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SUMMERS IN DUBLIN

- by -

W.A. Morgan, M.Sc.

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Poulter\* has recently suggested using mean temperature, rainfall and sunshine duration to derive an index of summer weather, where summer is taken as comprising the months June, July and August. He takes the ranges of values over the whole period of record considered and uses weighting factors to produce a range of about 70 for each of the elements concerned. The weighting factors are taken to be positive in the case of mean temperature and sunshine duration and negative in the case of rainfall. The index is then taken to be the algebraic sum of the weighted values.

Over the period 1880 - 1964 the extreme ranges of the elements concerned at Dublin (Phoenix Park) were

Warmest	Summer	Mean Temperature	16.1°C	1933
Coldest	"	" "	12.6°C	1912
Sunniest	"	Sunshine Duration	677.0hours	1887
Dullest	"	" "	337.5hours	1912
Driest	"	Rainfall amount	61.1 mm.	1887
Wettest	"	" "	426.4 mm.	1958

The figures give a range of mean temperature of 3.5°C, of sunshine duration of 339.5 hours and of rainfall of 365.3 mm. Accordingly the following weighting factors have been adopted.

Mean temperature	(°C)	x	20
Sunshine Duration	(hr.)	x	1/5
Rainfall	(mm.)	x	-1/5

The index,  $I_{SD}$ , for Summer for Dublin (Phoenix Park) is then

$$I_{SD} = 20T + \frac{S}{5} - \frac{R}{5}$$

Where T = Mean temperature (°C) for June, July and August  
 S = Total sunshine duration (hours) for the three months  
 R = Total rainfall (mm) for the three months,

The values of  $I_{SD}$  for the past 85 years are given in Table I.

Table I. Summer Weather Index for Dublin (Phoenix Park), 1880-1964.

Decade Commencing	INDIVIDUAL YEARS										Decadal Mean
	0	1	2	3	4	5	6	7	8	9	
1880	339	316	332	312	351	348	355	435	302	346	344
1890	318	338	325	393	311	323	361	357	370	394	349
1900	325	362	328	306	374	346	387	313	351	335	343
1910	325	392	258	355	365	319	342	353	345	353	341
1920	314	376	322	336	303	382	375	312	333	332	339
1930	334	311	353	401	388	388	337	348	305	344	351
1940	379	344	348	360	338	342	304	382	327	390	351
1950	359	356	352	353	315	364	321	354	279	403	346
1960	346	337	329	332	339						

Mean of all values = 345

The indexes of the worst and best summers are given in Table 2 and all values are plotted in Fig. 1.

Table 2.      Summer weather indexes for the worst and best summers in the period 1880 - 1964.

<u>Worst Summers</u>		<u>Best Summers</u>	
<u>Index</u>	<u>Year</u>	<u>Index</u>	<u>Year</u>
258	1912	435	1887
279	1958	403	1959
302	1888	401	1933
303	1924	394	1899
304	1946	393	1893
305	1938	392	1911
306	1903	390	1949
311	1894, 1931	388	1934, 1935
312	1883, 1927	387	1906.

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\* "The next few summers in London" by R.M. Poulter:

Weather, August 1962, pp. 253-255.

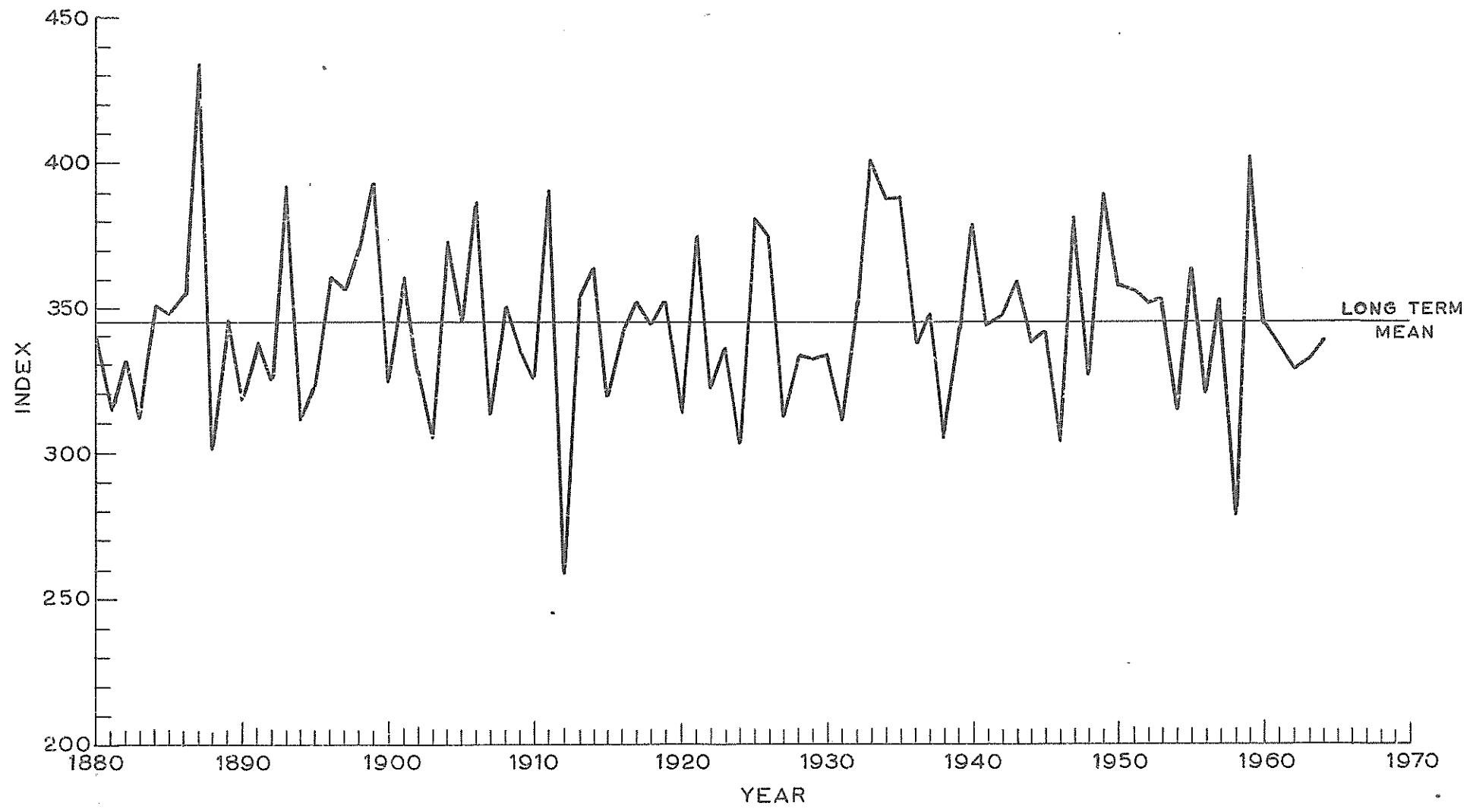


Fig 1 Summer Weather Index,  $I_{SD}$ , for Dublin (Phoenix Park) for the years 1880 - 1964.