Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 14/02/2020)

TUNGHO (CHINA) Altitude: 109 m.

Latitude: 45°58'N Longitude: 128°44'E
Temperature observation period.: 1986-1994 (9)
Rainfall observation period....: 1989-1994 (6)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPi
Jan.	-21.11	-14.44	-27.78	-2.22	-37.78	4.1	0.00
Feb.	-15.28	-7.78	-22.78	8.89	-35.00	4.1	0.00
Mar.	-5.56	1.11	-12.22	17.22	-31.11	12.2	0.00
Apr.	5.56	12.22	-1.11	26.11	-16.11	28.7	27.59
May.	13.06	20.00	6.11	32.22	-3.89	57.4	80.32
Jun.	18.89	25.00	12.78	32.78	5.00	119.6	121.31
Jul.	22.50	27.22	17.78	35.00	2.22	197.1	149.21
Aug.	20.84	25.56	16.11	32.22	7.78	102.1	126.79
Sep.	15.00	21.11	8.89	30.00	-2.22	59.2	75.37
Oct.	5.56	12.22	-1.11	22.78	-12.22	42.7	22.95
Nov.	-6.11	0.00	-12.22	13.89	-26.11	18.8	0.00
Dec.	-16.39	-10.56	-22.22	7.78	-40.00	8.6	0.00
Year	3.08	9.31	-3.15	21.39	-15.79	655	603.53

BIOCLIMATIC INDICES AND DIAGNOSIS

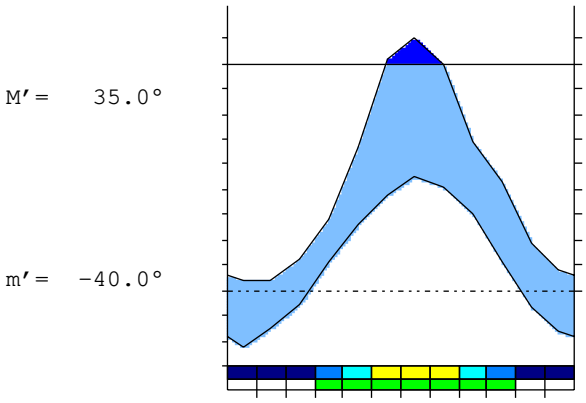
Thermicity index.....(It): -391
Compensated thermicity index.....(Itc): 119
Simple continentality index.....(Ic): 43.6
Diurnality index.....(Id): 15.0
Annual ombrothermic index.....(Io): 5.98
Monthly estival ombrothermic index.....(Ios1): 4.90
Bimonthly estival ombrothermic index.....(Ios2): 6.90
Threemonthly estival ombrothermic index.....(Ios3): 6.73
Fourmonthly estival ombrothermic index.....(Ios4): 6.32
Annual ombro-evaporation index.....(Ioe): 1.08
Annual positive temperature.....(Tp): 1014
Annual negative temperature.....(Tn): 645
Estival temperature.....(Ts): 622
Positive precipitation.....(Pp): 607

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	6	1	0	0	5

Latitudinal Belt...: High Eutemperate
Continentality.....: Continental - High Eucontinental
Bioclimate.....: TEMPERATE CONTINENTAL
Bioclimatic Belt...: UPPER SUPRATEMPERATE UPPER SUBHUMID

TUNGHO (CHINA) 109 m

P= 655 45° 58'N 128° 44'E 9/6 y.
T= 3.1 ° Ic= 43.6 Tp= 1014 Tn= 645
m= -27.8 ° M= -14.4 ° Itc= 119 Io= 6.0



TEMPERATE CONTINENTAL
UPPER SUPRATEMPERATE UPPER SUBHUMID

WATER INDEX CARD TUNGHO (CHINA)
Altitude: 109 m. Latitude: 45° 58'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	-21.1	0	4	0	100	0	0	4	4	*
Feb.	-15.3	0	4	0	100	0	0	4	4	*
Mar.	-5.6	0	12	0	100	0	0	12	8	*
Apr.	5.6	28	29	0	100	28	0	1	5	0.0
May.	13.1	80	57	-23	77	80	0	0	2	-0.2
Jun.	18.9	121	120	-2	75	121	0	0	1	0.0
Jul.	22.5	149	197	25	100	149	0	23	12	0.3
Aug.	20.8	127	102	-25	75	127	0	0	6	-0.1
Sep.	15.0	75	59	-16	59	75	0	0	3	-0.2
Oct.	5.6	23	43	20	79	23	0	0	2	0.8
Nov.	-6.1	0	19	19	98	0	0	0	1	*
Dec.	-16.4	0	9	2	100	0	0	6	4	*
Year	3.1	604	655	*	*	604	0	51	51	*

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

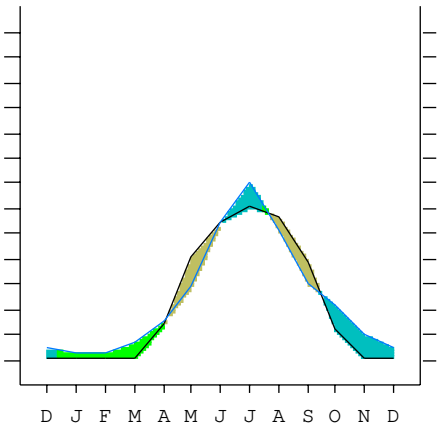
TUNGHO (CHINA)

45°58'N 128°44'E 109 m 9/6 y.

T= 3.1 Ic= 43.6
m= -27.8 Tp= 1014
M= -14.4 Tn= 645
M'= 35.0 Itc= 119
m'= -40.0 Io= 6.0
P= 655 mm
PE= 604 mm

TEMPERATE CONTINENTAL
UPPER SUPRATEMPERATE
UPPER SUBHUMID

Imbibing	14 Sep.
Saturation	16 Jul.
Reserve Use	20 Jul.
Deficit	



TUNGHO (CHINA)

Latitude: 45°58'N Longitude: 128°44'E Altitude: 109 m

SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

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

Thermic types [B1.C6]
- + Latitudinal zone ....: B. Temperate
- + Latitudinal belt ....: 1. High Eutemperate
- + Thermic type .....: C. Cold
- + Thermic subtype .....: 6. Cool

Bioclimatic types [C2.4a.6a]
- + Macrobioclimate .....: C. TEMPERATE
- + Bioclimate .....: 2. CONTINENTAL
- + Bioclimatic variant .:
- + Thermic type.....: 4. SUPRATEMPERATE
- + Thermic subtype.....: a. UPPER
- + Ombrothermic type ...: 6. SUBHUMID
- + Ombrothermic subtype : a. UPPER

Bioclimatic Classification .....Teco.Ste.Shu.Euc

TUNGHO (CHINA)

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 564
Coldest semester of the year.....(Psw): 91
Warmest four months period of the year.....(Pcm1): 478
Following warmest four months period.....(Pcm2): 74
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): 419
Positive precipitation warmest 2 months.....(Pps2): 299
Positive precipitation warmest 1 month.....(Pps1): 197
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	16	98	418	120

Seasonal rainfall rhythms: S > F > P > W

TUNGHO (CHINA)

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 22.5
Average coldest month [T].....(Tmin): -21.1
Maximum temp. warmest month [M].....(Tmmax): 27.2
Minimum temp. coldest month [m].....(Tmmin): -27.8
Absolute Max.temp. warmest month [M'].....(Tamax): 35.0
Absolute Min.temp. coldest month [m'].....(Tamin): -40.0
First warmest contrasted month [M].....(Tcmax): -7.8 (2)
First coldest contrasted month [m].....(Tcmin): -22.8 (2)
Estival temperature.....(Ts): 622
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): 622
Positive temperature warmest 2 months.....(Tps2): 433
Positive temperature warmest 1 month.....(Tps1): 225
Positive temperature coldest 3 months.....(Tpw): 0
Positive temperature coldest 2 months.....(Tpw2): 0
Positive temperature coldest 1 month.....(Tpw1): 0

TUNGHO (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	o	o		
Ultragelid...[M'<=0](Pf)	o											
Hypergelid...[M <=0](Pf)	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
Agelid.....[m'> 0](Pf)						o	o	o				
HiperAgelid..[all>0](Pf)						o	o	o				

TUNGHO (CHINA)

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 0.92
Mediterranean index of July.[PE/P].....(Im1): 0.76
Mediterranean index of July & August.....(Im2): 0.92
Mediterranean index of June, July & August....(Im3): 0.95

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	*	*	*	*	287	574	1196	1971	1021	592	427	*
Tp	*	*	*	*	56	131	189	225	208	150	56	*
Io (Iom)	*	*	*	*	5.16	4.40	6.33	8.76	4.90	3.95	7.68	*
Seasons	Winter			Spring			Summer			Automn		
Pp(x10)/Tp	*/*			*/*			4188 / 622			*/*		
Io (Iot)	*			*			6.730			*		
Semesters	December-May						June-November					
Pp(x10)/Tp	*/*						*/*					
Io (Iosm)	*						*					

TUNGHO (CHINA)

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 6068/1014=5.98 There is No Yearly Aridity

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	*	*	*	*	287	574	1196	1971	1021	592	427	*
Tp [T*10]	*	*	*	*	56	131	189	225	208	150	56	*
Iom [Pp/Tp]	!!	!!	!!	!!	516	440	633	876	490	395	768	!!
Avm [200-Iom]	***	***	***	***	***	***	***	***	***	***	***	***
Seasons	Winter			Spring			Summer			Automn		
Pp / Tp	* / *			* / *			4188 / 622			* / *		
Iot [Pp/Tp]	**			**			673			**		
Avs E[Avm<200]	***			***			***			***		

TUNGHO (CHINA)

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin] .....(Sp): 43.61
CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4] .....: 82.72
CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14] .....: 75.46
  + Continental (60<CI<80)
CI of Currey (1974) [CI=Sp/(1+Lat/3)] .....: 2.67
  + Hypercontinental (2.3<CI<5)
Rainfall Index of Lang (1925) [R=P/T] .....: 212.53
  + Humid (R>160)
Aridity Index of Martonne (1926) [Ia=P/(T+10)] .....: 50.05
  + Humid (60>Ia>30)
I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)] .....:-2125.32
  +
I of Dantin & Revenga (1940) [DR=100*T/P] .....: 0.47
  + Humid (2>DR>0)
Aridity Index of UNEP [I=P/PE] .....: 1.08
  + Humid (I>0.65)
Potencial Erosion I of Fournier (1960) [K=Pi²/P].....: 59.35
  + Very low (K<60)

TUNGHO (CHINA)

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BIOCLIMATIC INDICES II

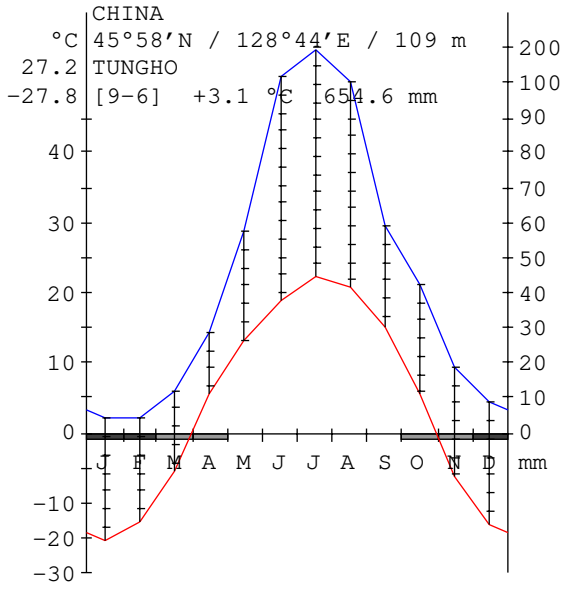
Bioclimatic classification of Gaussen & Bagnouls (1957)
  + Climate ....: B. Cold and temperate cold
  + Region .....: 11. Psicroaxeric (Axeric cold)
  + Thermic type: 6. Microthermic

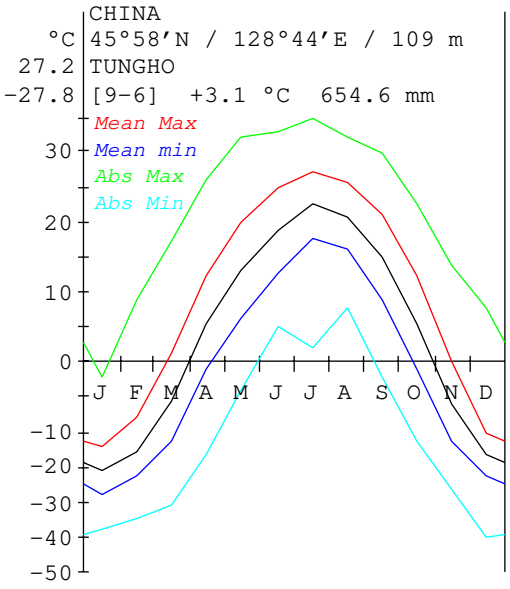
Thornthwaite (1948)

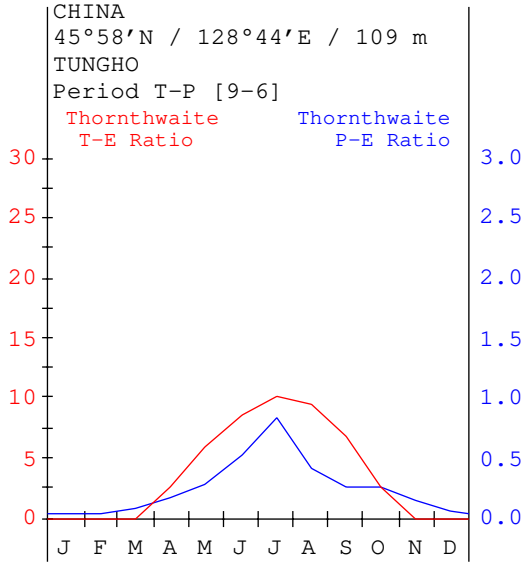
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.03	0.03	0.09	0.16	0.27	0.52	0.83	0.42	0.27	0.25	0.14	0.06
T-E ratio	0.00	0.00	0.00	2.50	5.88	8.50	10.13	9.38	6.75	2.50	0.00	0.00

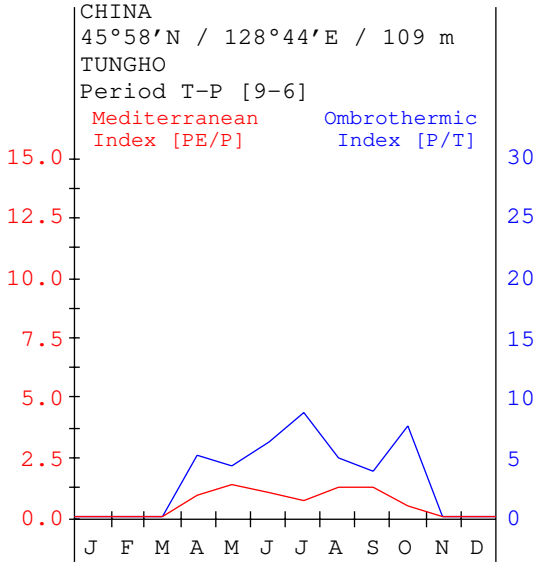
Precipitation-effectiveness: 30.73 Temperature-efficiency ....: 45.63

Moisture Index [MI=100*(P-PE)/PE] .....: 8.46
  + C2.Subhumid humid (0<MI<20)
Index of dryness [DI=100*d/PE] .....: 0.00
  + No deficit (0<DI<16.7)
Index of humidity [HI=100*s/PE] .....: 8.45
  + No surplus (0<HI<10)
Potential Evapotranspiration PE .....: 603.53
  + First mesothermic (570<PE<712)




CHINA
°C 45°58'N / 128°44'E / 109 m
27.2 TUNGHO
-27.8 [9-6] +3.1 °C 654.6 mm
Mean Max
Mean min
Abs Max
Abs Min
30
20
10
0
-10
-20
-30
-40
-50
J F M A M J J A S O N D


CHINA
45°58'N / 128°44'E / 109 m
TUNGHO
Period T-P [9-6]
Thornthwaite T-E Ratio
Thornthwaite P-E Ratio
30
25
20
15
10
5
0
3.0
2.5
2.0
1.5
1.0
0.5
0.0
J F M A M J J A S O N D


CHINA
45°58'N / 128°44'E / 109 m
TUNGHO
Period T-P [9-6]
Mediterranean Index [PE/P]
Ombrothermic Index [P/T]
15.0
12.5
10.0
7.5
5.0
2.5
0.0
30
25
20
15
10
5
0
J F M A M J J A S O N D