

Supplementary material for: Null K.A., Corbett D.R., Crenshaw J., Peterson R.N., Peterson L.E. & Lyons W.B. 2019. Groundwater discharge to the western Antarctic coastal Ocean. *Polar Research* 38. Contact: Kimberly Null, Moss Landing Marine Laboratories, 8272 Moss Landing Road, Moss Landing, CA 95039, USA. E-mail: knull@mlml.calstate.edu

We completed the ^{223}Ra -based submarine groundwater discharge (SGD) calculation to compare with and corroborate the ^{224}Ra -based SGD estimates. We find similar rates using ^{223}Ra -based calculations (Supplementary Table S1).

Supplementary Table S1. SGD results from using different isotopes (^{223}Ra and ^{224}Ra) and residence times (τ) in days (d).

Site	Isotope	Residence time	SGD ($\times 10^3 \text{ m}^3 \text{ d}^{-1}$)
AH	^{224}Ra	1.1	115
	^{224}Ra	3.6	48.9
	^{223}Ra	1.1	160
	^{223}Ra	3.6	55.9
P8	^{224}Ra	1.1	5.73
	^{224}Ra	3.7	2.40
	^{223}Ra	1.1	14.2
	^{223}Ra	3.7	4.22

Propagating uncertainties

SGD uncertainties were calculated following the laws of propagating uncertainty for uncorrelated variables (Taylor & Kuyatt 1994) and using the following equation (e.g., Krest et al. 2000; Knee et al. 2008; Null et al. 2014):

$$\text{SGD} = \{[(A_{\text{box}} - A_{\text{out}})V_{\text{box}}] / \tau A_{\text{pw}}\} + \{[(A_{\text{box}} - A_{\text{out}})V_{\text{box}}]\lambda / A_{\text{pw}}\} \quad (1)$$

Equation 1 is the SGD equation arranged to easily propagate uncertainty; therefore, the uncertainty in the SGD estimate is calculated using the equations below (Eqns. 2-5) and the values in Table 2. Note we estimate a 10% error in the volume and use the average and standard deviation of the residence time to provide a more conservative estimate of error associated with SGD estimates.

$$\delta A_{\text{box}} - A_{\text{out}} = \text{SQRT} [(\delta A_{\text{box}})^2 + (\delta A_{\text{out}})^2] \quad (2)$$

$$\delta A_{\text{box}} V_{\text{box}} \tau = \text{SQRT} [(\delta A_{\text{box}} - A_{\text{out}} / A_{\text{box}} - A_{\text{out}})^2 + [(\delta V_{\text{box}} / V_{\text{box}})^2 + (\delta \tau / \tau)^2 + [(\delta A_{\text{pw}} / A_{\text{pw}})^2] \cdot |A_{\text{box}} V_{\text{box}} \tau|] \quad (3)$$

$$\delta A_{\text{box}} V_{\text{box}} \lambda = \text{SQRT} [(\delta A_{\text{box}} - A_{\text{out}} / A_{\text{box}} - A_{\text{out}})^2 + [(\delta V_{\text{box}} / V_{\text{box}})^2 + [(\delta A_{\text{pw}} / A_{\text{pw}})^2] \cdot |A_{\text{box}} V_{\text{box}} \lambda|] \quad (4)$$

$$\delta \text{SGD} = \text{SQRT} [(\delta A_{\text{box}} V_{\text{box}} \tau)^2 + (\delta A_{\text{box}} V_{\text{box}} \lambda)^2] \quad (5)$$

The uncertainty (δSGD) is propagated throughout the calculation and broken down here for simplicity (Supplementary Table S2).

Supplementary Table S2. Values for propagating uncertainties for SGD. Note the average SGD here is based on the average 2.4 d residence time (as opposed to the 1.1 or 3.6 range) for comparison to the propagated uncertainty.

	Units	AH		P8	
		Value	Std. dev.	Value	Std. dev.
A _{box} surface	dpm m ⁻³	11	6.3	7.6	4.9
A _{out}	dpm m ⁻³	2.5	0.9	2.5	0.9
A _{box} -A _{out}	dpm m ⁻³	8.5		5.1	
δ A _{box} -A _{out}	dpm m ⁻³	6.3		5.0	
A _{box} V _{box} τ	m ³ d ⁻¹	2059		411	
δ A _{box} V _{box} τ	m ³ d ⁻¹	2245		518	
A _{box} V _{box} λ	m ³ d ⁻¹	924		184	
δ A _{box} V _{box} λ	m ³ d ⁻¹	139		36	
decay (λ)	d ⁻¹	0.19		0.19	

Apw	dpm m ⁻³	558	135	558	135
Ave. SGD Surface	m ³ d ⁻¹	2983	75%	595	87%
δ Surface SGD	m ³ d ⁻¹	2249		519	
Surface volume	m ³	316875		106000	
δ Surface volume (10%)	m ³	31687		10600	
Abox subsurface	dpm m ⁻³	8.1	4.5	4.0	2.0
Aout	dpm m ⁻³	2.5	0.9	2.5	0.9
Abox-Aout	dpm m ⁻³	5.7		1.5	
δ Abox-Aout	dpm m ⁻³	4.6		2.2	
AboxVbox τ	m ³ d ⁻¹	42400		1805	
δ AboxVbox τ	m ³ d ⁻¹	48324		2907	
AboxVbox λ	m ³ d ⁻¹	19031		810	
δ AboxVbox λ	m ³ d ⁻¹	3109		220	
decay (λ)	d ⁻¹	0.19		0.19	
Apw	dpm m ⁻³	558	135.0	558	135.0
Ave. SGD Subsurface	m ³ d ⁻¹	61431	79%	2615	111%
δ Subsurface SGD	m ³ d ⁻¹	48424		2915	
Subsurface vol.	m ³	9823125		1537000	
δ Subsurface vol. (10%)	m ³	982312		153700	
Residence time (τ)	d	2.4		2.4	
δ τ	d	1.8		1.8	
Surface and subsurface SGD	m ³ d ⁻¹	64414		3210	
δ Total SGD	m ³ d ⁻¹	48476		2961	
% error		75%		92%	

Recirculated seawater calculation

We estimated the portion of recirculated seawater discharge driven by waves and tides using analytical calculations for each tidal period (e.g., both semi-diurnal and diurnal cycles exist along the western Antarctic Peninsula) and the range of residence times for each site. The discharge due to waves per shore distance (D_w) is calculated using the following equations (Longuet-Higgins et al. 1999; Li et al. 1999):

$$D_w = KS_w L$$
$$S_w = \frac{3SS_b}{8 + 3S^2}$$

$$S = \frac{1.56}{1 + \exp(-19.5S_B)} - 43.8[1 - \exp(-19S_B)] \frac{H_b}{gT_w^2}$$

$$L = \frac{H_b}{S(S_B - S_w)}$$

The discharge of recirculated water driven by tides per shore distance (D_t) is estimated using the following equations and all measured and/or estimated parameters based on samples and observations are presented in Supplementary Table S3:

$$D_t = \frac{n_e A}{kT_t} \exp(-a)[\cos(a) - \sin(a)] + \frac{\sqrt{2}n_e A^2}{S_B T_t} \exp(-\sqrt{2}a)\cos(\sqrt{2}a) + \frac{n_e A^2}{S_B T_t}$$

$$k = \frac{n_e W}{2KH}$$

$$a = \frac{kA}{S_B}$$

Supplementary Table S3. Measured and estimated (based on provided reference) parameters and values used to calculate recirculated seawater at each site.

Parameter	unit	AH		P8		
		K1 (diurnal)	K2 (semi-diurnal)	K1 (diurnal)	K2 (semi-diurnal)	
ω^a	tidal frequency	rad s ⁻¹	7.29×10 ⁻⁵	1.46×10 ⁻⁴	7.29×10 ⁻⁵	1.46×10 ⁻⁴
H _b	breaker height	m	0.1	0.1	0.1	0.1
T _w	wave period	s	10	10	10	10
g	gravity	m ² s ⁻¹	9.81	9.81	9.81	9.81
S _b	beach slope		0.14	0.14	0.16	0.14
K _h ^b	hydraulic conductivity	m d ⁻¹	1.45×10 ⁻⁴	1.45×10 ⁻⁴	1.45×10 ⁻⁴	1.45×10 ⁻⁴
A ^a	amplitude	m	0.2	0.2	0.2	0.2
T _t ^a	tidal period	s	8.6×10 ⁴	4.3×10 ⁴	8.6×10 ⁴	4.3×10 ⁴
n _e ^c	effective porosity		0.225	0.225	0.225	0.225
H	aquifer height	m	30	30	30	30

^a Based on K1 and K2 harmonic. ^b Based on the median hydraulic conductivity of medium grain size (Domenico et al. 1998). ^c Based on effective porosity of medium grain size (McWhorter & Sunada 1977).

The reported percent of recirculated seawater is the average D_w and D_t results (m³ d⁻¹) from each site divided by the median SGD at Arthur Harbor (AH) and Point 8 (P8) to obtain a percent of recirculated seawater across tidal periods and residence times. The average percentages are 5.5% and 39% recirculated seawater at AH and P8, respectively. The average recirculated seawater component (m³ d⁻¹) was subtracted from SGD to estimate the freshwater component of SGD (Supplementary Table S4).

Supplementary Table S4. Discharge of recirculated seawater (SGD_{RS}) based on different tidal harmonic (K1 or K2) at each site and the percent that SGD_{RS} comprises of total SGD.

Site	K1 SGD_{RS} ($\text{m}^3 \text{d}^{-1}$)	K2 SGD_{RS} ($\text{m}^3 \text{d}^{-1}$)	Percent of SGD
AH	4192	3301	5.5
P8	1512	1188	39

Supplementary Table S5. Radium activities, uncertainties, and minimum detectable activities (MDA) for each sample. Eight detectors with efficiencies ranging from 0.334-0.428 for 219 and 0.461-0.557 for 220 channel were used to analyse the following samples. The detector background count rates ranged between 0.002 – 0.067 cpm and 0.001-0.023 for ²²⁴Ra and ²²³Ra, respectively. Hourly tide data was collected from a datalogger that ultimately failed in January of 2014.

Station Name	Event	Sample Type/ Depth (m)	Sample Date / Time	Tide Date / Time	Tide (m)	Vol. (L)	219 Blank	220 Blank	Total Blank	count min	cpm 219	cpm 220	Total cpm bkgd	Total bkgd	Ra ²²³ dpm/m ³	Ra ²²³ Unc dpm/m ³	XSRa ²²⁴ dpm/m ³	XSRa ²²⁴ Unc dpm/m ³	MDA Ra ²²³ dpm/m ³	MDA Ra ²²⁴ dpm/m ³
Point 8																				
Groundwater																				
Point 8	Time-Series 3	Porewater A-1	1/16/14 15:00	1/16/14 15:17	-0.695	20	0.002	0.006	0.912	1051	0.002	0.122	0.87	1.375	0.57	BD	9.79	1.07	1.14	1.23
Point 8	Time-Series 3	Porewater A-2	1/16/14 17:37	1/16/14 17:17	-0.419	20	0.001	0.010	0.583	529.9	0.021	0.321	0.485	2.553	1.99	0.60	40.2	2.58	1.61	2.58
Point 8	Time-Series 3	Porewater A-3	1/16/14 19:55	1/16/14 19:17	0.033	20	0.001	0.034	0.847	587.8	0.039	0.818	0.451	5.718	2.98	1.2	104	4.15	1.53	4.01
Point 8	Time-Series 3	Porewater A-4	1/16/14 23:12	1/16/14 23:17	0.409	20	0.001	0.034	0.847	529.9	0.015	0.270	0.476	2.517	0.76	BD	29.7	2.66	1.64	4.25
Point 8	Time-Series 3	Porewater A-5	1/17/14 4:48	1/17/14 4:17	0.266	20	0.001	0.016	0.328	529.9	0.008	0.232	0.52	1.662	0.82	BD	23.2	2.21	1.60	3.10
Point 8	Time-Series 3	Porewater A-6	1/17/14 12:27	1/17/14 12:17	-0.346	20	0.001	0.006	0.314	529.9	0.032	0.623	0.436	4.284	2.56	1.17	67.0	4.04	1.72	2.26
Point 8	Time-Series 3	Porewater A-7	1/17/14 12:27	1/17/14 12:17	-0.346	20	0.001	0.016	0.328	587.8	0.037	0.575	0.453	4.002	3.37	1.12	66.1	3.38	1.48	2.92
Point 8	Time-Series 3	Porewater B-1	1/16/14 15:43	1/16/14 15:17	-0.695	19	0.001	0.004	0.346	1206	0.004	0.057	0.407	1.258	0.49	BD	6.83	0.93	0.97	1.23
Point 8	Time-Series 3	Porewater B-2	1/16/14 21:03	1/16/14 21:17	0.346	20	0.001	0.006	0.314	587.8	0.003	0.031	0.72	0.778	0.80	BD	3.30	0.86	1.60	2.12
Point 8	Time-Series 3	Porewater B-3	1/17/14 10:29	1/17/14 10:17	0.080	20	0.001	0.002	0.229	588.8	0.003	0.025	0.144	1.993	0.62	BD	NA	NA	1.25	NA
Point 8	Time Series 4	Porewater A-1	1/21/14 12:23	1/21/14 12:17	0.123	20	0.001	0.034	0.847	253.6	0.039	0.805	0.664	3.730	2.93	1.79	100	5.97	2.85	6.47
Point 8	Time Series 4	Porewater A-2	1/21/14 14:48	1/21/14 14:17	-0.243	20	0.001	0.004	0.346	203.0	0.044	0.636	0.439	4.175	4.31	1.44	84.3	6.36	3.37	3.70
Point 8	Time Series 4	Porewater A-3	1/21/14 17:13	1/21/14 17:17	-0.528	20	0.001	0.006	0.314	473.3	0.025	0.467	0.289	5.211	2.15	1.10	62.2	4.24	1.87	2.42
Point 8	Time Series 4	Porewater A-4	1/21/14 19:14	1/21/14 19:17	-0.239	20	0.001	0.002	0.229	454.4	0.018	0.341	0.427	2.799	0.75	BD	38.6	2.79	1.51	1.54
Point 8	Time Series 4	Porewater A-5	1/21/14 21:26	1/21/14 21:17	0.229	20	0.001	0.010	0.583	622.7	0.016	0.209	0.704	1.173	1.63	0.71	24.4	1.98	1.44	2.34

Point 8	Time Series 4	Porewater A-6	1/22/14 0:49	1/22/14 0:17	0.410	20	0.001	0.034	0.847	407.6	0.025	0.491	0.472	3.888	1.00	BD	54.6	3.67	1.99	4.93
Point 8	Time Series 4	Porewater A-7	1/22/14 5:43	1/22/14 5:17	-0.278	20	0.001	0.004	0.346	719.6	0.004	0.188	0.458	1.762	0.66	BD	23.3	1.84	1.32	1.61
Point 8	Time Series 4	Porewater A-8	1/22/14 7:47	1/22/14 7:17	-0.188	20	0.001	0.016	0.328	703.4	0.004	0.159	0.388	1.997	0.65	BD	18.0	1.77	1.31	2.63
Point 8	Time Series 4	Porewater A-9	1/22/14 9:48	1/22/14 9:17	0.095	20	0.001	0.006	0.314	703.5	0.009	0.146	0.581	1.346	0.70	BD	15.8	1.65	1.41	1.89
Point 8	Time Series 4	Porewater B-1	1/21/14 12:22	1/21/14 12:17	0.123	20	0.002	0.006	0.912	264.8	0.038	0.963	1.11	2.926	1.46	BD	111	5.84	2.92	2.91
Point 8	Time Series 4	Porewater B-2	1/21/14 15:08	1/21/14 15:17	-0.419	20	0.001	0.034	0.847	179.0	0.067	1.369	0.671	5.669	5.26	1.52	180	9.70	3.73	7.94
Point 8	Time Series 4	Porewater B-3	1/21/14 17:10	1/21/14 17:17	-0.528	20	0.002	0.006	0.912	323.5	0.053	1.484	1.143	3.816	1.26	BD	175	8.80	2.53	2.56
Point 8	Time Series 4	Porewater B-4	1/21/14 19:12	1/21/14 19:17	-0.239	20	0.001	0.010	0.583	297.3	0.034	0.945	0.329	7.574	1.24	BD	128	6.23	2.47	3.67
Point 8	Time Series 4	Porewater B-5	1/21/14 21:43	1/21/14 21:17	0.229	20	0.001	0.034	0.847	506.5	0.02	0.391	0.545	3.094	0.85	BD	49.9	2.90	1.70	4.36
Point 8	Time Series 4	Porewater B-6	1/22/14 1:01	1/22/14 1:17	0.298	20	0.001	0.004	0.346	767.2	0.012	0.186	0.278	2.910	0.63	BD	26.2	1.76	1.26	1.54
Point 8	Time Series 4	Porewater B-7	1/22/14 6:05	1/22/14 6:17	-0.271	20	0.001	0.002	0.229	431.7	0.028	0.57	0.661	2.681	0.78	0.51	71.6	3.72	1.56	1.59
Point 8	Time Series 4	Porewater B-8	1/22/14 8:08	1/22/14 8:17	-0.052	20	0.002	0.006	0.912	283.3	0.035	0.745	1.335	2.300	1.39	BD	78.3	5.61	2.78	2.79
Point 8	Time Series 6	Porewater A-1	1/27/14 14:06	1/27/14 14:17	-0.459	20	0.001	0.016	0.328	641.6	0.012	0.192	0.688	1.235	0.70	BD	23.6	2.08	1.39	2.77
Point 8	Time Series 6	Porewater A-2	1/27/14 16:15	1/27/14 16:17	-0.305	20	0.001	0.002	0.229	637.7	0.006	0.13	1.038	0.630	0.59	BD	16.5	1.44	1.18	1.22
Point 8	Time Series 6	Porewater A-3	1/27/14 18:31	1/27/14 18:17	-0.067	20	0.002	0.006	0.912	636.5	0.003	0.157	0.469	2.755	0.79	BD	14.4	1.59	1.59	1.67
Point 8	Time Series 6	Porewater A-4	1/27/14 20:23	1/27/14 20:17	0.237	20	0.001	0.010	0.583	638.5	0.016	0.175	0.97	0.951	1.81	0.70	21.7	1.87	1.41	2.31
Point 8	Time Series 6	Porewater A-5	1/27/14 23:18	1/27/14 23:17	0.578	20	0.001	0.034	0.847	173.4	0.306	6.38	0.872	17.23	24.17	3.32	770	36.20	3.83	8.10
Point 8	Time Series 6	Porewater A-6	1/28/14 3:21	1/28/14 3:17	0.493	20	0.001	0.004	0.346	174.3	0.155	2.696	0.606	10.91	13.64	4.29	347	19.52	3.80	4.12
Point 8	Time Series 6	Porewater A-7	1/28/14 7:24	1/28/14 7:17	-0.096	20	0.001	0.034	0.847	324.5	0.031	0.666	1.373	2.105	1.18	BD	71.4	4.96	2.36	5.61
Point 8	Time Series 6	Porewater A-8	1/28/14 9:31	1/28/14 9:17	-0.370	20	0.001	0.004	0.346	1144	0.018	0.403	0.537	2.952	1.24	0.57	52.8	2.38	0.96	1.21
Point 8	Time Series 6	Porewater A-9	1/28/14 11:44	1/28/14 11:17	-0.558	20	0.001	0.002	0.229	490.6	0.016	0.247	0.503	1.849	0.71	BD	29.5	2.26	1.42	1.46
Point 8	Time Series 6	Porewater A-10	1/28/14 13:38	1/28/14 13:17	-0.620	20	0.002	0.006	0.912	1099	0.007	0.085	1.109	1.010	0.55	BD	7.65	1.00	1.11	1.20

**AH
Groundwater**

AH	Glacier Terminus	PW-1B	1/10/14 10:39	NA	20	0.001	0.034	0.847	343.8	0.038	0.654	0.331	6.230	3.14	0.87	47.1	4.94	2.26	5.43
AH	Glacier Terminus	GW-1	1/10/14 11:05	NA	20	0.001	0.016	0.328	343.8	0.041	1.108	0.241	11.95	1.10	BD	102	8.02	2.20	4.00
AH	Glacier Terminus	GW-seep	2/28/14 13:25	NA	20	0.001	0.016	0.328	423.2	0.054	0.543	0.363	4.804	5.72	1.19	52.4	3.86	1.88	3.53
AH	Glacier Terminus	S1	1/11/14 11:14	NA	20	0.001	0.004	0.346	1407	0.031	0.28	0.383	4.274	3.73	0.69	34.1	1.69	0.83	1.06

**Point 8
Nearshore**

Point 8	Time-Series 3	Surface A	1/16/14 14:33	1/16/14 14:17	-0.705	100	0.001	0.010	0.583	278.0	0.086	1.155	0.296	12.53	1.73	0.50	7.48	1.47	0.52	0.77
Point 8	Time-Series 3	Surface B	1/16/14 16:47	1/16/14 16:17	-0.595	100	0.001	0.034	0.847	278.0	0.086	0.759	0.378	7.357	2.05	0.51	15.5	1.14	0.53	1.23
Point 8	Time-Series 3	Surface C	1/16/14 20:27	1/16/14 20:17	0.222	100	0.001	0.016	0.328	277.9	0.036	0.504	0.218	7.940	0.69	0.22	9.64	0.93	0.52	0.91
Point 8	Time-Series 3	Surface D	1/16/14 22:29	1/16/14 22:17	0.406	100	0.001	0.006	0.314	277.9	0.047	0.457	0.206	9.466	1.12	0.39	7.78	1.08	0.56	0.68
Point 8	Time-Series 3	Surface F	1/17/14 8:35	1/17/14 8:17	0.367	100	0.001	0.004	0.346	277.0	0.04	0.509	0.304	5.891	0.80	0.34	NA	NA	0.53	NA
Point 8	Time-Series 3	Surface G	1/17/14 11:40	1/17/14 11:17	-0.127	80	0.001	0.002	0.229	277.0	0.065	0.762	0.187	12.65	1.37	0.45	22.1	1.40	0.54	0.54
Point 8	Time-Series 4	Surface A	1/21/14 11:32	1/21/14 11:17	0.251	102	0.001	0.010	0.583	563.5	0.012	0.199	0.329	3.760	0.27	BD	3.85	0.43	0.30	0.49
Point 8	Time-Series 4	Surface B	1/21/14 13:53	1/21/14 13:17	-0.050	102	0.001	0.034	0.847	217.3	0.06	0.732	0.505	5.277	1.25	0.47	14.7	1.35	0.63	1.39
Point 8	Time-Series 4	Surface C	1/21/14 16:38	1/21/14 16:17	-0.526	102	0.001	0.016	0.328	184.0	0.06	0.69	0.506	4.243	1.23	0.49	11.5	1.28	0.70	1.15
Point 8	Time-Series 4	Surface D	1/21/14 18:33	1/21/14 18:17	-0.425	102	0.001	0.006	0.314	300.9	0.04	0.395	0.294	5.571	0.94	0.34	7.39	0.84	0.51	0.63
Point 8	Time-Series 4	Surface E	1/21/14 21:09	1/21/14 21:17	0.229	102	0.001	0.004	0.346	301.0	0.037	0.382	0.264	6.129	0.81	0.31	7.18	0.82	0.49	0.55
Point 8	Time-Series 4	Surface F	1/22/14 0:40	1/22/14 0:17	0.410	102	0.001	0.002	0.229	340.2	0.029	0.338	0.226	6.584	0.49	0.16	4.92	0.68	0.37	0.37
Point 8	Time-Series 4	Surface G	1/22/14 5:35	1/22/14 5:17	-0.278	102	0.002	0.006	0.912	184.3	0.06	0.651	0.887	3.071	1.12	0.45	10.9	1.19	0.75	0.73
Point 8	Time-Series 4	Surface H	1/22/14 7:38	1/22/14 7:17	-0.188	102	0.002	0.006	0.912	594.5	0.025	0.469	0.565	5.088	0.36	0.16	7.94	0.52	0.33	0.34
Point 8	Time-Series 4	Surface I	1/22/14 9:33	1/22/14 9:17	0.095	102	0.001	0.016	0.328	608.6	0.016	0.228	0.247	5.429	0.29	0.14	3.74	0.43	0.28	0.56
Point 8	Time-Series 6	Surface A	1/27/14 13:54	1/27/14 13:17	-0.506	102	0.001	0.010	0.583	442.8	0.041	0.458	0.404	4.656	0.88	0.27	7.91	0.85	0.36	0.56
Point 8	Time-Series 6	Surface B	1/27/14 15:58	1/27/14 15:17	-0.390	102	0.001	0.034	0.847	442.8	0.023	0.531	0.493	4.462	0.18	BD	12.0	0.72	0.37	0.92
Point 8	Time-Series 6	Surface C	1/27/14 18:07	1/27/14 18:17	-0.067	102	0.001	0.016	0.328	442.8	0.023	0.246	0.174	7.592	0.49	0.20	2.06	0.51	0.36	0.67
Point 8	Time-Series 6	Surface D	1/27/14 19:58	1/27/14 19:17	0.086	102	0.001	0.006	0.314	442.8	0.05	0.447	0.495	4.390	1.22	0.32	8.55	0.76	0.39	0.50
Point 8	Time-Series 6	Surface E	1/27/14 23:01	1/27/14 23:17	0.578	102	0.001	0.004	0.346	710.1	0.017	0.142	0.634	2.170	0.41	0.12	2.36	0.36	0.26	0.32
Point 8	Time-Series 6	Surface F	1/28/14 2:59	1/28/14 2:17	0.577	102	0.001	0.002	0.229	442.7	0.02	0.165	0.424	2.483	0.38	0.16	2.21	0.46	0.30	0.31
Point 8	Time-Series 6	Surface G	1/28/14 6:58	1/28/14 6:17	0.058	102	0.002	0.006	0.912	442.8	0.047	0.51	1.153	2.154	0.89	0.26	7.71	0.67	0.40	0.41
Point 8	Time-Series 6	Surface H	1/28/14 9:08	1/28/14 9:17	-0.370	102	0.001	0.010	0.583	332.8	0.051	0.977	0.615	5.023	0.77	0.34	19.3	1.21	0.45	0.67
Point 8	Time-Series 6	Surface I	1/28/14 11:12	1/28/14 11:17	-0.558	102	0.001	0.034	0.847	332.9	0.054	1.124	1.175	3.114	0.77	0.36	21.8	1.29	0.45	1.08

Point 8	Time Series 6	Surface J	1/28/14 13:06	1/28/14 13:17	-0.620	102	0.001	0.016	0.328	242.1	0.045	0.942	0.326	8.580	0.63	0.19	15.5	1.35	0.56	0.97
Point 8	Pt 8 Transect	2-Surface	1/20/14 10:17	1/20/14 10:17	0.331	106	0.001	0.010	0.583	444.1	0.032	0.3150	0.529	3.287	0.65	0.23	4.24	0.58	0.35	0.54
Point 8	Pt 8 Transect	1-Surface	1/20/14 9:53	1/20/14 10:17	0.331	106	0.001	0.016	0.328	441.8	0.027	0.41	0.641	2.917	0.45	0.21	5.95	0.65	0.35	0.65
Point 8	Pt 8 Transect	1 - Surface	3/2/14 16:04	NA		106	0.001	0.006	0.314	561.1	0.037	0.43	0.521	4.678	0.83	0.23	8.51	0.77	0.31	0.41
Point 8	Pt 8 Transect	2 - Surface	3/2/14 16:12	NA		106	0.001	0.016	0.328	561.1	0.027	0.456	0.637	3.491	0.46	0.18	8.67	0.62	0.29	0.57
Point 8	Pt 8 Transect	3 - Surface	3/2/14 16:20	NA		106	0.001	0.006	0.314	340.0	0.047	0.488	0.672	3.173	1.06	0.34	8.06	0.89	0.45	0.56
Point 8	Pt 8 Transect	4 - Surface	3/2/14 16:28	NA		106	0.002	0.006	0.912	909.2	0.018	0.28	0.956	0.293	0.30	0.11	6.11	0.38	0.24	0.25
Point 8	Pt 8 Transect	1 - Surface	1/25/14 8:11	1/25/14 8:17	-0.455	106	0.001	0.010	0.583	359.9	0.056	0.47	0.651	3.009	1.20	0.27	7.49	0.75	0.40	0.62
Point 8	Pt 8 Transect	2 - Surface	1/25/14 8:32	1/25/14 8:17	-0.455	106	0.001	0.034	0.847	360.1	0.042	0.369	0.514	3.842	0.91	0.29	4.86	0.74	0.41	1.00
Point 8	Pt 8 Transect	3 - Surface	1/25/14 11:51	1/25/14 11:17	-0.264	106	0.001	0.002	0.229	758.0	0.029	0.249	0.091	17.615	0.53	0.11	11.0	0.35	0.20	0.21
Point 8	Pt 8 Transect	4 - Surface	1/25/14 10:53	NA		106	0.001	0.004	0.346	829.5	0.023	0.288	0.608	2.956	0.45	0.14	4.51	0.46	0.23	0.28
Point 8	Point 8 Transect	1 - Surface	2/3/14 12:06	NA		106	0.001	0.016	0.328	418.7	0.017	0.416	0.756	2.366	0.18	BD	6.35	0.68	0.36	0.67
Point 8	Point 8 Transect	2 - Surface	2/3/14 12:26	NA		106	0.001	0.010	0.583	418.6	0.029	0.215	0.452	2.717	0.64	0.22	3.23	0.48	0.36	0.56
Point 8	Point 8 Transect	3 - Surface	2/3/14 14:43	NA		106	0.002	0.006	0.912	417.2	0.022	0.156	0.938	1.541	0.45	0.17	1.10	0.40	0.40	0.41
Point 8	Point 8 Transect	4 - Surface	2/3/14 15:14	NA		106	0.001	0.004	0.346	417.2	0.043	0.595	0.472	4.703	0.78	0.28	10.4	0.86	0.37	0.43
Point 8	Point 8 Transect	1 - Surface	2/6/14 16:37	NA		106	0.001	0.010	0.583	839.8	0.019	0.383	0.85	2.679	0.27	0.07	4.95	0.51	0.22	0.37
Point 8	Point 8 Transect	2 - Surface	2/6/14 16:08	NA		106	0.001	0.034	0.847	839.7	0.03	0.442	0.981	2.969	0.55	0.16	5.02	0.66	0.22	0.62
Point 8	Point 8 Transect	3 - Surface	2/6/14 14:24	NA		106	0.001	0.016	0.328	839.8	0.026	0.441	0.982	2.698	0.42	0.15	6.37	0.52	0.22	0.45
Point 8	Point 8 Transect	4 - Surface	2/6/14 13:40	NA		106	0.001	0.006	0.314	839.8	0.012	0.232	0.428	4.332	0.12	BD	3.82	0.39	0.24	0.32
Point 8	Point 8 Transect	1 - Surface	2/14/14 13:49	NA		106	0.001	0.010	0.583	609.7	0.023	0.353	1.195	1.473	0.40	0.16	5.97	0.51	0.28	0.45
Point 8	Point 8 Transect	2 - Surface	2/14/14 13:23	NA		106	0.001	0.034	0.847	609.7	0.015	0.258	0.723	2.058	0.14	BD	4.84	0.41	0.28	0.74
Point 8	Point 8 Transect	3 - Surface	2/14/14 10:30	NA		106	0.001	0.034	0.847	578.7	0.014	0.292	0.891	2.156	0.15	BD	4.19	0.49	0.29	0.76
Point 8	Point 8 Transect	4 - Surface	2/14/14 9:43	NA		106	0.001	0.016	0.328	566.3	0.018	0.298	0.466	3.893	0.29	0.15	4.02	0.50	0.29	0.56
Point 8	Point 8 Transect	1 - Surface	2/10/14 17:37	NA		106	0.001	0.034	0.847	650.3	0.017	0.241	0.811	1.760	0.31	0.14	3.38	0.42	0.27	0.72
Point 8	Point 8 Transect	2 - Surface	2/10/14 17:46	NA		106	0.001	0.006	0.314	650.3	0.018	0.178	0.356	3.576	0.40	0.15	2.64	0.39	0.28	0.38
Point 8	Point 8 Transect	3 - Surface	2/10/14 17:56	NA		106	0.001	0.004	0.346	650.6	0.031	0.224	0.367	4.281	0.70	0.16	3.02	0.45	0.27	0.32

Point 8	Point 8 Transect	4 - Surface	2/10/14 18:08	NA		106	0.001	0.002	0.229	650.6	0.032	0.37	2.022	1.135	0.52	0.16	5.40	0.58	0.22	0.23
Point 8	Point 8 Transect	2 - 4.5m	2/3/14 12:29	NA		106	0.001	0.034	0.847	418.7	0.005	0.239	0.626	2.388	0.18	BD	3.49	0.50	0.37	0.92
Point 8	Point 8 Transect	2 - 5 m	1/20/14 10:33	1/20/14 10:17	0.331	106	0.001	0.034	0.847	442.9	0.029	0.506	0.585	4.173	0.46	0.22	7.49	0.71	0.35	0.89
Point 8	Point 8 Transect	2 - 4.5m	1/25/14 8:42	1/25/14 8:17	-0.455	106	0.001	0.016	0.328	419.8	0.033	0.457	0.639	2.621	0.58	0.24	NA	NA	0.36	NA
Point 8	Point 8 Transect	3 - 8m	1/25/14 11:16	1/25/14 11:17	-0.264	106	0.001	0.006	0.314	824.1	0.028	0.326	0.521	3.720	0.59	0.17	4.96	0.49	0.24	0.33
Point 8	Point 8 Transect	4 - 25 m	2/3/14 15:24	NA		106	0.001	0.006	0.314	418.7	0.029	0.263	0.301	5.236	0.65	0.24	4.23	0.61	0.39	0.49
Point 8	Point 8 Transect	3 - 7 m	2/3/14 14:41	NA		106	0.001	0.002	0.229	417.1	0.024	0.201	0.376	3.181	0.43	0.17	1.72	0.48	0.30	0.31
Point 8	Point 8 Transect	2 - 3m	2/6/14 16:07	NA		106	0.001	0.004	0.346	842.7	0.017	0.166	1.267	1.345	0.36	0.12	1.80	0.37	0.22	0.28
Point 8	Point 8 Transect	3 - 7m	2/6/14 14:36	NA		106	0.001	0.002	0.229	842.7	0.012	0.216	0.307	6.042	0.09	BD	1.92	0.41	0.18	0.19
Point 8	Point 8 Transect	4 - 25m	2/6/14 13:46	NA		106	0.002	0.006	0.912	284.8	0.042	0.492	1.276	2.034	0.74	0.29	7.31	0.83	0.52	0.52
Point 8	Point 8 Transect	2 - 3m	2/14/14 13:28	NA		106	0.001	0.016	0.328	609.6	0.034	0.262	0.897	1.968	0.76	0.20	4.22	0.50	0.27	0.54
Point 8	Point 8 Transect	3 - 8m	2/14/14 10:33	NA		106	0.002	0.006	0.912	563.2	0.036	0.312	1.251	1.779	0.70	0.19	3.45	0.47	0.33	0.34
Point 8	Point 8 Transect	4 - 25m	2/14/14 10:00	NA		106	0.001	0.006	0.314	609.6	0.031	0.253	0.654	2.543	0.74	0.17	3.62	0.49	0.29	0.39

AH Nearshore

Glacier	Site 1	Surface	1/7/14 11:26	NA		100	0.001	0.034	0.847	443.3	0.08	1.297	0.269	16.20	1.32	0.38	31.4	1.31	0.37	0.94
Glacier	Site 1 - low flow	Surface	1/10/14 9:06	NA		100	0.001	0.006	0.314	343.8	0.064	0.899	0.244	11.62	1.27	0.41	11.4	1.25	0.47	0.59
Glacier	Site 1; Stream 2	Surface	1/11/14 9:09	NA		100	0.001	0.010	0.583	423.2	0.137	1.791	0.718	7.589	2.68	0.52	30.7	1.64	0.38	0.59
AH	Glacier Transect	G3 Surface	1/19/14 10:38	1/19/14 10:17	0.292	106	0.001	0.010	0.583	304.1	0.056	0.753	0.352	7.173	1.01	0.36	12.4	1.05	0.46	0.68
AH	Glacier Transect	G4 Surface	1/19/14 10:58	1/19/14 10:17	0.292	106	0.001	0.034	0.847	304.1	0.056	0.704	0.616	4.339	1.06	0.37	11.3	0.99	0.47	1.10
AH	Glacier Transect	G5 Surface	1/19/14 12:55	1/19/14 12:17	-0.077	106	0.001	0.004	0.346	300.5	0.08	0.526	0.384	5.198	1.83	0.45	8.32	1.02	0.47	0.54
AH	Glacier Transect	AH-Mid Surface	1/19/14 14:22	1/19/14 14:17	-0.515	106	0.001	0.006	0.314	260.9	0.042	0.686	0.227	10.53	0.71	0.36	11.5	1.14	0.55	0.67
AH	AH Transect	G-3 Surface	1/29/14 10:03	1/29/14 10:17	-0.358	106	0.001	0.006	0.314	205.3	0.054	1.106	0.758	4.286	0.76	0.46	20.0	1.67	0.66	0.79
AH	AH Transect	G-4 Surface	1/29/14 10:33	1/29/14 10:17	-0.358	106	0.001	0.006	0.314	236.4	0.038	0.66	0.626	3.684	0.63	0.36	11.1	1.18	0.60	0.72

AH	AH Transect	AH-mid Surface	1/29/14 13:52	1/29/14 13:17	-0.661	106	0.001	0.034	0.847	683.0	0.05	0.789	1.509	2.639	0.88	0.15	10.9	0.75	0.26	0.70
AH	AH Transect	G-5 Surface	1/29/14 15:52	1/29/14 15:17	-0.650	106	0.001	0.006	0.314	570.5	0.028	0.677	1.378	1.943	0.33	0.20	10.7	0.88	0.31	0.41
AH	AH Transect	G-4 Surface	1/30/14 12:12	1/30/14 12:17	-0.513	106	0.001	0.010	0.583	258.0	0.047	0.558	0.638	3.213	0.89	0.26	8.28	1.00	0.52	0.76
AH	AH Transect	G-3 Surface	1/30/14 11:48	1/30/14 11:17	-0.354	106	0.001	0.034	0.847	258.0	0.07	0.748	0.925	3.134	1.41	0.45	11.5	1.27	0.53	1.21
AH	AH Transect	G-5 Surface	1/30/14 12:28	1/30/14 12:17	-0.513	106	0.001	0.016	0.328	256.9	0.051	0.884	0.822	3.680	0.78	0.37	14.2	1.25	0.52	0.90
AH	AH Transect	AH-mid Surface	1/30/14 12:40	1/30/14 12:17	-0.513	106	0.001	0.006	0.314	552.1	0.014	0.33	0.745	2.400	0.16	BD	5.20	0.55	0.32	0.42
AH	AH Transect	G-3 Surface	2/4/14 10:56	NA		106	0.001	0.016	0.328	366.5	0.055	0.649	0.8	2.936	1.07	0.32	12.2	1.03	0.40	0.73
AH	AH Transect	G-4 Surface	2/4/14 11:18	NA		106	0.001	0.006	0.314	366.5	0.027	0.398	0.629	2.590	0.51	0.25	8.40	0.71	0.43	0.54
AH	AH Transect	G-5 Surface	2/4/14 11:30	NA		106	0.001	0.004	0.346	366.7	0.041	0.635	0.742	3.213	0.71	0.29	11.8	0.95	0.41	0.47
AH	AH Transect	AH-mid Surface	2/4/14 11:50	NA		106	0.001	0.002	0.229	365.4	0.03	0.427	0.629	3.011	0.45	0.20	6.72	0.70	0.33	0.34
AH	AH Transect	G3-Surface	2/9/14 9:52	NA		106	0.001	0.004	0.346	173.0	0.064	0.885	0.198	12.59	1.15	0.52	16.5	1.58	0.72	0.78
AH	AH Transect	G4-Surface	2/9/14 10:11	NA		106	0.001	0.002	0.229	381.2	0.031	0.538	0.133	15.25	0.40	0.20	8.98	0.75	0.32	0.33
AH	AH Transect	G5-Surface	2/9/14 13:36	NA		106	0.001	0.002	0.229	222.7	0.081	0.709	0.708	3.729	1.47	0.35	11.0	1.14	0.49	0.48
AH	AH Transect	AH-mid Surface	2/9/14 13:02	NA		106	0.002	0.006	0.912	222.7	0.054	0.669	0.977	2.927	0.95	0.38	10.1	1.01	0.63	0.62
AH	AH Transect	G3-Surface	2/10/14 14:03	NA		106	0.002	0.006	0.912	236.3	0.055	0.889	1.247	2.585	0.81	0.37	11.8	1.16	0.60	0.59
AH	AH Transect	G4-Surface	2/10/14 14:16	NA		106	0.001	0.016	0.328	292.7	0.041	0.769	0.617	4.143	0.59	0.31	11.7	1.27	0.47	0.83
AH	AH Transect	4 - Surface	2/12/14 11:43	NA		106	0.001	0.010	0.583	473.3	0.034	0.372	0.603	2.723	0.68	0.23	6.88	0.58	0.33	0.52
AH	AH Transect	2 - Surface	2/12/14 16:02	NA		106	0.001	0.006	0.314	694.5	0.016	0.213	0.561	3.046	0.32	0.14	2.80	0.48	0.27	0.36
AH	AH Transect	5 - Surface	2/12/14 14:34	NA		106	0.002	0.006	0.912	350.7	0.034	0.374	1.154	1.999	0.62	0.24	4.76	0.62	0.45	0.46
AH	AH-SS	1-Surface	3/2/14 11:05	NA		106	0.002	0.006	0.912	288.2	0.073	1.183	1.239	3.440	1.21	0.38	24.9	1.22	0.52	0.52
AH	AH-SS	2-Surface	3/2/14 11:26	NA		106	0.001	0.004	0.346	418.0	0.024	0.268	0.763	2.085	0.53	0.17	4.67	0.61	0.37	0.43
AH	AH-SS	3-Surface	3/2/14 11:46	NA		106	0.001	0.034	0.847	287.7	0.035	0.372	0.254	6.831	0.79	0.30	8.55	0.80	0.49	1.14
AH	AH-SS	4-Surface	3/2/14 12:28	NA		106	0.001	0.004	0.346	562.2	0.02	0.233	0.38	3.776	0.43	0.16	2.20	0.60	0.30	0.35
AH	AH-SS	5-Surface	3/2/14 12:46	NA		106	0.001	0.034	0.847	856.1	0.032	0.38	0.744	3.644	0.73	0.17	7.56	0.52	0.22	0.62
AH	AH-SS	6-Surface	3/2/14 13:02	NA		106	0.002	0.006	0.912	368.3	0.03	0.497	1.099	2.364	0.47	0.22	6.93	0.71	0.44	0.44
AH	AH-SS	7-Surface	3/2/14 14:41	NA		106	0.001	0.006	0.314	615.4	0.018	0.452	0.638	3.577	0.15	BD	10.7	0.66	0.29	0.39

AH	AH-SS	8-Surface	3/2/14 14:57	NA		106	0.001	0.016	0.328	615.4	0.023	0.436	0.637	4.093	0.38	0.16	7.71	0.74	0.27	0.54
AH	AH-SS	9-Surface	3/2/14 15:13	NA		106	0.002	0.006	0.912	558.4	0.043	0.725	0.909	3.939	0.68	0.21	11.0	0.78	0.33	0.34
AH	AH-SS	10-Surface	3/2/14 16:03	NA		106	0.001	0.004	0.346	368.3	0.011	0.345	0.795	1.991	0.20	BD	5.41	0.73	0.40	0.47
AH	AH-SS	11-Surface	3/2/14 16:24	NA		106	0.001	0.010	0.583	343.4	0.029	0.367	0.408	4.039	0.59	0.25	8.22	0.67	0.42	0.63
AH	AH-SS	12-Surface	3/2/14 16:51	NA		106	0.001	0.034	0.847	561.0	0.037	0.412	0.409	5.303	0.80	0.17	8.04	0.59	0.30	0.78
AH	Glacier Transect	G4 5m	1/19/14 11:31	1/19/14 11:17	0.130	106	0.001	0.016	0.328	304.1	0.046	0.737	0.398	5.807	0.74	0.20	12.5	1.02	0.46	0.81
AH	Glacier Transect	G5 7m	1/19/14 13:34	1/19/14 13:17	-0.306	106	0.001	0.002	0.229	300.5	0.04	0.496	0.248	7.379	0.62	0.26	9.00	0.77	0.39	0.39
AH	Glacier Transect	G5 25m	1/19/14 12:57	1/19/14 12:17	-0.077	106	0.002	0.006	0.912	300.6	0.043	0.466	1.043	2.307	0.77	0.29	5.45	0.74	0.50	0.51
AH	Glacier Transect	AH-Mid 7 m	1/19/14 15:07	1/19/14 15:17	-0.653	106	0.001	0.010	0.583	461.3	0.046	0.442	0.596	3.463	0.95	0.21	6.34	0.68	0.34	0.53
AH	Glacier Transect	AH-Mid 25m	1/19/14 15:54	1/19/14 15:17	-0.653	106	0.001	0.034	0.847	461.3	0.046	0.587	0.898	3.099	0.88	0.27	9.54	0.89	0.34	0.87
AH	AH Transect	G-4 4.5m	1/29/14 10:36	1/29/14 10:17	-0.358	106	0.001	0.016	0.328	206.0	0.063	0.927	0.507	5.611	1.07	0.46	15.9	1.40	0.61	1.03
AH	AH Transect	AH-mid 18m	1/29/14 14:32	1/29/14 14:17	-0.681	106	0.001	0.010	0.583	683.0	0.041	0.512	0.448	5.951	0.78	0.21	7.62	0.74	0.25	0.42
AH	AH Transect	AH-mid 28m	1/29/14 13:57	1/29/14 13:17	-0.661	106	0.001	0.016	0.328	570.5	0.058	1.169	0.442	9.613	0.81	0.27	19.6	1.02	0.29	0.56
AH	AH Transect	G-5 8.5m	1/29/14 15:58	1/29/14 15:17	-0.650	106	0.001	0.002	0.229	569.7	0.037	0.628	0.392	7.054	0.49	0.18	10.3	0.68	0.24	0.25
AH	AH Transect	AH-mid 18m	2/4/14 11:45	NA		106	0.002	0.006	0.912	365.5	0.03	0.514	0.641	3.825	0.22	BD	6.92	0.72	0.44	0.45
AH	AH Transect	G-4 5 m	2/4/14 12:58	NA		106	0.001	0.010	0.583	441.6	0.027	0.428	0.685	2.528	0.46	0.21	8.41	0.75	0.35	0.54
AH	AH Transect	AH-mid 28m	2/4/14 11:14	NA		106	0.001	0.016	0.328	253.8	0.079	0.82	0.878	3.200	1.64	0.47	15.8	1.18	0.52	0.91
AH	AH Transect	G-5 8m	2/4/14 12:24	NA		106	0.001	0.006	0.314	441.6	0.034	0.265	0.445	3.807	0.83	0.25	3.09	0.59	0.37	0.48
AH	AH Transect	G4-4.5m	2/9/14 10:13	NA		106	0.002	0.006	0.912	262.1	0.042	0.662	1.007	2.630	0.63	0.30	8.90	0.91	0.56	0.55
AH	AH Transect	G5-8m	2/9/14 13:36	NA		106	0.001	0.002	0.229	554.2	0.025	0.399	0.746	2.676	0.36	0.15	6.08	0.68	0.25	0.25
AH	AH Transect	AH- mid_12m	2/9/14 13:01	NA		106	0.002	0.006	0.912	384.1	0.034	0.37	1.257	1.889	0.64	0.23	5.44	0.59	0.42	0.43
AH	B Transect	4 - 25m	2/12/14 11:52	NA		106	0.001	0.034	0.847	473.3	0.027	0.459	0.781	2.535	0.44	0.12	7.61	0.65	0.34	0.86
AH	B Transect	5 - 30m	2/12/14 14:39	NA		106	0.001	0.016	0.328	349.9	0.031	0.412	0.703	1.871	0.56	0.25	6.80	0.72	0.41	0.75
AH	B Transect	2 - 20m	2/12/14 16:09	NA		106	0.001	0.004	0.346	467.7	0.034	0.366	0.572	3.017	0.69	0.23	6.01	0.64	0.34	0.40
AH	B Transect	4 - 6m	2/12/14 12:12	NA		106	0.001	0.002	0.229	474.4	0.023	0.213	0.668	2.054	0.40	0.12	2.74	0.46	0.28	0.28
AH	B Transect	5 - 6m	2/12/14 14:57	NA		106	0.001	0.010	0.583	696.9	0.024	0.202	0.687	2.651	0.58	0.16	3.79	0.44	0.25	0.41
AH	B Transect	2 - 6m	2/12/14 16:28	NA		106	0.001	0.002	0.229	678.2	0.018	0.122	0.288	5.059	0.38	0.11	1.17	0.34	0.21	0.22

Ice Melt

AH Galcier	Bottom Glacier	Bottom	2/27/14 13:30	NA	53	0.001	0.034	0.847	402.6	0.042	0.569	0.475	3.912	1.62	0.39	22.7	1.55	0.76	1.87
P8 Glacier	Melt Only	Bottom	2/28/14 11:36	NA	53	0.001	0.004	0.346	619.0	0.048	0.753	0.95	3.429	2.13	0.48	53.4	1.87	0.55	0.67
Glacier	Top Glacier	Melt Only	1/9/14 11:40	NA	48	0.001	0.010	0.583	577.9	0.01	0.123	0.885	1.247	0.32	BD	5.42	0.82	0.63	1.02
Glacier	Site 1	Glacier Surface	1/21/13 9:57	NA	106	0.023	0.067	2.070	507.8	0.022	0.221	1.964	1.125	0.49	BD	3.87	0.43	0.98	1.18
Glacier	Site 1	Glacier discharge	1/7/14 13:17	NA	100	0.001	0.016	0.328	424.4	0.024	0.358	0.651	2.015	0.42	0.21	2.07	0.72	0.38	0.71
Surface Runoff																			
S6	AH Stream 2	Surface	2/28/14 9:55	NA	20	0.001	0.004	0.346	179.4	0.117	1.538	0.423	10.25	11.47	3.68	167	11.4	3.72	4.04
Glacier	Site 1	Surface	1/21/13 14:15	NA	138	0.001	0.004	0.346	253.9	0.114	1.67	0.223	18.69	1.52	0.28	27.0	1.51	0.41	0.46
Glacier	Site 2	Sfc	1/23/13 14:20	NA	93	0.023	0.067	2.070	212.7	0.207	3.634	2.12	4.530	3.86	0.58	90.0	4.41	1.86	2.19
Glacier	Site G-2	Sfc	1/27/13 10:16	NA	84	0.023	0.067	2.070	85.2	0.07	1.408	1.831	2.390	1.83	BD	31.9	3.55	3.65	4.13
Glacier	Site 1	Waterfall	1/7/14 10:55	NA	100	0.001	0.010	0.583	443.3	0.077	1.769	0.349	13.18	0.95	0.16	31.4	1.64	0.37	0.57
Offshore																			
Station C	Site 1	47	12/27/12 16:19	NA	148	0.001	0.002	0.229	495.5	0.038	0.244	0.146	10.32	0.52	0.12	2.48	0.33	0.19	0.20
Litchfield	Site 1	45	12/28/12 9:55	NA	147	0.001	0.010	0.583	514.7	0.021	0.237	0.583	2.873	0.30	0.09	3.12	0.30	0.22	0.36
Cormorant	Site 2	50	12/28/12 16:48	NA	147	0.001	0.002	0.229	422.7	0.054	0.36	0.621	3.208	0.78	0.16	4.29	0.44	0.22	0.22
AH	Site 3	50	12/29/12 10:16	NA	142	0.001	0.010	0.583	732.9	0.044	0.375	1.414	1.652	0.72	0.13	4.42	0.37	0.18	0.30
AH	Site 2	30	12/27/12 14:32	NA	145.56	0.001	0.010	0.583	654.9	0.031	0.252	0.744	2.402	0.49	0.11	2.76	0.00	0.19	0.31
AH	Site 2	30	1/26/13 12:21	NA	139.6	0.001	0.010	0.583	479.1	0.035	0.386	0.814	3.097	0.54	0.13	2.85	0.01	0.25	0.39

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