

RECEIVED

OCT 21 2013

AMENDED

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Ident. No. 37-08916

DEPT. OF WATER RESOURCES
SOUTHERN REGION

AMENDED APPLICATION FOR PERMIT

To appropriate the public waters of the State of Idaho

1. Name of applicant(s) Tom R. Norris Phone (415) 722-6835
Name connector (check one): ☐ and ☐ or ☐ and/or

Mailing address: 2351 Clay Street, Suite 510 City San Francisco
State CA Zip 94115 Email: _____

2. Source of water supply Big Wood River which is a tributary of Malad River

3. Location of point(s) of diversion:

Twp	Rge	Sec	Govt Lot	¼	¼	¼	County	Source	Local name or tag #
3N	18E	7		NE	SE		Blaine	Big Wood River	

4. Water will be used for the following purposes:

Amount 2.72 for Aesthetic Storage purposes from 1/1 to 12/31 (both dates inclusive)
(cfs or acre-feet per year)
Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per year)
Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per year)
Amount _____ for _____ purposes from _____ to _____ (both dates inclusive)
(cfs or acre-feet per year)

5. Total quantity to be appropriated is (a) NA cubic feet per second (cfs) and/or (b) 2.72* acre-feet per year (af).
(*Includes 0.72 of annual evaporation)

6. Proposed diverting works:

a. Describe type and size of devices used to divert water from the source. Existing onstream pond on Little Makawao channel from Big Wood River through pre-existing channel and pond, and return to river. See attached aerial photograph and plat.

b. Height of storage dam N/A feet; active reservoir capacity _____ acre-feet; total reservoir capacity _____ acre-feet. If the reservoir will be filled more than once each year, describe the refill plan in item 11.
For dams 10 feet or more in height OR reservoirs with a total storage capacity of 50 acre-feet or more, submit a separate Application for Construction or Enlargement of a New or Existing Dam. Application required? ☐ Yes ☐ No

c. Proposed well diameter is N/A inches; proposed depth of well is _____ feet.

d. Is ground water with a temperature of greater than 85°F being sought? ☐ Yes ☒ No

e. If well is already drilled, when? _____; drilling firm _____;
Well was drilled for (well owner) _____; Drilling Permit No. _____.

7. Description of proposed uses (if irrigation only, go to item 8):

a. Hydropower; show total feet of head and proposed capacity in kW. _____
b. Stockwatering; list number and kind of livestock. _____
c. Municipal; show name of municipality or the applicant's qualifications as a municipal provider. _____
d. Domestic; show number of households _____
e. Other; describe fully. Non-Consumptive flow in Little Makawao natural channel and storage in pre-existing, on stream pond. Pond will be expanded on Lot 2B of Little Makawao Subdivision.

ORIGINAL

8. Description of place of use:

- a. If water is for irrigation, indicate acreage in each subdivision in the tabulation below.
- b. If water is used for other purposes, place a symbol of the use (example: D for Domestic) in the corresponding place of use below. See instructions for standard symbols.

TWP	RGE	SEC	NE				NW				SW				SE				TOTALS
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
3N	18E	7													J				

Total number of acres to be irrigated: _____

9. Describe any other water rights used for the same purposes as described above. Include water delivered by a municipality, canal company, or irrigation district. If this application is for domestic purposes, do you intend to use this water, water from another source, or both, to irrigate your lawn, garden, and/or landscaping? _____

- 10. a. Who owns the property at the point of diversion? Tom Norris (Lot 2B)
- b. Who owns the land to be irrigated or place of use? Patricia Wheeler (Lot 3A)
- c. If the property is owned by a person other than the applicant, describe the arrangement enabling the applicant to make this filing: Written Agreement(Wheeler/Norris)

11. Describe your proposal in narrative form, and provide additional explanation for any of the items above. Attach additional pages if necessary. Little Makawao channel is a minor channel of the Big Wood River flowing through Little Makawao subdivision. Codify the historical usage of the pond for aesthetic purposes and authorize expansion of the pond on Lot 2B by 0.09 acres. The pond was created in 1979. See Attached Narrative.

- 12. Time required for completion of works and application of water to proposed beneficial use is 2 years (minimum 1 year).
- 13. **MAP OF PROPOSED PROJECT REQUIRED** - Attach an 8½" x 11" map clearly identifying the proposed point of diversion, place of use, section #, township & range. A photocopy of a USGS 7.5 minute topographic quadrangle map is preferred.

The information contained in this application is true to the best of my knowledge. I understand that any willful misrepresentations made in this application may result in rejection of the application or cancellation of an approval.

Tom R Norris
Signature of Applicant
Tom R Norris
Print Name (and title, if applicable)

Signature of Applicant

Print Name (and title, if applicable)

For Department Use:

Received by _____ Date 10/21/2013 Time _____ Preliminary check by _____
Fee \$ _____ Receipted by _____ Receipt No. _____ Date _____

NARRATIVE FOR PERMIT APPLICATION-TOM R. NORRIS

September 6 , 2013
Brockway Engineering, PLLC
C. E. Brockway, P.E.

This application is being submitted to establish a water right for an existing water use within a minor channel of the Big Wood River known as Little Mackawao channel and to provide a water right for an expansion of an existing pond for aesthetic and recreation purposes associated with a planned new residence. The entrance or mouth of the channel at the Big Wood River is uncontrolled, but is protected from erosion by rock placed historically for bank stabilization. The channel is located just upstream of East Fork road (see the attached map and 2011 aerial photo). From the point of diversion on the Big Wood River to the point of return flow, the channel is approximately 1,640 feet long, not including a pond containing approximately 1.68 acre-feet located 250 feet upstream of the return flow point to the Big Wood River. The pond was constructed in 1979 and contains water year-round, being filled either with surface water or partially filled with shallow groundwater. The channel carries water when the river level is moderate or high, and ceases to flow when the river level declines below the mouth of the entrance. No records have been kept on the magnitude or the timing of discharge in the channel, but it appears that the channel has historically carried water at least through June and perhaps through July and August in wetter years. In the 2013 season, river levels have been extremely low; however, the channel was flowing in late June.

No water rights currently exist for the pond. Application No 37-08916 was filed in 2000 by Walker Monroe, a residential owner and neighbor adjacent to the channel north west of the pond. The ownership of this application, which is still active, was transferred to Tom R. Norris on May 10, 2013. Mr. Norris, is proposing the construction of a residence adjacent to the pond on Lot2B of the Little Makawao subdivision (see attached plat map), and an expansion of the existing pond. The proposed permit would codify storage within the pond.

No new water diversion is being requested by the permit application. The pond has been in place since 1979, and the channel has historically carried water.

The Watermaster of District 37, Mr. Kevin Lakey, has been contacted regarding the proposed permit and he indicated that, based on the proposed plan, he did not see a problem with the proposal, provided that adequate information was provided showing that mitigation for increased evaporation was, in fact, provided by reduction of irrigated area. There are no diversions from the Big Wood River between the Little Mackawao channel entrance and the return flow point.

The application is being made in the name of Tom R. Norris, who is the owner of Lot 2B within the subdivision. The point of diversion from the pond is on Lot 2B since the lowest point in the excavated pond is in lot 2B. The channel flows through the subdivision and across property owned by various members of the homeowner's association.

The existing pond area on Lot 2B, owned by Norris is 0.18 acres and the existing pond area on Lot 3A, owned by Wheeler, is 0.30 acres for a total existing pond area of 0.48 acres. The existing pond has an estimated average depth of 3.5 feet for a total current volume of 1.68 acre feet $((0.48) \times 3.5)$. The volume on lot 2B is 0.63 acre feet (0.18×3.5) . It is not proposed to remove material (sediment) from the entire pond but only to expand

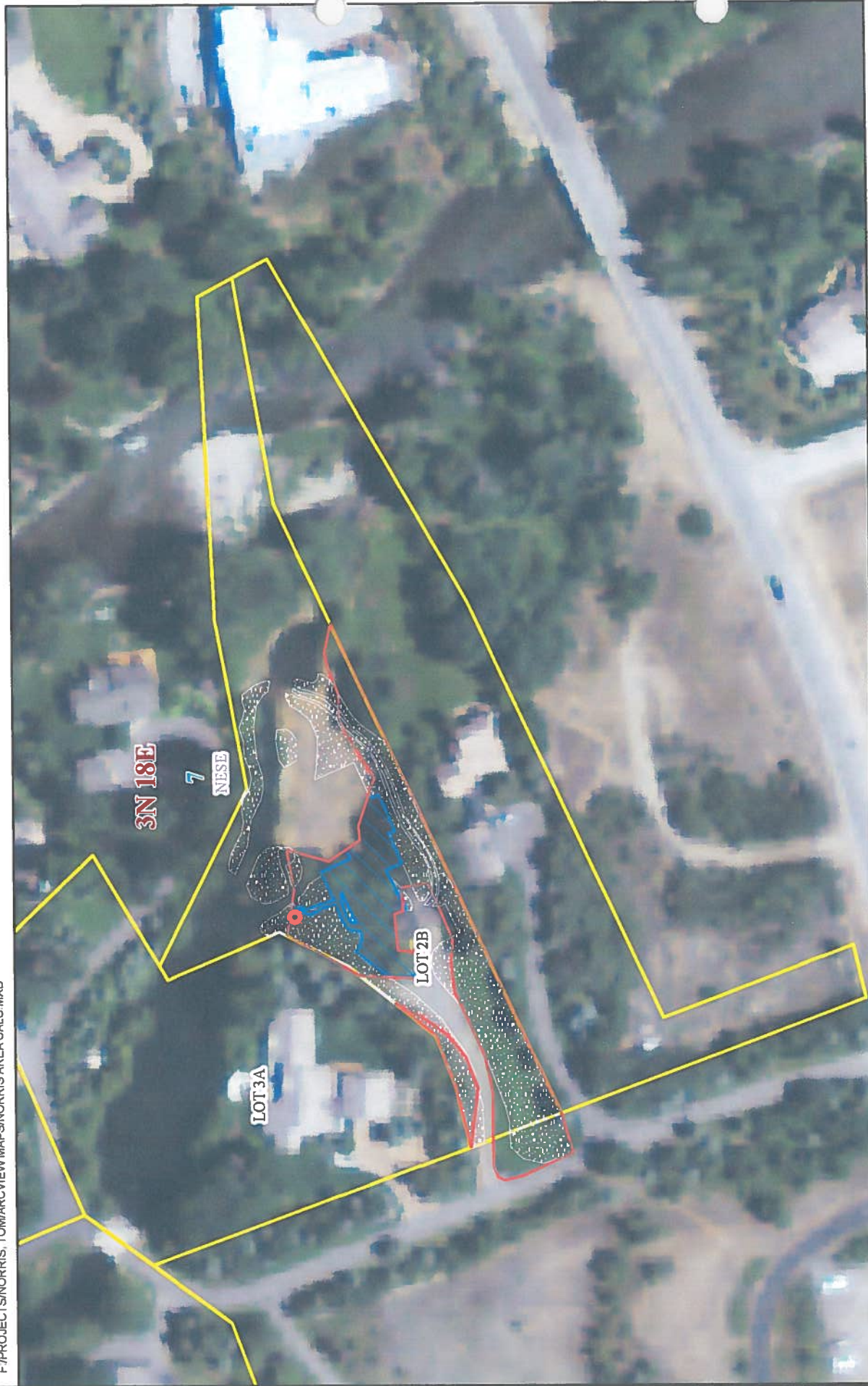
the lower part of the pond on Lot 2B as shown on the attached aerial photo. The area of the proposed pond expansion is 0.09 acres. The depth of water on the expanded wetted area of the pond will be equal to the existing pond depth of 3.5 feet. The proposed expansion of the pond area for aesthetic purposes (0.09 acres) on the Norris property (Lot 2B) results in an increase in pond volume of 0.32 acre feet (0.09×3.5) as shown on the enclosed plan drawing prepared by the architect, Curtis Kemp. Seasonal precipitation deficit (Pdef) from shallow open water surfaces, based on data from the University of Idaho, ETIdaho 2011, is 385 mm/year (1.26 ft/year) at the Hailey Ranger Station. The evaporation from the 0.09 acres of proposed expansion of the pond area is therefore $1.26 \times 0.09 = 0.11$ ac ft./year.

The Pdef for pasture at the Hailey Ranger Station is 500 mm/yr or 1.64 acft/ac/year. It is proposed to mitigate the first-time fill volume and the first year evaporation of the increased expanded pond volume ($0.32 + 0.11 = 0.43$) acre feet by rental for one year of a Big Wood River irrigation water right with an approved irrigated area of at least 0.26 acres ($0.43/1.64$).

Implementation of the proposed expansion results in a total pond area of 0.57 acres and a total pond volume of 2.0 acre feet. The annual evaporation from the 0.57 acre pond will be 0.72 af (1.26×0.57). The permit application request includes the storage volume of the expanded pond (2.00 af) plus the annual evaporation ($0.57 \times 1.26 = 0.72$ af) for a total of 2.72 acre feet.

Annual evaporation of 0.11 acre feet from the proposed expansion of pond area will be mitigated by utilizing part of the 13,000 gal of groundwater allowed under a new domestic/mitigation water right for the new residence. The statutory domestic ground water right allows irrigation of 0.5 acres of lawn and landscaping associated with the residence. The annual Pdef for turf at the Hailey Ranger Station is 597 mm/year (1.96 af/ac/yr) and annual Pdef on 0.5 acres is 0.98 acre feet per year. The Pdef on the expanded pond area for aesthetics is therefore $0.11/1.98 = 11\%$ of the allowed irrigation volume under the domestic water right or the equivalent of irrigation of 0.06 acres. Utilization of the consumptive use on 0.06 acres turf and landscaping for mitigation for the new open water evaporation will limit the lawn and landscaping irrigation associated with the residence to 0.44 acres instead of 0.5 acres.

There is an existing house on lot 2B with a domestic well for which there is a domestic exemption. The well currently provides water for in-house use and is used to irrigate 0.5 acres (see attached aerial photo). A total of 0.06 acres of currently irrigated landscaping will be permanently dried up to mitigate for the evaporation from the proposed expansion of the pond. The location of the remaining 0.44 acres is shown on the attached aerial map. The attached application for a domestic well for the new residence includes in-house water and irrigation of 0.44 acres with 0.06 acres of irrigation dedicated to the mitigation of evaporation from the pond expansion.



0 60 120 240 Feet

Legend

-  Well
-  Previous Irrigation 0.5 Ac.
-  Irrigation Reduction
-  Proposed Irr. Post-Construction 0.44 AC
-  Little_Makawao_Sub

**NORRIS, TOM
PRE & POST IRRIGATION
NAIP 2011 AERIAL PHOTO.**



NORRIS, TOM **PROPOSED POND EXPANSION** **NAIP 2011 AERIAL PHOTO.**

Legend

- PROPOSED POND LOTS 2B & 3A, 0.57 AC
- Well
- Little_Makawao_Sub
- EXISTING WATER AREA LOT 2B & 3A, 0.48 ACRES
- PROPOSED NEW POND LOT 2B, 0.09 AC.
- Proposed Residence
- Bridges
- Wynship
- Sections
- QQ lines

Rev. 05/12

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
ASSIGNMENT OF APPLICATION FOR PERMIT
To change the ownership of an application for permit

I, Walker Monroe, hereby assign to Tom R. Norris
Current applicant New applicant(s)
of, 2351 Clay St. Ste 510 San Francisco, CA 94115 (415) 722-6835
New owner's address including city, state and ZIP Phone

All my right, title, and interest in and to Application for Permit No(s): 37-8916
to appropriate the public waters of the State of Idaho.

OR (for partial assignments)

The following described portion of my right, title, and interest in and to Application for Permit No(s):
_____ to appropriate the public waters of the State of Idaho.

Describe in detail the portion of the application for permit assigned, listing the number of acres in each 40 acre
subdivision, point of diversion location, and amount of the water in cubic feet per second.

Does the new applicant own the property at the:

Point of diversion? ☐ Yes ☒ No
Place of use? ☒ Yes ☐ No

If no, describe the arrangement enabling the new applicant to access the point of diversion and/or the place of use:
Existing Little Mackawao Channel diverted upstream and returns to Big Wood River. See maps.

Dated this 10 day of May, 20 15.

Signature of current applicant

Title (if applicable)

Signature of current applicant

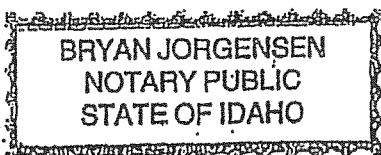
Title (if applicable)

State of Idaho

County of Blaine

On this 10 day of May, 20 15, personally appeared before me the signer(s) of the above
instrument, who duly acknowledged to me that he/she/they executed the same.

SEAL



Notary Public

My commission expires:

Aug 29th 2018

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

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

Hailey Ranger Stn (NWS -- 103942)

Statistics based on thirty year normal spans 1932 to 1981 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 Annual
Mean ^j	mm/day												mm	
Monthly ^c	-1.35	-0.84	0.18	1.42	2.24	2.83	3.96	3.33	2.18	1.00	-0.56	-1.78	385	0 385
15-Day Moving Average ^d	-1.44	-0.83	0.12	1.56	2.28	2.95	4.06	3.32	2.21	1.02	-0.77	-1.76		
7-Day Moving Average ^e	-1.38	-0.83	0.16	1.50	2.30	2.86	4.03	3.32	2.22	1.04	-0.62	-1.79		
3-Day Moving Average ^f	-1.37	-0.84	0.18	1.44	2.26	2.84	3.97	3.33	2.20	1.01	-0.57	-1.78		
Standard Deviation ^k	mm/day												mm	
Monthly ^c	1.74	1.07	1.18	0.87	1.57	1.04	0.79	1.36	0.90	1.00	1.07	2.60	127	0 127
15-Day Moving Average ^d	2.02	1.40	1.21	1.17	1.46	1.38	0.62	1.35	1.15	1.00	1.59	2.62		
7-Day Moving Average ^e	2.82	2.01	1.57	1.65	1.78	1.94	0.89	1.60	1.42	1.38	2.04	3.56		
3-Day Moving Average ^f	3.81	2.79	2.15	2.42	2.32	2.54	1.38	2.10	1.94	1.94	2.75	4.62		
20% Exceedance ^l	mm/day												mm	
Monthly ^c	-0.39	0.17	0.91	2.11	3.29	3.75	4.46	3.84	2.78	1.67	0.31	-0.48	470	0 470
15-Day Moving Average ^d	0.35	0.57	1.40	2.98	4.01	4.26	4.64	4.27	3.30	2.18	0.72	0.36		

^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.