

Phytosociological Research Center

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Worldwide Bioclimatic Classification System

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(Adapted to Synoptical Table 30/08/2017)

FARAH (AFGHANISTAN)

Altitude: 750 m.

Latitude: 32°24'N Longitude: 62°6'E

Temperature observation period.: 1986-1994 (9)

Rainfall observation period....: 1986-1994 (9)

(C/mm)	Ti	Mi	mi	M'i	m'i	Pi	EPI
Jan.	8.33	16.11	0.56	28.33	-10.56	13.2	7.69
Feb.	11.11	18.33	3.89	30.00	-7.78	29.2	14.73
Mar.	16.11	23.89	8.33	34.44	-2.78	17.8	42.68
Apr.	20.56	28.33	12.78	39.44	2.78	10.7	79.93
May.	26.11	35.00	17.22	43.33	7.22	4.1	155.47
Jun.	31.12	40.56	21.67	47.22	12.78	0.0	203.52
Jul.	33.33	42.22	24.44	47.78	16.11	0.0	230.10
Aug.	30.84	40.56	21.11	46.67	12.22	0.0	195.77
Sep.	26.11	36.11	16.11	43.89	5.56	0.3	134.57
Oct.	19.72	30.00	9.44	37.78	0.00	1.0	65.68
Nov.	13.06	22.78	3.33	32.22	-11.67	2.5	22.14
Dec.	8.06	16.67	-0.56	25.00	-11.11	9.1	6.95
Year	20.37	29.21	11.53	38.01	1.06	88	1159.2

BIOCLIMATIC INDICES AND DIAGNOSIS

Thermicity index.....(It):	365
Compensated thermicity index.....(Itc):	444
Simple continentality index.....(Ic):	25.3
Diurnality index.....(Id):	20.6
Annual ombrothermic index.....(Io):	0.36
Monthly estival ombrothermic index.....(Ios1):	No
Bimonthly estival ombrothermic index.....(Ios2):	No
Threemonthly estival ombrothermic index.....(Ios3):	No
Fourmonthly estival ombrothermic index.....(Ios4):	0.03
Annual ombro-evaporation index.....(Ioe):	0.21
Annual positive temperature.....(Tp):	2445
Annual negative temperature.....(Tn):	0
Estival temperature.....(Ts):	953
Positive precipitation.....(Pp):	88

N. of	P>4T	P:2T-4T	PT-2T	P<T	T<0
Months	0	1	3	8	0

Latitudinal Belt...: Subtropical

Continentalty.....: Continental - High Subcontinental

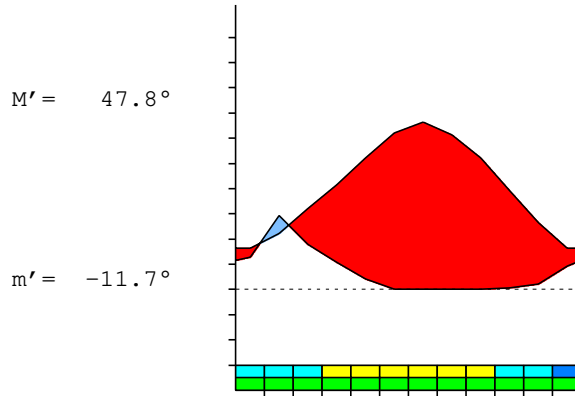
Bioclimate.....: MEDITERRANEAN DESERTIC-CONTINENTAL

Bioclimatic Belt...: UPPER INFRAMEDITERRANEAN UPPER HYPERARID

FARAH (AFGHANISTAN)

750 m

P= 88 32° 24'N 62° 6'E 9/9 y.
 T= 20.4° Ic= 25.3 Tp= 2445 Tn= 0
 m= -0.6° M= 16.7° Itc= 444 Io= 0.4



MEDITERRANEAN DESERTIC-CONTINENTAL
 UPPER INFRAMEDITERRANEAN UPPER HYPERARID

WATER INDEX CARD FARAH (AFGHANISTAN)
 Altitude: 750 m. Latitude: 32° 24'N

(C/mm)	T	PE	P	VR	R	RE	DF	SP	DR	HC
Jan.	8.3	8	13	6	8	8	0	0	0	0.7
Feb.	11.1	15	29	14	22	15	0	0	0	0.9
Mar.	16.1	43	18	-22	0	40	3	0	0	-0.5
Apr.	20.6	80	11	0	0	11	69	0	0	-0.8
May.	26.1	155	4	0	0	4	151	0	0	-0.9
Jun.	31.1	204	0	0	0	0	204	0	0	-1.0
Jul.	33.3	230	0	0	0	0	230	0	0	-1.0
Aug.	30.8	196	0	0	0	0	196	0	0	-1.0
Sep.	26.1	135	0	0	0	0	134	0	0	-0.9
Oct.	19.7	66	1	0	0	1	65	0	0	-0.9
Nov.	13.1	22	3	0	0	3	20	0	0	-0.8
Dec.	8.1	7	9	2	2	7	0	0	0	0.3
Year	20.4	1159	88	*	*	88	1071	0	0	*

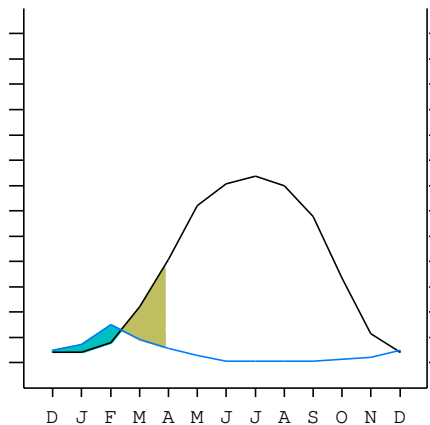
R = Reserve VR = Variation of the reserve RE = Real evapotranspiration
 DR = Drainage HC = Humidity coefficient DF = Deficit SP = Superavit

FARAH (AFGHANISTAN)

32°24'N 62°6'E 750 m 9/9 y.

T= 20.4 Ic= 25.3 MEDITERRANEAN DESERTIC-CONTINENTAL
 m= -0.6 Tp= 2445 UPPER INFRAMEDITERRANEAN
 M= 16.7 Tn= 0 UPPER HYPERARID
 M' = 47.8 Itc= 444
 m' = -11.7 Io= 0.4
 P= 88 mm
 PE= 1159 mm

Imbibing	28 Nov.
Saturation	12 Feb.
Reserve Use	27 Mar.
Deficit	



FARAH (AFGHANISTAN)

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SUMMARY OF RIVAS-MARTINEZ CLASSIFICATION

Continental Index [C2b]
 + Type: C. Continental
 + Subtype: 2. Subcontinental
 + Variant: b. High
 Thermic types [A3.A2]
 + Latitudinal zone: A. Warm
 + Latitudinal belt: 3. Subtropical
 + Thermic type: A. Warm
 + Thermic subtype: 2. Warm
 Bioclimatic types [B3.1a.2a]
 + Macrobioclimate: B. MEDITERRANEAN
 + Bioclimate: 3. DESERTIC-CONTINENTAL
 + Bioclimatic variant ..:
 + Thermic type.....: 1. INFRAMEDITERRANEAN
 + Thermic subtype.....: a. UPPER
 + Ombrothermic type ...: 2. HYPERARID
 + Ombrothermic subtype : a. UPPER
 Bioclimatic Classification: Mexo.Ime.Har

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PRECIPITATION PARAMETERS

Warmest semester of the year.....(Pss): 15
 Coldest semester of the year.....(Psw): 73
 Warmest four months period of the year.....(Pcm1): 4
 Following warmest four months period.....(Pcm2): 13
 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): 0
 Positive precipitation warmest 2 months.....(Pps2): 0
 Positive precipitation warmest 1 month.....(Pps1): 0
 Positive precipitation coldest 3 months.....(Ppw): 52
 Positive precipitation coldest 2 months.....(Ppw2): 22
 Positive precipitation coldest 1 month.....(Ppw1): 9

Seasons	Winter Tr1-W	Spring Tr2-P	Summer Tr3-S	Automn Tr4-F
Rainfall	51	32	0	3

Seasonal rainfall rhythms: W > P > F > S

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TEMPERATURE PARAMETERS

Average warmest month [T].....(Tmax): 33.3
 Average coldest month [T].....(Tmin): 8.1
 Maximum temp. warmest month [M].....(Tmmax): 42.2
 Minimum temp. coldest month [m].....(Tmmin): -0.6
 Absolute Max.temp. warmest month [M'].....(Tamax): 47.8
 Absolute Min.temp. coldest month [m'].....(Tamin): -11.7
 First warmest contrasted month [M].....(Tcmax): 30.0 (10)
 First coldest contrasted month [m].....(Tcmin): 9.4 (10)
 Estival temperature.....(Ts): 953
 Positive temperature dryest 3 months.....(Tpd): 953
 Positive temperature dryest 2 months.....(Tpd2): 645
 Positive temperature dryest 1 month.....(Tpd1): 311
 Positive temperature warmest 3 months.....(Tps): 953
 Positive temperature warmest 2 months.....(Tps2): 645
 Positive temperature warmest 1 month.....(Tps1): 333
 Positive temperature coldest 3 months.....(Tpw): 275
 Positive temperature coldest 2 months.....(Tpw2): 164
 Positive temperature coldest 1 month.....(Tpw1): 81

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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)												o
Pregelid.....[m' <=0] (Pf)	o	o	o							o	o	o
Agelid.....[m' > 0] (Pf)				o	o	o	o	o	o			
HiperAgelid..[all>0] (Pf)				o	o	o	o	o	o			

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OMBROTHERMIC PARAMETERS

Annual aridity index.[PE/P].....(Iar): 13.19
 Mediterranean index of July.[PE/P].....(Im1): No
 Mediterranean index of July & August.....(Im2): No
 Mediterranean index of June, July & August....(Im3): No

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp(x10)	91	132	292	178	107	41	0	0	0	3	10	25
Tp	81	83	111	161	206	261	311	333	308	261	197	131
Io (Iom)	1.13	1.58	2.63	1.10	0.52	0.16	0.00	0.00	0.00	0.01	0.05	0.19
Seasons	Winter			Spring			Summer			Autumn		
Pp(x10)/Tp	515 / 275			326 / 628			0 / 953			38 / 589		
Io (Iot)	1.873			0.519			0.000			0.065		
Semesters	December-May						June-November					
Pp(x10)/Tp	841 / 903						38 / 1542					
Io (Iosm)	0.932						0.025					

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Aridity Value Index (AVI)

[10xPP/TP=IO]: 879/2445=0.36 **There is No Yearly Aridity**

Months	Dec.	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.
Pp [P*10]	91	132	292	178	107	41	0	0	0	3	10	25
Tp [T*10]	81	83	111	161	206	261	311	333	308	261	197	131
Iom [Pp/Tp]	113	158	263	110	52	16	0	0	0	1	5	19
Avm [200-Iom]	87	42	***	90	148	184	200	200	200	199	195	181
Seasons	Winter			Spring			Summer			Autumn		
Pp / Tp	515 / 275			326 / 628			0 / 953			38 / 589		
Iot [Pp/Tp]	187			52			0			6		
Avs E[Avm<200]	***			422			600			575		
Lower ultrahyperarid [7]						Upper ultrahyperarid [2]						
Weak lower arid [2]						Strong lower semiarid [2]						
Strong upper semiarid [1]												

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BIOCLIMATIC INDICES I

CI of Supan (1884) [Tmax-Tmin](Sp): 25.27
 CI of Gorezinski (1920) [1.7*Sp/sin(Lat)-20.4]: 59.77
 CI of Conrad (1946) [1.7*Sp/sin(Lat+10)-14]: 49.71
 + Subcontinental (40<CI<60)
 CI of Currey (1974) [CI=Sp/(1+Lat/3)]: 2.14
 + Continental (1.7<CI<2.3)
 Rainfall Index of Lang (1925) [R=P/T]: 4.31
 + Steppic (40>R>0)
 Aridity Index of Martonne (1926) [Ia=P/(T+10)]: 2.89
 + Extremely arid -desert- (5>Ia>0)
 I of Emberger (1930) [Q=100*P/(Tmmax²-Tmmin²)]: 4.93
 + Arid (30>Q>0)
 I of Dantin & Revenga (1940) [DR=100*T/P]: 23.18
 + Extremely arid (DR>6)
 Aridity Index of UNEP [I=P/PE]: 0.08
 + Arid (0.2>Im>0.05)
 Potential Erosion I of Fournier (1960) [K=Pi²/P].....: 9.70
 + Very low (K<60)

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BIOCLIMATIC INDICES II

Bioclimatic classification of Gaussen & Bagnouls (1957)
 + Climate: A. Warm and temperate warm
 + Region: 2. Termohemieremic (Subdesertic warm)
 + Thermic type: 2. Macrothermic

Thornthwaite (1948)												
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
P-E ratio	0.06	0.14	0.07	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.04
T-E ratio	3.75	5.00	7.25	9.25	11.75	14.00	15.00	13.88	11.75	8.87	5.88	3.63
Precipitation-effectiveness: 3.65						Temperature-efficiency: 110.01						
Moisture Index [MI=100*(P-PE)/PE]: -92.42 + E.Dry (-110<MI<-66.7)												
Index of dryness [DI=100*d/PE]: 92.41 + Strong deficit (33.3<DI)												
Index of humidity [HI=100*s/PE]: 0.00 + No surplus (0<HI<10)												
Potential Evapotranspiration PE: 1159.23 + Forth mesothermic (997<PE<1440)												

