

ETIdaho 2012 -- Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

Please send suggestions for improving this site to robison@kimberly.uidaho.edu Copyright 2012, University of Idaho.

Hagerman 2 SW (NWS -- 103932)

Statistics based on thirty year normal spans 1983 to 2010 years

For a different land cover or crop click on the above link.

You can highlight this table and copy via the clipboard to a Microsoft Excel or OpenOffice spreadsheet to plot or otherwise work with this data.

Open water - shallow systems (ponds, streams)														
Precipitation Deficit (Click here for a graph)														
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Growing Season ^a	Non Growing Season ^b
Mean ^j	mm/day												mm	
Monthly ^c	-0.17	0.27	1.54	2.74	3.71	4.74	5.42	4.75	3.93	2.29	0.21	-0.94	871	0
15-Day Moving Average ^d	-0.15	0.10	1.59	2.80	3.77	4.79	5.47	4.72	3.87	2.38	0.19	-0.77		
7-Day Moving Average ^e	-0.16	0.14	1.54	2.77	3.76	4.75	5.44	4.73	3.91	2.36	0.22	-0.87		
3-Day Moving Average ^f	-0.16	0.22	1.54	2.76	3.73	4.74	5.42	4.75	3.93	2.29	0.24	-0.94		
Standard Deviation ^k	mm/day												mm	
Monthly ^c	0.83	0.86	1.39	0.69	1.37	0.81	0.69	0.78	0.46	1.17	0.94	1.72	125	0
15-Day Moving Average ^d	0.72	1.17	1.23	0.91	1.40	0.96	0.58	0.74	0.58	1.00	1.29	1.28		
7-Day Moving Average ^e	0.95	1.42	1.49	1.44	1.79	1.44	0.74	0.97	0.78	1.45	1.62	1.85		
3-Day Moving Average ^f	1.36	1.80	2.01	2.04	2.35	1.85	1.02	1.33	1.05	2.05	2.11	2.69		
20% Exceedance ^l	mm/day												mm	
Monthly ^c	0.22	0.93	2.30	3.32	4.33	5.35	5.67	5.08	4.19	2.87	1.08	0.08	943	0
15-Day Moving Average ^d	0.59	1.08	3.17	3.85	5.45	6.06	5.96	5.46	4.64	3.49	1.71	0.70		
7-Day Moving Average ^e	1.07	1.71	3.50	4.95	6.25	6.35	6.48	5.92	5.11	4.16	2.17	1.10		
3-Day Moving Average ^f	1.28	2.21	4.14	5.89	6.78	6.90	6.78	6.31	5.57	4.60	2.62	1.48		
80% Exceedance ^m	mm/day												mm	
Monthly ^c	-0.63	-0.46	0.13	1.89	3.09	3.92	4.85	4.45	3.60	1.20	-0.75	-2.20	753	0
15-Day Moving Average ^d	-1.52	-1.69	-0.56	1.36	1.20	2.78	4.23	3.79	2.82	-0.11	-2.26	-2.98		
7-Day Moving Average ^e	-2.55	-3.34	-2.71	-1.74	-1.47	1.22	3.94	3.02	2.07	-2.56	-4.45	-6.19		
3-Day Moving Average ^f	-5.68	-4.49	-6.11	-5.01	-4.92	0.18	2.60	0.63	0.42	-8.06	-7.49	-14.27		
Ave Highest P _{def}	mm/day												--	
15-Day Moving Average ^g	0.49	0.83	2.34	3.62	4.83	5.60	5.75	5.20	4.38	3.20	1.15	0.37		
7-Day Moving Average ^h	0.87	1.40	2.85	4.52	5.70	6.10	6.11	5.61	4.85	3.65	1.70	0.77		
3-Day Moving Average ⁱ	1.14	1.86	3.59	5.34	6.38	6.65	6.58	6.01	5.26	4.19	2.22	1.03		
Ave Lowest P _{def}	mm/day												--	
15-Day Moving Average ^g	-0.70	-0.36	0.79	2.00	2.65	3.91	5.10	4.24	3.40	1.51	-0.69	-1.78		
7-Day Moving Average ^h	-1.43	-1.33	-0.40	0.51	1.26	2.78	4.62	3.67	2.80	0.33	-1.93	-3.38		
3-Day Moving Average ⁱ	-3.01	-2.90	-2.61	-1.74	-1.01	1.34	3.49	2.30	1.73	-2.13	-4.50	-6.38		
Special normal distribution parameters for monthly, seasonal, and annual intervals														
Skew ⁿ	0.06	-1.23	-0.08	-0.21	-0.25	-1.61	-0.37	-0.57	-1.24	-0.11	-0.49	-0.05	0.02	0.00
Kurtosis ^o	0.97	4.16	0.69	2.54	0.98	5.16	1.07	1.79	6.23	0.65	2.62	0.67	2.91	0.00

^a Growing Season: This is usually the time from green up or planting in the spring to a killing frost or harvest in the fall. It is not applicable for entries without a growing season and will be blank.

^b Nongrowing Season: This is usually the time from a killing frost or harvest in the fall to the of green up in the spring. It is not applicable for entries without a growing season.

^c Mean of the average daily value for month

^d Mean of the fourteen 15-day period averages contained in the month

^e Mean of the twenty three 7-day period averages contained in the month

^f Mean of the twenty seven 3-day period averages contained in the month

^g Mean of the highest/lowest 15-day period average in month

^h Mean of the highest/lowest 7-day period average in month

ⁱ Mean of the highest/lowest 3-day period average in month

^j This value represents the *mean value* for the parameter for the month over the 'normal' period of record. Generally, the 'normal' period is the last thirty years with data.

^k This value represents the *standard deviation* for the parameter for the month over the 'normal' period.

^l This value represents the *value* for the parameter that has a 20% chance of being exceeded that month during any particular year. Conversely, there is an 80% chance that the parameter value will be less than the *value* shown.

^m This value represents the *value* for the parameter that has a 80% chance of being exceeded that month during any particular year. Conversely, there is an 20% chance that the parameter value will be less than the *value* shown.

ⁿ This value represents the *skewness (asymmetry) of the distribution of the parameter values* for the month (year) over the 'normal' period. A value near zero indicates that the distribution approximates a normal (Gaussian) and symmetrical distribution. A negative skew indicates that the parameter distribution has relatively few low values compared to high values. A positive skew indicates that the distribution has relatively few high values compared to the number of low values. A skew value near 1 indicates that the underlying distribution approximates a lognormal distribution.

^o This value represents the *kurtosis* of the parameter value distribution for the month (year) over the 'normal' period. Kurtosis is a measurement of the height to width ratio of the probability distribution, or the *peakedness (slenderness)*. A normal (Gaussian) distribution has a kurtosis of 3. A high kurtosis distribution has a sharper peak and longer tails, while a low kurtosis distribution has a more rounded peak and shorter tails.

This work and report were prepared by the University of Idaho Research and Extension Center at Kimberly, Idaho under contract with the Idaho Department of Water Resources. Work was supported by funding from IDWR and the Idaho Agricultural Experiment Station and Idaho Engineering Experiment Station. The authors gratefully acknowledge the long-term evapotranspiration data collection and long-standing advice provided by Dr. James L. Wright, USDA-ARS Kimberly (ret.), the more than two decades of high quality agricultural weather data collection by the U.S. Bureau of Reclamation AgriMet system, and the very long-standing, routine data collection by the hundreds of cooperative weather station volunteers across the state who, for more than one-hundred years, have faithfully observed daily air temperature and precipitation.

The citation for the evapotranspiration data used from this site should be: *Allen, Richard G. and Clarence W. Robison, 2012. Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho: Supplement updating the Time Series through December 2008, Research Technical Completion Report, Kimberly Research and Extension Center, University of Idaho, Moscow, ID.*

Questions regarding the data should be addressed to Clarence W. Robison or Richard G. Allen, University of Idaho, Kimberly Research and Extension Center, 3793 North 3600 East, Kimberly, ID 83341. Telephone (208)-423-6610

University of Idaho
A LEGACY OF LEADING
Copyright 2012, University of Idaho.

ETIdaho web site powered by Debian, Apache, Firebird DBMS, Python, with matplotlib, and kinterbasdb.