

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

HUSUM (GERMANY)

Altitude: 28 m.

Latitude: 54°31'N Longitude: 9°8'E

Temperature observation period.: 1944-1994 (51)

Rainfall observation period....: 1954-1994 (41)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	0.28	2.22	-1.67	10.00	-21.67	58.9	1.01
Feb.	0.55	2.78	-1.67	12.78	-22.78	46.0	2.21
Mar.	2.78	5.56	0.00	20.00	-17.22	51.1	14.86
Apr.	6.67	10.56	2.78	30.00	-7.78	49.0	40.79
May.	11.67	16.67	6.67	33.89	-2.22	52.1	83.48
Jun.	14.72	19.44	10.00	32.78	2.22	59.9	108.02
Jul.	16.95	21.67	12.22	35.00	4.44	79.0	125.03
Aug.	16.11	20.00	12.22	32.78	5.00	101.1	105.70
Sep.	13.33	17.22	9.44	30.00	0.00	79.0	73.28
Oct.	8.62	11.67	5.56	22.22	-5.56	84.1	40.08
Nov.	4.17	6.67	1.67	16.67	-11.67	72.9	15.44
Dec.	1.39	3.33	-0.56	12.78	-15.56	72.9	4.78
Year	8.10	11.48	4.72	24.07	-7.73	806	614.68

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	87
Compensated thermicity index.....(Itc):	87
Simple continentality index.....(Ic):	16.7
Diurnality index.....(Id):	10.0
Annual ombrothermic index.....(Io):	8.29
Monthly estival ombrothermic index.....(Ios1):	4.07
Bimonthly estival ombrothermic index.....(Ios2):	5.45
Three monthly estival ombrothermic index.....(Ios3):	5.02
Four monthly estival ombrothermic index.....(Ios4):	4.91
Annual ombro-evaporation index.....(Ioe):	1.30
Annual positive temperature.....(Tp):	972
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	478
Positive precipitation.....(Pp):	806

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

Latitudinal Belt...: Low subtemperate

Continentalty.....: Oceanic - Low Euoceanic

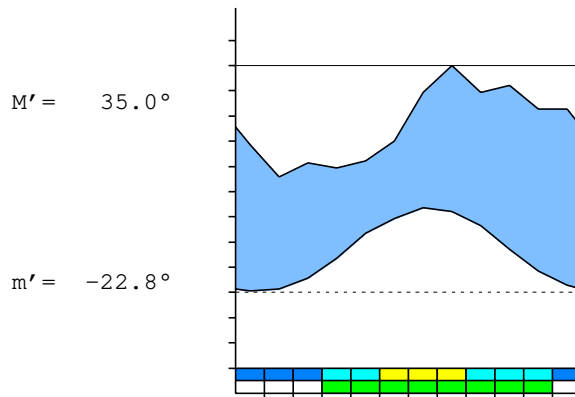
Bioclimate.....: TEMPERATE OCEANIC

Bioclimatic Belt...: UPPER SUPRATEMPERATE LOW HUMID

HUSUM (GERMANY)

28 m

P= 806 54° 31'N 9° 8'E 51/41 y.
 T= 8.1° Ic= 16.7 Tp= 972 Tn= 0
 m= -1.7° M= 2.2° Itc= 87 Io= 8.3



TEMPERATE OCEANIC
 UPPER SUPRATEMPERATE LOW HUMID

WATER INDEX CARD

HUSUM (GERMANY)

Altitude: 28 m.

Latitude: 54° 31'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	0.3	1	59	0	100	1	0	58	47	57.2
Feb.	0.6	2	46	0	100	2	0	44	45	19.8
Mar.	2.8	15	51	0	100	15	0	36	41	2.4
Apr.	6.7	41	49	0	100	41	0	8	25	0.2
May.	11.7	83	52	-31	69	83	0	0	12	-0.3
Jun.	14.7	108	60	-48	20	108	0	0	6	-0.4
Jul.	17.0	125	79	-20	0	99	26	0	3	-0.3
Aug.	16.1	106	101	0	0	101	5	0	2	0.0
Sep.	13.3	73	79	6	6	73	0	0	1	0.0
Oct.	8.6	40	84	44	50	40	0	0	0	1.0
Nov.	4.2	15	73	50	100	15	0	7	4	3.7
Dec.	1.4	5	73	0	100	5	0	68	36	14.2
Year	8.1	615	806	*	*	585	30	221	221	*

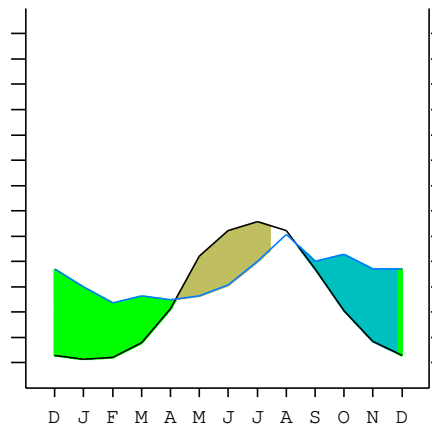
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

HUSUM (GERMANY)

54°31'N 9°8'E 28 m 51/41 y.

T= 8.1 Ic= 16.7 TEMPERATE OCEANIC
 m= -1.7 Tp= 972 UPPER SUPRATEMPERATE
 M= 2.2 Tn= 0 LOW HUMID
 M' = 35.0 Itc= 87
 m' = -22.8 Io= 8.3
 P= 806 mm ———
 PE= 615 mm ———

Imbibing	14 Aug.
Saturation	27 Nov.
Reserve Use	7 Apr.
Deficit	14 Jul.



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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [B2b]
 + Type: B. Oceanic
 + Subtype: 2. Euoceanic
 + 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 [C3.4a.7b]
 + Macrobioclimate: C. TEMPERATE
 + Bioclimate: 3. OCEANIC
 + Bioclimatic variant ..:
 + Thermic type.....: 4. SUPRATEMPERATE
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 7. HUMID
 + Ombrothermic subtype : b. LOW

Bioclimatic Classification: Teco.Ste.Hum

HUSUM (GERMANY)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 455
 Coldest semester of the year.....(Psw): 351
 Warmest four months period of the year.....(Pcm1): 319
 Following warmest four months period.....(Pcm2): 289
 Positive precipitation dryest 3 months.....(Ppd): 146
 Positive precipitation dryest 2 months.....(Ppd2): 97
 Positive precipitation dryest 1 month.....(Ppd1): 46
 Positive precipitation warmest 3 months.....(Pps): 240
 Positive precipitation warmest 2 months.....(Pps2): 180
 Positive precipitation warmest 1 month.....(Pps1): 79
 Positive precipitation coldest 3 months.....(Ppw): 178
 Positive precipitation coldest 2 months.....(Ppw2): 105
 Positive precipitation coldest 1 month.....(Ppw1): 59

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	177	152	240	236

Seasonal rainfall rhythms: S > F > W > P

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 17.0
 Average coldest month [T].....(Tmin): 0.3
 Maximum temp. warmest month [M].....(Tmmax): 21.7
 Minimum temp. coldest month [m].....(Tmmin): -1.7
 Absolute Max.temp. warmest month [M'].....(Tamax): 35.0
 Absolute Min.temp. coldest month [m'].....(Tamin): -22.8
 First warmest contrasted month [M].....(Tcmax): 16.7 (5)
 First coldest contrasted month [m].....(Tcmin): 6.7 (5)
 Estival temperature.....(Ts): 478
 Positive temperature dryest 3 months.....(Tpd): 100
 Positive temperature dryest 2 months.....(Tpd2): 33
 Positive temperature dryest 1 month.....(Tpd1): 6
 Positive temperature warmest 3 months.....(Tps): 478
 Positive temperature warmest 2 months.....(Tps2): 331
 Positive temperature warmest 1 month.....(Tps1): 170
 Positive temperature coldest 3 months.....(Tpw): 22
 Positive temperature coldest 2 months.....(Tpw2): 8
 Positive temperature coldest 1 month.....(Tpw1): 3

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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	
Ultragelid...[M' <=0] (Pf)												
Hypergelid...[M <=0] (Pf)												
Gelid.....[T <=0] (Pf)												
Subgelid.....[m <=0] (Pf)	o	o	o									o
Pregelid.....[m' <=0] (Pf)	o	o	o	o	o				o	o	o	o
Agelid.....[m' > 0] (Pf)						o	o	o				
HiperAgelid..[all>0] (Pf)						o	o	o				

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.76
 Mediterranean index of July.[PE/P].....(Im1): 1.58
 Mediterranean index of July & August.....(Im2): 1.28
 Mediterranean index of June, July & August....(Im3): 1.41

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	729	589	460	511	490	521	599	790	1011	790	841	729
Tp	14	3	6	28	67	117	147	170	161	133	86	42
Io (Iom)	52.4	210	83.6	18.4	7.35	4.46	4.07	4.66	6.28	5.93	9.76	17.5
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	1778 / 22			1522 / 211			2400 / 478			2360 / 261		
Io (Iot)	80.09			7.206			5.023			9.035		
Semesters	December-May						June-November					
Pp(x10)/Tp	3300 / 233						4760 / 739					
Io (Iosm)	14.14						6.441					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 8060/972=8.29 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	729	589	460	511	490	521	599	790	1011	790	841	729
Tp [T*10]	14	3	6	28	67	117	147	170	161	133	86	42
Iom [Pp/Tp]	\$\$	\$\$	\$\$	\$\$	735	446	407	466	628	593	976	\$\$
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	1778 / 22			1522 / 211			2400 / 478			2360 / 261		
Iot [Pp/Tp]	\$\$			721			502			904		
Avs E[Avm<200]	***			***			***			***		

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 16.67
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 14.40
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 17.39
 + Hyperoceanic (-20<CI<20)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 0.87
 + Oceanic (0.6<CI<1.1)
 Rainfall Index of Lang (1925) [R=P/T]: 99.47
 + Temperate warm (100>R>60)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 44.52
 + Humid (60>Ia>30)
 I of Emberger (1930) [Q=100*P/(Tmax²-Tmin²)]: 172.66
 + 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]: 1.31
 + Humid (I>0.65)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 12.68
 + Very low (K<60)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate: A. Warm and temperate warm
 + Region: 7. Mesoaxeric (Axeric temperate)
 + Thermic type: 5. Meso-microthermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.45	0.34	0.35	0.28	0.26	0.27	0.35	0.47	0.39	0.48	0.49	0.55
T-E ratio	0.13	0.25	1.25	3.00	5.25	6.62	7.63	7.25	6.00	3.88	1.88	0.63
Precipitation-effectiveness: 46.70						Temperature-efficiency: 43.76						
Moisture Index [MI=100*(P-PE)/PE]: 31.13 + B1.Humid low-humid (20<MI<40)												
Index of dryness [DI=100*d/PE]: 4.90 + No deficit (0<DI<16.7)												
Index of humidity [HI=100*s/PE]: 36.02 + Strong surplus (20<HI)												
Potential Evapotranspiration PE: 614.68 + First mesothermic (570<PE<712)												

