

Precipitation Loss Calculation

Date: October 17, 2011
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 Water Right No: 81-2006
 Kooskai (NWS -- 105011)
 Open Water - Small Stock Ponds

P = Precipitation
 ET = Evapotranspiration
 P_d = Precipitation deficit
 $P_d = P - ET$

P_d Found at: <http://www.kimberly.uidaho.edu/ETIdaho/>

$$P_d = \text{convert to AFA: } \frac{(\text{mm/yr})}{356} \div (\text{convert to feet}) \times \text{\# acres} =$$

(From ET Idaho)

$$P_d = 0.4 \text{ AFA}$$



* Use the Precipitation Deficit for 'P' value

Pond Vol									
Pond ID #	L	w	d	Cubic Feet	AF	Surface Area (sq ft)	Surface Area (ac)	Evap Loss	Total Vol
81-7089	1	125	65	10	32500	0.7	8125.0	0.2	1.0
	4	140	45	15	37800	0.9	6300.0	0.2	1.0
Totals =				1.6	14425.0	0.3	0.4	2.0	

**Surface area from ArcMap - Depth from 81-7089 FE
 ***Surface area from Claimant - Depth from Keith

ET_{Idaho} 2009: Evapotranspiration and Consumptive Irrigation Water Requirements for Idaho

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Kooskia (NWS --105011)

Statistics based on thirty

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 - small stock ponds															
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	Annual
Mean	mm/day												mm		
Monthly ^c	-1.48	0.58	-0.08	0.71	1.34	2.80	4.89	4.32	2.08	0.08	1.16	1.30	356	0	356
15-Day Moving Average ^d	-1.55	0.76	-0.09	0.77	1.37	2.86	4.97	4.45	2.00	0.06	1.15	1.34			
7-Day Moving Average ^e	-1.52	0.63	-0.06	0.73	1.32	2.79	4.90	4.40	2.04	0.02	1.21	1.35			
3-Day Moving Average ^f	-1.49	0.58	-0.06	0.73	1.33	2.80	4.89	4.36	2.08	0.07	1.19	1.31			
Standard Deviation	mm/day												mm		
Monthly	1.44	0.76	1.37	1.32	2.32	1.30	1.74	1.62	1.34	1.73	0.81	1.16	127	0	127
15-Day Moving Average	1.51	1.00	1.39	1.56	2.11	1.75	1.49	1.57	1.63	1.79	1.15	1.07			
7-Day Moving Average	1.97	1.41	1.83	2.23	2.98	2.63	2.06	2.14	2.23	2.50	1.72	1.62			
3-Day Moving Average	2.66	1.99	2.53	3.19	4.21	3.53	2.87	2.78	3.03	3.33	2.44	2.21			
20 % Exceedance	mm/day												mm		
Monthly	-0.51	0.09	0.53	1.59	2.55	3.99	5.98	5.32	3.18	1.06	0.56	0.63	462	0	462
15-Day Moving Average	0.16	0.62	2.03	2.57	4.40	5.45	6.52	6.28	4.14	2.11	0.36	0.00			
7-Day Moving Average	0.53	1.26	2.81	4.05	5.23	6.40	7.04	6.67	4.75	2.95	0.97	0.40			
3-Day Moving															

Average	0.75	1.67	3.41	4.91	6.17	6.99	7.28	7.14	5.24	3.37	1.37	0.61			
80% Exceedance	mm/day												mm		
Monthly	-2.36	1.10	-0.78	0.32	0.00	1.52	4.14	3.21	1.01	-0.95	1.80	2.03	253	0	253
15-Day Moving Average	-4.42	1.99	-2.11	1.92	-2.61	0.14	2.06	1.38	0.71	-2.60	3.54	3.49			
7-Day Moving Average	-6.60	3.16	-3.92	3.88	-5.42	2.88	1.50	-2.21	2.65	-5.17	6.11	5.73			
3-Day Moving Average	12.69	6.36	-8.04	8.70	12.60	6.85	4.03	-6.01	6.99	10.72	9.78	8.35			
Ave Highest P_{def}	mm/day												--		
15-Day Moving Average ^g	0.09	0.28	1.12	2.07	2.98	4.36	5.84	5.57	3.18	1.40	0.16	0.03			
7-Day Moving Average ^h	0.30	0.93	2.03	3.35	4.41	5.65	6.44	6.18	4.18	2.40	0.61	0.23			
3-Day Moving Average ⁱ	0.63	1.37	2.85	4.42	5.42	6.29	6.85	6.63	4.80	2.88	1.11	0.47			
Ave Lowest P_{def}	mm/day												--		
15-Day Moving Average ^g	-2.78	1.32	-1.18	0.54	-0.28	1.33	3.83	3.07	0.92	-1.19	2.12	2.22			
7-Day Moving Average ^h	-4.34	2.49	-2.50	2.49	-3.00	1.38	2.15	1.23	0.90	-3.42	3.71	3.70			
3-Day Moving Average ⁱ	-7.22	4.77	-5.34	5.90	-7.79	4.82	1.25	-1.61	4.06	-7.22	6.60	6.33			
Special normal distribution parameters for monthly, seasonal, and annual intervals													--		
Skew	-0.16	0.61	-0.07	0.47	-0.27	0.45	0.38	-0.06	0.74	-0.08	0.18	0.29	-0.18	0.00	-0.18
Kurtosis	0.60	2.94	0.85	3.33	0.85	2.58	0.91	0.60	3.18	0.72	2.84	0.73	2.92	0.00	2.92

^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

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The citation for the evapotranspiration data used from this site should be: *Allen, Richard G. and Clarence W. Robison, 2009. 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.*

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