be on top of hill, similarly exposed to winds from South.

Inspected 29/V/34. Rain recorder leaking, recommended to repair.

1936. Rainfall recorder gauge purchased in 1936.

1937 Inspected 23-7-37. Site fairly satisfactory on sloping ground but not at the top of hill.

RAIN RECORDER CHART	FROM 7/36	TO 1/71
MICROFILM STN		

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

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

Station No. 3539

RAINFALL at Durham (Univ Obs) M.W.R.

41

County of Durham

Observer The Director

River Basin Wear - 2

M.O. 1946

Type of Gauge Standard (+A)

Annual Average 24.1 in. based on 35 years obs un-weighted. Period of average 1881-1915 Ref. B of N

File No. E6948747

Diameter	8"		024	724			5"			8"	
Height	1'0"			1			1'0"				
Altitude	336'			41			336'				
Year	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1941-50 Means Totals
January	3.35	1.94	3.16	89	3.66	1.31	1.89	741	.57	1.64	26.82
February	6.00	1.66	75	2.17	1.45	.32	3.17	1.15	.50	3.02	20.19
March	2.51	1.07	.64	.38	.46	1.41	3.85	80	1.11	.82	13.05
April	1.06	.81	.96	2.14	1.29	1.81	3.45	138	1.52	1.21	15.73
May	1.19	1.54	2.30	1.73	3.08	2.18	1.95	1.16	.61	1.49	17.22
June	.85	1.12	1.18	2.14	2.11	1.72	1.88	330	1.30	.77	16.37
July	1.43	3.00	1.55	3.40	1.61	2.98	2.21	1.69	2.00	3.96	23.83
August	2.29	2.02	3.88	1.44	3.37	3.62	.30	381	1.45	4.82	27.30
September	.50	2.65	3.43	5.18	1.90	3.96	1.68	3.89	.79	4.21	28.19
October	3.57	1.71	1.67	3.25	3.67	1.62	.55	156	2.44	.90	20.94
November	3.48	.66	1.75	4.97	.88	4.78	2.08	134	3.95	5.55	29.44
December	.57	2.08	1.18	1.34	1.35	2.74	1.51	228	2.05	3.17	18.27
TOTALS	26.80	20.26	22.45	23.03	24.83	28.45	24.52	2946	18.59	31.66	256.35
	D	D	D	D	D	D	D	D	D	D	D

Inspectd Mr. Bowles 14.9.49. Gauge sound but not rigid. Site on level ground with steep drop 40' away from gauge to S. Numerous objections to this exposure.

5" gauge into use 12/6/46.

RAIN RECORDER CHART
MICROFILM STN

FROM 7/36	TO 12/71
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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

Station No. 3539

RAINFALL at Durham (Univ. Obse) M.W.R. (77)

County of Durham

Observer The Director

River Basin Wear - 2

Type of Gauge M.O. (ft A)

Annual Average 24.6 in. based on 35 years obs. un-weighted. Period of average 1881-1915 Ref. BfN P
 26.31 " " " " 1916-1950
 File No. 1916-1950 69277

Diameter ...	5"		024724									Means
Height ...	1' 0"			1								
Altitude ...	326'			51								
Year ...	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960		
January	1.15	1.67	.53	2.23	2.13	3.25	1.71	1.37	2.00	4.23	20.27	
February	2.00	1.42	2.03	1.89	2.39	2.13	2.25	(3.71)	.59	2.24	20.09	
March	3.37	1.20	.05	1.32	1.67	.50	1.02	2.17	.57	1.74	13.61	
April	1.13	1.71	2.01	.40	.55	.74	.27	1.24	1.50	1.07	10.62	
May	3.92	1.06	1.66	4.73	1.64	.54	1.55	3.61	.52	1.96	21.19	
June	.91	1.17	2.39	1.59	2.51	3.20	1.29	2.84	2.41	.21	18.52	
July	1.70	.63	2.30	1.73	.97	1.86	3.02	2.02	1.22	3.32	18.77	
August	4.16	2.19	5.09	4.91	.61	6.92	3.03	2.47	.25	2.33	31.96	
September	1.06	4.23	1.21	1.94	.73	1.91	3.37	1.74	.70	2.22	19.11	
October	1.75	2.89	1.63	4.19	1.40	1.32	1.50	1.34	.98	6.79	28.79	
November	5.53	3.07	.98	3.57	1.76	.64	1.28	.48	3.53	2.79	23.63	
December	2.24	2.24	.69	2.14	2.72	1.73	1.35	3.16	3.03	1.91	21.21	
TOTALS ...	29.36	22.48	30.57	30.64	19.08	24.74	21.64	26.15	17.30	30.81	24.277	10
	D	D	D	D	D	D	D	D	D	D		

Aug. 11 R.P. Walker S.S.S. Hedge needs trimming N.E. culture. Wall now broken. Old wire well qualified linear
 Sept. 10 D. Deacon 2.6 ft. Subsidy concreted trees 45' N.W. are now 35' high. Cut to 20'. 7.7.56
 Aug. 16.7.57 A.C. Hayes 9 sand. Gentle slope 6.5 becoming steeper 30° 6.5' Height of trees to 1916 set.
 but should not be altered to grow bigger. Hedge to N should also be kept at present height 6.5'.
 8.8.58 A.C. Hayes 9 sand. Gentle slope 6.5 → steeper after sowing. Hedge to N & trees NE have been reduced in ht. 6.5 more feet.

RAIN RECORDER CHART

MICROFILM STN

FROM	TO
7/36	12/51

N2(65) 264415

Position of Station on Ordnance One-Inch map : No. of Map National Grid Reference N2(65) 264415

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

Summary of Earlier Records from 10-year Sheets :

1916-1950, P-accepted

Record D. or d	C 1890	1910-19	1920-30	1931-40	1941-50	1951-60
		V	V	V	V	V
	V = L - 10-18					