

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

WATERFORD (IRELAND)

Altitude: 41 m.

Latitude: 52°16'N Longitude: 7°7'W

Temperature observation period.: 1966-1994 (29)

Rainfall observation period....: 1959-1994 (36)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	5.56	8.33	2.78	13.89	-8.89	93.0	18.24
Feb.	5.56	8.33	2.78	15.00	-7.22	82.0	19.50
Mar.	6.67	10.00	3.33	20.56	-6.11	69.1	31.40
Apr.	8.61	12.22	5.00	21.11	-3.33	64.0	46.96
May.	11.11	15.00	7.22	25.00	-0.56	57.9	71.84
Jun.	13.89	17.78	10.00	27.22	2.78	67.1	93.32
Jul.	15.56	19.44	11.67	30.00	5.00	81.0	106.16
Aug.	15.56	19.44	11.67	27.78	4.44	96.0	96.23
Sep.	13.61	17.22	10.00	24.44	1.11	69.1	70.13
Oct.	10.56	13.89	7.22	22.22	-2.22	100.1	45.86
Nov.	7.50	10.56	4.44	17.22	-6.11	94.0	25.84
Dec.	6.11	8.89	3.33	15.00	-8.33	117.1	19.34
Year	10.02	13.43	6.62	21.62	-2.45	990	644.82

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	211
Compensated thermicity index.....(Itc):	211
Simple continentality index.....(Ic):	10.0
Diurnality index.....(Id):	7.8
Annual ombrothermic index.....(Io):	8.23
Monthly estival ombrothermic index.....(Ios1):	4.83
Bimonthly estival ombrothermic index.....(Ios2):	5.69
Threemonthly estival ombrothermic index.....(Ios3):	5.42
Fourmonthly estival ombrothermic index.....(Ios4):	5.38
Annual ombro-evaporation index.....(Ioe):	0.91
Annual positive temperature.....(Tp):	1203
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	450
Positive precipitation.....(Pp):	990

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	12	0	0	0	0

Latitudinal Belt...: Low subtemperate

Continentalty.....: Hyperoceanic - Low Subhyperoceanic

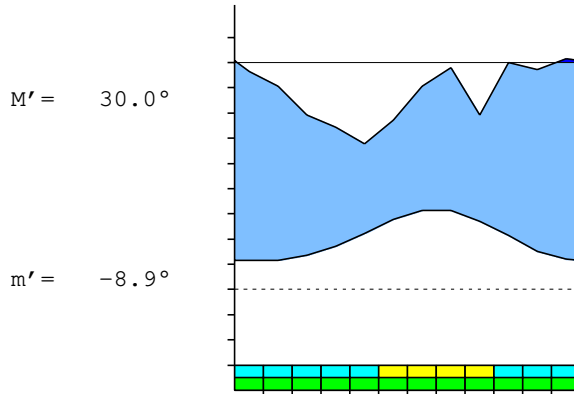
Bioclimatic.....: TEMPERATE HYPEROCEANIC

Bioclimatic Belt...: UPPER MESOTEMPERATE LOW HUMID

WATERFORD (IRELAND)

41 m

P= 990 52° 16'N 7° 7'W 29/36 y.
 T= 10.0° Ic= 10.0 Tp= 1203 Tn= 0
 m= 2.8° M= 8.3° Itc= 211 Io= 8.2



TEMPERATE HYPEROCEANIC
 UPPER MESOTEMPERATE LOW HUMID

WATER INDEX CARD

WATERFORD (IRELAND)

Altitude: 41 m.

Latitude: 52° 16'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	5.6	18	93	0	100	18	0	75	69	4.0
Feb.	5.6	20	82	0	100	20	0	62	66	3.2
Mar.	6.7	31	69	0	100	31	0	38	52	1.2
Apr.	8.6	47	64	0	100	47	0	17	34	0.3
May.	11.1	72	58	-14	86	72	0	0	17	-0.1
Jun.	13.9	93	67	-26	60	93	0	0	9	-0.2
Jul.	15.6	106	81	-25	35	106	0	0	4	-0.2
Aug.	15.6	96	96	-0	34	96	0	0	2	0.0
Sep.	13.6	70	69	-1	33	70	0	0	1	0.0
Oct.	10.6	46	100	54	88	46	0	0	1	1.1
Nov.	7.5	26	94	12	100	26	0	56	28	2.6
Dec.	6.1	19	117	0	100	19	0	98	63	5.0
Year	10.0	645	990	*	*	645	0	346	346	*

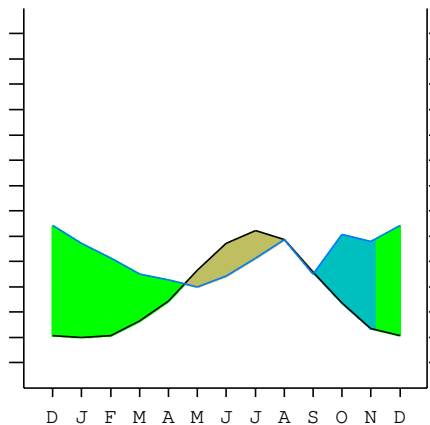
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

WATERFORD (IRELAND)

52°16'N 7°7'W 41 m 29/36 y.

T= 10.0 Ic= 10.0 TEMPERATE HYPEROCEANIC
 m= 2.8 Tp= 1203 UPPER MESOTEMPERATE
 M= 8.3 Tn= 0 LOW HUMID
 M' = 30.0 Itc= 211
 m' = -8.9 Io= 8.2
 P= 990 mm ———
 PE= 645 mm ———

Imbibing	1 Sep.
Saturation	6 Nov.
Reserve Use	17 Apr.
Deficit	



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [A3b]
 + Type: A. Hyperoceanic
 + Subtype: 3. Subhyperoceanic
 + Variant: b. Low
 Thermic types [B2.B5]
 + Latitudinal zone: B. Temperate
 + Latitudinal belt: 2. Low subtemperate
 + Thermic type: B. Temperate
 + Thermic subtype: 5. Subtemperate
 Bioclimatic types [C4.3a.7b]
 + Macrobioclimate: C. TEMPERATE
 + Bioclimate: 4. HYPEROCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 3. MESOTEMPERATE
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 7. HUMID
 + Ombrothermic subtype : b. LOW
 Bioclimatic Classification: Texe.Mte.Hum

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 471
 Coldest semester of the year.....(Psw): 519
 Warmest four months period of the year.....(Pcm1): 313
 Following warmest four months period.....(Pcm2): 404
 Positive precipitation dryest 3 months.....(Ppd): 189
 Positive precipitation dryest 2 months.....(Ppd2): 122
 Positive precipitation dryest 1 month.....(Ppd1): 58
 Positive precipitation warmest 3 months.....(Pps): 244
 Positive precipitation warmest 2 months.....(Pps2): 177
 Positive precipitation warmest 1 month.....(Pps1): 81
 Positive precipitation coldest 3 months.....(Ppw): 292
 Positive precipitation coldest 2 months.....(Ppw2): 175
 Positive precipitation coldest 1 month.....(Ppw1): 93

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	292	191	244	263

Seasonal rainfall rhythms: W > F > S > P

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 15.6
 Average coldest month [T].....(Tmin): 5.6
 Maximum temp. warmest month [M].....(Tmmax): 19.4
 Minimum temp. coldest month [m].....(Tmmin): 2.8
 Absolute Max.temp. warmest month [M'].....(Tamax): 30.0
 Absolute Min.temp. coldest month [m'].....(Tamin): -8.9
 First warmest contrasted month [M].....(Tcmax): 15.0 (5)
 First coldest contrasted month [m].....(Tcmin): 7.2 (5)
 Estival temperature.....(Ts): 450
 Positive temperature dryest 3 months.....(Tpd): 336
 Positive temperature dryest 2 months.....(Tpd2): 197
 Positive temperature dryest 1 month.....(Tpd1): 111
 Positive temperature warmest 3 months.....(Tps): 450
 Positive temperature warmest 2 months.....(Tps2): 311
 Positive temperature warmest 1 month.....(Tps1): 156
 Positive temperature coldest 3 months.....(Tpw): 172
 Positive temperature coldest 2 months.....(Tpw2): 111
 Positive temperature coldest 1 month.....(Tpw1): 56

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SEASONAL PARAMETERS

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Warmest semester...(Sms)					o	o	o	o	o	o		
Dryest semester....(Smd)		o	o	o	o	o	o					
Warmest 4 months...(Cm1)						o	o	o	o			
Dryest 4 months....(Cmd)			o	o	o	o						
Vegetation Activity(Pav)	o	o	o	o	o	o	o	o	o	o	o	o
Ultragelid...[M' <=0] (Pf)												
Hypergelid...[M <=0] (Pf)												
Gelid.....[T <=0] (Pf)												
Subgelid.....[m <=0] (Pf)												
Pregelid.....[m' <=0] (Pf)	o	o	o	o	o					o	o	o
Agelid.....[m' > 0] (Pf)						o	o	o	o			
HiperAgelid..[all>0] (Pf)						o	o	o	o			

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.65
 Mediterranean index of July.[PE/P].....(Im1): 1.31
 Mediterranean index of July & August.....(Im2): 1.14
 Mediterranean index of June, July & August....(Im3): 1.21

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	1171	930	820	691	640	579	671	810	960	691	1001	940
Tp	61	56	56	67	86	111	139	156	156	136	106	75
Io (Iom)	19.2	16.7	14.7	10.4	7.43	5.21	4.83	5.21	6.17	5.08	9.48	12.5
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	2921 / 172			1910 / 264			2441 / 450			2632 / 317		
Io (Iot)	16.95			7.238			5.423			8.311		
Semesters	December-May						June-November					
Pp(x10)/Tp	4831 / 436						5073 / 767					
Io (Iosm)	11.08						6.616					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 9904/1203=8.23 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	1171	930	820	691	640	579	671	810	960	691	1001	940
Tp [T*10]	61	56	56	67	86	111	139	156	156	136	106	75
Iom [Pp/Tp]	\$\$	\$\$	\$\$	\$\$	743	521	483	521	617	508	948	\$\$
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	2921 / 172			1910 / 264			2441 / 450			2632 / 317		
Iot [Pp/Tp]	1695			724			542			831		
Avs E[Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin]	(Sp):	10.00
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]		1.10
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]		5.21
+ Hyperoceanic (-20<CI<20)		
CI of Currey (1974) [CI=Sp/(1+Lat/3)]		0.54
+ Hyperoceanic (0<CI<0.6)		
Rainfall Index of Lang (1925) [R=P/T]		98.79
+ Temperate warm (100>R>60)		
Aridity Index of Martonne (1926) [Ia=P/(T+10)]		49.46
+ Humid (60>Ia>30)		
I of Emberger (1930) [Q=100*P/(Tmax ² -Tmin ²)]		267.54
+ Humid (Q>90)		
I of Dantin & Revenga (1940) [DR=100*T/P]		1.01
+ Humid (2>DR>0)		
Aridity Index of UNEP [I=P/PE]		1.54
+ Humid (I>0.65)		
Potential Erosion I of Fournier (1960) [K=Pi ² /P]		13.85
+ Very low (K<60)		

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate

- + Climate
- + Region
- + Thermic type: 5. Meso-microthermic

Thornthwaite (1948)													
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	
P-E ratio	0.60	0.52	0.42	0.36	0.29	0.32	0.37	0.45	0.33	0.55	0.57	0.76	
T-E ratio	2.50	2.50	3.00	3.87	5.00	6.25	7.00	7.00	6.12	4.75	3.38	2.75	
Precipitation-effectiveness:	55.37					Temperature-efficiency							54.14
Moisture Index [MI=100*(P-PE)/PE]												53.59	
+ B2.Humid medium-humid (40<MI<60)													
Index of dryness [DI=100*d/PE]												0.00	
+ No deficit (0<DI<16.7)													
Index of humidity [HI=100*s/PE]												53.58	
+ Strong surplus (20<HI)													
Potential Evapotranspiration PE												644.82	
+ First mesothermic (570<PE<712)													

