

# Phytosociological Research Center

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## Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

HAI-LA-ERH/HAILA (CHINA)

Altitude: 677 m.

Latitude: 49°9'N Longitude: 119°40'E

Temperature observation period.: 1986-1994 (9)

Rainfall observation period....: 1974-1994 (21)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	Epi
Jan.	-25.83	-19.44	-32.22	-5.00	-42.78	5.1	0.00
Feb.	-20.83	-13.33	-28.33	2.22	-42.22	5.1	0.00
Mar.	-11.11	-3.89	-18.33	12.78	-37.78	2.5	0.00
Apr.	1.11	8.33	-6.11	28.89	-20.00	10.2	8.52
May.	9.17	16.67	1.67	32.78	-16.11	20.3	67.44
Jun.	16.39	23.89	8.89	33.89	0.00	5.1	116.43
Jul.	19.17	25.00	13.33	33.89	6.11	78.7	135.36
Aug.	16.95	22.78	11.11	32.22	1.11	66.0	111.10
Sep.	10.28	16.67	3.89	28.89	-7.22	45.7	59.55
Oct.	1.39	8.33	-5.56	22.78	-23.89	10.2	8.37
Nov.	-11.94	-5.56	-18.33	12.22	-32.78	5.1	0.00
Dec.	-21.39	-15.00	-27.78	0.00	-42.78	5.1	0.00
Year	-1.39	5.37	-8.15	19.63	-21.53	259	506.76

### BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	-530
Compensated thermicity index.....(Itc):	15
Simple continentality index.....(Ic):	45.0
Diurnality index.....(Id):	15.0
Annual ombrothermic index.....(Io):	3.17
Monthly estival ombrothermic index.....(Ios1):	0.31
Bimonthly estival ombrothermic index.....(Ios2):	4.01
Threemonthly estival ombrothermic index.....(Ios3):	2.85
Fourmonthly estival ombrothermic index.....(Ios4):	2.76
Annual ombro-evaporation index.....(Ioe):	0.51
Annual positive temperature.....(Tp):	745
Annual negative temperature.....(Tn):	911
Estival temperature.....(Ts):	525
Positive precipitation.....(Pp):	236

N. of Months	P>4T	P:2T-4T	PT-2T	P<T	T<0
	4	2	0	1	5

Latitudinal Belt...: High Eutemperate

Continentality.....: Continental - High Eucontinental

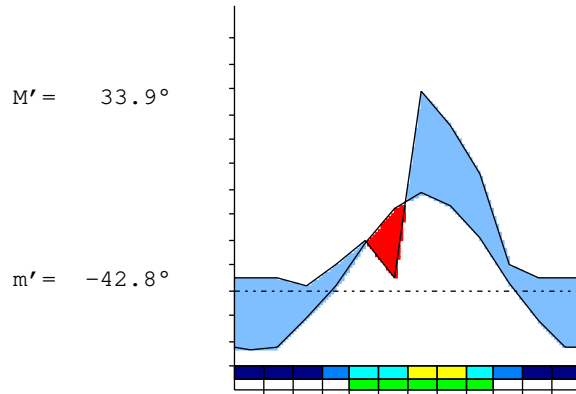
Bioclimate(Variant): TEMPERATE XERIC (STEPPIC)

Bioclimatic Belt...: LOW OROTEMPERATE UPPER DRY

HAI-LA-ERH/HAILA (CHINA)

677 m

P= 259      49° 9'N      119° 40'E      9/21 y.  
 T= -1.4 °      Ic= 45.0      Tp= 745      Tn= 911  
 m= -32.2 °      M= -19.4 °      Itc= 15      Io= 3.2



TEMPERATE XERIC (STEPPIC)  
 LOW OROTEMPERATE UPPER DRY

WATER INDEX CARD      HAI-LA-ERH/HAILA (CHINA)

Altitude: 677 m.      Latitude: 49° 9'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	-25.8	0	5	5	17	0	0	0	0	*
Feb.	-20.8	0	5	5	22	0	0	0	0	*
Mar.	-11.1	0	3	3	25	0	0	0	0	*
Apr.	1.1	9	10	2	26	9	0	0	0	0.1
May.	9.2	67	20	-26	0	47	21	0	0	-0.6
Jun.	16.4	116	5	0	0	5	111	0	0	-0.9
Jul.	19.2	135	79	0	0	79	57	0	0	-0.4
Aug.	17.0	111	66	0	0	66	45	0	0	-0.4
Sep.	10.3	60	46	0	0	46	14	0	0	-0.2
Oct.	1.4	8	10	2	2	8	0	0	0	0.2
Nov.	-11.9	0	5	5	7	0	0	0	0	*
Dec.	-21.4	0	5	5	12	0	0	0	0	*
Year	-1.4	507	259	*	*	259	248	0	0	*

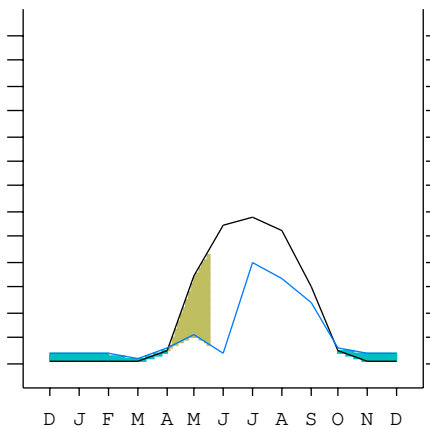
R = Reserve      VR = Variation of the reserve      RE = Real evapotranspiration  
 DR = Drainage      HC = Humidity coefficient      DF = Deficit      SP = Superavit

HAI-LA-ERH/HAILA (CHINA)

49°9'N 119°40'E      677 m      9/21 y.

T= -1.4      Ic= 45.0      TEMPERATE XERIC (STEPPIC)  
 m= -32.2      Tp= 745      LOW OROTEMPERATE  
 M= -19.4      Tn= 911      UPPER DRY  
 M' = 33.9      Itc= 15  
 m' = -42.8      Io= 3.2  
 P= 259      mm ———  
 PE= 507      mm ———

Imbibing	27 Sep.
Saturation	
Reserve Use	2 Apr.
Deficit	17 May.



HAI-LA-ERH/HAILA (CHINA)

Latitude: 49°9'N Longitude: 119°40'E Altitude: 677 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continentality Index [C3b]  
 + Type .....: C. Continental  
 + Subtype .....: 3. Eucontinental  
 + Variant .....: b. High

Thermic types [B1.D8]  
 + Latitudinal zone ....: B. Temperate  
 + Latitudinal belt ....: 1. High Eutemperate  
 + Thermic type .....: D. Gelid  
 + Thermic subtype .....: 8. Ultramicrothermic

Bioclimatic types [Cla.5b.5a]  
 + Macrobioclimate .....: C. TEMPERATE  
 + Bioclimate .....: 1. XERIC  
 + Bioclimatic variant .: STEPPIC  
 + Thermic type.....: 5. OROTEMPERATE  
 + Thermic subtype.....: b. LOW  
 + Ombrothermic type ...: 5. DRY  
 + Ombrothermic subtype : a. UPPER

Bioclimatic Classification .....: Texe (Stp) .Ote.Dry.Euc

HAI-LA-ERH/HAILA (CHINA)

Latitude: 49°9'N Longitude: 119°40'E Altitude: 677 m

PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 226  
 Coldest semester of the year.....(Psw): 33  
 Warmest four months period of the year.....(Pcm1): 196  
 Following warmest four months period.....(Pcm2): 26  
 Positive precipitation dryest 3 months.....(Ppd): 0  
 Positive precipitation dryest 2 months.....(Ppd2): 0  
 Positive precipitation dryest 1 month.....(Ppd1): 0  
 Positive precipitation warmest 3 months.....(Pps): 150  
 Positive precipitation warmest 2 months.....(Pps2): 145  
 Positive precipitation warmest 1 month.....(Pps1): 79  
 Positive precipitation coldest 3 months.....(Ppw): 0  
 Positive precipitation coldest 2 months.....(Ppw2): 0  
 Positive precipitation coldest 1 month.....(Ppw1): 0

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	15	33	149	61

Seasonal rainfall rhythms: S > F > P > W

HAI-LA-ERH/HAILA (CHINA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 19.2  
 Average coldest month [T].....(Tmin): -25.8  
 Maximum temp. warmest month [M].....(Tmax): 25.0  
 Minimum temp. coldest month [m].....(Tmin): -32.2  
 Absolute Max.temp. warmest month [M'].....(Tamax): 33.9  
 Absolute Min.temp. coldest month [m'].....(Tamin): -42.8  
 First warmest contrasted month [M].....(Tcmax): -13.3 (2)  
 First coldest contrasted month [m].....(Tcmin): -28.3 (2)  
 Estival temperature.....(Ts): 525  
 Positive temperature dryest 3 months.....(Tpd): 0  
 Positive temperature dryest 2 months.....(Tpd2): 0  
 Positive temperature dryest 1 month.....(Tpd1): 0  
 Positive temperature warmest 3 months.....(Tps): 525  
 Positive temperature warmest 2 months.....(Tps2): 361  
 Positive temperature warmest 1 month.....(Tps1): 192  
 Positive temperature coldest 3 months.....(Tpw): 0  
 Positive temperature coldest 2 months.....(Tpw2): 0  
 Positive temperature coldest 1 month.....(Tpw1): 0

HAI-LA-ERH/HAILA (CHINA)

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

HAI-LA-ERH/HAILA (CHINA)

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 1.96  
 Mediterranean index of July.[PE/P].....(Im1): 1.72  
 Mediterranean index of July & August.....(Im2): 1.70  
 Mediterranean index of June, July & August....(Im3): 2.42

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp (x10)	*	*	*	*	102	203	51	787	660	457	102	*
Tp	*	*	*	*	11	92	164	192	170	103	14	*
Io (Iom)	*	*	*	*	9.19	2.21	0.31	4.11	3.89	4.45	7.34	*
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	*/*			*/*			1498 / 525			*/*		
Io (Iot)	*			*			2.853			*		
Semesters	December-May						June-November					
Pp(x10)/Tp	*/*						*/*					
Io (Iosm)	*						*					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 2362/745=3.17 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	*	*	*	*	102	203	51	787	660	457	102	*
Tp [T*10]	*	*	*	*	11	92	164	192	170	103	14	*
Iom [Pp/Tp]	!!	!!	!!	!!	919	221	31	411	389	445	734	!!
Avm [200-Iom]	***	***	***	***	***	***	169	***	***	***	***	***
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	* / *			* / *			1498 / 525			* / *		
Iot [Pp/Tp]	**			**			285			**		
Avs E[Avm<200]	***			***			***			***		
Upper hyperarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 45.00  
 CI of Gorezinski (1920) [1.7\*Sp/sin(Lat)-20.4] .....: 80.73  
 CI of Conrad (1946) [1.7\*Sp/sin(Lat+10)-14] .....: 75.11  
 + Continental (60<CI<80)  
 CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 2.59  
 + Hypercontinental (2.3<CI<5)  
 Rainfall Index of Lang (1925) [R=P/T] .....:-186.85  
 +  
 Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 30.08  
 + Humid (60>Ia>30)  
 I of Emberger (1930) [Q=100\*P/(Tmmax<sup>2</sup>-Tmmin<sup>2</sup>)] .....: -62.72  
 +  
 I of Dantin & Revenga (1940) [DR=100\*T/P] .....: -0.54  
 +  
 Aridity Index of UNEP [I=P/PE] .....: 0.51  
 + Subhumid - dry (0.65>I>0.5)  
 Potential Erosion I of Fournier (1960) [K=Pi<sup>2</sup>/P].....: 23.90  
 + Very low (K<60)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)  
 + Climate .....: B. Cold and temperate cold  
 + Region .....: 10. Psicroxeroterico (Submediterranean)  
 + Thermic type: 8. Ultramicrothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.03	0.03	0.02	0.06	0.10	0.02	0.33	0.28	0.23	0.06	0.03	0.03
T-E ratio	0.00	0.00	0.00	0.50	4.13	7.38	8.63	7.63	4.63	0.63	0.00	0.00
Precipitation-effectiveness: 12.30						Temperature-efficiency .....: 33.51						
Moisture Index [MI=100*(P-PE)/PE] .....: -48.87 + D.Semiarid (-66.7<MI<-33.3)												
Index of dryness [DI=100*d/PE] .....: 48.86 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE] .....: 0.00 + No surplus (0<HI<10)												
Potential Evapotranspiration PE .....: 506.76 + Second microthermic (427<PE<570)												

