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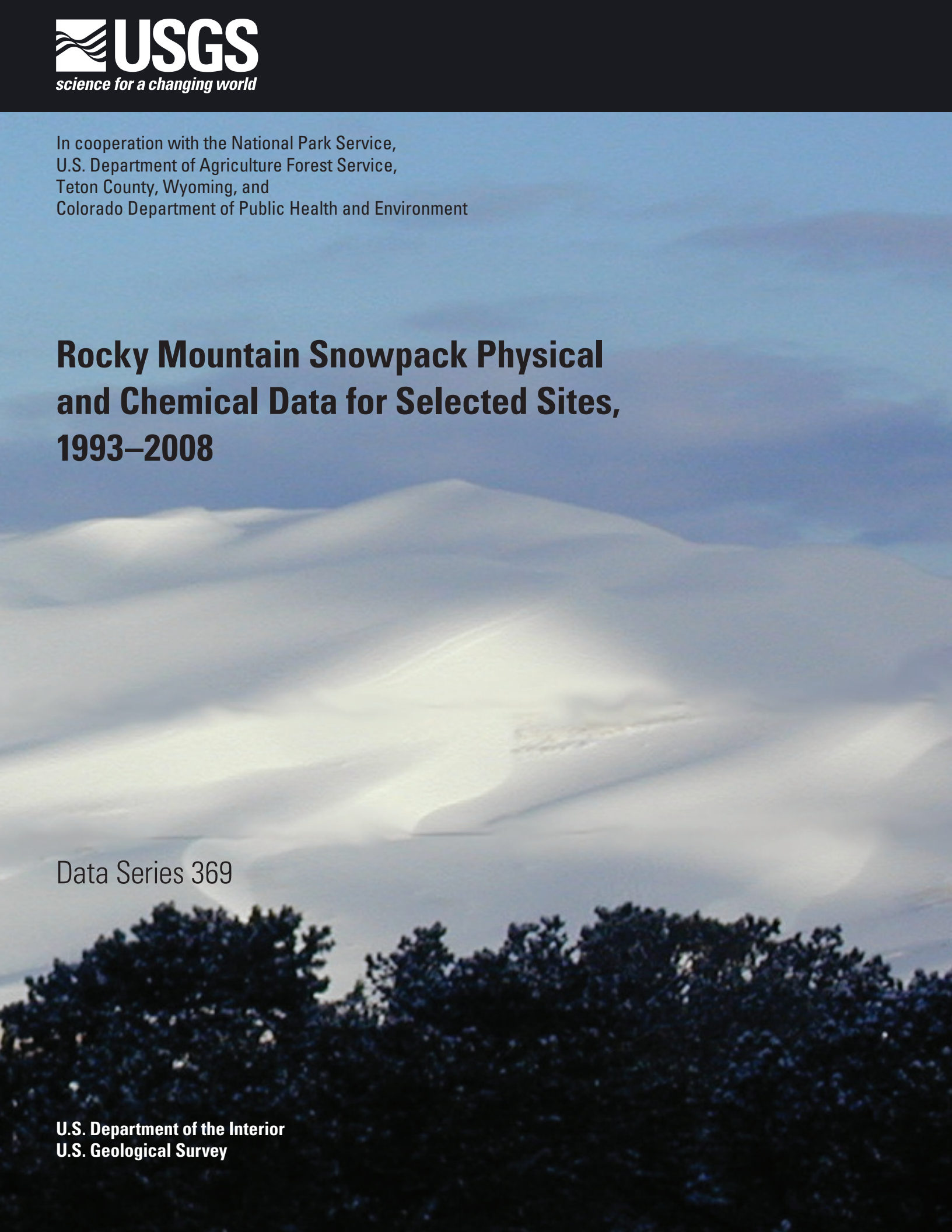
Rocky Mountain Snowpack Physical and Chemical Data for Selected Sites, 1993–2008



Data Series 369

U.S. Department of the Interior
U.S. Geological Survey

Cover photograph: Spring snowstorm transforms the Great Sand Dunes, March 2006.
Photograph by George P. Ingersoll, U.S. Geological Survey.

Rocky Mountain Snowpack Physical and Chemical Data for Selected Sites, 1993–2008

By George P. Ingersoll, M. Alisa Mast, Donald H. Campbell, David W. Clow, Leora Nanus, and John T. Turk

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U.S. Department of the Interior
KEN SALAZAR, Secretary

U.S. Geological Survey
Suzette M. Kimball, Acting Director

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Contents

Figure

Tables

Conversion Factors and Datums

Multiply	By	To obtain
	Length	
centimeter (cm)	0.3937	inch (in.)
meter (m)	3.281	foot (ft)
kilometer (km)	0.6214	mile (mi)
	Volume	
liter (L)	33.82	ounce, fluid (fl. oz)
	Mass	
nanogram (ng)	3.53×10^{-11}	ounce (oz.)

µS/cm, microsiemens per centimeter

µeq/L, microequivalents per liter

To convert microequivalents per liter for major ions, divide microequivalents by factors indicated for each ion:

To obtain milligrams per liter for	divide by
H^+	1,000
Ca^{2+}	49.90
Mg^{2+}	82.26
K^+	25.57
Na^+	43.50
NH_4^+	55.44
SO_4^{2-}	20.83
NO_3^-	16.13
Cl^-	28.21

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$°F=(1.8\times°C)+32$$

Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88).

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

Altitude, as used in this report, refers to distance above the vertical datum.

Rocky Mountain Snowpack Physical and Chemical Data for Selected Sites, 1993–2008

By George P. Ingersoll, M. Alisa Mast, Donald H. Campbell, David W. Clow, Leora Nanus, and John T. Turk

Abstract

The Rocky Mountain Snowpack program established a network of snowpack-sampling sites in the Rocky Mountain region from New Mexico to Montana to monitor the chemical content of snow to help in the understanding of the effects of atmospheric deposition to this region. The U.S. Geological Survey, in cooperation with the National Park Service, the USDA Forest Service, Teton County in Wyoming, Rio Blanco County in Colorado, Pitkin County in Colorado, and others, collected and analyzed snowpack samples annually for 48 or more sites in the Rocky Mountain region during 1993–2008. Forty-eight of the 162 snow-sampling sites have been sampled annually since 1993. Data include acid-neutralization capacity, specific conductance, pH, hydrogen ion concentrations, dissolved concentrations of major constituents (calcium, magnesium, sodium, potassium, ammonium, chloride, sulfate, and nitrate), dissolved organic carbon concentrations, snow/water equivalent, snow depth, stable sulfur isotope ratios, total mercury concentrations (beginning in 2001), and ionic charge balance. Quality-assurance data for field and laboratory blanks and field replicates for individual years (1993–2008) also are included.

Introduction

The U.S. Geological Survey, in cooperation with the National Park Service, the USDA Forest Service, Teton County in Wyoming, Rio Blanco County in Colorado, Pitkin County in Colorado, and others, has been collecting and analyzing snowpack samples from a network of 162 sites in the Rocky Mountain region. Because snowmelt supplies most of the freshwater in mountain lakes, streams, and wetlands in the Rocky Mountain region, monitoring the chemical content of snow is critical to understanding the effects of atmospheric deposition to these systems. This cooperative program has developed methods for measuring physical and chemical properties of seasonal snowpacks for the purpose of determining atmospheric deposition in many areas of the region where no other monitoring has been done. Forty-eight of these snowpack sites have been sampled annually since 1993. More details about the history of the program are available in Ingersoll and others (2002).

Purpose and Scope

The purpose of this report is to publish the 1993–2008 Rocky Mountain snowpack physical and chemical data in an easily accessible document. This report contains site information for 162 snowpack sites that were sampled and analyzed from 1993 through 2008 and individual data tables for each year. The data tables include acid-neutralization capacity, specific conductance, pH, hydrogen ion concentrations, dissolved concentrations of major constituents (calcium, magnesium, sodium, potassium, ammonium, chloride, sulfate, and nitrate), dissolved organic carbon (DOC) concentrations, snow/water equivalent, snow depth, stable sulfur isotope ratios, total mercury concentrations (beginning in 2001), and ionic charge balance.

Study Area

To identify regional emission signals in atmospheric deposition of nitrogen, sulfur, and mercury, the snowpack-sampling sites were selected primarily along the Continental Divide in Montana, Idaho, Wyoming, Utah, Colorado, and New Mexico, in areas that are exposed to limited atmospheric emissions from local residential, commercial, or industrial activities (fig. 1). Snow-sampling sites were located at least 30 m away from plowed roadways to minimize contamination from vehicular traffic. Colorado and New Mexico sites range in elevation from about 2,500 to 3,600 m; sites in Idaho, Utah, Wyoming, and Montana typically are lower at about 1,100 to 3,200 m (table 1).

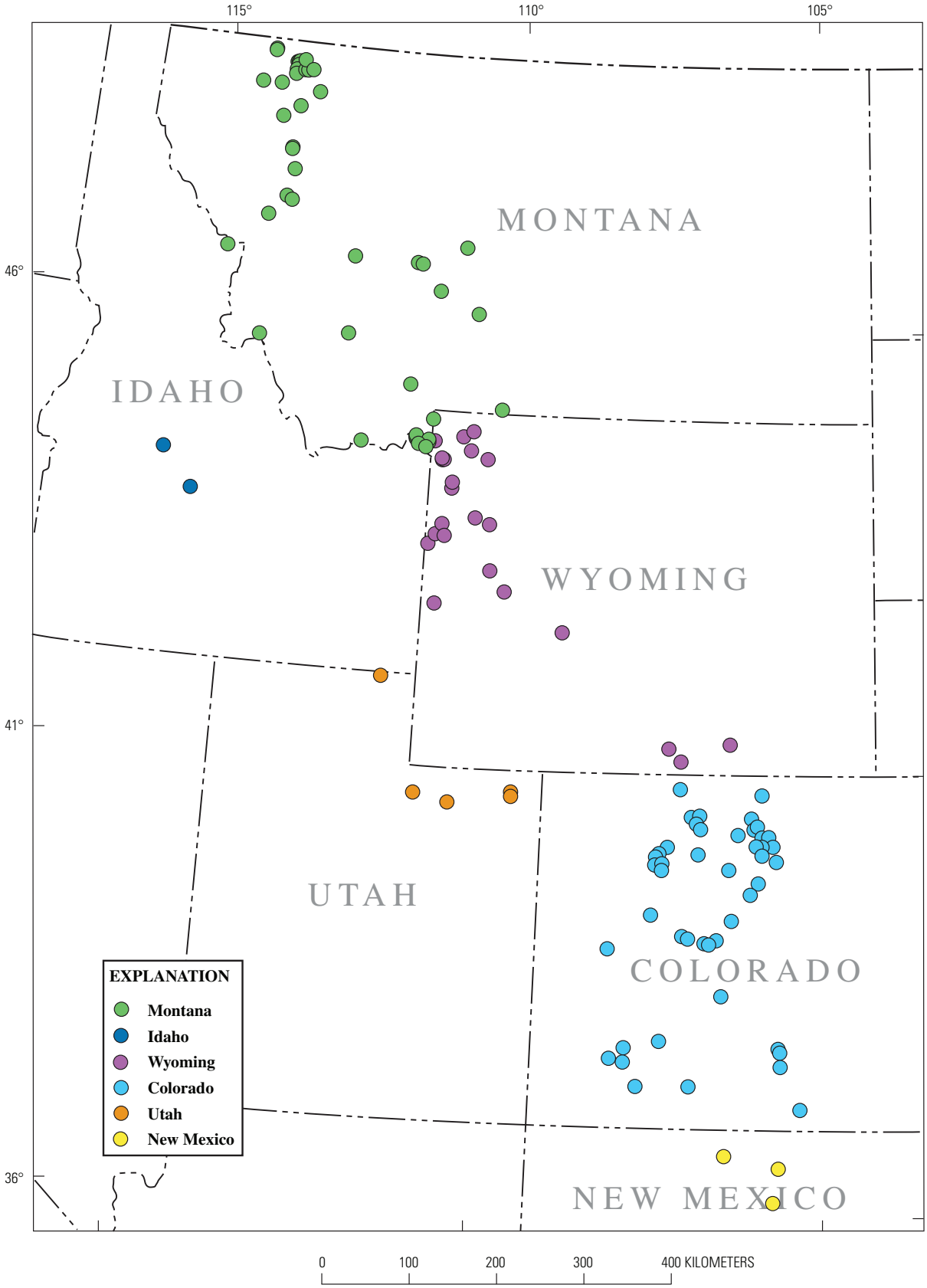

Figure 1. Study area and snowpack-sampling sites in Rocky Mountain region of the United States.

Table 1. Station ID and snow-sampling-site location information.

[dd, decimal degrees; m, meters above the North American Vertical Datum of 1988; FIPS, Federal Information Processing Standards; YNP, Yellowstone National Park; NP, National park; NADP, National Atmospheric Deposition Program].

Station ID	Site name	Latitude (dd)	Longitude (dd)	Elevation (m)	FIPS county code	FIPS State code
		Colorado				
390835106485500	Ajax Mountain, Colo.	39.14306	106.81528	3,438	097	8
401720105403400	Andrews Buttress, Colo.	40.28889	105.67611	3,402	069	8
400643105450200	Arapaho Creek, Colo.	40.11194	105.75056	2,530	049	8
401900105390001	Bear Lake, Colo.	40.31667	105.65000	3,013	069	8
394800105470000	Berthoud Pass, Colo.	39.80588	105.77862	3,466	049	8
390500106323000	Brumley, Colo.	39.08693	106.54060	3,231	065	8
403200106400000	Buffalo Pass, Colo.	40.54654	106.67788	3,139	107	8
391050106550000	Burnt Mountain, Colo.	39.18056	106.91667	3,139	097	8
403100105540000	Cameron Pass, Colo.	40.52185	105.89403	3,132	057	8
371300105120000	Culebra, Colo.	37.21153	105.19952	3,264	023	8
404800105460000	Deadman Pass, Colo.	40.80576	105.77014	3,120	069	8
403200106470000	Dry Lake, Colo.	40.53528	106.78027	2,526	107	8
401200107090000	Dunckley Pass, Colo.	40.20170	107.15635	2,987	103	8
395646106145100	East Inlet Grand Lake, Colo.	40.23660	105.80059	2,560	049	8
405100106580000	Elk River, Colo.	40.84795	106.96992	2,636	107	8
402530105482000	Forest Canyon Pass, Colo.	40.42500	105.80528	3,414	069	8
392200106120000	Fremont. Pass, Colo.	39.36419	106.21523	3,440	065	8
390158107583900	Grand Mesa, Colo.	39.03278	107.97750	3,158	029	8
401144105504700	Green Ridge, Colo.	40.19556	105.84639	2,667	049	8
390901106245300	Halfmoon Creek, Colo.	39.15028	106.41444	3,094	065	8
402723106424700	Hogan Peak, Colo.	40.45639	106.71306	3,097	107	8
390636106345500	Independence Pass, Colo.	39.11000	106.58194	3,408	097	8
390645106350000	Independence Pass (in road), Colo.	39.11250	106.58333	3,412	097	8
402440105484700	Lake Irene, Colo.	40.41508	105.81925	3,256	049	8
402442105491000	Lake Irene Forest, Colo.	40.41278	105.81972	3,243	049	8
402443105491600	Lake Irene Meadow, Colo.	40.41194	105.82167	3,237	049	8
374800107550000	Lizard Head Pass, Colo.	37.80000	107.91667	3,109	033	8
401722105400301	Loch Vale Forest, Colo.	40.28944	105.66750	3,216	069	8
401726105395801	Loch Vale Meadow, Colo.	40.29028	105.66667	3,215	069	8
401350105441000	Lone Pine, Colo.	40.23056	105.73611	2,975	049	8
394008105540601	Loveland 2, Colo.	39.66889	105.90167	3,559	019	8
394007105540200	Loveland 3, Colo.	39.66861	105.90056	3,566	019	8
394000105533000	Loveland Pass, Colo.	39.66667	105.89167	3,615	019	8
400645106420000	Lynx Pass, Colo.	40.11250	106.70000	2,731	049	8
375150105282500	Medano Pass, Colo.	37.86389	105.47361	3,339	109	8
401723105383500	Mills Lake, Colo.	40.28972	105.64306	3,042	069	8
374500107420000	Molas Lake, Colo.	37.74953	107.69560	3,307	111	8
383100106193000	Monarch Pass, Colo.	38.51333	106.32666	3,223	015	8

Table 1. Station ID and snow-sampling-site location information.—Continued

[dd, decimal degrees; m, meters above the North American Vertical Datum of 1988; FIPS, Federal Information Processing Standards; YNP, Yellowstone National Park; NP, National park; NADP, National Atmospheric Deposition Program].

Station ID	Site name	Latitude (dd)	Longitude (dd)	Elevation (m)	FIPS county code	FIPS State code
		Colorado (cont.)				
374248105281300	Mosca Pass, Colo.	37.71333	105.47028	3,380	055	8
375542105301800	Music Pass, Colo.	37.92861	105.50530	3,474	027	8
395800107190000	Ned Wilson, Colo.	39.96170	107.32207	3,410	103	8
400200105320000	Niwot Snotel, Colo.	40.03392	105.54439	3,021	013	8
401711105450900	North Inlet Grand Lake, Colo.	40.28639	105.75222	2,896	049	8
402350105505400	Phantom Valley, Colo.	40.39722	105.84833	2,752	049	8
402355106392400	Rabbit Ears 1, Colo.	40.39882	106.65656	2,986	049	8
402354106392500	Rabbit Ears 2, Colo.	40.39890	106.65657	2,986	049	8
375400107430000	Red Mountain Pass, Colo.	37.89055	107.71351	3,396	111	8
400507107184501	Ripple Creek NADP, Colo.	40.08610	107.31194	2,938	045	8
400700107180000	Ripple Creek Pass, Colo.	40.11190	107.29868	3,151	103	8
375930107120000	Slumgullion Pass, Colo.	37.99003	107.20441	3,537	053	8
392516107223000	Sunlight Peak, Colo.	39.42646	107.37952	3,226	045	8
403219106403800	Tower NADP, Colo.	40.53861	106.67722	3,222	107	8
395930107143000	Trappers Lake, Colo.	39.99167	107.24167	2,969	045	8
395600107150000	Trappers Peak, Colo.	39.93333	107.25000	3,444	045	8
400200105340000	University Camp, Colo.	40.03284	105.57601	3,149	013	8
401722105401300	Upper Andrews Creek, Colo.	40.28944	105.67000	3,246	069	8
372900107300011	Vallecito Snotel, Colo.	37.48583	107.50189	3,284	067	8
401348105452800	Wescott Falls, Colo.	40.23000	105.75778	2,804	049	8
401155105364000	Wild Basin, Colo.	40.19861	105.61111	2,987	013	8
402033106064001	Willow Creek Pass, Colo.	40.34250	106.11111	3,104	049	8
372900106470000	Wolf Creek Pass, Colo.	37.48196	106.79252	3,339	079	8
403248106411300	Zirkels South Boundary, Colo.	40.54667	106.68694	3,158	107	8
		Idaho				
441812115140400	Banner Summit, Idaho.	44.30333	115.23444	2,147	015	16
435228114425200	Galena Summit, Idaho	43.87444	114.71444	2,686	013	16
443744111142000	Moose Meadow, Idaho	44.62889	111.23889	2,347	043	30
		Montana				
483105114011200	Apgar Lookout, Mont.	48.51806	114.02000	1,579	035	30
483029114204200	Big Mountain, Mont.	48.50806	114.34500	1,959	029	30
451630111260000	Big Sky, Mont.	45.27722	111.43304	2,772	057	30
485203114111200	Bowman 1 (Glacier NP), Mont.	48.86750	114.18667	1,541	029	30
485300114104800	Bowman 2 (Glacier NP), Mont.	48.88333	114.18000	2,071	029	30
463800111230000	Cement Gulch Divide, Mont.	46.63333	111.38333	1,931	059	30
454113113555600	Chief Joseph Pass, Mont.	45.69638	113.93597	2,228	081	30
450300109570000	Daisy Pass, Mont.	45.05087	109.95293	2,987	067	30
471234113375600	Dinah Shore 1, Mont.	47.20944	113.63222	1,662	063	30

Table 1. Station ID and snow-sampling-site location information.—Continued

[dd, decimal degrees; m, meters above the North American Vertical Datum of 1988; FIPS, Federal Information Processing Standards; YNP, Yellowstone National Park; NP, National park; NADP, National Atmospheric Deposition Program].

Station ID	Site name	Latitude (dd)	Longitude (dd)	Elevation (m)	FIPS county code	FIPS State code
		Montana (cont.)				
471514113432800	Dinah Shore 2, Mont.	47.25389	113.72444	2,092	063	30
443351111063500	Dry Canyon, Mont.	44.56417	111.10972	2,234	031	30
484153113311800	E1 (Glacier NP), Mont.	48.69592	113.52185	1,393	029	30
484049113352200	E2 (Glacier NP), Mont.	48.67838	113.58949	1,471	035	30
484037113383800	E3 (Glacier NP), Mont.	48.67503	113.64389	1,525	035	30
484114113395500	E4 (Glacier NP), Mont.	48.68524	113.66528	1,658	035	30
484240113390500	E5 (Glacier NP), Mont.	48.70911	113.65146	2,143	035	30
484129113392800	E6 (Glacier NP), Mont.	48.68949	113.65796	1,919	035	30
484120113393900	E7 (Glacier NP), Mont.	48.68702	113.66089	1,795	035	30
484616113461300	Granite Park, Mont.	48.77111	113.77028	2,006	029	30
463823114364100	Granite Pass, Mont.	46.64117	114.61275	1,994	063	30
462100111040000	Grassy Mountain, Mont.	46.35000	111.06667	1,915	059	30
465100110420000	Kings Hill, Mont.	46.83824	110.71883	2,361	013	30
444300111170000	Lionshead, Mont.	44.69500	111.29640	2,459	031	30
444200111175200	Lionshead North, Mont.	44.70195	111.29776	2,468	043	30
481616113395000	Marion Lake 1, Mont.	48.27111	113.66389	1,791	029	30
481628113401500	Marion Lake 2, Mont.	48.27444	113.67083	2,086	029	30
443600112100000	Monida Pass, Mont.	44.60000	112.16667	2,028	001	30
464000112300000	Mount Belmont, Mont.	46.74992	112.33111	2,134	049	30
474635113441800	Napa 1, Mont.	47.77639	113.73833	1,570	047	30
474727113432000	Napa 2, Mont.	47.79083	113.72222	2,042	047	30
480919113563600	Noisy Basin, Mont.	48.15700	113.94577	1,845	029	30
482730113224100	Oldman Lake, Mont.	48.45833	113.37806	1,922	035	30
454730112293000	Red Mountain, Mont.	45.77219	112.49197	2,717	053	30
473337113384800	Smith Creek 1, Mont.	47.56028	113.64667	1,802	063	30
473410113383300	Smith Creek 2, Mont.	47.56944	113.64250	2,150	063	30
470211113594300	Snow Bowl, Mont.	47.03397	113.98955	2,262	063	30
483723113483600	Snyder Lake, Mont.	48.62500	113.80444	1,600	029	30
463900111280000	Spring Gulch, Mont.	46.65000	111.46667	1,826	007	30
460700110250000	Sunlight Creek, Mont.	46.10420	110.43600	2,146	067	30
484741113410800	Swiftcurrent 1 (Glacier NP), Mont.	48.79472	113.68556	1,542	035	30
484739113404000	Swiftcurrent 2 (Glacier NP), Mont.	48.79417	113.67778	1,530	035	30
444050111163000	Targee, Mont.	44.68056	111.27500	2,195	031	30
445400111030000	Twenty-one Mile, Mont.	44.93013	111.05616	2,209	031	30
443644111142000	Two-Top South, Mont.	44.61222	111.23889	2,457	031	30
484040113490300	W1 (Glacier NP), Mont.	48.67572	113.81758	1,047	029	30
484336113455100	W2 (Glacier NP), Mont.	48.72459	113.76433	1,113	029	30
484557113484300	W3 (Glacier NP), Mont.	48.76382	113.79544	1,692	029	30

Table 1. Station ID and snow-sampling-site location information.—Continued

[dd, decimal degrees; m, meters above the North American Vertical Datum of 1988; FIPS, Federal Information Processing Standards; YNP, Yellowstone National Park; NP, National park; NADP, National Atmospheric Deposition Program].

Station ID	Site name	Latitude (dd)	Longitude (dd)	Elevation (m)	FIPS county code	FIPS State code
484443113464400	W5 (Glacier NP), Mont.	48.74330	113.77882	1,112	029	30
484633113460000	W6 (Glacier NP), Mont.	48.77396	113.76658	2,130	029	30
484644113454900	W7 (Glacier NP), Mont.	48.77697	113.76363	2,192	029	30
484557113470000	W8 (Glacier NP), Mont.	48.76392	113.78340	1,891	029	30
484557113474300	W9 (Glacier NP), Mont.	48.76380	113.79537	1,694	029	30
484553113482100	W10 (Glacier NP), Mont.	48.76261	113.80594	1,479	029	30
444000111060000	West Yellowstone, Mont.	44.65845	111.09061	2,035	031	30
443900111050000	West Yellowstone (in road), Mont.	44.65716	111.09086	2,032	031	30
444030111060000	West Yellowstone 1000m, Mont.	44.66700	111.08500	2,027	031	30
443925111051500	West Yellowstone East, Mont.	44.65694	111.08750	2,032	031	30
		New Mexico				
361100105330000	Gallegos Peak, N.Mex.	36.19467	105.54984	2,987	055	35
364300106160000	Hopewell, N.Mex.	36.70930	106.24763	3,036	039	35
363429105273000	Taos Ski Valley, N.Mex.	36.57286	105.44525	3,320	055	35
		Utah				
415803111331900	Beaver Mountain, Utah	41.96750	111.55528	2,577	033	49
404456109301800	Grizzly Ridge, Utah	40.74886	109.50513	2,914	047	49
403544110260200	Lake Fork, Utah	40.59556	110.43389	3,094	013	49
404227109294600	Little Brush Creek, Utah	40.70750	109.49611	2,469	047	49
404052110570700	Trial Lake, Utah	40.68111	110.95194	2,999	043	49
		Wyoming				
442840110512000	Biscuit Basin, Wyo.	44.47778	110.85556	2,222	039	56
442840110512100	Biscuit Basin (in road), Wyo.	44.47768	110.85497	2,223	039	56
412200106140000	Brooklyn Lake, Wyo.	41.37472	106.24472	3,231	001	56
444300110320000	Canyon, Wyo.	44.71743	110.51329	2,416	029	56
411800107100000	Divide Peak, Wyo.	41.30472	107.15972	2,634	007	56
430000109450000	Elkhart Park, Wyo.	43.00265	109.75698	2,865	035	56
434900110160000	Four Mile Meadow, Wyo.	43.82363	110.26472	2,406	039	56
434326110465900	Garnet Canyon, Wyo.	43.71003	110.75360	2,174	039	56
431322109592700	Gypsum Creek, Wyo.	43.22925	109.99613	2,516	035	56
433600110440000	Jackson Hole Airport, Wyo.	43.60490	110.73400	1,965	039	56
443357110235900	Lake, Wyo.	44.56674	110.40031	2,426	039	56
441300110400000	Lewis Lake Divide, Wyo.	44.19934	110.66045	2,363	039	56
441300110395900	Lewis Lake Divide (in road), Wyo.	44.19948	110.65941	2,357	039	56
410900107580000	Old Battle, Wyo.	41.15464	106.97577	3,024	007	56
442640110503300	Old Faithful (in road), Wyo.	44.45586	110.83376	2,250	029	56
442727110505500	Old Faithful 1000m, Wyo.	44.44444	110.84250	2,302	039	56
442725110492799	Old Faithful Crew Corrals, Wyo.	44.45750	110.84861	2,256	039	56
442720110500300	Old Faithful East Lot, Wyo.	44.45694	110.82444	2,237	039	56

Table 1. Station ID and snow-sampling-site location information.—Continued

[dd, decimal degrees; m, meters above the North American Vertical Datum of 1988; FIPS, Federal Information Processing Standards; YNP, Yellowstone National Park; NP, National park; NADP, National Atmospheric Deposition Program].

Station ID	Site name	Latitude (dd)	Longitude (dd)	Elevation (m)	FIPS county code	FIPS State code
		Wyoming (cont.)				
442721110500300	Old Faithful Fire Road, Wyo.	44.45603	110.83458	2,246	039	56
442732110494600	Old Faithful West Lot, Wyo.	44.45827	110.82993	2,240	039	56
433606110522200	Rendezvous Mountain, Wyo.	43.60080	110.87263	3,040	039	56
440812110395599	South Entrance YNP, Wyo.	44.13667	110.66528	2,097	039	56
440809110395900	South Entrance YNP (in road), Wyo.	44.13668	110.66759	2,100	039	56
423420108503200	South Pass, Wyo.	42.57230	108.84272	2,755	013	56
442900110090000	Sylvan Lake, Wyo.	44.47436	110.15481	2,566	029	56
442900110090100	Sylvan Lake (in road), Wyo.	44.47364	110.15485	2,572	029	56
433000110590000	Teton Pass, Wyo.	43.50175	110.96583	2,480	039	56
434500110030000	Togwotee Pass, Wyo.	43.74767	110.05362	2,926	039	56
444730110230000	Tower Falls, Wyo.	44.88518	110.38391	2,008	029	56
443914110593000	West Yellowstone 8km, Wyo.	44.65390	110.99170	2,066	039	56
443915110593200	West Yellowstone 8km (in road), Wyo.	44.65410	110.99210	2,065	039	56
424912110500700	Willow Creek, Wyo.	42.82000	110.83528	2,414	023	56

Sampling Methods and Analyses

Snowpacks were sampled annually from late February through early April according to field methods described in Ingersoll and others (2005). Snow depth was measured at all sites and snow/water equivalent (SWE) was measured at selected sites during the period. Snow samples from sites with complete chemical analyses of the majority of annual snowpack years were selected for this report. In addition to the 48 original long-term sites, snowpack physical and chemical data were collected at another 114 sites one or more times to address short-term interests. Discussion of the results of the monitoring program is available in other reports and publications (Ingersoll and others, 2002; Mast and others, 2005).

Analytical laboratory methods and quality-assurance procedures for analyses of major-ion and mercury concentrations and stable sulfur isotope ratios are described in Mast and others (2001), Turk and others (2001), and Ingersoll and others (2005). Laboratory reporting limits (LRL) are based on long-term method detection levels (LT–MDL) and are calculated as two times the LT–MDL (for details see Childress and others, 1999). Reporting limits referred to in tables 2–17 are 1.0 µS/cm for specific conductance, 0.4 to 3.1 µeq/L for major dissolved constituents and nutrients (calcium, 3.1; magnesium, 1.7; sodium, 1.0; potassium, 0.4; ammonium, 1.0; chloride, 1.0; sulfate, 0.6; nitrate, 0.4), 0.4 milligram per liter (mg/L) for dissolved organic carbon (DOC), and 0.4 nanogram per liter (ng/L) for total (whole-water) mercury (beginning in 2001; no total-mercury data are available for the previous years). Censored values (preceded by "<") in this report reflect nondetection based on the LRLs. Ammonium and nitrate concentrations are reported as NH_4^+ and NO_3^-, respectively (and not as N); sulfate concentrations are reported as SO_4^{2-} (and not as S). Negative acid neutralization capacity (ANC) values shown in this report reflect the absence of bicarbonate ion at the typically low pH levels, although for many samples positive ANC was detected.

Quality-assurance data for field and laboratory blanks and field replicates for individual years (1993–2008) were collected and analyzed (tables 18–19). High-purity deionized water was used for all blanks. Quality-assurance data for field and laboratory blanks show little contamination and indicate few outliers. Four percent of the 370 constituent analyses of laboratory blanks analyzed for major ions and 6 percent of the 462 constituent analyses of field blanks analyzed for major ions showed concentrations above the detection limit. Sulfate, nitrate, DOC, and mercury showed the largest percentages of detections both in laboratory blank samples (9, 7, 13, and 36 percent, respectively) and in field blank samples (10, 17, 27, and 35 percent, respectively). Trace levels of mercury were detected in about 35 percent of the 26 field blanks that were analyzed for total mercury. For field blank samples with detectable concentrations of mercury, the average concentration was 0.7 ng/L. Additional information including interlaboratory comparisons of USGS standard reference samples is available at *http://bqs.usgs.gov/srs*.

As a quality-control measure, ionic charge balances of each major-ion analysis were calculated by dividing the sum of cations (hydrogen ion, calcium, magnesium, sodium, potassium, and ammonium) minus the sum of anions (ANC [greater than 0.0], chloride, nitrate, and sulfate) by the total cations and anions in solution. Censored values were not included in ionic balances. In general, ionic balances of results of chemical analyses for many samples included in this report had a positive bias believed to be due to organic acids that were not analyzed (Turk and others, 2001). This positive bias indicating an excess of cations also has been found in other precipitation work in the Western United States (National Atmospheric Deposition Program, 2001, 2005). In this report the same criteria were used to identify the maximum acceptable ion percent difference as applied by the National Atmospheric Deposition Program (2006). Suspect ionic balances were identified by the following three criteria: (1) for total anions plus cations less than 50 µeq/L, the ionic balance exceeds plus or minus 60 percent; (2) for total anions plus cations greater than or equal to 50 µeq/L and less than 100 µeq/L, the ionic balance exceeds plus or minus 30 percent; and (3) for total anions plus cations greater than or equal to 100 µeq/L, the ionic balance exceeds plus or minus 15 percent. Twelve analyses (0.8 percent) met one of these criteria but are retained in this database for user evaluation, and those ionic balances are flagged by parentheses in the data tables.

To quantify comparisons of concentrations of selected major constituents between environmental samples and replicate samples, relative percent differences (RPD) were calculated. The RPD (expressed as a percentage in this report) is the absolute value of the difference of environmental sample concentration (E) minus the replicate sample concentration (R), divided by the average of the environmental sample concentration and the replicate sample concentration, and multiplied by 100 ($|E–R|/[(E+R)/2]) \times 100$. It is important to realize that, as dilute concentrations approach detection limits, relative percent differences between environmental sample concentrations and replicate sample concentrations appear to be substantial whereas absolute differences are small. For example, the RPD for two mercury samples of 1.3 and 2.0 nanograms per liter is 42.4 percent. The median RPD for the 10 constituents ranged from 4 to 21 percent (table 19). Potassium, DOC, and mercury showed the greatest variation in RPD (21, 19, and 20 percent), indicating concentrations near the detection limit for potassium and DOC and greater variability in mercury concentrations. Overall, the replicate samples show good precision.

Snowpack Physical and Chemical Data

Site information, including location and elevation, is listed in table 1. Physical and chemical data are arranged by individual years, 1993–2008, and are listed in tables 2–17. Quality-assurance data for chemical analyses of blank and replicate snow samples are listed in tables 18 and 19.

Table 2. Selected chemical and physical data for Rocky Mountain snowpack samples for 1993.

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Berthoud Pass, Colo.	4/19/1993	E	na	5.6	5.03	9.3	3.7	<1.7	1.5	<0.4	3.2	1.1	6.3	7.9	0.4	74	240	4.8	na	7.6
Big Mountain, Mont.	4/2/1993	E	–13.3	4.6	5.11	7.8	<3.1	<1.7	<1.0	<0.4	3.2	<1.0	5.4	5.3	<0.4	89	208	5.3	na	1.3
Big Sky, Mont.	4/6/1993	E	na	4.2	5.35	4.5	5.1	<1.7	4.1	0.4	5.4	1.1	6.7	7.6	0.5	38	138	4.1	na	11.7
Brooklyn Lake, Wyo.	3/22/1993	E	–14.7	5.9	5.02	9.5	3.9	<1.7	1.4	<0.4	3.6	1.1	8.8	7.5	0.4	61	179	6.4	na	2.9
Brumley, Colo.	3/29/1993	E	–10.3	4.1	5.19	6.5	3.5	<1.7	<1.0	0.6	2.1	<1.0	6.3	5.6	<0.4	38	143	na	na	3.3
Buffalo Pass, Colo.	4/8/1993	E	na	8.1	4.80	15.8	<3.1	<1.7	1.7	<0.4	3.9	<1.0	11.5	8.4	<0.4	122	325	6.2	na	3.8
Cameron Pass, Colo.	4/20/1993	E	na	6.1	5.03	9.3	4.7	<1.7	2.3	1.1	3.9	2.0	9.0	7.3	0.5	89	260	4.6	na	7.5
Canyon, Wyo.	3/28/1993	E	–14.9	4.5	5.14	7.2	<3.1	<1.7	1.4	<0.4	3.2	1.1	5.0	6.0	<0.4	28	105	4.4	na	–1.1
Chief Joseph Pass, Mont.	4/4/1993	E	–10.1	3.2	5.34	4.6	<3.1	<1.7	<1.0	<0.4	3.2	<1.0	4.0	2.8	<0.4	48	149	4.8	na	6.9
Daisy Pass, Mont.	4/6/1993	E	–11.8	4.1	5.26	5.5	<3.1	<1.7	<1.0	<0.4	4.3	<1.0	6.3	4.6	0.4	29	118	4.1	na	–5.3
Deadman Pass, Colo.	4/20/1993	E	na	5.2	5.24	5.8	4.8	<1.7	1.0	1.1	6.4	<1.0	8.3	8.3	0.7	46	155	4.4	na	6.9
Divide Peak, Wyo.	3/23/1993	E	–22.2	9.0	4.76	17.4	<3.1	<1.7	<1.0	<0.4	3.6	<1.0	12.1	10.8	<0.4	33	115	6.2	na	–4.4
Dry Lake, Colo.	4/7/1993	E	na	8.6	4.81	15.5	5.6	<1.7	<1.0	2.5	5.0	<1.0	12.3	13.8	0.5	51	140	6.6	na	4.6
Dunckley Pass, Colo.	4/7/1993	E	–12.2	5.6	5.10	7.9	5.0	<1.7	1.0	3.8	3.9	1.1	8.8	7.7	0.9	56	190	5.8	na	10.4
Elk River, Colo.	4/7/1993	E	na	7.2	4.86	13.8	<3.1	<1.7	1.0	<0.4	2.5	<1.0	6.9	12.0	<0.4	48	123	5.4	na	–4.3
Elkhart Park, Wyo.	3/25/1993	E	–10.7	3.9	5.42	3.8	<3.1	<1.7	<1.0	0.5	8.9	<1.0	6.0	5.4	<0.4	36	135	3.9	na	7.2
Four Mile Meadow, Wyo.	3/26/1993	E	0.4	3.5	5.39	4.1	3.7	<1.7	1.1	0.5	3.2	<1.0	5.0	5.4	0.4	23	97	5.7	na	7.8
Fremont Pass, Colo.	4/18/1993	E	na	6.6	5.25	5.6	5.6	<1.7	1.1	0.8	3.2	<1.0	5.6	6.4	0.7	46	150	3.7	na	15.6
Gallegos Peak, N. Mex.	3/13/1993	E	–11.3	4.6	5.21	6.2	7.3	<1.7	<1.0	2.7	1.8	<1.0	9.0	4.5	0.9	41	134	3.2	na	14.1
Garnet Canyon, Wyo.	4/15/1993	E	na	4.6	5.15	7.1	3.7	2.5	1.9	<0.4	3.9	<1.0	7.5	5.0	<0.4	99	265	5.4	na	20.9

Table 2. Selected chemical and physical data for Rocky Mountain snowpack samples for 1993.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Grand Mesa, Colo.	3/21/1993	E	–16.8	5.4	5.04	9.1	<3.1	<1.7	1.0	0.4	3.6	<1.0	9.6	5.8	<0.4	84	251	4.6	na	–4.2
Granite Pass, Mont.	4/3/1993	E	–4.0	3.0	5.30	5.0	<3.1	<1.7	<1.0	<0.4	1.8	<1.0	3.3	2.2	<0.4	56	183	5.2	na	10.4
Gypsum Creek, Wyo.	3/25/1993	E	–14.5	5.3	4.97	10.7	<3.1	<1.7	1.3	<0.4	2.5	<1.0	5.0	7.1	<0.4	31	96	5.8	na	9.3
Hopewell, N. Mex.	3/14/1993	E	–16.8	6.4	4.94	11.5	<3.1	<1.7	<1.0	<0.4	3.2	1.1	10.2	6.8	<0.4	74	196	3.6	na	–10.3
Kings Hill, Mont.	3/31/1993	E	–10.7	5.0	5.16	6.9	5.6	<1.7	1.6	0.6	7.1	<1.0	9.2	6.4	0.9	48	138	7.5	na	16.8
Lake Irene, Colo.	4/7/1993	E	–14.0	5.7	4.99	10.2	<3.1	<1.7	1.6	<0.4	2.5	<1.0	6.5	5.3	<0.4	na	196	5.2	na	9.8
Lewis Lake Divide, Wyo.	3/27/1993	E	–8.9	4.3	5.21	6.2	<3.1	<1.7	1.7	<0.4	5.7	1.1	6.3	5.4	<0.4	81	215	4.5	na	2.8
Lionshead, Mont.	3/30/1993	E	–15.8	7.9	5.08	8.3	5.6	<1.7	<1.0	2.9	19.6	3.1	16.5	12.5	1.0	53	185	4.6	na	6.5
Loch Vale Meadow, Colo.	4/10/1993	E	na	6.1	4.96	11.0	<3.1	<1.7	2.2	<0.4	3.9	<1.0	7.7	7.4	<0.4	71	199	4.5	na	6.0
Loveland Pass, Colo.	4/18/1993	E	na	5.2	5.07	8.5	3.7	<1.7	1.5	<0.4	2.5	1.4	6.3	7.6	<0.4	58	190	4.3	na	3.2
Lynx Pass, Colo.	3/18/1993	E	–20.2	6.8	4.88	13.2	<3.1	<1.7	<1.0	<0.4	2.1	<1.0	7.1	9.5	<0.4	41	139	5.8	na	–4.0
Molas Lake, Colo.	3/31/1993	E	–13.3	4.5	5.13	7.4	<3.1	<1.7	1.3	<0.4	1.4	<1.0	6.3	5.0	<0.4	56	162	2.8	na	–5.4
Monarch Pass, Colo.	3/30/1993	E	–13.8	4.8	5.22	6.0	5.6	<1.7	<1.0	<0.4	2.9	<1.0	6.3	7.0	<0.4	43	135	3.7	na	4.3
Ned Wilson, Colo.	4/8/1993	VWM	–15.4	5.1	5.14	7.2	<3.1	<1.7	<1.0	<0.4	3.2	1.8	6.2	6.6	<0.4	95	287	5.8	na	–16.5
Noisy Basin, Mont.	4/1/1993	E	–14.9	4.8	5.11	7.8	<3.1	<1.7	<1.0	<0.4	4.6	<1.0	6.5	5.6	0.4	86	260	4.9	na	1.4
Old Battle, Wyo.	3/23/1993	E	na	6.4	4.96	11.0	<3.1	<1.7	1.0	na	4.3	<1.0	10.2	7.8	0.4	69	223	6.0	na	–4.9
Phantom Valley, Colo.	4/6/1993	E	na	7.0	4.91	12.3	<3.1	<1.7	1.2	0.7	4.3	<1.0	9.4	9.0	0.8	na	101	5.0	na	0.4
Rabbit Ears 1, Colo.	4/6/1993	E	na	8.3	4.79	16.2	<3.1	<1.7	1.1	<0.4	4.6	<1.0	11.3	10.5	<0.4	101	293	6.0	na	0.4

Table 2. Selected chemical and physical data for Rocky Mountain snowpack samples for 1993.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Rabbit Ears 2, Colo.	4/6/1993	VWM	na	6.6	4.92	12.0	<3.1	<1.7	<1.0	<0.4	5.0	<1.0	10.2	10.3	<0.4	94	270	5.8	na	–9.1
Red Mountain, Mont.	4/7/1993	E	–10.3	3.8	5.26	5.5	<3.1	<1.7	<1.0	<0.4	5.4	<1.0	6.3	4.2	0.5	33	125	6.1	na	1.6
Red Mountain Pass, Colo.	3/31/1993	E	–5.6	4.2	5.19	6.5	5.6	<1.7	1.3	<0.4	2.9	<1.0	6.0	6.5	<0.4	76	228	3.5	na	12.9
Rendezvous Mountain, Wyo.	4/6/1993	E	11.3	3.0	5.76	1.7	4.8	2.0	1.9	<0.4	2.9	<1.0	5.4	3.6	<0.4	69	255	6.4	na	–21.2
Slumgullion Pass, Colo.	3/30/1993	E	0.9	3.2	5.41	3.9	5.0	<1.7	2.1	na	1.8	<1.0	5.2	3.8	1.5	18	94	5.8	na	12.8
Snow Bowl, Mont.	4/3/1993	E	–9.3	3.3	5.35	4.5	<3.1	<1.7	1.5	1.1	3.6	<1.0	5.0	3.4	<0.4	48	145	4.5	na	11.5
Snyder Lake, Mont.	3/31/1993	E	–2.2	4.4	5.18	6.6	<3.1	<1.7	1.9	2.9	3.2	1.7	5.6	4.7	1.3	42	131	7.4	na	10.0
South Pass, Wyo.	3/24/1993	E	–16.4	6.2	4.94	11.5	<3.1	<1.7	1.7	0.6	2.9	<1.0	9.4	7.1	0.4	33	116	7.2	na	0.3
Sunlight Peak, Colo.	3/18/1993	E	–13.8	4.8	5.13	7.4	4.3	2.1	2.2	0.6	3.2	<1.0	7.1	6.8	<0.4	48	158	5.0	na	17.6
Sylvan Lake, Wyo.	3/28/1993	E	–10.2	4.3	5.15	7.1	<3.1	<1.7	1.5	<0.4	3.9	<1.0	7.3	4.9	<0.4	46	159	3.2	na	1.5
Teton Pass, Wyo.	3/27/1993	E	1.7	4.5	5.67	2.1	7.5	2.1	2.7	0.7	5.7	3.1	6.9	9.3	0.4	48	127	4.9	na	–0.2
Togwotee Pass, Wyo.	3/26/1993	E	–9.7	3.8	5.30	5.0	<3.1	<1.7	1.2	0.4	2.9	<1.0	4.4	3.9	<0.4	53	170	6.3	na	6.4
Twenty-one Mile, Mont.	3/29/1993	E	–15.7	6.3	4.91	12.3	<3.1	<1.7	1.7	0.7	5.0	1.7	6.9	7.3	0.4	38	102	4.3	na	10.8
University Camp, Colo.	4/29/1993	E	na	6.9	4.87	13.5	4.4	1.9	2.0	0.7	5.4	<1.0	10.0	8.1	0.6	48	145	5.2	na	21.0
West Yellowstone, Mont.	3/29/1993	E	–13.5	4.3	5.18	6.6	<3.1	<1.7	1.3	<0.4	5.0	1.4	4.4	6.9	<0.4	31	85	4.6	na	0.7
Wolf Creek Pass, Colo.	3/31/1993	E	–17.9	6.1	4.94	11.5	<3.1	2.0	1.7	<0.4	2.9	<1.0	9.6	6.3	<0.4	97	295	3.6	na	6.4

Table 3. Selected chemical and physical data for Rocky Mountain snowpack samples for 1994.

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Berthoud Pass, Colo.	4/7/1994	E	–12.8	5.5	4.94	11.5	4.5	<1.7	2.2	<0.4	2.5	1.7	4.6	9.1	<0.4	na	185	5.9	na	14.5
Big Mountain, Mont.	3/22/1994	E	–10.6	4.5	5.05	8.9	<3.1	<1.7	1.7	<0.4	3.9	<1.0	4.8	6.2	0.5	na	229	5.0	na	14.0
Big Sky, Mont.	3/25/1994	E	0.5	4.0	5.79	1.6	8.1	<1.7	4.9	0.8	6.1	1.7	7.3	6.9	0.7	na	174	7.3	na	13.8
Biscuit Basin, Wyo.	3/21/1994	E	3.9	5.0	5.90	1.3	7.2	<1.7	6.7	0.6	10.4	2.8	8.1	8.0	0.9	na	89	na	na	6.8
Brooklyn Lake, Wyo.	3/31/1994	E	–6.6	5.6	5.21	6.2	7.0	2.0	1.7	1.8	5.4	1.7	11.0	14.1	1.3	na	217	6.7	na	–5.6
Brumley, Colo.	3/31/1994	E	–6.7	5.0	5.24	5.8	9.5	<1.7	1.7	1.1	4.3	2.0	5.4	10.2	0.6	na	97	5.4	na	11.9
Buffalo Pass, Colo.	4/8/1994	VWM	–20.2	10.6	4.75	17.6	9.8	2.2	1.9	<0.4	10.9	1.4	19.8	17.3	0.6	85	260	7.2	na	4.8
Cameron Pass, Colo.	4/8/1994	E	–11.8	5.8	5.00	10.0	6.1	<1.7	1.6	0.9	4.6	1.1	7.9	9.3	0.5	na	214	6.1	na	12.0
Canyon, Wyo.	3/19/1994	E	1.7	4.3	5.86	1.4	5.0	<1.7	5.2	1.7	8.2	2.3	7.5	7.0	0.7	na	85	6.4	na	7.6
Chief Joseph Pass, Mont.	3/24/1994	E	–3.6	3.5	5.39	4.1	<3.1	<1.7	1.7	1.6	4.3	1.4	3.8	4.8	1.2	na	120	6.0	na	8.1
Daisy Pass, Mont.	3/20/1994	E	–8.9	3.6	5.13	7.4	<3.1	<1.7	2.2	<0.4	5.0	1.1	4.0	5.3	<0.4	na	162	5.3	na	16.8
Deadman Pass, Colo.	4/29/1994	E	15.2	5.3	6.20	0.6	10.2	4.3	1.1	6.9	3.9	2.8	7.7	7.7	5.3	na	70	na	na	–10.6
Divide Peak, Wyo.	3/30/1994	E	–9.2	6.2	5.13	7.4	7.8	1.8	1.6	0.5	7.1	1.1	9.8	13.1	0.5	na	122	6.6	na	4.4
Dry Canyon, Mont.	3/23/1994	E	–1.0	4.9	5.61	2.5	7.9	1.9	2.7	0.6	14.3	3.1	7.3	8.6	0.7	na	145	na	na	22.3
Dry Lake, Mont.	3/19/1994	VWM	–21.1	10.3	4.74	18.4	7.4	1.9	2.1	<0.4	6.0	2.0	14.3	18.0	0.4	33	104	7.5	na	2.0
Dunckley Pass, Colo.	3/24/1994	VWM	–7.3	5.0	5.16	6.9	12.6	2.5	1.7	1.1	4.5	2.4	6.9	13.7	0.4	69	175	6.0	na	12.0
Elk River, Colo.	3/19/1994	VWM	–8.8	6.7	5.12	8.6	9.9	1.9	1.5	0.7	6.1	1.4	10.6	14.0	0.7	40	121	6.8	na	4.9
Elkhart Park, Wyo.	3/26/1994	E	–6.9	4.0	5.27	5.4	3.5	<1.7	2.2	<0.4	4.6	1.1	5.6	6.4	0.4	na	116	6.6	na	8.6
Four Mile Meadow, Wyo.	3/28/1994	E	–3.0	4.0	5.44	3.6	5.5	<1.7	5.2	1.4	5.7	2.5	6.7	7.0	0.5	na	76	8.0	na	13.9

Table 3. Selected chemical and physical data for Rocky Mountain snowpack samples for 1994.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Fremont Pass, Colo.	5/7/1994	E	15.6	5.1	6.25	0.6	16.7	5.0	2.6	7.7	4.3	3.7	6.3	9.9	8.7	na	105	na	na	2.0
Gallegos Peak, N. Mex.	3/12/1994	E	–9.5	5.6	5.12	7.6	10.0	<1.7	1.7	2.5	4.6	2.0	8.8	10.9	1.4	na	119	4.2	na	10.0
Garnet Canyon, Wyo.	3/26/1994	E	–6.6	3.6	5.21	6.2	<3.1	<1.7	<1.0	<0.4	4.3	<1.0	4.2	4.6	0.5	na	190	na	na	8.5
Grand Mesa, Colo.	4/20/1994	E	–0.6	6.2	5.52	3.0	16.5	4.1	3.9	6.7	8.9	2.3	12.7	12.4	2.4	na	117	4.7	na	22.4
Granite Pass, Mont.	3/23/1994	E	–5.8	3.3	5.27	5.4	<3.1	<1.7	1.7	0.5	2.1	1.4	3.1	3.0	0.7	na	148	5.4	na	12.8
Gypsum Creek, Wyo.	3/27/1994	E	–0.4	4.5	5.70	2.0	7.6	1.8	3.9	0.8	6.8	2.0	6.9	8.8	0.6	na	78	na	na	12.9
Hopewell, N. Mex.	3/13/1994	E	–8.4	5.0	5.14	7.2	8.0	<1.7	<1.0	1.3	4.3	2.0	9.4	8.7	0.8	na	130	3.6	na	1.8
Kings Hill, Mont.	3/21/1994	E	–5.5	4.7	5.33	4.7	5.0	<1.7	<1.0	0.5	7.1	2.5	9.0	7.4	1.0	na	139	9.7	na	–4.5
Lake Irene, Colo.	3/30/1994	E	–11.2	5.7	5.02	9.5	6.5	<1.7	1.7	<0.4	2.5	1.7	6.9	10.4	0.6	na	195	6.1	na	3.2
Lewis Lake Divide, Wyo.	3/17/1994	E	–2.5	3.8	5.59	2.6	<3.1	<1.7	<1.0	0.4	10.0	1.1	5.0	7.4	0.4	na	160	5.2	na	–2.2
Lionshead, Mont.	3/18/1994	E	–3.5	6.4	5.47	3.4	6.0	<1.7	2.2	0.8	20.4	3.4	11.0	13.6	0.8	na	105	6.4	na	7.6
Lionshead North, Mont.	3/22/1994	E	12.3	7.3	6.13	0.7	13.4	3.0	2.6	13.6	15.4	8.5	9.0	10.1	2.0	na	114	na	na	10.0
Loch Vale Forest, Colo.	4/6/1994	E	–12.3	7.2	4.96	11.0	8.5	2.5	1.3	1.2	6.8	1.4	10.6	14.9	1.0	89	243	5.8	na	7.4
Loveland Pass, Colo.	5/10/1994	E	–1.1	5.0	5.42	3.8	13.0	4.1	5.2	4.8	4.6	4.2	6.7	11.4	5.7	na	150	5.0	na	22.8
Lynx Pass, Colo.	3/18/1994	E	–18.5	7.6	4.84	14.5	7.5	<1.7	2.2	<0.4	3.9	1.1	7.7	13.7	0.6	na	109	6.7	na	10.8
Molas Lake, Colo.	4/1/1994	E	3.6	4.7	5.70	2.0	10.5	<1.7	2.2	9.7	3.9	3.4	6.3	8.1	2.7	na	171	4.1	na	13.9
Monarch Pass, Colo.	3/31/1994	E	5.6	5.9	5.85	1.4	20.0	3.3	<1.0	4.9	5.7	2.8	9.0	11.7	2.7	na	106	4.8	na	9.6

Table 3. Selected chemical and physical data for Rocky Mountain snowpack samples for 1994.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Moose Meadow, Idaho	3/22/1994	E	3.9	5.3	5.99	1.0	6.1	<1.7	2.6	1.5	18.2	3.9	8.3	9.1	0.8	na	150	na	na	7.8
Ned Wilson, Colo.	3/31/1994	VWM	–5.1	4.6	5.33	4.6	8.5	<1.7	1.4	0.5	3.4	1.2	7.1	10.1	0.5	86	227	5.0	na	–0.2
Niwot Snotel, Colo.	4/4/1994	E	–10.6	6.6	5.04	9.1	8.0	<1.7	<1.0	0.5	11.1	1.1	9.8	13.7	0.9	na	137	5.8	na	7.6
Noisy Basin, Mont.	3/22/1994	E	–8.5	5.0	5.09	8.1	<3.1	<1.7	<1.0	0.5	5.7	1.4	5.4	6.1	0.9	na	209	5.3	na	5.3
Old Battle, Wyo.	3/29/1994	E	–4.0	6.2	5.38	4.2	9.5	2.5	1.3	1.9	6.8	1.7	11.7	13.2	1.3	na	220	7.2	na	–0.9
Old Faithful Crew Corrals, Wyo.	3/21/1994	E	5.9	5.5	6.02	1.0	10.2	1.8	11.7	0.8	11.4	5.4	11.0	8.8	1.0	na	81	na	na	8.6
Old Faithful East Lot, Wyo.	3/21/1994	E	2.8	5.1	5.84	1.4	8.8	<1.7	12.3	0.5	9.3	5.1	10.2	7.5	0.5	na	92	na	na	11.6
Old Faithful Fire Road, Wyo.	3/21/1994	E	–0.9	4.7	5.59	2.6	7.9	<1.7	7.9	0.6	7.5	3.7	9.0	7.4	0.8	na	91	na	na	13.7
Phantom Valley, Colo.	3/25/1994	E	–15.8	7.3	4.86	13.8	7.9	2.0	2.0	0.8	5.7	1.1	9.6	13.1	1.0	na	96	6.2	na	15.1
Rabbit Ears 1, Colo.	3/23/1994	VWM	–13.3	8.0	4.89	12.8	9.7	2.0	2.6	<0.4	6.2	2.2	12.3	14.2	0.5	88	237	na	na	7.4
Rabbit Ears 2, Colo.	3/23/1994	VWM	–13.8	6.1	4.93	11.7	9.3	2.0	3.8	<0.4	6.2	1.8	11.6	14.0	0.4	85	220	7.4	na	9.2
Red Mountain, Mont.	3/24/1994	E	–0.6	4.0	5.57	2.7	8.9	2.3	2.9	1.9	6.1	1.4	6.0	7.1	1.3	na	109	8.2	na	25.8
Red Mountain Pass, Colo.	4/1/1994	E	–4.0	4.5	5.38	4.2	10.5	<1.7	<1.0	1.6	3.6	1.4	6.0	8.6	1.1	na	157	4.4	na	10.4
Rendezvous Mountain, Wyo.	3/25/1994	E	–6.5	3.3	5.21	6.2	<3.1	<1.7	<1.0	0.7	3.6	<1.0	4.0	4.2	<0.4	na	152	5.2	na	12.2
Slumgullion Pass, Colo.	4/2/1994	E	–0.4	4.0	5.59	2.6	9.9	2.0	1.5	3.7	2.9	2.5	5.8	7.2	1.8	na	86	na	na	18.3
Snow Bowl, Mont.	3/23/1994	E	–10.2	5.4	5.07	8.5	<3.1	<1.7	1.3	1.5	5.0	2.5	6.3	6.2	0.9	na	158	5.4	na	4.2

Table 3. Selected chemical and physical data for Rocky Mountain snowpack samples for 1994.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
South Pass, Wyo.	3/28/1994	E	–6.2	5.4	5.22	6.0	7.5	<1.7	3.0	0.4	5.0	1.1	10.0	9.4	0.8	na	134	7.5	na	3.3
Sunlight Peak, Colo.	4/20/1994	E	–7.0	6.1	5.16	6.9	10.5	2.5	<1.0	2.8	7.1	1.4	8.5	11.5	1.6	na	127	5.2	na	16.3
Sylvan Lake, Wyo.	3/19/1994	E	–8.5	4.3	5.12	7.6	<3.1	<1.7	1.3	0.7	7.9	2.0	5.0	6.1	0.6	na	115	5.3	na	14.2
Targee, Mont.	3/22/1994	E	–1.1	4.5	5.65	2.2	5.3	<1.7	2.2	1.4	13.6	2.3	7.5	9.3	0.8	na	102	na	na	12.9
Teton Pass, Wyo.	3/26/1994	E	33.7	9.5	6.61	0.2	24.0	9.1	10.0	5.7	13.2	7.0	11.7	12.4	2.6	na	156	7.2	na	–2.1
Togwotee Pass, Wyo.	3/28/1994	E	1.7	4.1	5.88	1.3	7.5	<1.7	5.7	0.5	5.7	2.3	7.3	7.8	0.6	na	156	7.1	na	4.1
Trappers Peak, Colo.	3/30/1994	VWM	–7.5	4.3	5.20	6.1	7.8	<1.7	1.6	<0.4	3.3	1.7	5.9	9.7	<0.4	82	216	5.3	na	4.4
Twenty-one Mile, Mont.	3/18/1994	E	–6.0	4.3	5.23	5.9	<3.1	<1.7	<1.0	0.5	8.2	3.7	5.6	7.1	0.6	na	90	6.0	na	–5.7
Two-Top South, Mont.	3/22/1994	E	–0.3	5.0	5.73	1.9	5.2	<1.7	2.2	<0.4	20.7	2.3	9.6	11.1	0.5	na	166	na	na	13.3
University Camp, Colo.	4/27/1994	E	–10.2	6.1	5.09	8.1	8.0	<1.7	<1.0	1.9	6.8	1.4	9.8	10.9	1.5	na	170	5.5	na	5.8
West Yellowstone, Mont.	3/17/1994	E	3.2	4.9	5.86	1.4	4.0	<1.7	1.3	0.5	12.9	3.4	7.5	10.4	0.7	na	66	6.4	na	–9.9
West Yellowstone East, Mont.	3/25/1994	E	–2.3	4.7	5.53	3.0	12.2	1.9	4.7	0.6	12.9	2.3	6.5	10.7	0.7	na	82	na	na	28.9
Wolf Creek Pass, Colo.	4/2/1994	E	–9.5	6.4	5.08	8.3	10.5	<1.7	<1.0	2.1	5.4	3.4	<0.6	11.2	1.1	na	170	4.0	na	28.5

Table 4. Selected chemical and physical data for Rocky Mountain snowpack samples for 1995.

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Berthoud Pass, Colo.	4/5/1995	E	–6.5	3.7	5.18	6.6	<3.1	<1.7	4.1	<0.4	2.9	1.7	4.4	7.0	0.4	na	144	6.0	na	2.0
Big Mountain, Mont.	3/16/1995	E	–4.5	3.0	5.19	6.5	<3.1	<1.7	<1.0	0.5	3.3	<1.0	3.8	4.4	0.7	na	266	5.2	na	11.7
Big Sky, Mont.	3/19/1995	E	–0.7	2.6	5.42	3.8	4.5	<1.7	<1.0	0.5	4.4	<1.0	4.2	5.1	0.7	na	196	5.0	na	17.5
Biscuit Basin, Wyo.	3/14/1995	E	–6.5	3.9	5.16	6.9	<3.1	<1.7	<1.0	<0.4	6.1	1.1	4.6	8.0	1.1	na	99	na	na	–2.7
Brooklyn Lake, Wyo.	3/25/1995	E	–8.3	5.5	5.00	10.0	6.5	<1.7	<1.0	0.8	5.2	1.1	8.8	9.7	1.2	na	173	6.0	na	6.8
Brumley, Colo.	3/31/1995	E	–6.6	na	5.18	6.6	3.5	<1.7	<1.0	<0.4	2.5	<1.0	2.9	6.1	0.8	na	134	4.9	na	16.3
Buffalo Pass, Colo.	4/5/1995	VWM	–13.7	6.9	4.90	13.9	5.0	<1.7	1.0	<0.4	5.8	1.3	12.1	10.8	0.6	112	280	7.5	na	2.9
Buffalo Pass, Colo.	6/1/1995	E	–12.3	8.0	4.89	12.9	8.5	<1.7	<1.0	0.5	7.6	1.1	15.2	12.3	0.9	166	385	6.6	na	1.4
Cameron Pass, Colo.	4/6/1995	E	–10.3	5.8	5.00	10.0	6.9	<1.7	3.8	1.3	4.6	3.1	8.3	12.8	1.4	na	171	6.5	na	4.7
Canyon, Wyo.	3/12/1995	E	–5.9	3.3	5.14	7.2	<3.1	<1.7	<1.0	<0.4	4.4	<1.0	3.3	5.6	0.4	na	128	4.1	na	12.8
Chief Joseph Pass, Mont.	3/18/1995	E	–4.0	2.5	5.32	4.8	<3.1	<1.7	<1.0	<0.4	3.8	<1.0	2.9	3.3	0.6	na	150	4.1	na	16.0
Daisy Pass, Mont.	3/14/1995	E	–3.5	2.9	5.29	5.1	<3.1	<1.7	<1.0	<0.4	3.7	<1.0	4.0	4.3	0.5	na	250	4.2	na	3.4
Deadman Pass, Colo.	4/14/1995	E	–8.4	6.5	4.99	10.2	12.5	2.5	<1.0	2.8	6.6	1.4	10.8	15.6	2.3	na	142	6.0	na	10.8
Divide Peak, Wyo.	3/24/1995	E	–8.6	6.2	5.05	8.9	13.0	2.5	1.7	0.5	6.1	2.0	10.2	15.9	0.5	na	139	6.6	na	7.6
Dry Lake, Colo.	3/13/1995	VWM	–21.0	9.4	4.69	20.6	6.1	<1.7	1.6	<0.4	6.8	1.2	12.9	18.9	0.6	42	122	7.2	na	3.2
Dunckley Pass, Colo.	3/30/1995	VWM	–0.1	4.2	5.43	3.8	15.8	2.9	1.2	4.5	4.4	1.2	8.0	11.7	2.1	44	152	5.3	na	22.0
Elk River, Colo.	3/13/1995	VWM	–12.3	6.8	4.98	11.0	8.1	<1.7	<1.0	<0.4	5.5	1.4	9.8	13.9	0.7	45	130	7.0	na	–0.9
Elkhart Park, Wyo.	3/23/1995	E	–7.4	5.0	5.08	8.3	4.0	<1.7	1.7	<0.4	4.2	<1.0	8.5	7.4	0.7	na	142	7.3	na	6.7
Four Mile Meadow, Wyo.	3/21/1995	E	–4.9	3.5	5.20	6.3	<3.1	<1.7	<1.0	0.5	3.6	<1.0	3.3	7.0	0.8	na	120	5.7	na	0.3

Table 4. Selected chemical and physical data for Rocky Mountain snowpack samples for 1995.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Fremont Pass, Colo.	4/24/1995	E	–4.4	3.5	5.21	6.2	5.5	<1.7	<1.0	0.5	2.7	<1.0	3.8	7.4	0.7	na	175	3.9	na	14.5
Gallegos Peak, N. Mex.	3/25/1995	E	–4.2	4.6	5.18	6.6	8.8	1.9	1.5	4.9	5.6	1.4	9.4	9.3	2.0	na	132	4.9	na	18.5
Garnet Canyon, Wyo.	4/1/1995	E	–6.7	4.0	5.12	7.6	<3.1	<1.7	1.0	<0.4	5.4	<1.0	5.0	7.8	0.4	na	200	5.2	na	4.7
Grand Mesa, Colo.	3/29/1995	E	–4.0	4.1	5.25	5.6	9.5	<1.7	1.3	0.5	4.7	<1.0	7.5	10.4	0.9	na	248	5.0	na	9.5
Granite Pass, Mont.	3/17/1995	E	–4.5	2.3	5.26	5.5	<3.1	<1.7	<1.0	<0.4	1.6	<1.0	2.3	2.4	0.5	na	200	4.0	na	20.4
Gypsum Creek, Wyo.	3/23/1995	E	–5.9	4.5	5.13	7.4	5.0	3.3	1.3	3.6	2.9	1.4	7.7	7.8	1.8	na	82	6.3	na	16.2
Hogan Peak, Colo.	4/8/1995	E	–15.1	na	4.84	14.5	3.9	<1.7	1.8	0.8	6.3	<1.0	12.1	10.1	0.7	na	266	na	na	10.1
Hopewell, N. Mex.	3/26/1995	E	–2.2	3.6	5.37	4.3	7.0	<1.7	<1.0	0.8	5.1	<1.0	6.5	7.1	0.7	na	184	3.8	na	11.8
Kings Hill, Mont.	3/15/1995	E	–1.8	3.2	5.39	4.1	5.0	<1.7	1.3	1.0	7.0	<1.0	5.6	6.6	1.1	na	130	6.4	na	20.2
Lake Irene, Colo.	3/29/1995	E	–11.7	5.6	4.97	10.7	3.1	<1.7	1.4	<0.4	3.7	<1.0	7.1	9.6	0.6	na	150	6.1	na	6.6
Lewis Lake Divide, Wyo.	3/11/1995	E	–5.5	4.1	5.13	7.4	<3.1	<1.7	<1.0	1.0	5.9	1.1	4.8	6.6	1.0	na	216	4.3	na	6.7
Lionshead, Mont.	3/13/1995	E	–6.7	4.8	5.12	7.6	3.5	<1.7	<1.0	0.8	9.7	1.4	7.5	8.5	0.7	na	195	4.5	na	10.6
Lionshead North, Mont.	3/15/1995	E	–7.7	4.6	5.09	8.1	<3.1	<1.7	<1.0	0.8	9.1	1.1	6.3	9.1	0.7	na	200	na	na	4.2
Loch Vale Forest, Colo.	4/12/1995	E	–8.9	6.6	4.99	10.2	8.6	2.0	2.0	2.6	6.2	1.4	9.8	12.9	1.8	na	204	6.2	na	13.5
Loveland Pass, Colo.	4/20/1995	E	–4.2	3.4	5.25	5.6	7.5	<1.7	2.2	0.8	3.4	1.7	5.0	8.4	1.0	na	188	4.9	na	12.6
Lynx Pass, Colo.	3/14/1995	E	–11.2	5.5	4.99	10.2	3.9	<1.7	1.4	<0.4	3.8	<1.0	5.8	11.7	0.7	na	128	6.3	na	4.9
Molas Lake, Colo.	4/1/1995	E	–4.0	3.4	5.27	5.4	8.0	<1.7	<1.0	<0.4	3.0	<1.0	5.4	8.9	0.6	na	213	4.6	na	6.5

Table 4. Selected chemical and physical data for Rocky Mountain snowpack samples for 1995.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Monarch Pass, Colo.	3/31/1995	E	1.0	3.5	5.64	2.3	16.4	<1.7	1.3	0.5	4.4	<1.0	6.5	10.1	0.8	na	170	5.8	na	17.2
Ned Wilson, Colo.	6/2/1995	VWM	–0.9	3.2	5.60	2.9	9.8	<1.7	1.3	0.5	3.9	<1.0	5.8	7.2	0.9	116	295	5.2	na	17.1
Niwot Snotel, Colo.	4/3/1995	E	–9.8	5.9	5.03	9.3	7.6	1.8	1.4	1.0	8.2	1.4	9.4	15.1	1.1	na	100	6.0	na	6.3
Noisy Basin, Mont.	3/16/1995	E	–5.7	3.3	5.19	6.5	<3.1	<1.7	1.3	0.5	4.1	<1.0	3.3	4.1	0.9	na	255	5.5	na	24.6
Old Battle, Wyo.	3/24/1995	E	–10.6	6.3	4.94	11.5	7.0	<1.7	1.3	1.5	6.3	1.4	10.8	12.1	1.1	na	210	6.3	na	6.2
Old Faithful Crew Corrals, Wyo.	3/14/1995	E	–5.6	3.6	5.21	6.2	<3.1	<1.7	<1.0	<0.4	5.9	1.4	3.5	7.4	0.5	na	104	na	na	–1.2
Old Faithful East Lot, Wyo.	3/14/1995	E	–4.5	3.0	5.31	4.9	<3.1	<1.7	2.1	<0.4	5.1	1.4	3.3	6.1	0.5	na	106	na	na	5.5
Old Faithful Fire Road, Wyo.	3/14/1995	E	–5.8	4.1	5.15	7.1	<3.1	<1.7	<1.0	<0.4	6.2	1.4	4.8	7.3	1.0	na	114	na	na	–0.8
Phantom Valley, Colo.	3/28/1995	E	–13.7	6.5	4.89	12.9	3.8	<1.7	1.7	0.5	4.6	1.1	8.3	11.4	1.2	na	27	5.7	na	5.8
Rabbit Ears 1, Colo.	3/30/1995	VWM	–13.7	7.5	4.95	13.8	5.1	<1.7	1.7	1.1	5.9	1.1	12.1	10.1	0.8	67	210	7.5	na	8.4
Rabbit Ears 2, Colo.	3/30/1995	VWM	–13.5	7.4	4.90	13.5	5.4	<1.7	1.1	0.6	6.4	<1.0	12.5	11.8	0.8	65	208	7.4	na	5.2
Red Mountain, Mont.	3/18/1995	E	–2.1	3.0	5.35	4.5	3.5	<1.7	1.7	<0.4	5.4	<1.0	4.2	5.6	0.8	na	156	5.3	na	21.3
Red Mountain Pass, Colo.	4/1/1995	E	–2.3	3.4	5.42	3.8	7.1	<1.7	<1.0	2.1	3.1	1.1	5.4	7.9	0.9	na	228	5.0	na	5.2
Rendezvous Mountain, Wyo.	4/4/1995	E	–6.0	3.7	5.15	7.1	<3.1	<1.7	<1.0	<0.4	3.6	<1.0	4.4	5.6	0.7	na	249	5.9	na	3.7
Slumgullion Pass, Colo.	4/2/1995	E	–3.0	3.2	5.32	4.8	8.0	<1.7	<1.0	0.8	2.4	<1.0	4.6	6.5	1.0	na	130	4.4	na	17.8
Snow Bowl, Mont.	3/17/1995	E	–4.8	2.5	5.21	6.2	<3.1	<1.7	<1.0	<0.4	2.9	<1.0	3.3	3.5	0.8	na	170	4.6	na	13.8

Table 4. Selected chemical and physical data for Rocky Mountain snowpack samples for 1995.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
South Pass, Wyo.	3/22/1995	E	–10.2	6.1	4.98	10.5	5.5	<1.7	2.2	<0.4	5.1	<1.0	10.8	10.9	0.9	na	149	7.3	na	3.5
Sunlight Peak, Colo.	3/29/1995	E	–5.9	3.9	5.16	6.9	6.0	<1.7	<1.0	<0.4	4.8	<1.0	7.1	8.1	0.8	na	212	5.8	na	7.7
Sylvan Lake, Wyo.	3/12/1995	E	–2.5	2.8	5.41	3.9	<3.1	<1.7	1.8	<0.4	5.2	<1.0	5.0	5.0	0.9	na	198	5.0	na	4.4
Targee, Mont.	3/15/1995	E	–5.6	4.5	5.17	6.8	3.7	<1.7	1.7	1.0	9.7	1.4	7.3	9.4	1.0	na	142	na	na	11.8
Teton Pass, Wyo.	3/21/1995	E	1.7	3.6	5.69	2.0	8.5	2.5	4.4	1.0	5.8	2.3	7.1	6.9	1.0	na	140	6.8	na	14.9
Togwotee Pass, Wyo.	3/21/1995	E	–2.2	2.8	5.44	3.6	4.0	<1.7	1.7	<0.4	3.1	<1.0	4.6	4.9	0.5	na	222	5.4	na	13.6
Twenty-one Mile, Mont.	3/13/1995	E	–6.9	4.2	5.14	7.2	<3.1	<1.7	2.6	<0.4	5.2	1.4	5.0	7.3	0.7	na	155	4.4	na	4.7
University Camp, Colo.	4/10/1995	E	–6.0	5.1	5.16	6.9	9.0	<1.7	1.3	0.8	7.6	<1.0	9.4	11.7	1.1	na	128	5.7	na	9.5
West Yellowstone, Mont.	3/20/1995	E	–8.7	4.6	5.03	9.3	<3.1	<1.7	<1.0	<0.4	8.6	1.7	5.6	10.9	0.9	na	107	4.4	na	–1.0
West Yellowstone East, Mont.	3/15/1995	E	–7.0	4.1	5.16	6.9	<3.1	<1.7	na	<0.4	7.4	1.7	4.4	7.6	0.6	na	104	na	na	2.0
Wolf Creek Pass, Colo.	4/2/1995	E	–7.2	4.9	5.11	7.8	8.5	<1.7	<1.0	<0.4	4.9	<1.0	9.2	9.6	0.8	na	288	4.5	na	6.1

Table 5. Selected chemical and physical data for Rocky Mountain snowpack samples for 1996.

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; (), suspect ion balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Apgar Lookout, Mont.	3/19/1996	E	–6.3	2.7	5.24	5.8	<3.1	<1.7	4.1	3.8	1.9	<1.0	2.5	5.2	1.0	na	160	na	na	33.9
Berthoud Pass, Colo.	4/2/1996	E	–5.6	3.8	5.16	6.9	3.6	<1.7	2.2	0.5	1.5	1.1	4.4	6.8	0.5	na	214	6.3	na	8.9
Big Mountain, Mont.	3/15/1996	E	–3.1	2.5	5.23	5.9	<3.1	<1.7	<1.0	0.6	2.1	<1.0	2.9	3.1	0.6	na	286	6.0	na	17.4
Big Sky, Mont.	3/18/1996	E	0.2	2.5	5.57	2.7	4.3	<1.7	<1.0	1.3	2.3	<1.0	3.3	5.2	0.5	na	257	6.3	na	9.5
Biscuit Basin, Wyo.	3/11/1996	E	1.4	3.3	5.64	2.3	4.0	<1.7	1.8	2.6	4.6	2.0	2.9	5.9	1.3	na	125	na	na	11.2
Brooklyn Lake, Wyo.	3/24/1996	E	–5.1	4.3	5.17	6.8	5.5	<1.7	1.2	0.7	3.2	1.1	6.7	9.2	0.7	na	218	7.5	na	1.1
Brumley, Colo.	3/28/1996	E	–1.7	3.4	5.39	4.1	7.0	<1.7	<1.0	1.5	1.6	<1.0	4.6	6.6	0.6	na	136	6.6	na	11.9
Buffalo Pass, Colo.	4/4/1996	E	–10.3	5.4	5.00	10.0	5.8	<1.7	1.5	0.9	3.6	<1.0	9.0	10.3	0.6	na	300	7.6	na	6.3
Cameron Pass, Colo.	4/3/1996	E	–4.7	3.3	5.18	6.6	4.6	<1.7	1.3	1.4	2.6	1.1	6.0	6.1	1.3	na	205	7.3	na	10.9
Canyon, Wyo.	3/10/1996	E	–1.7	2.9	5.37	4.3	<3.1	<1.7	1.0	0.8	3.4	<1.0	2.9	4.4	0.8	na	166	na	na	13.0
Chief Joseph Pass, Mont.	3/17/1996	E	–4.1	2.5	5.24	5.8	<3.1	<1.7	<1.0	0.5	1.0	<1.0	2.1	4.9	0.6	na	210	na	na	2.0
Daisy Pass, Mont.	3/13/1996	E	–1.0	2.3	5.49	3.2	<3.1	<1.7	<1.0	0.8	3.0	<1.0	3.5	3.9	0.5	na	318	4.0	na	–2.8
Deadman Pass, Colo.	4/9/1996	E	–3.1	3.8	5.30	5.0	8.5	<1.7	1.4	2.0	3.6	1.1	7.9	9.8	1.9	na	243	6.7	na	4.2
Divide Peak, Wyo.	3/23/1996	E	–3.8	4.3	5.19	6.5	8.0	<1.7	1.9	0.6	3.4	1.4	6.9	11.7	0.6	na	128	7.8	na	0.5
Dry Lake, Colo.	3/15/1996	E	–8.8	6.2	5.00	10.0	7.0	<1.7	1.1	2.0	3.0	<1.0	7.9	12.2	0.5	na	170	8.5	na	6.6
Dunckley Pass, Colo.	4/3/1996	E	–1.0	3.2	5.47	3.4	7.9	<1.7	1.2	1.0	3.4	<1.0	5.4	7.9	0.5	na	180	7.4	na	11.9
Elk River, Colo.	3/15/1996	E	–6.2	4.6	5.14	7.2	7.5	<1.7	1.9	0.9	1.8	1.1	6.5	14.4	0.5	na	155	8.4	na	–6.5
Elkhart Park, Wyo.	3/21/1996	E	–2.8	3.2	5.34	4.6	3.5	<1.7	1.3	0.9	3.2	1.1	4.4	5.4	0.6	na	143	6.9	na	10.1
Four Mile Meadow, Wyo.	3/20/1996	E	–3.0	2.4	5.46	3.5	<3.1	<1.7	1.6	1.2	3.0	1.4	3.1	4.3	0.6	na	127	8.7	na	2.4

Table 5. Selected chemical and physical data for Rocky Mountain snowpack samples for 1996.—Continued

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Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Fremont Pass, Colo.	4/25/1996	E	–1.6	3.1	5.45	3.5	6.3	<1.7	1.1	0.8	2.1	<1.0	4.6	6.5	0.6	na	227	na	na	11.2
Gallegos Peak, N. Mex.	3/26/1996	E	19.6	5.5	6.33	0.5	34.4	6.6	1.9	2.1	4.2	1.1	9.4	10.9	1.2	na	115	4.6	na	9.7
Garnet Canyon, Wyo.	3/14/1996	E	–4.9	2.4	5.43	3.7	<3.1	<1.7	1.3	1.9	1.9	<1.0	3.8	3.7	0.4	na	290	na	na	8.7
Grand Mesa, Colo.	3/29/1996	E	0.4	3.2	5.57	2.7	9.8	<1.7	1.0	0.8	3.7	<1.0	6.5	7.6	0.7	na	166	5.4	na	11.0
Granite Pass, Mont.	3/16/1996	E	–2.8	1.9	5.37	4.3	<3.1	<1.7	<1.0	1.4	<1.0	<1.0	1.9	1.8	0.8	na	217	na	na	21.6
Gypsum Creek, Wyo.	3/21/1996	E	–5.8	2.4	5.23	5.9	<3.1	<1.7	<1.0	<0.4	2.1	<1.0	3.3	4.5	0.4	na	147	5.5	na	0.8
Hogan Peak, Colo.	4/6/1996	E	–6.8	4.5	5.18	6.6	7.0	<1.7	1.1	1.5	5.1	<1.0	9.8	8.7	0.8	na	304	na	na	7.0
Hopewell, N. Mex.	3/25/1996	E	17.2	6.2	6.25	0.6	31.4	4.1	2.4	3.9	6.3	1.4	11.0	20.1	1.8	na	105	4.8	na	–1.1
Kings Hill, Mont.	3/14/1996	E	–5.0	3.1	5.26	5.5	<3.1	<1.7	<1.0	<0.4	3.1	<1.0	4.2	5.1	0.5	na	137	7.4	na	–3.8
Lake Irene, Colo.	4/11/1996	E	–5.9	3.4	5.15	7.1	3.1	<1.7	2.2	1.2	2.0	<1.0	5.8	5.4	0.8	na	170	6.7	na	16.6
Lewis Lake Divide, Wyo.	3/9/1996	E	–0.8	2.5	5.52	3.0	3.2	<1.7	1.4	<0.4	4.6	1.1	3.8	5.0	0.5	na	352	5.9	na	10.5
Lionshead, Mont.	3/11/1996	E	0.6	3.9	5.55	2.8	5.2	<1.7	2.1	4.4	9.8	2.0	6.9	9.1	1.7	na	169	5.8	na	13.1
Loch Vale Meadow, Colo.	4/9/1996	E	–8.5	4.4	5.14	7.2	4.5	<1.7	1.5	<0.4	2.2	1.1	6.0	8.0	0.5	85	210	7.4	na	0.8
Loveland Pass, Colo.	5/2/1996	E	–2.3	3.0	5.42	3.8	7.0	<1.7	2.0	<0.4	1.6	1.7	5.0	6.9	0.5	na	292	7.1	na	3.0
Lynx Pass, Colo.	3/14/1996	E	–9.6	4.2	5.14	7.2	4.0	<1.7	<1.0	0.4	1.4	<1.0	4.6	8.0	0.4	na	179	7.4	na	1.9
Molas Lake, Colo.	3/29/1996	E	19.0	4.3	6.44	0.4	24.0	2.5	1.6	1.2	3.4	<1.0	5.4	7.2	0.6	na	162	3.8	na	2.0
Monarch Pass, Colo.	3/29/1996	E	3.5	2.9	5.85	1.4	11.6	2.3	1.7	na	2.3	<1.0	6.0	7.3	0.7	na	186	6.3	na	6.9
Niwot Snotel, Colo.	4/9/1996	E	–9.7	4.6	5.18	6.6	5.5	<1.7	1.5	1.3	4.4	<1.0	8.1	8.5	0.7	na	160	na	na	7.5
Noisy Basin, Mont.	3/15/1996	E	–3.4	2.5	5.25	5.6	<3.1	<1.7	1.3	9.7	2.8	<1.0	3.1	4.2	0.5	na	230	6.3	na	45.2

Table 5. Selected chemical and physical data for Rocky Mountain snowpack samples for 1996.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; (), suspect ion balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Old Battle, Wyo.	3/23/1996	E	–4.8	4.2	5.22	6.0	7.3	<1.7	2.0	0.9	3.3	1.1	7.3	9.0	0.8	na	220	8.1	na	5.6
Old Faithful Crew Corrals, Wyo.	3/11/1996	E	–1.6	2.9	5.48	3.3	<3.1	<1.7	10.4	3.8	4.4	1.4	3.1	6.5	0.5	na	140	na	na	32.9
Old Faithful East Lot, Wyo.	3/11/1996	E	–3.1	3.7	5.35	4.5	4.0	<1.7	3.3	1.6	5.4	2.8	3.8	10.4	1.5	na	130	na	na	4.6
Old Faithful Fire Road, Wyo.	3/11/1996	E	–1.5	3.4	5.37	4.3	4.0	<1.7	2.3	1.6	5.2	2.0	4.0	8.4	1.3	na	120	na	na	9.6
Old Faithful (in road), Wyo.	3/11/1996	E	1.1	4.3	5.57	2.7	11.0	2.5	2.7	8.5	7.2	2.5	6.3	8.4	2.1	na	70	na	na	(30.8)
Phantom Valley, Colo.	4/10/1996	E	–7.2	4.5	5.15	7.1	5.0	<1.7	1.4	1.3	2.6	1.1	6.7	7.4	0.9	na	107	7.2	na	7.0
Rabbit Ears 1, Colo.	4/2/1996	E	–8.7	5.2	5.01	9.8	5.0	<1.7	1.1	0.9	3.0	<1.0	7.9	8.0	1.6	na	292	7.9	na	10.9
Rabbit Ears 2, Colo.	4/2/1996	E	–9.0	4.3	5.10	7.9	5.0	<1.7	1.1	1.3	3.1	1.1	8.3	8.8	0.7	104	285	7.7	na	0.8
Red Mountain, Mont.	3/17/1996	E	–2.4	2.3	5.45	3.5	<3.1	<1.7	<1.0	0.7	1.6	<1.0	2.7	4.1	0.6	na	108	5.8	na	–7.3
Red Mountain Pass, Colo.	3/29/1996	E	12.0	4.3	6.27	0.5	22.0	2.5	1.7	0.9	2.9	1.7	6.0	7.9	0.8	na	173	5.2	na	4.8
Rendezvous Mountain, Wyo.	3/19/1996	E	–2.8	2.2	5.53	3.0	<3.1	<1.7	1.3	0.9	2.5	<1.0	3.1	3.0	0.4	na	254	5.8	na	11.0
Ripple Creek Pass, Colo.	4/3/1996	E	–3.4	3.1	5.44	3.6	6.8	<1.7	1.3	1.1	2.9	<1.0	5.2	6.9	0.7	na	261	7.3	na	12.8
Slumgullion Pass, Colo.	3/28/1996	E	9.8	3.5	6.11	0.8	18.5	<1.7	1.8	1.2	2.0	1.4	5.4	6.3	0.9	na	113	3.5	na	2.8
Snow Bowl, Mont.	3/16/1996	E	–3.6	2.2	5.32	4.8	<3.1	<1.7	<1.0	0.9	1.6	<1.0	2.7	3.1	1.3	na	231	5.2	na	11.5
South Pass, Wyo.	3/22/1996	E	8.5	3.8	5.62	2.4	7.5	<1.7	2.9	2.6	5.2	1.7	7.7	7.9	1.1	na	152	9.6	na	–11.3
Sunlight Peak, Colo.	4/2/1996	E	–0.8	3.9	5.47	3.4	12.8	2.3	1.5	2.0	4.2	1.1	6.9	10.9	0.8	na	203	6.6	na	16.3
Sylvan Lake, Wyo.	3/10/1996	E	–1.0	2.4	5.50	3.2	<3.1	<1.7	1.5	1.6	3.0	1.1	3.3	3.9	0.7	na	225	4.9	na	4.8
Sylvan Lake (in road), Wyo.	3/10/1996	E	–4.7	2.6	5.41	3.9	<3.1	<1.7	1.4	4.9	3.5	1.1	4.0	4.1	0.6	na	173	na	na	19.6

Table 5. Selected chemical and physical data for Rocky Mountain snowpack samples for 1996.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; (), suspect ion balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Teton Pass, Wyo.	3/9/1996	E	6.2	3.2	5.93	1.2	8.2	2.7	2.8	2.5	4.1	2.3	4.6	4.9	0.9	na	189	6.6	na	9.2
Togwotee Pass, Wyo.	3/20/1996	E	–0.1	2.4	5.54	2.9	5.3	<1.7	1.6	1.3	2.5	1.1	3.5	4.2	0.7	na	255	7.0	na	21.1
Trappers Lake, Colo.	4/3/1996	E	–2.6	3.1	5.46	3.5	6.6	<1.7	1.2	0.6	2.2	<1.0	4.6	7.0	0.6	na	189	7.0	na	9.7
Twenty-one Mile, Mont.	3/12/1996	E	0.3	2.9	5.55	2.8	4.7	<1.7	1.5	1.6	4.6	1.7	3.5	5.9	1.0	na	141	6.2	na	13.5
University Camp, Colo.	4/12/1996	E	–4.3	4.0	5.15	7.1	5.5	<1.7	1.0	3.2	4.0	<1.0	7.5	7.6	0.8	na	200	7.5	na	16.0
West Yellowstone, Mont.	3/11/1996	E	–2.2	3.3	5.39	4.1	4.0	<1.7	1.7	4.1	5.1	2.0	4.2	7.9	1.1	na	88	6.0	na	15.2
West Yellowstone (in road), Mont.	3/12/1996	E	5.9	5.8	5.71	1.9	13.5	2.5	9.7	5.5	8.9	11.0	8.8	7.9	na	na	56	na	na	11.1
Wolf Creek Pass, Colo.	3/30/1996	E	9.3	5.4	6.13	0.7	27.8	2.6	3.5	1.3	3.5	2.5	12.3	12.7	0.6	na	196	6.0	na	3.5

Table 6. Selected chemical and physical data for Rocky Mountain snowpack samples for 1997.

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; (), suspect ion balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Apgar Lookout, Mont.	4/4/1997	E	–8.0	4.3	5.01	9.8	<3.1	<1.7	1.6	0.9	2.3	1.4	5.2	4.9	1.1	na	255	6.6	na	11.5
Beaver Mountain, Utah	3/25/1997	E	–4.1	4.1	5.23	5.9	7.5	<1.7	3.6	0.4	4.3	3.4	5.8	7.1	0.9	na	204	8.3	na	14.0
Berthoud Pass, Colo.	4/22/1997	E	–5.4	4.0	5.14	7.2	5.7	<1.7	1.8	0.9	3.1	1.7	5.4	7.9	0.9	na	220	5.7	na	11.2
Big Mountain, Mont.	3/16/1997	E	–9.5	3.8	5.05	8.9	<3.1	<1.7	<1.0	<0.4	2.0	<1.0	3.7	4.6	na	na	365	6.7	na	13.1
Big Sky, Mont.	3/20/1997	E	–3.9	2.2	5.38	4.2	<3.1	<1.7	<1.0	<0.4	2.4	<1.0	2.1	3.4	0.6	na	188	5.9	na	9.0
Biscuit Basin, Wyo.	3/11/1997	E	–5.5	2.9	5.14	7.2	<3.1	<1.7	<1.0	<0.4	2.4	<1.0	2.3	4.6	1.0	na	174	na	na	16.7
Brooklyn Lake, Wyo.	3/25/1997	E	–11.6	6.0	4.85	14.1	5.2	<1.7	<1.0	0.9	2.7	<1.0	7.3	9.3	1.0	na	222	4.9	na	16.0
Brumley, Colo.	3/28/1997	E	–8.5	3.9	5.21	6.2	3.7	<1.7	<1.0	0.6	1.4	<1.0	4.0	7.1	0.8	na	88	4.9	na	3.2
Buffalo Pass, Colo.	4/8/1997	E	1.2	2.3	5.86	1.4	4.7	1.9	<1.0	<0.4	2.6	<1.0	9.7	7.1	0.8	na	432	6.6	na	–26.2
Cameron Pass, Colo.	3/26/1997	E	–13.1	5.7	4.89	12.9	3.7	<1.7	1.4	<0.4	2.3	1.4	6.0	9.3	0.6	na	190	6.8	na	9.6
Canyon, Wyo.	3/13/1997	E	–5.3	2.3	5.42	3.8	<3.1	<1.7	<1.0	<0.4	2.0	<1.0	2.3	3.8	0.6	na	173	2.0	na	–2.3
Cement Gulch Divide, Mont.	3/12/1997	E	–4.1	4.3	4.91	12.3	8.9	2.4	1.2	4.0	4.9	1.4	6.9	7.9	2.7	na	78	6.6	na	35.2
Chief Joseph Pass, Mont.	3/18/1997	E	–4.4	10.3	5.29	5.1	<3.1	<1.7	<1.0	<0.4	1.2	<1.0	1.5	2.9	0.5	na	266	4.8	na	19.0
Daisy Pass, Mont.	3/12/1997	E	–3.9	2.3	5.41	3.9	<3.1	<1.7	<1.0	2.1	1.6	<1.0	2.3	3.1	0.6	na	370	2.9	na	16.9
Deadman Pass, Colo.	3/25/1997	E	–4.8	4.8	5.29	5.1	10.3	2.2	1.2	2.1	3.4	1.1	8.3	11.4	1.3	na	200	6.9	na	7.8
Divide Peak, Wyo.	3/23/1997	E	–12.2	3.6	4.95	11.2	6.1	<1.7	1.2	<0.4	4.3	1.7	8.5	13.6	0.8	na	149	6.2	na	–2.0
Dry Lake, Colo.	3/29/1997	E	–16.1	8.4	4.83	14.8	6.1	<1.7	1.1	<0.4	3.1	1.1	9.4	12.9	1.8	na	200	7.0	na	3.6
Dunckley Pass, Colo.	4/2/1997	E	–4.0	4.3	5.40	4.0	11.2	2.1	1.5	2.6	3.3	1.7	8.3	9.3	1.6	na	158	5.6	na	12.2

Table 6. Selected chemical and physical data for Rocky Mountain snowpack samples for 1997.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; (), suspect ion balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Elk River, Colo.	3/29/1997	E	–11.6	6.5	4.96	11.0	7.2	<1.7	1.3	0.9	2.5	1.4	7.5	10.7	1.2	na	144	6.1	na	7.4
Elkhart Park, Wyo.	3/20/1997	E	–7.9	3.9	5.17	6.8	<3.1	<1.7	<1.0	0.4	2.1	1.1	4.0	5.4	0.8	na	157	7.3	na	–6.0
Four Mile Meadow, Wyo.	3/23/1997	E	–7.6	3.3	5.19	6.5	3.2	2.1	<1.0	2.6	2.2	1.4	2.1	3.9	2.6	na	100	na	na	38.6
Fremont Pass, Colo.	4/17/1997	E	–4.3	3.6	5.42	3.8	6.4	<1.7	5.2	0.4	1.5	1.7	4.0	9.3	1.1	na	179	4.5	na	7.3
Gallegos Peak, N. Mex.	3/24/1997	E	–6.1	4.7	5.26	5.5	8.1	<1.7	1.1	1.4	4.4	1.1	9.4	9.3	0.9	na	134	3.3	na	1.9
Garnet Canyon, Wyo.	4/20/1997	E	–4.7	2.9	5.26	5.5	<3.1	<1.7	<1.0	0.6	3.1	1.1	3.1	3.2	na	na	240	5.1	na	10.2
Grand Mesa, Colo.	3/29/1997	E	–9.7	5.3	5.12	7.6	7.6	<1.7	<1.0	0.4	3.1	1.1	8.7	8.6	1.3	na	205	4.4	na	0.8
Granite Pass, Mont.	3/17/1997	E	–5.7	2.2	5.31	4.9	<3.1	<1.7	<1.0	0.4	<1.0	<1.0	1.7	2.0	0.8	na	351	5.9	na	18.4
Grassy Mountain, Mont.	3/11/1997	E	0.8	4.1	5.12	7.6	14.7	3.0	1.2	8.9	4.6	1.1	5.4	6.5	4.1	na	102	na	na	(48.5)
Gypsum Creek, Wyo.	3/20/1997	E	–6.5	3.5	5.17	6.8	<3.1	<1.7	<1.0	<0.4	2.1	<1.0	2.7	5.9	0.7	na	129	6.2	na	1.6
Hogan Peak, Colo.	4/5/1997	E	–13.1	6.5	4.95	11.2	5.5	<1.7	1.1	0.4	4.0	<1.0	10.4	11.4	0.7	na	364	na	na	0.9
Hopewell, N. Mex.	3/25/1997	E	–10.2	5.8	5.06	8.7	9.4	<1.7	1.0	1.1	3.5	1.1	8.5	11.4	0.7	na	147	3.9	na	5.8
Kings Hill, Mont.	3/14/1997	E	–6.6	3.6	5.25	5.6	3.7	<1.7	<1.0	0.4	3.7	<1.0	5.2	5.6	0.7	na	215	6.2	na	11.1
Lake Irene, Colo.	4/3/1997	E	–6.7	4.7	5.43	3.7	3.2	<1.7	<1.0	<0.4	2.9	<1.0	5.0	8.6	na	na	149	5.3	na	–15.7
Lewis Lake Divide, Wyo.	3/7/1997	E	–5.7	2.5	5.34	4.6	<3.1	<1.7	<1.0	<0.4	2.5	<1.0	2.7	3.8	0.6	na	403	6.6	na	4.4
Lionshead, Mont.	3/9/1997	E	–3.8	3.6	5.38	4.2	3.2	<1.7	<1.0	1.4	7.1	1.7	5.0	7.9	1.2	na	230	6.0	na	4.5
Little Brush Creek, Utah	3/27/1997	E	–7.4	4.3	5.31	4.9	6.7	1.8	2.8	0.4	2.4	3.7	5.2	8.6	na	na	109	6.2	na	4.3
Loch Vale Forest, Colo.	4/15/1997	E	–11.6	5.7	5.03	9.3	5.6	<1.7	<1.0	0.4	1.9	<1.0	7.3	10.0	0.8	119	319	6.0	na	0.1
Loveland Pass, Colo.	4/18/1997	E	–5.9	3.8	5.35	4.5	6.4	<1.7	2.8	<0.4	2.4	2.0	5.4	7.9	na	na	260	na	na	2.4

Table 6. Selected chemical and physical data for Rocky Mountain snowpack samples for 1997.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; (), suspect ion balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Lynx Pass, Colo.	3/28/1997	E	–11.7	5.0	5.04	9.1	4.8	<1.7	<1.0	0.9	1.7	<1.0	5.8	8.6	1.0	na	136	5.1	na	6.8
Molas Lake, Colo.	4/12/1997	E	–3.6	3.8	5.54	2.9	12.3	<1.7	1.4	0.4	2.2	<1.0	5.6	9.3	0.9	na	194	4.6	na	12.6
Monarch Pass, Colo.	3/28/1997	E	–3.1	2.7	5.55	2.8	6.6	<1.7	<1.0	<0.4	1.6	<1.0	4.0	5.9	na	na	128	na	na	5.2
Monida Pass, Mont.	3/10/1997	E	–2.0	4.5	5.03	9.3	8.3	2.7	1.5	5.5	5.9	2.5	3.7	7.9	na	na	65	na	na	40.5
Mount Belmont, Mont.	3/13/1997	E	–8.1	5.1	4.94	11.5	3.7	<1.7	<1.0	1.4	3.3	<1.0	5.2	4.8	1.6	na	137	na	na	33.2
Niwot Snotel, Colo.	4/8/1997	E	–8.4	4.4	5.18	6.6	3.8	<1.7	<1.0	0.4	5.2	<1.0	6.2	7.9	na	na	145	5.3	na	6.5
Noisy Basin, Mont.	3/15/1997	E	–7.6	3.6	5.15	7.1	<3.1	<1.7	<1.0	0.4	2.1	1.1	3.7	4.7	na	na	496	6.8	na	–0.1
Old Battle, Wyo.	3/22/1997	E	–12.2	6.5	4.95	11.2	5.2	<1.7	1.0	<0.4	3.0	1.1	8.3	10.7	0.7	na	270	6.6	na	0.8
Old Faithful Crew Corrals, Wyo.	3/11/1997	E	–5.7	2.1	5.40	4.0	<3.1	<1.7	<1.0	<0.4	2.0	<1.0	1.2	3.3	0.5	na	160	na	na	13.9
Old Faithful East Lot, Wyo.	3/11/1997	E	–5.8	2.6	5.33	4.7	<3.1	<1.7	1.3	<0.4	2.2	1.1	1.7	3.5	0.6	na	162	na	na	13.1
Old Faithful Fire Road, Wyo.	3/11/1997	E	–4.8	2.7	5.34	4.6	<3.1	<1.7	<1.0	0.4	1.9	<1.0	2.1	4.1	1.0	na	190	na	na	5.3
Phantom Valley, Colo.	4/2/1997	E	–9.2	4.5	5.12	7.6	4.1	<1.7	3.2	1.4	3.0	2.0	5.2	9.3	na	na	84	5.5	na	8.0
Rabbit Ears 1, Colo.	4/1/1997	E	–14.5	6.6	4.95	11.2	4.8	<1.7	<1.0	0.4	3.1	<1.0	8.9	9.3	0.7	na	260	6.7	na	3.5
Rabbit Ears 2, Colo.	4/1/1997	E	–15.0	6.9	4.87	13.5	<3.1	<1.7	<1.0	<0.4	2.9	<1.0	9.6	7.1	0.7	na	250	7.0	na	–1.1
Red Mountain, Mont.	3/19/1997	E	–3.7	3.1	5.32	4.8	3.7	<1.7	<1.0	0.4	4.6	<1.0	3.5	6.5	1.1	na	198	6.2	na	14.7
Red Mountain Pass, Colo.	4/12/1997	E	7.4	4.6	6.13	0.7	24.2	3.9	2.0	2.6	2.4	1.4	7.1	10.0	0.8	na	362	3.9	na	16.2
Rendezvous Mountain, Wyo.	3/21/1997	E	–15.6	7.8	4.90	12.6	5.2	<1.7	1.1	<0.4	3.6	<1.0	3.1	9.3	0.8	na	366	5.7	na	28.8
Ripple Creek Pass, Colo.	4/2/1997	E	–2.9	3.4	5.43	3.7	6.6	<1.7	1.3	0.4	2.2	<1.0	4.6	6.6	0.7	na	218	5.5	na	12.2

Table 6. Selected chemical and physical data for Rocky Mountain snowpack samples for 1997.—Continued

[E, depth-integrated environmental; VWM, volume-weighted mean of two snowpack layers; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; (), suspect ion balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Slumgullion Pass, Colo.	4/11/1997	E	0.5	3.6	5.72	1.9	12.9	1.7	1.4	1.1	2.4	1.1	5.6	6.6	0.9	na	198	4.1	na	21.6
Snow Bowl, Mont.	3/17/1997	E	–7.6	3.6	5.11	7.8	<3.1	<1.7	<1.0	<0.4	1.6	<1.0	2.7	4.0	0.7	na	348	7.4	na	16.4
South Pass, Wyo.	3/23/1997	E	–7.5	5.8	5.13	7.4	8.0	1.9	3.3	0.6	2.6	1.4	9.2	8.6	1.3	na	166	7.4	na	11.0
Spring Gulch, Mont.	3/12/1997	E	–4.2	7.0	5.10	7.9	5.4	<1.7	1.2	1.1	4.1	2.0	5.2	7.1	na	na	93	6.3	na	16.0
Sunlight Creek, Mont.	3/11/1997	E	–5.4	3.5	5.20	6.3	<3.1	<1.7	<1.0	<0.4	3.6	<1.0	4.2	6.0	0.7	na	172	na	na	–1.4
Sunlight Peak, Colo.	4/1/1997	E	–7.5	4.0	5.27	5.4	6.1	<1.7	<1.0	0.4	2.8	<1.0	6.0	8.6	0.7	na	205	5.2	na	0.2
Sylvan Lake, Wyo.	3/8/1997	E	–4.2	2.4	5.33	4.7	<3.1	<1.7	<1.0	<0.4	2.2	<1.0	2.3	3.6	0.7	na	272	3.8	na	8.1
Teton Pass, Wyo.	3/21/1997	E	–4.6	3.4	5.31	4.9	3.1	<1.7	<1.0	1.1	3.5	<1.0	3.7	4.0	1.3	na	278	5.2	na	24.0
Togwotee Pass, Wyo.	3/23/1997	E	–10.6	3.5	5.16	6.9	<3.1	<1.7	<1.0	<0.4	1.2	<1.0	2.5	1.7	0.8	na	258	5.7	na	31.8
Trappers Lake, Colo.	4/2/1997	E	–1.3	4.0	5.47	3.4	8.5	1.7	1.8	1.6	2.7	1.7	6.7	8.6	1.7	na	200	5.9	na	7.5
Trial Lake, Utah	3/26/1997	E	–4.3	3.2	5.31	4.9	5.5	<1.7	1.5	0.6	2.0	1.7	3.7	6.5	1.1	na	231	5.6	na	9.6
Twenty-one Mile, Mont.	3/10/1997	E	–6.3	3.1	5.30	5.0	<3.1	<1.7	<1.0	<0.4	3.0	1.1	2.7	5.4	0.6	na	213	4.6	na	–7.2
University Camp, Colo.	4/9/1997	E	–10.4	5.3	5.10	7.9	5.1	<1.7	<1.0	0.4	3.9	<1.0	6.9	9.3	1.1	na	198	6.0	na	3.4
West Yellow-stone, Mont.	3/10/1997	E	–5.7	4.6	5.23	5.9	<3.1	<1.7	<1.0	0.4	3.6	<1.0	2.7	4.1	0.9	na	152	5.0	na	18.6
Willow Creek, Wyo.	3/24/1997	E	–7.1	3.7	5.25	5.6	3.2	<1.7	1.1	0.6	3.7	1.7	4.4	5.5	0.8	na	260	6.0	na	10.4
Wolf Creek Pass, Colo.	4/13/1997	E	5.8	4.4	5.98	1.0	18.4	1.9	2.9	0.6	3.5	1.7	8.1	8.6	0.9	na	290	3.9	na	7.9

Table 7. Selected chemical and physical data for Rocky Mountain snowpack samples for 1998.

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Apgar Lookout, Mont.	3/5/1998	E	–11.0	4.9	4.99	10.2	<3.1	<1.7	2.2	<0.4	6.1	1.4	6.0	6.9	0.7	na	144	6.3	na	12.5
Beaver Mountain, Utah	3/26/1998	E	–1.5	3.8	5.72	1.9	11.0	<1.7	4.4	0.5	5.4	3.7	5.6	7.5	0.5	na	170	6.8	na	15.9
Berthoud Pass, Colo.	4/15/1998	E	–9.1	4.9	5.06	8.7	5.5	<1.7	4.8	0.8	3.5	5.1	5.6	8.9	0.8	na	196	6.0	na	8.6
Big Mountain, Mont.	3/13/1998	E	–7.8	3.1	5.14	7.2	<3.1	<1.7	1.3	<0.4	3.1	1.1	3.5	5.0	0.5	na	231	7.5	na	9.0
Big Sky, Mont.	3/18/1998	E	–5.5	2.9	5.24	5.8	3.5	<1.7	<1.0	<0.4	3.7	<1.0	3.5	5.4	0.7	na	128	6.1	na	18.4
Biscuit Basin, Wyo.	3/6/1998	E	–5.4	7.7	5.19	6.5	10.5	4.1	4.8	0.8	21.9	7.6	16.2	10.0	2.8	na	101	na	na	17.8
Brooklyn Lake, Wyo.	3/25/1998	E	–12.6	5.9	4.96	11.0	6.0	<1.7	1.3	1.3	4.4	1.4	8.1	10.7	0.7	na	228	7.3	na	8.5
Brumley, Colo.	3/17/1998	E	–11.9	5.0	4.93	11.7	<3.1	<1.7	1.3	<0.4	2.7	<1.0	5.4	8.4	<0.4	na	85	4.8	na	6.6
Buffalo Pass, Colo.	4/1/1998	E	–22.1	8.3	4.72	19.1	3.5	<1.7	<1.0	<0.4	4.7	<1.0	11.0	11.0	0.7	na	342	7.8	na	10.5
Cameron Pass, Colo.	4/9/1998	E	–12.4	6.4	4.91	12.3	5.5	<1.7	2.2	0.5	4.0	2.0	8.7	10.7	0.8	na	165	6.2	na	6.6
Canyon, Wyo.	3/8/1998	E	–7.0	3.8	5.11	7.8	<3.1	<1.7	<1.0	<0.4	4.2	1.4	3.3	6.8	0.5	na	110	4.7	na	1.6
Cement Gulch Divide, Mont.	3/10/1998	E	–6.5	4.3	5.18	6.6	4.5	<1.7	<1.0	<0.4	6.7	1.1	5.6	9.1	0.7	na	73	5.2	na	6.0
Chief Joseph Pass, Mont.	3/15/1998	E	–6.7	2.9	5.25	5.6	<3.1	<1.7	<1.0	<0.4	3.9	<1.0	3.1	4.7	0.6	na	140	6.8	na	10.1
Daisy Pass, Mont.	3/9/1998	E	–7.1	3.0	5.19	6.5	<3.1	<1.7	<1.0	0.5	2.8	<1.0	3.5	5.0	0.9	na	212	4.4	na	6.8
Deadman Pass, Colo.	3/23/1998	E	–11.9	5.7	4.93	11.7	5.5	<1.7	<1.0	<0.4	4.2	<1.0	7.1	11.1	0.7	na	193	6.8	na	8.2
Divide Peak, Wyo.	3/24/1998	E	–22.9	10.5	4.67	21.4	7.0	<1.7	2.2	<0.4	5.7	1.7	12.5	19.5	0.6	na	222	7.4	na	3.6
Dry Lake, Colo.	3/10/1998	E	–22.9	10.4	4.65	22.4	4.0	<1.7	<1.0	<0.4	6.6	<1.0	12.9	15.8	0.5	na	138	8.6	na	7.0
Dunckley Pass, Colo.	4/1/1998	E	–11.1	5.4	4.94	11.5	5.5	<1.7	<1.0	1.5	5.0	1.1	6.9	11.2	0.6	na	157	6.0	na	10.1
Elk River, Colo.	3/12/1998	E	–20.5	8.4	4.70	20.0	7.5	<1.7	2.2	0.5	4.0	1.1	11.0	16.6	0.6	na	136	5.3	na	8.5

Table 7. Selected chemical and physical data for Rocky Mountain snowpack samples for 1998.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Elkhart Park, Wyo.	3/25/1998	E	–7.0	4.5	5.27	5.4	6.5	<1.7	5.7	0.5	3.7	2.3	8.1	7.8	0.4	na	126	7.3	na	9.0
Four Mile Meadow, Wyo.	3/24/1998	E	–5.9	3.2	5.18	6.6	3.5	<1.7	2.2	<0.4	2.5	1.4	3.7	6.2	0.5	na	89	7.9	na	13.2
Fremont Pass, Colo.	4/16/1998	E	–5.8	4.3	5.21	6.2	8.0	<1.7	2.2	<0.4	2.7	2.5	4.4	9.0	0.4	na	171	5.1	na	9.1
Gallegos Peak, N. Mex.	3/26/1998	E	–6.2	4.9	5.34	4.6	15.0	<1.7	<1.0	1.3	6.6	1.1	11.9	9.6	1.2	na	118	4.6	na	9.5
Garnet Canyon, Wyo.	3/16/1998	E	–9.7	3.4	5.08	8.3	<3.1	<1.7	<1.0	<0.4	3.5	1.4	3.7	5.7	0.5	na	178	6.3	na	4.3
Grand Mesa, Colo.	3/30/1998	E	–9.1	5.3	5.10	7.9	8.0	<1.7	1.3	0.5	5.1	1.1	10.2	9.2	0.7	na	195	3.5	na	5.2
Granite Pass, Mont.	3/16/1998	E	–6.8	2.7	5.23	5.9	<3.1	<1.7	3.0	0.8	1.0	2.0	2.9	3.5	0.8	na	150	7.1	na	12.3
Grassy Mountain, Mont.	3/9/1998	E	–7.1	5.4	5.14	7.2	12.0	2.5	<1.0	4.6	6.9	2.8	7.9	11.9	1.3	na	63	na	na	19.0
Hogan Peak, Colo.	4/11/1998	E	–19.6	9.5	4.75	17.8	4.0	<1.7	<1.0	3.8	7.1	1.7	14.6	12.5	1.1	na	242	na	na	6.5
Hopewell, N. Mex.	3/27/1998	E	–10.2	6.6	5.01	9.8	13.5	<1.7	2.6	0.8	5.2	2.0	11.4	12.9	0.8	na	129	3.8	na	9.5
Kings Hill, Mont.	3/11/1998	E	–7.4	4.1	5.19	6.5	4.5	<1.7	<1.0	0.5	5.2	<1.0	5.2	7.4	0.6	na	115	6.5	na	13.8
Lake Irene, Colo.	3/24/1998	E	–18.1	6.4	4.79	16.2	<3.1	<1.7	<1.0	1.8	2.3	<1.0	6.5	10.7	0.4	na	146	7.0	na	8.5
Lewis Lake Divide, Wyo.	3/4/1998	E	–8.0	3.3	5.15	7.1	<3.1	<1.7	<1.0	<0.4	5.9	1.1	3.5	6.3	0.4	na	221	7.1	na	8.3
Lionshead, Mont.	3/7/1998	E	–9.7	5.3	5.03	9.3	<3.1	<1.7	1.3	<0.4	10.5	2.3	7.1	10.9	0.5	na	144	5.5	na	2.1
Little Brush Creek, Utah	3/27/1998	E	0.9	6.1	5.77	1.7	16.5	4.1	7.8	1.5	11.3	7.1	9.6	14.3	1.1	na	107	6.4	na	14.8
Loch Vale Forest, Colo.	4/7/1998	E	–9.2	6.5	5.11	7.8	4.5	<1.7	<1.0	<0.4	4.3	<1.0	8.1	11.9	0.6	91	263	na	na	–9.2
Loveland Pass, Colo.	4/17/1998	E	–6.6	3.8	5.17	6.8	7.5	<1.7	2.6	<0.4	1.8	2.3	4.8	8.8	0.5	na	168	5.5	na	8.3

Table 7. Selected chemical and physical data for Rocky Mountain snowpack samples for 1998.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Lynx Pass, Colo.	3/11/1998	E	–20.8	8.3	4.71	19.5	3.5	<1.7	<1.0	<0.4	3.0	1.1	6.9	15.0	0.5	na	122	6.7	na	6.1
Molas Lake, Colo.	3/19/1998	E	–7.1	4.0	5.15	7.1	9.0	<1.7	<1.0	<0.4	2.4	1.1	6.2	9.1	<0.4	na	140	4.2	na	5.7
Monarch Pass, Colo.	3/17/1998	E	–10.9	5.3	4.97	10.7	5.5	<1.7	<1.0	<0.4	3.1	1.4	6.9	10.4	0.7	na	130	5.4	na	1.6
Monida Pass, Mont.	3/5/1998	E	–6.2	4.8	5.20	6.3	4.5	<1.7	1.3	1.3	12.3	3.1	6.0	11.4	0.7	na	67	na	na	11.0
Mount Belmont, Mont.	3/11/1998	E	–6.4	5.0	5.07	8.5	5.5	<1.7	<1.0	2.1	3.2	1.4	4.8	8.0	1.3	na	86	na	na	15.3
Niwot Snotel, Colo.	3/20/1998	E	–12.0	6.1	4.94	11.5	<3.1	<1.7	<1.0	<0.4	8.4	<1.0	7.7	11.2	0.5	na	151	6.1	na	2.3
Noisy Basin, Mont.	3/12/1998	E	–6.9	3.5	5.18	6.6	3.5	<1.7	1.3	<0.4	3.8	1.1	4.2	5.7	0.5	na	307	6.3	na	15.7
Old Battle, Wyo.	3/24/1998	E	–18.7	7.0	4.77	17.0	4.0	<1.7	1.3	<0.4	3.9	1.1	9.6	11.6	0.5	na	231	7.1	na	7.8
Old Faithful Crew Corrals, Wyo.	3/6/1998	E	–6.2	3.9	5.23	5.9	<3.1	<1.7	1.3	<0.4	9.2	1.7	4.0	9.7	0.5	na	85	na	na	3.1
Old Faithful East Lot, Wyo.	3/6/1998	E	–9.1	4.7	5.06	8.7	<3.1	<1.7	3.5	<0.4	5.7	3.4	4.2	9.5	0.5	na	86	na	na	2.3
Old Faithful Fire Road, Wyo.	3/6/1998	E	–8.6	4.2	5.07	8.5	<3.1	<1.7	1.7	<0.4	6.2	2.0	4.4	9.4	0.6	na	86	na	na	2.3
Old Faithful (in road), Wyo.	3/6/1998	E	–9.7	4.5	4.94	11.5	13.0	2.5	5.7	1.8	21.1	7.3	19.6	10.6	5.9	na	12	na	na	19.3
Biscuit Basin (in road), Wyo.	3/6/1998	E	–6.8	4.4	5.15	7.1	<3.1	<1.7	1.7	<0.4	7.7	1.7	4.4	8.6	0.5	na	29	na	na	5.8
Jackson Hole Airport, Wyo.	3/19/1998	E	–9.6	4.9	5.00	10.0	5.0	<1.7	<1.0	0.5	2.3	2.0	3.5	8.4	3.6	na	70	na	na	12.2
Lewis Lake Divide (in road), Wyo.	3/4/1998	E	–5.6	3.4	5.17	6.8	<3.1	<1.7	<1.0	<0.4	7.8	1.1	4.6	5.3	0.8	na	132	na	na	13.6

Table 7. Selected chemical and physical data for Rocky Mountain snowpack samples for 1998.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Old Faithful 1000m, Wyo.	3/6/1998	E	–8.3	4.4	5.09	8.1	<3.1	<1.7	<1.0	<0.4	6.4	1.7	4.0	8.4	0.4	na	118	na	na	2.0
Phantom Valley, Colo.	3/23/1998	E	–21.4	7.7	4.68	20.9	<3.1	<1.7	<1.0	<0.4	2.6	<1.0	6.9	11.9	0.7	na	71	7.2	na	11.3
Rabbit Ears 1, Colo.	4/1/1998	E	–19.1	8.3	4.71	19.5	3.5	<1.7	<1.0	<0.4	5.1	<1.0	9.6	11.9	0.6	70	226	7.7	na	13.4
Rabbit Ears 2, Colo.	4/1/1998	E	–20.9	8.7	4.69	20.4	<3.1	<1.7	<1.0	<0.4	4.5	<1.0	10.0	11.7	0.5	na	238	8.1	na	6.8
Red Mountain, Mont.	3/17/1998	E	–7.1	3.4	5.10	7.9	<3.1	<1.7	2.2	<0.4	3.8	<1.0	3.5	5.5	0.6	na	217	7.0	na	21.1
Red Mountain Pass, Colo.	3/19/1998	E	–7.0	4.3	5.12	7.6	9.5	<1.7	2.6	<0.4	2.1	<1.0	6.2	9.6	0.5	na	190	4.7	na	15.9
Rendezvous Mountain, Wyo.	3/19/1998	E	–3.5	2.6	5.52	3.0	4.5	3.3	1.7	0.8	3.0	<1.0	4.4	4.9	0.7	na	172	7.2	na	27.7
Ripple Creek Pass, Colo.	3/31/1998	E	–12.5	6.3	4.88	13.2	5.5	<1.7	1.7	<0.4	3.0	1.1	7.7	10.0	0.5	na	189	5.4	na	10.8
Slumgullion Pass, Colo.	3/18/1998	E	–8.5	4.8	5.06	8.7	7.5	<1.7	3.5	0.8	1.9	2.5	6.7	8.2	0.6	na	92	3.7	na	12.6
Snow Bowl, Mont.	3/14/1998	E	–6.9	3.0	5.12	7.6	<3.1	<1.7	3.9	<0.4	2.0	<1.0	3.1	4.2	0.6	na	212	6.1	na	29.8
South Pass, Wyo.	3/23/1998	E	–13.2	6.3	4.87	13.5	4.0	<1.7	2.2	<0.4	3.0	<1.0	7.5	9.2	0.5	na	105	10.2	na	15.1
Spring Gulch, Mont.	3/10/1998	E	–4.7	3.5	5.22	6.0	4.0	<1.7	1.3	<0.4	6.9	<1.0	5.4	8.0	0.6	na	80	5.5	na	15.1
Sunlight Creek, Mont.	3/9/1998	E	–6.9	3.3	5.13	7.4	<3.1	<1.7	1.3	<0.4	3.9	<1.0	3.5	6.2	0.4	na	106	na	na	12.9
Sunlight Peak, Colo.	3/30/1998	E	–11.3	5.3	4.96	11.0	4.5	<1.7	1.7	<0.4	4.3	1.1	7.3	9.2	0.4	na	175	5.5	na	9.9
Sylvan Lake, Wyo.	3/3/1998	E	–8.8	3.6	5.20	6.3	<3.1	<1.7	1.7	<0.4	4.4	1.1	3.3	5.7	0.4	na	147	5.5	na	9.9
Sylvan Lake (in road), Wyo.	3/3/1998	E	–8.8	4.0	5.19	6.5	<3.1	<1.7	2.6	<0.4	4.0	1.4	4.8	6.2	0.6	na	96	na	na	2.7
Teton Pass, Wyo.	3/17/1998	E	–6.0	3.8	5.45	3.5	7.0	2.5	2.6	0.5	5.3	2.3	4.8	8.1	0.4	na	124	5.9	na	17.1

Table 7. Selected chemical and physical data for Rocky Mountain snowpack samples for 1998.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Togwotee Pass, Wyo.	3/24/1998	E	–8.7	2.9	5.26	5.5	<3.1	<1.7	3.0	<0.4	2.3	1.1	3.5	4.7	0.4	na	179	6.9	na	7.3
Tower Falls, Wyo.	3/10/1998	E	–10.4	3.7	5.10	7.9	<3.1	<1.7	<1.0	<0.4	4.3	1.4	2.7	7.4	0.5	na	63	4.3	na	3.2
Trappers Lake, Colo.	3/31/1998	E	–13.4	4.7	4.97	10.7	3.5	<1.7	1.7	<0.4	2.3	<1.0	4.8	9.2	0.4	na	174	4.9	na	13.3
Trial Lake, Utah	3/26/1998	E	–4.7	2.9	5.46	3.5	4.5	<1.7	4.4	<0.4	1.8	2.0	5.0	6.0	<0.4	na	145	10.9	na	4.2
Twenty-one Mile, Mont.	3/7/1998	E	–11.2	5.1	5.06	8.7	<3.1	<1.7	2.6	<0.4	7.0	2.3	5.4	9.7	0.5	na	130	4.8	na	2.6
University Camp, Colo.	3/13/1998	E	–14.4	5.9	4.95	11.2	5.0	<1.7	2.2	1.0	6.0	1.1	8.5	11.2	0.7	na	208	6.3	na	9.8
West Yellowstone, Mont.	3/5/1998	E	–12.3	5.5	5.00	10.0	<3.1	<1.7	3.0	<0.4	9.1	2.5	6.0	13.1	0.8	na	73	5.8	na	1.1
West Yellowstone 1,000m, Mont.	3/5/1998	E	–13.6	6.3	4.85	14.1	<3.1	<1.7	3.0	<0.4	8.0	2.5	6.0	12.4	<0.4	na	85	na	na	9.2
West Yellowstone 8km, Wyo.	3/6/1998	E	–11.5	5.1	4.94	11.5	<3.1	<1.7	1.7	<0.4	6.2	1.7	4.2	11.2	0.4	na	64	na	na	6.5
West Yellowstone 8km (in road), Wyo.	3/6/1998	E	–7.3	9.2	5.01	9.8	11.0	2.5	9.1	1.3	24.5	8.7	17.5	14.7	3.7	na	20	na	na	17.4
Willow Creek, Wyo.	3/25/1998	E	–10.3	4.0	4.97	10.7	3.5	<1.7	2.6	<0.4	5.4	1.7	5.8	7.8	<0.4	na	188	5.7	na	18.3
Wolf Creek Pass, Colo.	3/18/1998	E	–6.5	4.4	5.22	6.0	12.5	2.5	3.5	0.5	3.8	1.7	9.2	9.5	0.4	na	175	3.5	na	17.1
West Yellowstone (in road), Mont.	3/5/1998	E	–7.6	10.5	4.99	10.2	13.0	3.3	13.9	2.1	23.0	12.4	20.6	15.3	3.7	na	46	5.2	na	15.0

Table 8. Selected chemical and physical data for Rocky Mountain snowpack samples for 1999.

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Apgar Look-out, Mont.	3/25/1999	E	–6.5	3.4	5.28	5.2	<3.1	<1.7	2.1	0.6	5.5	1.4	4.7	5.2	0.4	64	182	5.9	na	8.5
Bear Lake, Colo.	4/14/1999	E	–2.5	5.4	5.34	4.6	14.5	2.5	1.8	1.2	7.0	1.6	10.2	13.4	1.2	na	123	na	na	11.2
Beaver Mountain, Utah	3/22/1999	E	5.3	4.8	5.96	1.1	13.5	2.5	8.2	0.8	8.9	5.3	8.0	9.2	0.5	na	204	8.3	na	11.5
Berthoud Pass, Colo.	4/8/1999	E	–4.8	5.4	5.27	5.4	11.0	2.5	3.9	2.4	4.4	3.4	5.7	10.4	1.8	na	170	6.1	na	20.3
Big Mountain, Mont.	3/12/1999	E	–7.4	4.4	5.18	6.6	<3.1	<1.7	<1.0	<0.4	4.0	<1.0	3.2	4.0	<0.4	na	365	5.7	na	18.5
Big Sky, Mont.	3/17/1999	E	–3.5	3.1	5.46	3.5	5.5	<1.7	<1.0	<0.4	4.2	1.4	3.3	5.4	<0.4	na	240	5.8	na	13.1
Biscuit Basin, Wyo.	3/4/1999	E	–2.0	4.1	5.47	3.4	4.5	<1.7	2.7	0.5	9.4	1.6	5.5	6.2	0.6	na	159	na	na	21.1
Brooklyn Lake, Wyo.	3/24/1999	E	–7.7	5.2	5.20	6.3	8.0	<1.7	1.8	0.5	4.9	1.6	7.4	9.8	0.4	na	240	7.0	na	6.5
Brumley, Colo.	3/16/1999	E	–4.4	4.8	5.35	4.5	10.5	<1.7	1.5	0.9	3.7	1.3	5.5	9.6	0.5	na	96	na	na	12.3
Buffalo Pass, Colo.	4/7/1999	E	–6.5	6.0	5.21	6.2	13.0	<1.7	2.5	0.5	5.5	1.7	12.1	12.8	<0.4	na	340	7.3	na	2.1
Cameron Pass, Colo.	4/8/1999	E	–3.1	5.5	5.39	4.1	14.5	2.5	3.9	1.3	4.9	3.1	9.4	11.2	0.7	na	174	6.3	na	13.6
Canyon, Wyo.	3/5/1999	E	–3.8	3.6	5.35	4.5	<3.1	<1.7	<1.0	<0.4	6.4	1.3	3.3	5.8	<0.4	na	147	na	na	2.3
Cement Gulch Divide, Mont.	3/9/1999	E	1.0	3.8	5.75	1.8	11.0	<1.7	<1.0	0.5	6.0	1.2	5.6	7.0	0.5	na	73	6.9	na	13.0
Chief Joseph Pass, Mont.	3/13/1999	E	–4.6	3.1	5.34	4.6	<3.1	<1.7	1.2	0.5	3.4	<1.0	2.1	2.9	<0.4	na	179	5.1	na	32.0
Daisy Pass, Mont.	3/8/1999	E	–6.1	3.6	5.30	5.0	<3.1	<1.7	<1.0	<0.4	4.6	<1.0	2.9	5.0	<0.4	na	328	na	na	9.9
Deadman Pass, Colo.	3/23/1999	E	–4.6	5.8	5.29	5.1	14.5	3.3	2.3	1.6	5.2	1.8	9.5	13.7	1.2	na	189	6.8	na	12.4
Divide Peak, Wyo.	3/25/1999	E	–6.7	6.3	5.20	6.3	14.0	2.5	3.5	0.7	6.3	2.0	10.9	15.8	0.6	na	198	na	na	7.2
Dry Lake, Colo.	3/11/1999	E	–10.2	7.6	4.99	10.2	13.0	2.5	4.1	0.6	6.3	1.9	13.2	16.7	<0.4	na	127	8.4	na	7.0

Table 8. Selected chemical and physical data for Rocky Mountain snowpack samples for 1999.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Dunckley Pass, Colo.	4/8/1999	E	31.2	7.1	6.57	0.3	45.4	4.1	2.4	3.0	5.8	1.8	8.1	13.7	1.3	na	145	4.6	na	5.3
E1 (Glacier NP), Mont.	3/24/1999	E	–1.9	3.1	5.44	3.6	5.0	<1.7	2.3	0.8	4.6	1.4	3.7	4.8	0.8	39	96	7.3	na	24.8
E2 (Glacier NP), Mont.	4/1/1999	E	–4.6	2.8	5.28	5.2	<3.1	<1.7	<1.0	<0.4	3.7	<1.0	2.2	3.3	0.8	34	106	na	na	23.5
E3 (Glacier NP), Mont.	3/28/1999	E	–6.7	3.5	5.19	6.5	<3.1	<1.7	1.2	0.5	3.8	1.0	4.0	4.1	0.7	66	174	na	na	12.8
E4 (Glacier NP), Mont.	3/29/1999	E	–5.7	3.6	5.22	6.0	<3.1	<1.7	3.1	1.8	4.1	1.3	4.2	4.6	1.1	99	256	na	na	19.4
E5 (Glacier NP), Mont.	3/30/1999	E	–6.4	3.4	5.19	6.5	<3.1	<1.7	<1.0	0.5	3.2	<1.0	3.5	3.1	0.8	123	332	na	na	21.0
E6 (Glacier NP), Mont.	3/31/1999	E	–7.5	3.9	5.16	6.9	<3.1	<1.7	1.2	0.8	3.8	1.2	4.1	4.3	1.2	112	288	na	na	14.3
E7 (Glacier NP), Mont.	3/31/1999	E	–1.4	3.7	5.39	4.1	<3.1	<1.7	1.9	3.8	3.1	1.6	4.1	3.7	2.8	83	229	na	na	14.9
Elk River, Colo.	3/11/1999	E	–7.3	5.7	5.14	7.2	11.0	<1.7	3.0	0.8	4.8	1.6	7.3	14.0	<0.4	na	120	7.0	na	8.0
Elkhart Park, Wyo.	3/23/1999	E	–6.8	4.4	5.23	5.9	5.0	<1.7	1.3	0.9	4.9	1.5	5.7	7.0	0.4	na	126	8.2	na	12.0
Four Mile Meadow, Wyo.	3/19/1999	E	–5.2	3.7	5.33	4.7	4.0	<1.7	1.3	0.5	4.5	1.2	3.2	6.1	0.4	na	105	na	na	17.9
Fremont Pass, Colo.	4/12/1999	E	3.1	4.0	5.79	1.6	17.0	2.5	1.7	1.1	3.2	1.4	5.2	9.3	0.6	na	129	5.2	na	17.6
Gallegos Peak, N. Mex.	3/27/1999	E	5.0	5.6	5.88	1.3	22.5	2.5	2.1	2.3	6.6	1.5	10.9	12.7	1.1	na	118	5.4	na	10.5
Garnet Canyon, Wyo.	3/27/1999	E	–4.6	3.6	5.30	5.0	<3.1	<1.7	1.7	<0.4	5.6	1.2	5.6	5.2	<0.4	na	175	7.4	na	1.3
Grand Mesa, Colo.	4/6/1999	E	28.4	7.5	6.46	0.3	44.4	4.1	3.4	2.3	7.8	2.0	12.3	11.5	1.3	na	167	na	na	7.1
Granite Park, Mont.	3/31/1999	E	–6.7	3.7	5.20	6.3	<3.1	<1.7	1.4	<0.4	4.1	1.4	3.9	4.9	0.7	170	404	na	na	7.6
Granite Pass, Mont.	3/15/1999	E	–5.3	2.6	5.32	4.8	<3.1	<1.7	<1.0	0.6	1.2	<1.0	1.7	1.5	0.4	na	292	7.7	na	34.8

Table 8. Selected chemical and physical data for Rocky Mountain snowpack samples for 1999.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Grassy Mountain, Mont.	3/8/1999	E	3.0	4.0	5.87	1.3	12.0	<1.7	<1.0	1.0	7.7	1.3	5.1	6.9	0.6	na	68	na	na	15.0
Gypsum Creek, Wyo.	3/23/1999	E	–5.2	4.2	5.28	5.2	5.0	<1.7	1.3	1.7	5.1	1.5	5.0	7.3	1.0	na	104	na	na	14.3
Hogan Peak, Colo.	3/27/1999	E	–11.2	7.0	5.00	10.0	9.0	<1.7	2.4	0.8	7.9	1.6	12.8	12.4	0.6	na	234	na	na	5.6
Hopewell, N. Mex.	3/26/1999	E	0.9	6.5	5.69	2.0	27.0	3.3	3.1	1.2	7.7	1.9	13.5	17.3	0.9	na	145	4.3	na	13.6
Kings Hill, Mont.	3/10/1999	E	–3.5	4.0	5.38	4.2	5.5	<1.7	<1.0	0.8	6.8	1.1	5.0	6.7	0.9	na	183	7.2	na	14.7
Lake Irene, Colo.	4/6/1999	E	–2.4	4.0	5.48	3.3	13.0	2.5	1.5	1.1	4.9	1.3	6.4	9.5	0.7	na	183	6.3	na	20.9
Lewis Lake Divide, Wyo.	3/3/1999	E	–3.1	6.8	5.17	6.8	<3.1	<1.7	1.9	0.4	7.4	1.5	4.3	5.1	0.4	na	332	7.0	na	20.4
Lionshead, Mont.	3/6/1999	E	–4.4	5.2	5.35	4.5	3.5	<1.7	1.5	0.5	18.1	2.0	7.4	11.3	0.4	na	223	6.3	na	14.9
Little Brush Creek, Utah	3/20/1999	E	11.5	7.1	6.22	0.6	26.5	4.9	8.8	1.1	9.6	6.7	11.7	16.1	0.6	na	120	6.3	na	5.7
Loch Vale Forest, Colo.	4/13/1999	E	–2.5	6.1	5.41	3.8	17.5	3.3	2.3	1.6	6.7	1.8	10.1	14.0	1.3	90	232	5.7	na	15.2
Loch Vale Meadow, Colo.	4/14/1999	E	–4.8	4.2	5.30	5.0	9.0	<1.7	1.4	0.5	4.4	1.0	6.5	9.1	<0.4	na	173	na	na	9.9
Loveland 2, Colo.	4/26/1999	E	2.8	5.6	5.76	1.7	20.0	3.3	4.9	1.9	5.2	3.7	8.3	13.9	1.2	na	192	4.4	na	12.3
Loveland Pass, Colo.	4/26/1999	E	–6.7	5.0	5.18	6.6	10.0	<1.7	2.3	1.0	4.1	2.3	5.3	12.3	0.5	na	238	6.0	na	9.4
Lynx Pass, Colo.	3/10/1999	E	4.3	4.6	5.85	1.4	19.0	2.5	2.0	0.7	3.7	1.5	7.5	13.4	0.5	na	121	5.6	na	4.5
Molas Lake, Colo.	3/18/1999	E	19.9	5.8	6.44	0.4	34.4	2.5	3.5	0.7	4.2	2.3	8.0	10.0	<0.4	na	120	3.2	na	6.4
Monarch Pass, Colo.	3/16/1999	E	1.5	4.4	5.73	1.9	17.0	2.5	1.8	0.6	5.3	1.7	5.8	11.6	0.5	na	130	5.5	na	16.8

Table 8. Selected chemical and physical data for Rocky Mountain snowpack samples for 1999.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Monida Pass, Mont.	3/5/1999	E	–1.1	5.3	5.54	2.9	6.0	<1.7	1.7	0.5	15.6	3.1	5.7	10.9	0.4	na	117	na	na	14.7
Mount Belmont, Mont.	3/6/1999	E	–5.4	3.8	5.31	4.9	5.5	<1.7	<1.0	1.0	3.3	1.1	5.5	4.6	0.8	na	125	na	na	13.4
Niwot Snotel, Colo.	3/30/1999	E	–6.3	6.8	5.19	6.5	13.5	2.5	2.8	1.6	9.3	1.7	12.9	15.4	1.4	na	80	6.7	na	9.2
Noisy Basin, Mont.	3/11/1999	E	–7.4	3.9	5.20	6.3	<3.1	<1.7	<1.0	<0.4	4.3	<1.0	3.4	4.9	0.4	na	371	na	na	12.4
Old Battle, Wyo.	3/25/1999	E	–9.2	5.7	5.07	8.5	8.0	<1.7	1.8	0.8	5.6	1.6	9.0	11.8	0.5	na	195	6.9	na	4.8
Old Faithful (in road), Wyo.	3/4/1999	E	–3.7	6.9	5.22	6.0	7.5	<1.7	4.7	0.9	15.0	2.9	12.9	9.0	2.3	na	72	na	na	15.8
Old Faithful Crew Corrals, Wyo.	3/4/1999	E	–1.7	5.3	5.44	3.6	6.0	<1.7	4.3	<0.4	8.9	1.8	7.2	7.7	0.4	na	140	na	na	15.9
Old Faithful East Lot, Wyo.	3/4/1999	E	–1.1	9.2	5.18	6.6	6.5	<1.7	4.7	<0.4	10.3	2.2	6.8	8.5	0.5	na	144	na	na	23.2
Old Faithful Fire Road, Wyo.	3/4/1999	E	–3.6	4.5	5.31	4.9	3.5	<1.7	2.5	<0.4	10.5	1.4	5.1	6.7	0.4	na	160	na	na	23.9
Phantom Valley, Colo.	4/2/1999	E	–0.7	6.5	5.41	3.9	19.5	4.1	2.0	4.4	6.3	1.9	12.6	12.0	2.6	na	75	6.5	na	20.6
Rabbit Ears 1, Colo.	3/30/1999	E	–11.3	6.5	4.98	10.5	7.0	2.5	1.8	1.0	7.1	1.4	9.7	11.0	0.8	na	189	7.6	na	15.2
Rabbit Ears 2, Colo.	3/30/1999	E	–10.5	6.3	5.02	9.5	8.0	<1.7	1.7	1.2	6.2	1.5	10.1	12.4	1.0	na	195	7.8	na	5.4
Red Mountain Pass, Colo.	3/18/1999	E	21.0	6.7	6.38	0.4	38.4	4.1	4.8	4.5	5.5	2.9	9.8	13.0	1.4	na	205	na	na	10.5
Red Mountain, Mont.	3/16/1999	E	–2.9	3.6	5.45	3.5	4.5	<1.7	1.1	0.6	6.7	<1.0	3.1	5.5	0.6	na	160	na	na	31.2
Rendezvous Mountain, Wyo.	3/18/1999	E	–5.1	3.6	5.36	4.4	4.0	<1.7	1.7	<0.4	4.7	1.7	4.6	3.8	<0.4	na	271	na	na	18.9
Ripple Creek Pass, Colo.	4/9/1999	E	75.8	11.8	6.96	0.1	77.4	5.8	5.0	4.2	5.9	2.4	12.0	12.9	1.5	na	138	na	na	–2.4

Table 8. Selected chemical and physical data for Rocky Mountain snowpack samples for 1999.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Slumgullion Pass, Colo.	3/17/1999	E	6.4	5.0	5.91	1.2	19.5	2.5	3.2	4.5	4.3	2.7	7.3	9.4	1.1	na	98	na	na	15.1
Snow Bowl, Mont.	3/14/1999	E	–6.4	2.8	5.28	5.2	<3.1	<1.7	<1.0	<0.4	2.3	<1.0	2.6	2.5	0.4	na	241	na	na	19.0
South Pass, Wyo.	3/23/1999	E	–4.4	4.3	5.30	5.0	8.0	<1.7	2.6	0.4	5.2	1.4	7.6	7.7	0.5	na	103	na	na	12.0
Spring Gulch, Mont.	3/9/1999	E	–1.4	3.6	5.58	2.6	7.0	<1.7	<1.0	1.2	7.1	1.0	4.8	6.6	0.6	na	65	na	na	18.2
Sunlight Creek, Mont.	3/8/1999	E	–3.1	3.4	5.48	3.3	5.5	<1.7	<1.0	0.5	7.1	1.0	4.2	6.1	0.6	na	120	na	na	18.0
Sunlight Peak, Colo.	4/6/1999	E	29.4	5.8	6.49	0.3	36.9	2.5	2.1	1.4	4.3	1.3	6.3	8.8	0.6	na	140	4.1	na	1.9
Sylvan Lake (in road), Wyo.	3/5/1999	E	–7.7	5.7	5.06	8.7	<3.1	<1.7	1.2	<0.4	6.2	<1.0	4.8	6.2	0.4	na	210	na	na	19.1
Sylvan Lake, Wyo.	3/5/1999	E	–5.1	3.5	5.29	5.1	<3.1	<1.7	<1.0	<0.4	6.7	<1.0	4.1	5.2	0.5	na	233	na	na	11.7
Teton Pass, Wyo.	3/18/1999	E	14.7	4.9	6.38	0.4	11.5	4.1	4.6	0.6	7.3	2.3	8.3	7.5	0.5	na	160	na	na	–7.1
Togwotee Pass, Wyo.	3/19/1999	E	–5.3	3.2	5.36	4.4	<3.1	<1.7	<1.0	0.7	4.2	1.0	3.5	4.9	0.5	na	175	na	na	–0.3
Trappers Lake, Colo.	4/9/1999	E	80.2	12.1	6.98	0.1	92.3	6.6	4.8	3.4	5.4	2.3	10.5	12.4	1.4	na	143	na	na	3.3
Trial Lake, Utah	3/21/1999	E	15.1	5.8	6.29	0.5	24.0	3.3	10.1	0.6	7.0	5.4	9.9	9.8	0.6	na	164	na	na	6.1
Twenty-one Mile, Mont.	3/7/1999	E	–6.5	6.2	5.20	6.3	3.5	<1.7	4.8	2.4	10.0	2.1	5.2	8.3	0.7	na	168	na	na	26.7
Univer-sity Camp, Colo.	4/1/1999	E	–7.6	6.3	5.14	7.2	10.0	<1.7	1.8	1.6	6.5	1.5	9.2	13.3	1.0	na	178	na	na	5.9
W1 (Glacier NP), Mont.	3/22/1999	E	–3.8	3.9	5.26	5.5	<3.1	<1.7	1.6	0.6	7.7	1.3	4.5	5.1	0.8	31	87	6.4	na	16.7
W2 (Glacier NP), Mont.	3/28/1999	E	–5.6	3.5	5.22	6.0	<3.1	<1.7	1.2	0.7	5.1	<1.0	4.2	6.0	0.9	47	126	na	na	11.8

Table 8. Selected chemical and physical data for Rocky Mountain snowpack samples for 1999.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
W3 (Glacier NP), Mont.	4/1/1999	E	–6.6	3.0	5.19	6.5	<3.1	<1.7	1.4	<0.4	2.4	1.1	3.6	2.7	0.4	129	332	na	na	16.4
West Yellowstone (in road), Mont.	3/6/1999	E	9.2	8.8	5.80	1.6	17.0	<1.7	4.4	0.5	26.3	4.9	13.6	8.4	3.0	na	40	na	na	15.9
West Yellowstone, Mont.	3/6/1999	E	–3.6	4.5	5.43	3.7	4.0	<1.7	1.8	0.6	10.9	1.8	5.0	8.5	0.8	na	126	na	na	15.9
Willow Creek Pass, Colo.	3/31/1999	E	0.7	4.6	5.65	2.2	15.5	2.5	1.6	1.6	4.3	1.3	7.4	10.8	1.1	na	108	5.9	na	15.5
Willow Creek, Wyo.	3/22/1999	E	–3.0	5.2	5.48	3.3	7.5	<1.7	4.3	0.6	10.3	2.5	11.3	8.3	0.5	na	237	6.9	na	8.3
Wolf Creek Pass, Colo.	3/17/1999	E	–0.6	5.3	5.59	2.6	17.5	2.5	2.7	3.2	5.9	1.9	11.5	10.3	1.2	na	178	4.3	na	18.2

Table 9. Selected chemical and physical data for Rocky Mountain snowpack samples for 2000.

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Ajax Mountain, Colo.	3/29/2000	E	–5.4	3.7	5.15	7.1	6.5	2.5	<1.0	2.9	4.7	<1.0	6.4	8.9	1.2	na	185	na	na	21.0
Apgar Lookout, Mont.	3/6/2000	E	–5.3	4.0	5.09	8.1	<3.1	<1.7	<1.0	<0.4	4.4	<1.0	4.9	6.1	0.4	59	181	7.3	na	6.9
Beaver Mountain, Utah	3/23/2000	E	10.7	4.0	5.69	2.0	13.0	2.5	7.1	1.4	6.0	3.6	7.8	3.5	0.6	na	190	8.1	na	11.2
Berthoud Pass, Colo.	4/3/2000	E	–3.1	4.9	5.06	8.7	5.5	<1.7	8.3	1.2	4.5	7.8	5.3	7.8	0.7	na	193	5.2	na	14.8
Big Mountain, Mont.	3/10/2000	E	–4.3	3.3	5.19	6.5	<3.1	<1.7	<1.0	<0.4	2.4	<1.0	3.2	4.4	0.5	na	266	6.8	na	7.2
Big Sky, Mont.	3/15/2000	E	3.7	2.6	5.55	2.8	5.0	<1.7	<1.0	0.8	4.0	<1.0	2.5	4.1	0.6	na	120	na	na	10.1
Brooklyn Lake, Wyo.	4/14/2000	E	–6.5	3.9	4.92	12.0	5.0	<1.7	1.1	<0.4	3.9	<1.0	5.7	7.6	0.4	na	224	6.5	na	24.6
Brumley, Colo.	3/24/2000	E	–3.1	4.1	5.09	8.1	5.5	<1.7	<1.0	2.0	3.9	<1.0	5.2	7.5	0.8	na	88	na	na	21.1
Buffalo Pass, Colo.	4/5/2000	E	–5.6	4.7	4.93	11.7	7.0	<1.7	1.2	0.9	5.6	<1.0	9.8	10.7	<0.4	na	339	5.3	na	12.7
Burnt Mountain, Colo.	3/28/2000	E	–2.9	3.7	5.20	6.3	8.0	<1.7	1.1	1.6	4.7	<1.0	6.1	9.7	1.0	na	130	na	na	15.8
Cameron Pass, Colo.	4/4/2000	E	–3.4	4.1	5.05	8.9	5.0	<1.7	1.0	0.9	5.2	<1.0	6.4	7.7	0.7	na	201	na	na	19.6
Canyon, Wyo.	3/4/2000	E	–0.6	2.9	5.36	4.4	4.0	<1.7	1.7	<0.4	5.5	<1.0	3.4	7.7	na	na	101	5.8	na	16.7
Chief Joseph Pass, Mont.	3/12/2000	E	–5.3	2.5	5.26	5.5	<3.1	<1.7	<1.0	<0.4	2.9	<1.0	1.7	2.8	0.5	na	156	na	na	30.0
Culebra, Colo.	2/27/2000	E	–0.7	4.6	5.47	3.4	12.2	1.8	1.6	1.4	4.3	<1.0	5.6	9.2	0.6	na	70	5.0	na	25.2
Daisy Pass, Mont.	3/7/2000	E	–0.8	2.4	5.48	3.3	4.0	<1.7	1.4	0.6	3.8	<1.0	2.7	3.9	0.4	na	215	na	na	33.1
Deadman Pass, Colo.	3/31/2000	E	–2.2	4.8	5.08	8.3	10.5	2.5	1.7	0.9	7.3	1.2	9.8	11.8	0.4	na	205	na	na	15.5
Divide Peak, Wyo.	3/25/2000	E	–3.7	5.2	5.00	10.0	9.5	2.5	2.3	0.6	7.9	1.3	9.7	13.7	0.4	na	180	na	na	13.9
Dry Lake, Colo.	3/19/2000	E	–12.6	7.1	4.86	13.8	5.5	<1.7	<1.0	0.8	5.5	<1.0	10.1	11.9	0.6	na	160	6.0	na	7.5
Dunckley Pass, Colo.	4/6/2000	E	–0.4	3.9	5.10	7.9	8.5	2.5	<1.0	1.2	4.4	<1.0	6.0	9.7	0.4	na	158	5.9	na	21.9
E2 (Glacier NP), Mont.	3/20/2000	E	–1.7	2.4	5.23	5.9	<3.1	<1.7	<1.0	<0.4	2.7	<1.0	2.5	2.4	0.5	38	103	na	na	27.0

Table 9. Selected chemical and physical data for Rocky Mountain snowpack samples for 2000.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
E3 (Glacier NP), Mont.	3/22/2000	E	–5.6	2.2	5.17	6.8	<3.1	<1.7	<1.0	0.4	3.8	<1.0	2.4	3.9	0.6	49	130	na	na	27.1
E4 (Glacier NP), Mont.	3/21/2000	E	–2.3	3.2	5.26	5.5	<3.1	<1.7	5.9	1.2	3.7	<1.0	5.0	6.2	1.4	73	190	na	na	18.5
E5 (Glacier NP), Mont.	3/21/2000	E	–7.3	3.9	5.02	9.5	<3.1	<1.7	<1.0	0.4	2.4	<1.0	3.9	3.4	0.8	93	245	na	na	26.1
E6 (Glacier NP), Mont.	3/21/2000	E	–8.5	3.7	5.03	9.3	<3.1	<1.7	<1.0	0.7	2.7	<1.0	4.4	4.2	0.7	80	225	na	na	19.8
E7 (Glacier NP), Mont.	3/22/2000	E	–6.5	3.0	5.07	8.5	<3.1	<1.7	1.1	1.8	3.8	<1.0	4.5	4.8	1.6	76	220	na	na	23.8
Elk River, Colo.	3/19/2000	E	–5.4	4.6	5.10	7.9	7.5	<1.7	1.5	0.5	3.9	<1.0	6.9	11.4	0.6	na	145	na	na	7.8
Elkhart Park, Wyo.	3/8/2000	E	–3.5	3.2	5.28	5.2	4.0	<1.7	1.8	0.4	4.3	<1.0	4.4	6.3	0.4	na	127	na	na	19.3
Four Mile Meadow, Wyo.	3/7/2000	E	–0.8	2.9	5.46	3.5	5.5	<1.7	2.3	0.6	3.9	<1.0	3.4	5.9	0.6	na	94	na	na	26.4
Fremont Pass, Colo.	4/17/2000	E	–2.6	3.8	5.14	7.2	8.0	<1.7	1.3	0.9	3.9	1.0	5.6	8.1	<0.4	na	140	4.6	na	18.8
Garnet Canyon, Wyo.	3/22/2000	E	6.0	3.3	5.73	1.9	8.0	2.5	3.4	0.8	5.8	<1.0	5.8	5.7	0.7	na	175	6.6	na	12.2
Grand Mesa, Colo.	3/22/2000	E	–1.6	5.1	5.18	6.6	11.0	2.5	1.6	1.4	6.7	1.2	8.8	10.5	0.7	na	160	na	na	18.3
Granite Park, Mont.	3/22/2000	E	–8.3	2.8	5.03	9.3	<3.1	<1.7	<1.0	<0.4	4.1	<1.0	4.6	4.9	na	105	275	na	na	17.5
Granite Pass, Mont.	3/13/2000	E	–1.4	2.2	5.24	5.8	<3.1	<1.7	<1.0	<0.4	1.6	<1.0	2.1	2.0	0.8	na	211	6.8	na	28.3
Gypsum Creek, Wyo.	3/8/2000	E	–5.1	3.1	5.28	5.2	4.0	<1.7	3.4	1.6	3.4	<1.0	4.0	5.5	<0.4	na	133	na	na	30.3
Hopewell, N. Mex.	3/12/2000	E	1.4	5.0	5.42	3.8	22.0	3.3	2.6	1.1	4.3	1.0	8.6	12.6	0.8	na	102	5.3	na	22.3
Independence Pass , Colo.	4/10/2000	E	–1.5	3.8	5.14	7.2	9.5	2.5	1.3	1.6	3.7	1.3	5.2	8.5	0.9	na	140	na	na	26.5
Independence Pass (in road), Colo.	4/10/2000	E	–6.6	4.1	4.90	12.6	4.0	<1.7	<1.0	<0.4	3.4	<1.0	4.2	7.4	0.5	na	130	na	na	26.6

Table 9. Selected chemical and physical data for Rocky Mountain snowpack samples for 2000.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Kings Hill, Mont.	3/8/2000	E	–2.6	3.0	5.36	4.4	3.5	<1.7	<1.0	0.6	6.0	<1.0	5.1	6.2	0.7	na	105	8.5	na	12.7
Lake Irene, Colo.	3/27/2000	E	–6.3	4.4	5.01	9.8	4.5	<1.7	<1.0	0.6	4.1	<1.0	5.5	8.6	0.6	na	188	5.8	na	14.7
Lewis Lake Divide, Wyo.	3/3/2000	E	4.9	3.0	5.73	1.9	6.0	<1.7	3.6	0.4	8.2	<1.0	5.1	8.5	na	na	227	6.9	na	4.2
Lionshead, Mont.	3/6/2000	E	0.9	4.6	5.37	4.3	6.5	2.5	3.7	6.0	14.4	1.7	9.7	13.9	1.1	na	136	5.6	na	17.6
Little Brush Creek, Utah	3/23/2000	E	4.7	4.2	5.42	3.8	12.5	4.1	4.2	0.6	8.2	4.0	7.3	9.9	0.6	na	80	na	na	12.7
Lizard Head Pass, Colo.	2/26/2000	E	1.1	4.7	5.45	3.5	9.5	<1.7	<1.0	0.6	2.3	<1.0	4.2	11.1	0.4	na	128	4.8	na	–1.3
Loch Vale Forest, Colo.	4/11/2000	E	–3.4	4.9	5.03	9.3	8.0	<1.7	1.5	0.6	6.7	<1.0	8.1	10.9	0.4	92	230	5.1	na	16.0
Loch Vale Meadow, Colo.	4/11/2000	E	–5.4	4.4	4.99	10.2	5.0	<1.7	1.2	<0.4	4.6	<1.0	6.9	6.4	<0.4	71	173	4.9	na	22.6
Loveland 2, Colo.	4/21/2000	E	–1.8	3.8	5.19	6.5	9.0	2.5	2.9	2.3	4.2	3.1	5.7	6.5	0.9	na	188	na	na	28.4
Loveland 3, Colo.	4/21/2000	E	39.9	8.9	6.54	0.3	40.9	11.5	22.7	4.2	3.2	21.6	10.0	4.8	2.7	na	186	na	na	4.1
Loveland Pass, Colo.	4/19/2000	E	–2.2	3.1	5.15	7.1	7.0	2.5	2.2	0.5	2.9	2.1	4.9	4.6	<0.4	na	188	4.0	na	31.3
Lynx Pass, Colo.	3/18/2000	E	–7.9	5.4	5.03	9.3	6.5	<1.7	1.1	0.6	3.3	<1.0	6.4	10.5	0.5	na	143	6.5	na	10.5
Molas Lake, Colo.	3/26/2000	E	–3.7	3.6	5.20	6.3	7.5	<1.7	1.2	0.6	2.9	<1.0	4.0	8.0	0.6	na	138	5.1	na	20.9
Monarch Pass, Colo.	3/24/2000	E	9.4	4.3	5.88	1.3	19.0	4.1	2.7	0.8	5.4	1.2	8.1	10.2	0.9	na	126	5.3	na	7.0
Monida Pass, Mont.	3/2/2000	E	–2.7	5.2	5.20	6.3	4.5	<1.7	2.5	0.8	19.1	2.1	7.5	15.3	na	na	44	na	na	14.2
Mount Belmont, Mont.	3/3/2000	E	–3.9	3.3	5.01	9.8	<3.1	<1.7	<1.0	0.8	3.9	<1.0	4.1	5.2	0.7	na	62	na	na	21.3
Niwot Snotel, Colo.	3/30/2000	E	–3.1	4.6	5.04	9.1	6.5	<1.7	1.3	1.0	8.4	<1.0	8.9	9.3	1.1	na	106	6.2	na	18.1

Table 9. Selected chemical and physical data for Rocky Mountain snowpack samples for 2000.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Noisy Basin, Mont.	3/9/2000	E	–6.1	3.5	5.12	7.6	<3.1	<1.7	<1.0	<0.4	4.1	<1.0	3.6	5.4	0.5	na	302	na	na	13.4
Old Battle, Wyo.	3/25/2000	E	–7.5	5.1	4.93	11.7	5.0	<1.7	1.2	0.5	5.0	<1.0	7.5	9.1	0.4	na	240	5.7	na	17.1
Old Faithful Fire Road, Wyo.	3/3/2000	E	11.0	4.3	6.07	0.9	14.0	2.5	7.3	0.8	9.8	1.9	7.1	7.6	na	na	96	na	na	12.1
Old Faithful (in road), Wyo.	3/3/2000	E	6.9	5.2	5.61	2.5	15.0	3.3	3.0	2.5	14.4	2.9	10.7	9.6	na	na	45	na	na	14.8
Phantom Valley, Colo.	3/19/2000	E	–7.7	4.8	5.00	10.0	5.5	<1.7	<1.0	0.7	4.2	<1.0	6.3	9.7	0.8	na	103	na	na	11.9
Rabbit Ears 1, Colo.	4/3/2000	E	–7.8	5.6	4.99	10.2	6.0	<1.7	1.2	0.6	5.4	<1.0	8.5	10.4	<0.4	na	258	6.4	na	10.5
Rabbit Ears 2, Colo.	4/3/2000	E	–9.6	5.6	4.88	13.2	6.0	<1.7	1.8	0.8	5.6	<1.0	9.4	11.4	0.5	na	278	4.3	na	13.6
Red Mountain, Mont.	3/14/2000	E	–0.7	3.3	5.27	5.4	<3.1	<1.7	<1.0	<0.4	4.0	<1.0	3.0	4.2	0.8	na	118	na	na	12.6
Red Mountain Pass, Colo.	3/26/2000	E	–3.3	3.6	5.20	6.3	8.5	<1.7	1.3	0.8	2.4	<1.0	4.6	8.3	0.7	na	170	na	na	20.0
Rendezvous Mountain, Wyo.	3/16/2000	E	1.1	2.9	5.45	3.5	5.0	<1.7	1.8	<0.4	4.8	<1.0	4.3	4.4	0.4	na	212	na	na	21.1
Slumgullion Pass, Colo.	3/25/2000	E	–0.3	3.5	5.28	5.2	10.0	<1.7	1.9	2.4	2.9	1.3	5.1	6.8	1.0	na	102	na	na	25.9
Snow Bowl, Mont.	3/11/2000	E	–4.6	2.8	5.23	5.9	<3.1	<1.7	<1.0	<0.4	2.0	<1.0	3.0	3.4	0.5	na	145	na	na	11.4
South Pass, Wyo.	3/24/2000	E	–3.2	3.7	5.12	7.6	6.0	<1.7	<1.0	<0.4	3.9	1.0	7.5	6.0	0.4	na	120	na	na	9.1
Spring Gulch, Mont.	3/7/2000	E	4.6	3.4	5.41	3.9	9.0	3.3	<1.0	8.2	7.0	<1.0	6.8	7.0	2.1	na	52	na	na	26.2
Sunlight Creek, Mont.	3/6/2000	E	0.9	3.1	5.46	3.5	5.0	<1.7	<1.0	1.5	5.4	<1.0	3.7	6.7	na	na	73	na	na	15.3
Sunlight Peak, Colo.	3/27/2000	E	–4.0	4.0	4.99	10.2	7.5	<1.7	1.4	0.5	4.8	<1.0	6.2	8.3	0.4	na	160	6.2	na	25.4
Sylvan Lake, Wyo.	3/4/2000	E	–0.3	2.7	5.42	3.8	4.0	<1.7	1.6	0.5	5.8	<1.0	4.0	7.5	na	na	150	na	na	15.2

Table 9. Selected chemical and physical data for Rocky Mountain snowpack samples for 2000.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (µg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Sylvan Lake (in road), Wyo.	3/4/2000	E	–1.8	2.9	5.34	4.6	3.5	<1.7	1.2	<0.4	6.2	<1.0	5.1	6.1	na	na	125	na	na	16.5
Taos Ski Valley, N. Mex.	3/11/2000	E	–1.0	4.6	5.40	4.0	15.5	2.5	1.4	1.0	5.4	<1.0	8.1	10.3	1.0	na	152	5.0	na	23.4
Teton Pass, Wyo.	3/23/2000	E	21.2	4.6	6.21	0.6	21.0	6.6	4.2	1.2	8.8	2.1	6.6	7.4	1.2	na	157	na	na	6.3
Togwotee Pass, Wyo.	3/7/2000	E	1.0	2.3	5.45	3.5	3.5	<1.7	1.0	<0.4	3.2	<1.0	2.5	3.7	0.4	na	162	na	na	22.3
Twenty-one Mile, Mont.	3/5/2000	E	–3.1	4.0	5.17	6.8	<3.1	<1.7	<1.0	<0.4	7.5	<1.0	4.6	8.6	na	na	122	na	na	3.6
University Camp, Colo.	4/7/2000	E	–2.8	3.6	5.01	9.8	9.5	2.5	1.5	1.2	7.5	1.1	9.4	10.6	0.7	na	215	na	na	20.3
W5 (Glacier NP), Mont.	3/21/2000	E	–5.5	2.3	5.01	9.8	<3.1	<1.7	1.1	0.4	3.1	<1.0	3.0	4.2	0.6	47	126	na	na	33.3
W6 (Glacier NP), Mont.	3/22/2000	E	2.0	2.5	5.15	7.1	<3.1	<1.7	<1.0	<0.4	4.6	<1.0	4.0	5.0	0.8	87	215	na	na	3.1
W7 (Glacier NP), Mont.	3/22/2000	E	–6.9	3.5	5.07	8.5	<3.1	<1.7	1.2	<0.4	3.0	<1.0	3.5	4.0	0.6	96	223	na	na	25.5
W8 (Glacier NP), Mont.	3/22/2000	E	–9.6	3.2	4.98	10.5	<3.1	<1.7	1.0	<0.4	3.1	<1.0	3.7	5.0	0.5	110	297	na	na	25.1
W9 (Glacier NP), Mont.	3/23/2000	E	–7.5	4.6	5.02	9.5	<3.1	<1.7	1.2	<0.4	3.3	<1.0	4.6	5.7	0.9	87	242	na	na	15.4
W10 (Glacier NP), Mont.	3/23/2000	E	–9.1	3.3	4.97	10.7	<3.1	<1.7	<1.0	<0.4	4.0	<1.0	3.9	5.2	na	74	219	na	na	23.6
Wescott Falls, Colo.	3/28/2000	E	–7.3	5.3	4.88	13.2	5.5	<1.7	<1.0	0.5	5.6	<1.0	7.9	10.8	0.4	na	73	na	na	14.0
West Yellowstone, Mont.	3/5/2000	E	–0.7	5.1	5.27	5.4	7.5	2.5	1.4	0.9	9.0	1.1	5.7	10.5	na	na	64	na	na	21.1
West Yellowstone (in road), Mont.	3/5/2000	E	4.5	3.5	5.59	2.6	5.5	<1.7	2.5	0.7	11.7	4.7	2.1	6.7	na	na	20	na	na	12.0
Wolf Creek Pass, Colo.	3/25/2000	E	–0.8	5.2	5.18	6.6	12.0	2.5	2.8	1.2	4.9	1.7	9.0	11.9	0.9	na	143	5.7	na	14.0

Table 10. Selected chemical and physical data for Rocky Mountain snowpack samples for 2001.

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; YNP, Yellowstone National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Apgar Lookout (A), Mont.	3/14/2001	E	–9.2	5.8	5.03	9.3	4.6	<1.7	2.2	0.8	12.3	<1.0	10.4	14.2	1.0	na	119	na	1.3	8.5
Apgar Lookout (B), Mont.	3/14/2001	E	–4.7	5.8	5.19	6.5	5.5	<1.7	2.3	0.8	12.7	<1.0	10.9	13.2	0.9	35	119	7.0	2.2	7.1
Arapaho Creek, Colo.	3/13/2001	E	–18.9	9.5	4.85	14.1	5.8	<1.7	1.8	0.4	5.1	<1.0	7.3	21.7	0.4	na	89	na	na	–3.2
Bear Lake, Colo.	4/11/2001	E	–5.5	7.1	5.15	7.1	11.0	2.5	2.4	1.4	12.6	<1.0	12.0	17.2	1.4	na	100	na	na	11.5
Berthoud Pass, Colo.	4/3/2001	E	–7.9	3.6	5.07	8.5	5.7	<1.7	3.1	1.6	4.0	2.4	6.1	12.2	0.9	na	191	6.1	na	5.1
Big Mountain, Mont.	3/9/2001	E	–9.3	4.8	5.05	8.9	<3.1	<1.7	1.5	<0.4	4.3	<1.0	6.0	8.5	0.5	na	132	5.6	1.2	0.9
Big Sky, Mont.	3/17/2001	E	–3.0	3.5	5.35	4.5	4.0	<1.7	<1.0	0.5	4.2	<1.0	4.3	6.6	0.5	na	124	5.6	na	9.3
Bowman 1 (Glacier NP), Mont.	3/8/2001	E	–10.6	5.1	5.04	9.1	<3.1	<1.7	1.1	<0.4	2.1	<1.0	4.1	8.5	0.4	23	76	na	na	–0.6
Bowman 2 (Glacier NP), Mont.	3/8/2001	E	–10.2	4.6	5.10	7.9	<3.1	<1.7	1.9	<0.4	2.4	<1.0	6.1	7.3	0.6	41	122	na	na	–4.4
Brooklyn Lake, Wyo.	3/27/2001	E	–1.9	4.0	5.48	3.3	7.3	<1.7	1.6	1.1	4.6	<1.0	6.1	10.8	0.9	na	165	7.1	na	2.9
Brumley, Colo.	3/26/2001	E	–4.5	6.2	5.18	6.6	12.0	2.5	5.2	1.4	14.5	1.2	13.7	15.2	1.0	na	110	na	na	16.7
Buffalo Pass, Colo.	4/4/2001	E	–11.6	6.1	4.98	10.5	7.0	<1.7	2.7	0.5	6.5	<1.0	11.1	13.1	na	na	309	6.1	2.0	5.7
Cameron Pass, Colo.	4/5/2001	E	–6.1	6.1	5.21	6.2	6.0	<1.7	1.9	0.6	6.5	<1.0	8.1	11.8	0.5	na	147	na	1.5	2.9
Canyon, Wyo.	3/1/2001	E	–5.1	4.1	5.23	5.9	<3.1	<1.7	1.0	<0.4	6.1	<1.0	4.4	9.3	0.4	na	88	3.1	0.7	–2.6
Chief Joseph Pass, Mont.	3/16/2001	E	–5.6	3.4	5.26	5.5	4.5	<1.7	1.1	1.3	2.8	<1.0	4.1	5.5	1.2	na	112	5.3	3.4	22.2
Daisy Pass, Mont.	3/6/2001	E	–4.0	3.7	5.25	5.6	3.5	<1.7	<1.0	0.9	4.9	<1.0	4.9	7.5	0.8	na	135	4.9	1.8	9.2
Deadman Pass, Colo.	3/28/2001	E	–4.9	6.8	5.21	6.2	8.8	1.7	1.9	1.4	6.8	<1.0	9.0	14.6	0.9	na	145	na	na	6.4
Dinah Shore 1 (Glacier NP), Mont.	3/9/2001	E	–10.7	4.4	5.17	6.8	3.1	<1.7	2.0	0.4	3.5	<1.0	4.9	8.2	0.5	24	86	na	na	9.4

Table 10. Selected chemical and physical data for Rocky Mountain snowpack samples for 2001.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; YNP, Yellowstone National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Dinah Shore 2 (Glacier NP), Mont.	3/9/2001	E	–10.5	3.5	5.12	7.6	<3.1	<1.7	1.0	0.6	2.1	<1.0	4.1	5.4	0.8	68	210	na	na	8.3
Divide Peak, Wyo.	3/14/2001	E	–7.3	6.2	5.22	6.0	15.0	3.3	7.0	0.6	6.4	1.6	12.5	20.1	0.7	na	105	na	1.8	5.5
Dry Lake, Colo.	3/15/2001	E	–20.8	9.4	4.78	16.6	7.5	<1.7	1.8	0.8	6.6	<1.0	10.3	20.7	<0.4	na	137	5.6	0.9	3.5
Dunckley Pass, Colo.	4/3/2001	E	2.4	4.4	5.66	2.2	12.5	2.5	2.0	2.4	5.7	<1.0	8.1	12.6	0.7	na	170	na	2.0	8.2
East Inlet Grand Lake, Colo.	3/13/2001	E	–10.4	7.6	5.01	9.8	11.5	3.3	3.5	4.4	6.4	1.2	10.5	20.1	1.6	na	49	na	na	10.0
Elk River, Colo.	3/15/2001	E	–11.0	7.7	5.00	10.0	11.5	<1.7	4.0	1.0	5.1	1.1	10.4	17.9	0.6	na	136	na	na	3.6
Elkhart Park, Wyo.	3/11/2001	E	–8.7	5.2	5.07	8.5	4.0	<1.7	1.3	<0.4	3.6	<1.0	5.9	10.3	0.7	na	111	6.4	na	3.4
Four Mile Meadow, Wyo.	3/12/2001	E	–7.2	3.8	5.25	5.6	6.5	2.5	1.9	0.6	5.9	<1.0	4.9	10.1	0.6	na	63	na	na	21.0
Fremont Pass, Colo.	4/9/2001	E	–5.1	3.9	5.31	4.9	5.5	<1.7	1.4	0.6	2.9	<1.0	4.6	8.6	0.5	na	120	5.4	5.9	7.1
Garnet Canyon, Wyo.	3/19/2001	E	–5.6	4.3	5.33	4.7	6.0	<1.7	2.1	1.2	8.4	<1.0	7.2	10.1	0.7	na	136	5.4	na	12.8
Grand Mesa, Colo.	3/10/2001	E	–4.7	4.9	5.39	4.1	13.0	2.5	2.2	1.2	7.4	<1.0	9.8	14.8	0.7	na	126	na	5.1	10.2
Granite Park, Mont.	3/10/2001	E	–11.6	5.0	5.06	8.7	<3.1	<1.7	1.5	<0.4	4.0	<1.0	10.5	7.7	0.4	44	127	na	na	–12.2
Granite Pass, Mont.	3/16/2001	E	–2.8	3.6	5.39	4.1	5.5	<1.7	1.7	1.1	3.7	<1.0	5.0	5.4	0.9	na	121	5.2	4.4	21.8
Green Ridge, Colo.	3/12/2001	E	–19.0	7.3	4.89	12.9	7.1	<1.7	1.8	0.9	4.0	1.0	7.2	19.5	1.1	na	53	na	na	–1.9
Gypsum Creek, Wyo.	3/11/2001	E	–5.9	5.0	5.17	6.8	7.5	2.5	1.9	1.6	3.7	<1.0	6.2	11.7	1.2	na	65	na	na	14.4
Halfmoon Creek, Colo.	4/5/2001	E	–5.2	4.9	5.24	5.8	10.0	2.1	1.5	1.8	5.7	<1.0	7.1	10.0	1.8	na	69	na	na	22.0
Hopewell, N. Mex.	3/16/2001	E	–12.0	6.9	5.02	9.5	8.0	<1.7	2.4	0.8	6.3	1.1	8.1	14.3	0.5	na	150	4.3	2.9	6.9
Kings Hill, Mont.	3/7/2001	E	–6.9	5.5	5.15	7.1	7.0	<1.7	1.4	2.3	7.4	<1.0	9.7	10.0	1.4	na	106	8.7	na	12.0
Lake Irene, Colo.	4/2/2001	E	–9.7	5.5	5.08	8.3	6.5	<1.7	2.3	0.5	5.5	<1.0	8.4	13.0	0.5	na	183	6.0	2.8	3.8

Table 10. Selected chemical and physical data for Rocky Mountain snowpack samples for 2001.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; YNP, Yellowstone National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Lewis Lake Divide, Wyo.	3/1/2001	E	–4.0	4.2	5.35	4.5	<3.1	<1.7	1.1	<0.4	10.6	<1.0	5.4	9.8	0.4	na	174	na	1.0	3.0
Lionshead, Mont.	3/4/2001	E	–6.9	5.6	5.17	6.8	4.5	<1.7	1.2	0.9	14.3	1.0	7.7	15.7	0.8	na	112	5.0	na	6.1
Loch Vale Forest, Colo.	4/10/2001	E	–7.1	5.4	5.17	6.8	11.0	2.5	2.4	2.8	6.0	1.0	10.0	14.6	1.9	na	194	5.8	5.2	10.1
Loch Vale Meadow, Colo.	4/10/2001	E	–6.9	5.2	5.18	6.6	8.5	<1.7	1.8	0.5	7.3	3.7	9.3	13.4	0.5	na	141	na	na	–3.3
Loveland Pass, Colo.	4/27/2001	E	3.3	3.6	5.83	1.5	13.5	3.3	2.4	0.5	5.9	2.1	6.1	9.2	<0.4	na	190	5.6	na	13.2
Lynx Pass, Colo.	3/14/2001	E	–6.2	5.6	5.22	6.0	8.5	<1.7	1.8	0.9	8.4	<1.0	6.2	15.9	0.7	na	111	6.2	na	7.5
Marion Lake 1 (Glacier NP), Mont.	3/13/2001	E	–4.9	5.0	5.29	5.1	<3.1	<1.7	1.6	0.7	4.8	<1.0	6.9	8.1	0.7	42	159	na	na	–10.2
Marion Lake 2 (Glacier NP), Mont.	3/13/2001	E	–8.2	4.8	5.11	7.8	3.5	<1.7	3.1	1.8	3.3	1.2	5.8	6.7	1.3	56	169	na	na	17.1
Molas Lake, Colo.	3/28/2001	E	–4.0	4.3	5.30	5.0	8.0	<1.7	1.3	0.5	2.7	<1.0	5.5	10.6	0.5	na	165	4.9	na	4.2
Monarch Pass, Colo.	3/26/2001	E	–2.2	3.9	5.40	4.0	7.0	<1.7	1.0	0.6	5.7	<1.0	5.4	9.7	0.9	na	113	4.7	4.0	9.5
Monida Pass, Mont.	3/5/2001	E	–9.1	7.0	5.11	7.8	6.5	<1.7	2.8	0.5	13.7	2.5	5.5	23.1	0.6	na	104	na	na	0.1
Mount Belmont, Mont.	3/8/2001	E	–6.9	6.6	5.13	7.4	9.5	2.5	2.6	2.9	4.6	1.6	11.3	12.6	1.9	na	59	na	na	7.2
Napa 1 (Glacier NP), Mont.	3/8/2001	E	–8.6	5.5	5.21	6.2	3.1	<1.7	1.3	1.2	3.2	<1.0	5.0	9.0	1.1	17	65	na	1.9	3.2
Napa 2 (Glacier NP), Mont.	3/8/2001	E	–8.5	4.3	5.24	5.8	3.5	<1.7	1.5	<0.4	2.6	<1.0	3.9	6.6	0.4	40	132	na	0.9	11.9
Niwot Snotel, Colo.	3/26/2001	E	–6.7	7.8	5.11	7.8	10.0	2.5	3.0	1.1	16.9	1.4	14.4	20.0	1.0	na	97	5.9	na	7.0
Noisy Basin, Mont.	3/8/2001	E	–10.5	5.6	4.99	10.2	<3.1	<1.7	1.4	0.6	4.2	<1.0	6.6	8.9	0.7	na	203	5.6	na	3.1
North Inlet Grand Lake, Colo.	4/4/2001	E	–10.4	7.2	5.08	8.3	7.1	<1.7	2.0	1.2	5.6	<1.0	7.6	15.7	1.0	na	82	na	na	1.7
Old Battle, Wyo.	3/14/2001	E	–10.2	6.5	5.06	8.7	9.0	2.5	4.9	0.8	7.0	1.6	12.1	16.1	0.7	na	202	7.2	2.9	4.8
Old Faithful (in road), Wyo.	3/3/2001	E	32.3	14.7	6.14	0.7	58.4	9.1	10.3	6.0	26.9	12.5	29.9	14.8	6.2	na	15	na	na	10.9

Table 10. Selected chemical and physical data for Rocky Mountain snowpack samples for 2001.—Continued

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Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Old Faithful Fire Road, Wyo.	3/3/2001	E	–8.0	4.5	5.19	6.5	4.0	<1.7	1.5	0.4	10.6	<1.0	6.1	12.7	0.7	na	70	na	na	10.0
Old Faithful West Lot, Wyo.	3/3/2001	E	26.1	21.8	6.25	0.6	44.1	6.0	67.4	10.6	26.2	75.9	24.4	15.2	4.8	na	33	na	5.8	4.4
Phantom Valley, Colo.	3/13/2001	E	–13.1	9.1	4.90	12.6	9.0	<1.7	2.6	0.8	6.4	<1.0	10.8	18.5	0.8	na	83	na	na	3.3
Rabbit Ears 1, Colo.	4/3/2001	E	–7.8	5.8	5.16	6.9	7.0	<1.7	2.8	<0.4	6.2	<1.0	10.2	13.7	0.4	na	225	6.8	1.5	–2.2
Rabbit Ears 2, Colo.	4/3/2001	E	–11.0	5.9	5.02	9.5	6.5	<1.7	2.7	<0.4	5.3	<1.0	9.5	13.9	0.4	na	215	6.6	na	1.3
Red Mountain Pass, Colo.	3/28/2001	E	–1.4	4.0	5.43	3.7	9.0	<1.7	1.4	1.3	1.9	<1.0	5.1	9.2	0.9	na	174	na	1.1	9.7
Red Mountain, Mont.	3/16/2001	E	–2.0	3.8	5.50	3.2	8.5	2.5	1.3	0.9	5.5	<1.0	6.0	9.5	1.1	na	125	na	na	17.0
Rendezvous Mountain, Wyo.	3/20/2001	E	–3.5	3.3	5.39	4.1	<3.1	<1.7	<1.0	0.5	6.8	<1.0	5.9	7.0	0.5	na	201	na	1.2	–6.5
Slumgullion Pass, Colo.	3/27/2001	E	3.5	4.8	5.68	2.1	11.5	3.3	2.3	1.9	2.2	1.0	5.2	7.3	1.0	na	120	na	na	15.5
Smith Creek 1 (Glacier NP), Mont.	3/10/2001	E	–7.4	4.0	5.27	5.4	4.4	<1.7	1.4	1.8	2.6	<1.0	4.9	7.5	1.3	22	74	na	2.2	11.2
Smith Creek 2 (Glacier NP), Mont.	3/10/2001	E	–2.6	3.4	5.44	3.6	5.9	<1.7	<1.0	0.8	2.8	<1.0	3.5	6.1	0.6	42	142	na	0.8	15.3
Snow Bowl, Mont.	3/10/2001	E	–6.5	4.4	5.12	7.6	<3.1	<1.7	1.1	1.1	2.7	<1.0	5.2	5.6	1.0	na	159	na	na	6.7
South Entrance YNP (in road), Wyo.	3/2/2001	E	–3.2	5.5	5.36	4.4	5.6	<1.7	1.7	2.5	14.0	1.0	8.4	12.0	1.3	na	68	na	na	13.6
South Entrance YNP, Wyo.	3/1/2001	E	–1.7	5.2	5.45	3.5	3.7	<1.7	1.8	1.2	12.2	<1.0	6.3	12.5	0.7	na	104	na	na	8.9
South Pass, Wyo.	3/13/2001	E	–12.4	7.2	4.99	10.2	6.0	<1.7	1.8	0.4	5.1	<1.0	9.9	14.3	0.7	na	77	na	na	–1.5
Spring Gulch, Mont.	3/8/2001	E	–5.8	5.6	5.17	6.8	7.5	<1.7	1.3	<0.4	5.9	3.9	9.1	13.8	0.9	na	48	4.8	na	–11.2
Sunlight Peak, Colo.	3/29/2001	E	–1.7	4.6	5.37	4.3	9.0	<1.7	1.8	0.6	6.5	<1.0	7.3	12.3	0.4	na	179	5.4	na	6.0

Table 10. Selected chemical and physical data for Rocky Mountain snowpack samples for 2001.—Continued

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Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Swiftcurrent 1, Mont.	3/13/2001	E	–9.0	5.8	5.06	8.7	5.0	<1.7	1.5	0.8	6.3	<1.0	7.8	10.7	0.7	32	101	na	na	9.3
Swiftcurrent 2(A), Mont.	3/13/2001	E	–5.1	6.1	5.07	8.5	7.0	2.5	1.7	0.5	6.9	1.2	5.7	7.3	0.6	43	132	na	na	31.7
Swiftcurrent 2(B), Mont.	3/13/2001	E	–7.7	5.8	5.15	7.1	4.8	<1.7	1.7	0.8	5.9	<1.0	8.6	10.9	0.9	na	116	na	na	1.9
Sylvan Lake (in road), Wyo.	3/2/2001	E	–6.9	5.0	5.10	7.9	<3.1	<1.7	<1.0	<0.4	8.7	<1.0	7.4	8.3	0.9	na	60	na	<0.4	2.8
Sylvan Lake, Wyo.	3/2/2001	E	–6.7	4.0	5.12	7.6	<3.1	<1.7	<1.0	<0.4	7.1	<1.0	5.0	8.7	0.4	na	131	na	na	3.5
Taos Ski Valley, N. Mex.	3/17/2001	E	–6.3	5.9	5.15	7.1	7.7	<1.7	1.7	1.0	7.3	<1.0	10.7	12.8	0.8	na	260	na	4.0	2.7
Teton Pass, Wyo.	3/19/2001	E	27.6	8.3	6.17	0.7	21.0	10.7	3.9	3.0	11.8	3.2	9.4	12.5	1.4	na	129	na	na	–1.6
Togwotee Pass, Wyo.	3/12/2001	E	–4.1	3.2	5.38	4.2	4.0	<1.7	1.0	0.5	3.5	<1.0	3.9	7.1	0.5	na	122	na	na	8.6
Twenty-one Mile, Mont.	3/5/2001	E	–6.2	3.8	5.18	6.6	3.5	<1.7	1.1	0.4	8.2	<1.0	4.4	12.4	0.4	na	110	na	na	8.5
University Camp, Colo.	3/26/2001	E	–9.5	7.3	5.01	9.8	8.0	2.5	2.0	1.8	9.2	<1.0	11.3	15.1	1.5	na	134	na	na	11.3
Upper Andrews Creek, Colo.	4/25/2001	E	1.5	4.0	5.77	1.7	11.0	2.5	1.5	0.5	11.4	<1.0	9.2	10.2	0.4	na	323	na	na	15.4
Upper Andrews Creek, Colo.	4/10/2001	E	–4.2	5.4	5.27	5.4	10.5	<1.7	2.2	<0.4	7.2	<1.0	8.8	17.0	0.5	na	170	na	1.5	–1.0
Upper Andrews Creek, Colo.	4/25/2001	E	–6.9	4.8	5.17	6.8	7.0	<1.7	1.2	0.5	6.2	<1.0	6.6	11.6	0.5	na	323	na	na	8.5
W10 (Glacier NP), Mont.	3/9/2001	E	–13.9	5.0	4.90	12.6	3.5	<1.7	1.8	<0.4	4.7	<1.0	7.1	9.1	0.7	37	107	na	1.6	16.8
W2 (Glacier NP), Mont.	3/8/2001	E	–14.5	4.8	5.12	7.6	4.0	<1.7	1.9	1.9	4.9	1.6	9.9	10.0	1.0	30	92	na	na	–2.9
W5 (Glacier NP), Mont.	3/9/2001	E	–8.2	5.6	5.11	7.8	<3.1	<1.7	1.8	0.8	5.2	<1.0	8.1	10.8	0.7	34	103	na	na	–9.7
W6 (Glacier NP), Mont.	3/10/2001	E	–10.5	5.0	5.06	8.7	<3.1	<1.7	1.2	<0.4	4.6	<1.0	6.4	8.7	0.5	69	186	na	na	–2.2
W7 (Glacier NP), Mont.	3/10/2001	E	–11.0	4.4	5.13	7.4	<3.1	<1.7	2.3	0.9	3.9	1.7	6.0	6.9	0.8	59	165	na	na	–0.4

Table 10. Selected chemical and physical data for Rocky Mountain snowpack samples for 2001.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; YNP, Yellowstone National Park; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
W8 (Glacier NP), Mont.	3/10/2001	E	–15.3	4.5	5.07	8.5	<3.1	<1.7	1.6	<0.4	3.5	<1.0	6.3	7.9	0.7	49	136	na	na	–1.8
W9 (Glacier NP), Mont.	3/9/2001	E	0.2	4.6	5.11	7.8	4.0	<1.7	2.2	1.1	3.1	2.0	6.7	8.6	0.8	42	125	na	na	2.2
West Yellowstone, Mont.	3/5/2001	E	–9.8	6.5	5.06	8.7	4.5	<1.7	1.4	0.6	13.6	1.1	7.6	18.6	0.9	na	55	na	1.8	2.5
Wolf Creek Pass, Colo.	3/27/2001	E	–5.9	5.2	5.17	6.8	7.5	<1.7	1.4	2.0	5.3	<1.0	9.0	11.1	0.9	na	240	na	5.8	6.8
Zirkels South Boundary, Colo.	4/4/2001	E	–13.2	5.6	4.97	10.7	7.5	<1.7	2.8	0.4	6.7	<1.0	11.0	13.0	0.5	na	277	6.2	0.9	8.0

Table 11. Selected chemical and physical data for Rocky Mountain snowpack samples for 2002.

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; (), suspect ionic balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Andrews Buttress, Colo.	4/1/2002	E	–9.8	6.2	5.10	7.9	10.5	2.5	2.1	0.9	4.1	1.6	5.5	17.1	0.5	127	327	na	1.5	7.2
Apgar Lookout, Mont.	3/4/2002	E	–9.7	4.2	5.22	6.0	<3.1	<1.7	<1.0	<0.4	5.5	<1.0	3.4	6.8	0.5	50	143	na	1.0	5.8
Arapaho Creek, Colo.	3/8/2002	E	–18.5	8.8	4.82	15.1	7.5	<1.7	2.4	0.7	2.2	1.3	5.0	21.2	0.6	21	89	na	1.4	0.7
Banner Summit, Idaho	3/15/2002	E	–3.6	2.9	5.48	3.3	<3.1	<1.7	1.4	<0.4	3.6	<1.0	2.5	3.4	<0.4	63	201	6.5	1.5	16.4
Bear Lake, Colo.	4/3/2002	E	–5.1	5.7	5.36	4.4	13.5	2.5	1.9	1.4	7.4	1.3	8.2	16.1	0.8	23	95	na	3.2	9.5
Berthoud Pass, Colo.	4/4/2002	E	–6.3	5.2	5.23	5.9	10.5	<1.7	2.4	0.8	3.7	2.8	4.9	13.4	0.6	37	130	na	3.1	4.7
Big Mountain, Mont.	3/10/2002	E	–7.5	3.5	5.29	5.1	<3.1	<1.7	5.4	<0.4	4.9	<1.0	2.6	4.9	<0.4	99	298	5.9	1.1	34.1
Big Sky, Mont.	3/17/2002	E	–2.4	3.0	5.54	2.9	5.0	<1.7	<1.0	0.5	4.5	<1.0	2.9	4.7	0.6	38	120	na	2.0	25.7
Brooklyn Lake, Wyo.	3/19/2002	E	10.1	6.1	6.00	1.0	24.5	4.9	5.5	2.3	4.3	1.5	11.9	13.5	1.5	41	149	6.6	5.9	6.9
Brumley, Colo.	3/25/2002	E	21.5	5.7	6.37	0.4	31.9	9.9	1.2	7.2	<1.0	1.8	5.9	10.5	3.4	21	67	na	6.4	12.0
Buffalo Pass, Colo.	4/4/2002	E	–8.9	6.3	5.17	6.8	11.5	2.5	1.8	0.7	5.8	1.2	9.3	15.2	0.5	81	260	7.0	2.0	5.9
Cameron Pass, Colo.	4/4/2002	E	–6.1	5.3	5.29	5.1	11.0	2.5	3.6	0.8	4.0	1.7	8.0	12.7	0.6	36	122	na	2.6	9.4
Canyon, Wyo.	2/27/2002	E	–7.8	3.5	5.34	4.6	<3.1	<1.7	1.3	<0.4	6.7	1.2	3.1	7.3	<0.4	27	108	na	0.7	4.1
Chief Joseph Pass, Mont.	3/7/2002	E	–4.1	2.8	5.44	3.6	<3.1	<1.7	<1.0	<0.4	3.5	<1.0	2.1	3.8	<0.4	40	145	6.3	1.4	9.7
Culebra, Colo.	3/20/2002	E	6.0	5.7	6.00	1.0	21.5	2.5	2.9	2.2	6.3	1.5	8.1	15.9	0.7	24	103	5.2	3.9	6.9
Daisy Pass, Mont.	3/5/2002	E	–4.0	3.7	5.43	3.7	3.5	<1.7	<1.0	0.7	4.7	<1.0	3.5	6.0	0.4	65	207	na	1.6	14.4
Deadman Pass, Colo.	3/19/2002	E	–6.6	5.7	5.38	4.2	14.0	2.5	2.8	1.4	6.6	1.4	9.5	16.0	1.0	36	130	na	5.8	7.7
Divide Peak, Wyo.	3/20/2002	E	–1.3	6.1	5.51	3.1	15.5	3.3	4.9	0.5	6.3	1.8	9.7	17.0	0.7	34	126	na	4.5	8.2
Dry Lake, Colo.	3/13/2002	E	–16.8	9.1	4.85	14.1	9.0	2.5	3.2	0.7	6.4	2.3	8.8	21.5	<0.4	43	143	na	0.9	4.8
Dunckley Pass, Colo.	4/3/2002	E	–2.1	5.4	5.58	2.6	13.0	2.5	1.2	1.9	3.8	1.1	6.9	14.1	0.7	35	135	na	4.0	6.3

Table 11. Selected chemical and physical data for Rocky Mountain snowpack samples for 2002.—Continued

[[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; (), suspect ionic balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
E3 (Glacier NP), Mont.	3/12/2002	E	–8.4	3.7	5.23	5.9	<3.1	<1.7	1.1	0.7	3.9	<1.0	3.6	6.9	<0.4	55	184	na	2.1	5.7
E5 (Glacier NP), Mont.	3/13/2002	E	–6.2	3.0	5.27	5.4	<3.1	<1.7	<1.0	<0.4	2.4	<1.0	2.2	4.2	<0.4	113	333	na	1.4	9.8
E6 (Glacier NP), Mont.	3/13/2002	E	–7.0	3.3	5.27	5.4	<3.1	<1.7	<1.0	0.6	2.2	<1.0	2.5	4.5	<0.4	88	280	na	7.8	7.3
Elk River, Colo.	3/12/2002	E	–7.3	6.1	5.27	5.4	12.5	2.5	6.6	0.5	5.6	2.4	9.9	16.2	<0.4	31	122	na	1.5	7.4
Elkhart Park, Wyo.	3/26/2002	E	–8.3	5.0	5.27	5.4	6.0	<1.7	1.7	0.8	5.5	1.2	5.2	7.5	0.5	33	120	7.6	1.1	16.2
Forest Canyon Pass, Colo.	3/29/2002	E	–6.4	4.7	5.23	5.9	9.5	<1.7	<1.0	0.9	2.9	1.2	5.9	12.3	0.8	56	200	na	6.3	–0.5
Four Mile Meadow, Wyo.	3/27/2002	E	–4.6	4.5	5.49	3.2	7.0	<1.7	2.9	1.1	8.5	1.5	5.0	10.0	0.8	20	84	6.9	1.2	15.6
Fremont Pass, Colo.	4/5/2002	E	–1.9	4.5	5.58	2.6	10.5	<1.7	<1.0	1.5	1.9	1.1	3.3	9.9	0.7	29	122	na	3.0	7.3
Galena Summit, Idaho	3/15/2002	E	–4.6	3.0	5.38	4.2	<3.1	<1.7	8.2	<0.4	1.3	5.7	2.7	3.8	0.5	37	135	6.1	0.4	5.8
Garnet Canyon, Wyo.	4/4/2002	E	–4.9	4.3	5.39	4.1	5.5	<1.7	1.6	1.0	6.2	1.5	6.9	8.5	0.4	51	137	na	3.4	4.0
Grand Mesa, Colo.	3/22/2002	E	25.5	6.8	6.40	0.4	34.4	5.8	2.0	3.8	3.7	1.9	7.4	15.8	1.6	30	102	na	9.4	–0.5
Granite Park, Mont.	3/13/2002	E	–7.0	3.6	5.25	5.6	<3.1	<1.7	<1.0	<0.4	3.4	<1.0	2.6	4.8	<0.4	134	370	na	0.6	9.7
Granite Pass, Mont.	3/7/2002	E	–3.2	2.9	5.49	3.2	<3.1	<1.7	<1.0	0.6	1.4	<1.0	1.9	2.8	0.4	75	240	na	11.1	5.3
Green Ridge, Colo.	3/7/2002	E	32.7	9.0	6.64	0.2	41.9	14.8	2.8	6.9	4.6	1.8	8.3	23.2	0.7	14	59	na	1.8	3.8
Gypsum Creek, Wyo.	3/26/2002	E	–8.6	5.1	5.29	5.1	6.5	<1.7	3.1	0.5	7.3	1.5	6.8	10.9	<0.4	29	105	na	1.0	7.9
Halfmoon Creek, Colo.	4/5/2002	E	2.9	5.6	5.78	1.7	20.0	4.1	1.7	2.0	3.3	1.6	6.9	15.1	1.9	12	53	na	3.6	10.6
Hopewell, N. Mex.	3/15/2002	E	2.8	5.7	5.81	1.5	24.5	4.1	3.0	1.5	5.0	2.4	8.4	17.5	0.5	22	88	5.4	3.6	12.0
Kings Hill, Mont.	3/2/2002	E	–1.7	3.9	5.60	2.5	10.0	<1.7	<1.0	1.5	7.8	<1.0	4.5	8.9	0.8	33	113	na	5.0	24.0

Table 11. Selected chemical and physical data for Rocky Mountain snowpack samples for 2002.—Continued

[[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; (), suspect ionic balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Lake Irene Forest, Colo.	3/29/2002	E	–5.4	5.1	5.42	3.8	15.0	2.5	1.6	1.1	4.7	1.2	7.0	14.3	0.6	35	132	na	3.0	12.1
Lake Irene Meadow, Colo.	3/29/2002	E	–8.7	5.4	5.14	7.2	10.5	<1.7	1.3	0.6	3.5	1.1	5.8	14.7	<0.4	43	135	na	1.3	3.4
Lewis Lake Divide, Wyo.	3/1/2002	E	–1.7	3.9	5.53	3.0	4.0	<1.7	1.6	<0.4	5.7	<1.0	4.3	6.0	<0.4	66	209	na	1.2	16.1
Lionshead, Mont.	3/4/2002	E	–3.4	4.9	5.40	4.0	3.5	<1.7	<1.0	1.1	13.9	<1.0	5.9	10.8	0.4	46	149	na	8.2	14.7
Lizard Head Pass, Colo.	3/21/2002	E	51.5	7.7	6.74	0.2	41.4	3.3	2.2	2.4	3.8	1.5	5.6	13.5	0.7	26	106	4.3	3.8	(–15.1)
Loch Vale Forest, Colo.	4/1/2002	E	–7.1	7.0	5.21	6.2	13.5	2.5	2.1	1.0	5.7	1.6	7.8	19.3	0.7	51	153	na	3.8	3.7
Loch Vale Meadow, Colo.	4/1/2002	E	–6.4	3.6	5.22	6.0	<3.1	<1.7	<1.0	<0.4	3.1	<1.0	1.6	8.2	<0.4	37	110	na	2.5	–3.5
Loveland Pass, Colo.	4/6/2002	E	0.0	7.7	5.72	1.9	25.0	7.4	4.8	0.7	6.1	7.0	7.4	24.5	0.7	47	130	na	2.8	8.3
Lynx Pass, Colo.	3/13/2002	E	–11.8	6.4	5.04	9.1	10.0	<1.7	1.6	0.5	3.5	1.0	5.6	16.7	0.4	28	108	na	1.0	2.9
Molas Lake, Colo.	3/27/2002	E	15.8	5.4	6.33	0.5	25.4	2.5	3.7	1.3	2.6	3.6	4.3	10.8	<0.4	25	89	4.7	3.6	2.0
Monarch Pass, Colo.	3/25/2002	E	30.4	9.2	6.47	0.3	51.4	6.6	2.9	3.9	5.7	3.1	8.2	22.9	1.8	20	67	5.8	9.6	4.6
Monida Pass, Mont.	2/28/2002	E	–4.4	5.3	5.55	2.8	11.0	4.1	1.5	0.7	12.6	1.9	5.5	17.4	0.6	5	20	na	0.6	13.7
Mount Belmont, Mont.	3/1/2002	E	–8.2	5.3	5.15	7.1	5.0	<1.7	<1.0	4.3	6.5	1.0	5.1	9.5	1.4	18	63	na	1.7	18.9
Niwot Snotel, Colo.	4/2/2002	E	–5.9	7.3	5.22	6.0	15.0	3.3	1.9	2.5	10.9	1.7	9.7	20.5	1.8	18	71	na	3.3	10.7
Noisy Basin, Mont.	3/8/2002	E	–5.9	3.9	5.24	5.8	<3.1	<1.7	<1.0	0.7	5.0	<1.0	3.2	6.2	0.4	83	275	na	2.3	10.2
Old Battle, Wyo.	3/20/2002	E	–5.3	4.9	5.25	5.6	9.0	<1.7	2.8	<0.4	5.2	1.2	7.4	13.1	<0.4	61	202	na	2.3	1.9
Old Faithful Fire Road, Wyo.	2/27/2002	E	–4.5	4.6	5.41	3.9	4.5	<1.7	2.1	0.7	8.0	1.3	6.0	9.1	<0.4	22	88	na	0.9	7.9
Old Faithful (in road), Wyo.	2/27/2002	E	–1.4	8.2	5.44	3.6	na	na	7.5	4.2	15.0	10.6	13.4	10.3	3.3	na	42	na	4.2	–6.2
Phantom Valley, Colo.	3/7/2002	E	–15.9	7.8	4.90	12.6	7.5	<1.7	1.8	0.7	5.2	1.1	7.4	19.0	0.4	16	70	na	1.1	0.2

Table 11. Selected chemical and physical data for Rocky Mountain snowpack samples for 2002.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; (), suspect ionic balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Rabbit Ears 1, Colo.	3/23/2002	E	–12.5	6.3	5.01	9.8	8.0	<1.7	1.4	0.8	4.9	1.3	8.5	14.8	0.8	57	170	8.0	2.4	0.6
Rabbit Ears 2, Colo.	3/23/2002	E	–13.9	6.5	5.02	9.5	7.0	2.5	1.1	<0.4	5.3	1.0	7.8	13.8	0.4	63	184	na	1.1	5.6
Red Mountain, Mont.	3/6/2002	E	–4.6	3.8	5.27	5.4	4.5	<1.7	<1.0	0.6	4.7	<1.0	2.4	6.1	0.7	33	121	na	3.7	27.8
Red Mountain Pass, Colo.	3/27/2002	E	36.8	7.3	6.51	0.3	37.9	3.3	3.0	1.4	3.5	2.7	5.2	13.7	0.5	36	123	4.9	4.6	–8.3
Rendezvous Mountain, Wyo.	3/18/2002	E	–7.1	3.5	5.47	3.4	4.0	<1.7	1.6	<0.4	6.6	<1.0	4.9	5.9	<0.4	72	240	na	0.6	18.2
Slumgullion Pass, Colo.	3/26/2002	E	42.0	7.9	6.52	0.3	45.4	4.9	2.6	3.4	2.5	2.3	6.6	12.8	1.2	16	66	4.3	6.5	–3.7
Snow Bowl, Mont.	3/9/2002	E	–6.4	3.7	5.27	5.4	<3.1	<1.7	<1.0	0.7	3.1	<1.0	3.3	4.4	0.5	82	267	na	11.0	8.0
South Pass, Wyo.	3/25/2002	E	–4.7	7.4	5.33	4.7	15.0	3.3	5.0	2.7	7.1	1.9	15.5	12.5	1.1	27	101	na	11.5	11.6
Spring Gulch, Mont.	3/1/2002	E	–0.2	4.3	5.62	2.4	13.5	<1.7	<1.0	1.2	7.7	<1.0	3.2	12.0	0.6	14	60	na	5.3	24.0
Sunlight Peak, Colo.	3/22/2002	E	38.7	8.1	6.47	0.3	49.4	4.1	1.6	1.2	5.3	1.3	6.7	14.3	0.5	41	147	5.7	3.7	0.8
Swiftcurrent 1 (Glacier NP), Mont.	3/19/2002	E	–7.7	3.9	5.18	6.6	<3.1	<1.7	<1.0	0.5	4.9	<1.0	4.1	7.2	<0.4	63	201	na	3.1	3.4
Sylvan Lake, Wyo.	2/26/2002	E	–3.6	3.5	5.44	3.6	<3.1	<1.7	1.1	<0.4	5.4	<1.0	3.4	6.3	<0.4	48	160	na	1.8	2.6
Sylvan Lake (in road), Wyo.	2/26/2002	E	–3.4	3.8	5.57	2.7	6.0	<1.7	4.1	<0.4	4.5	1.8	5.9	6.9	0.5	38	95	na	1.7	8.3
Taos Ski Valley, N. Mex.	3/16/2002	E	8.7	7.9	5.95	1.1	29.4	4.1	4.1	4.4	7.2	3.2	12.8	20.1	1.8	35	125	5.2	11.9	5.8
Teton Pass, Wyo.	3/26/2002	E	–0.6	4.6	5.70	2.0	8.5	2.5	2.5	1.7	9.3	1.4	6.8	9.2	0.8	37	154	na	4.8	20.6
Togwotee Pass, Wyo.	3/27/2002	E	–2.8	3.6	5.64	2.3	6.5	<1.7	2.1	0.9	5.4	1.3	4.7	6.8	0.5	52	203	na	3.8	14.6
Twenty-one Mile, Mont.	3/4/2002	E	–5.5	3.9	5.33	4.7	<3.1	<1.7	<1.0	0.4	6.8	1.3	3.0	8.0	<0.4	30	110	na	2.6	–1.4
University Camp, Colo.	4/2/2002	E	0.5	5.4	5.71	1.9	15.5	2.5	1.0	1.6	11.3	1.1	7.7	16.2	0.9	13	51	na	2.1	14.0

Table 11. Selected chemical and physical data for Rocky Mountain snowpack samples for 2002.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; (), suspect ionic balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Vallecito Snotel, Colo.	3/22/2002	E	14.1	5.9	6.35	0.4	27.4	4.9	1.7	5.4	<1.0	2.1	7.9	14.4	1.6	17	73	4.7	6.2	1.8
W10 (Glacier NP), Mont.	3/12/2002	E	–7.2	3.9	5.22	6.0	<3.1	<1.7	<1.0	<0.4	3.5	<1.0	3.4	6.5	0.4	69	273	na	2.0	–1.9
West Yellowstone, Mont.	2/28/2002	E	–4.1	4.6	5.40	4.0	3.5	<1.7	1.7	0.6	10.3	<1.0	5.5	10.7	<0.4	24	91	na	2.2	10.8
West Yellowstone (in road), Mont.	2/28/2002	E	–1.4	10.9	5.29	5.1	15.0	3.3	8.8	2.8	31.0	6.8	18.2	13.1	4.4	na	27	na	2.4	(26.9)
Wolf Creek Pass, Colo.	3/26/2002	E	3.7	5.6	5.91	1.2	23.0	3.3	2.6	3.3	3.7	2.4	8.2	15.4	1.2	28	117	4.8	6.0	11.1

Table 12. Selected chemical and physical data for Rocky Mountain snowpack samples for 2003.

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; (), suspect ionic balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Apgar Lookout, Mont.	3/12/2003	E	–8.0	5.8	5.01	9.8	<3.1	<1.7	1.2	0.4	6.9	1.3	4.4	6.9	0.5	50	174	na	1.3	18.6
Arapaho Creek, Colo.	3/25/2003	E	–12.2	5.9	5.04	9.1	5.0	2.5	<1.0	1.2	4.8	<1.0	4.6	12.7	0.8	25	97	na	2.4	13.4
Banner Summit, Idaho	3/10/2003	E	6.6	3.5	5.64	2.3	7.5	<1.7	6.7	0.6	3.4	1.5	3.3	3.1	<0.4	67	226	na	3.3	16.8
Bear Lake, Colo.	4/8/2003	E	1.0	4.8	5.42	3.8	11.5	2.5	1.4	1.8	8.0	<1.0	6.1	9.1	1.2	55	194	na	4.7	28.1
Berthoud Pass, Colo.	4/10/2003	E	–4.6	5.3	5.28	5.2	9.0	4.9	4.6	3.1	6.1	4.2	4.2	10.7	1.6	64	198	na	3.5	26.7
Big Mountain, Mont.	3/7/2003	E	–5.8	3.3	5.24	5.8	<3.1	<1.7	1.2	<0.4	4.0	<1.0	2.7	4.6	0.4	68	258	na	1.3	20.3
Big Sky, Mont.	3/18/2003	E	2.7	3.2	5.74	1.8	9.5	2.5	4.8	0.8	4.6	3.0	3.8	4.9	0.5	56	177	na	1.8	24.9
Brooklyn Lake, Wyo.	3/27/2003	E	1.5	5.5	5.56	2.8	16.0	4.1	4.0	1.8	7.9	2.1	10.2	11.3	1.4	44	157	7.3	16.3	18.5
Brumley, Colo.	3/27/2003	E	–7.0	4.5	5.19	6.5	8.0	2.5	1.0	2.9	4.3	1.4	4.2	9.5	2.1	36	115	na	2.6	24.9
Buffalo Pass, Colo.	4/11/2003	E	1.6	5.2	5.83	1.5	19.5	4.1	2.9	1.0	7.5	1.3	11.0	13.1	0.5	127	375	3.6	2.7	15.0
Cameron Pass, Colo.	3/26/2003	E	–10.3	5.1	5.07	8.5	5.5	2.5	1.3	0.8	4.2	<1.0	6.0	8.9	0.5	67	232	na	2.2	21.1
Canyon, Wyo.	2/26/2003	E	–1.6	3.4	5.57	2.7	5.5	2.5	1.7	0.6	7.7	<1.0	4.6	7.1	<0.4	27	108	na	1.3	27.5
Chief Joseph Pass, Mont.	3/9/2003	E	–5.4	3.3	5.24	5.8	<3.1	<1.7	<1.0	<0.4	2.1	<1.0	1.6	2.3	<0.4	60	223	na	1.8	33.9
Daisy Pass, Mont.	3/4/2003	E	–3.3	3.2	5.41	3.9	<3.1	<1.7	<1.0	<0.4	7.2	<1.0	3.6	5.4	<0.4	72	250	na	1.4	10.7
Deadman Pass, Colo.	3/28/2003	E	–6.4	4.4	5.25	5.6	7.0	2.5	1.3	2.5	5.4	<1.0	5.8	8.3	1.5	41	166	na	1.2	26.6
Divide Peak, Wyo.	3/26/2003	E	–7.8	6.7	5.16	6.9	10.5	2.5	3.6	1.6	8.5	1.2	11.3	16.2	1.1	62	178	na	1.9	7.8
Dry Lake, Colo.	3/25/2003	E	–9.4	7.1	5.06	8.7	11.0	3.3	2.1	5.3	6.8	1.5	10.0	16.9	1.0	51	162	6.6	2.1	13.5
Dunckley Pass, Colo.	4/3/2003	E	13.1	4.8	6.13	0.7	23.0	4.9	2.0	1.9	6.9	<1.0	6.5	10.5	0.7	62	207	na	1.9	13.3
E5 (Glacier NP), Mont.	3/27/2003	E	–1.9	3.0	5.40	4.0	4.0	<1.7	2.4	1.6	3.8	1.2	3.6	3.9	0.8	112	357	na	3.1	29.0
Elk River, Colo.	3/24/2003	E	–6.5	5.5	5.26	5.5	13.0	3.3	3.2	2.0	7.0	1.0	7.6	13.6	1.0	40	135	na	3.1	21.1
Elkhart Park, Wyo.	3/25/2003	E	0.9	3.9	5.59	2.6	8.5	4.1	3.2	0.9	8.7	1.3	6.9	7.7	0.6	32	125	na	1.1	25.0

Table 12. Selected chemical and physical data for Rocky Mountain snowpack samples for 2003.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; (), suspect ionic balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Four Mile Meadow, Wyo.	3/26/2003	E	5.7	3.7	5.78	1.7	10.0	2.5	2.4	1.3	7.2	<1.0	4.1	6.8	0.9	26	107	na	2.9	20.4
Fremont Pass, Colo.	4/17/2003	E	–0.3	3.5	5.66	2.2	12.5	3.3	1.1	1.5	3.5	1.1	4.2	8.5	0.6	37	147	na	3.5	26.9
Galena Summit, Idaho	3/10/2003	E	–0.8	2.6	5.69	2.0	8.5	5.8	3.0	0.8	3.6	1.2	3.2	3.7	0.6	53	186	6.4	2.4	49.1
Garnet Canyon, Wyo.	3/28/2003	E	18.0	4.9	6.14	0.7	21.0	4.9	4.0	3.1	8.6	1.1	6.8	6.2	0.7	60	225	na	4.3	13.6
Grand Mesa, Colo.	3/24/2003	E	1.5	5.4	5.61	2.5	20.0	6.6	2.9	5.5	8.1	1.7	7.5	13.3	2.1	40	143	na	5.2	(31.0)
Granite Park, Mont.	4/8/2003	E	–2.2	2.5	5.52	3.0	<3.1	<1.7	1.3	<0.4	3.6	<1.0	1.7	3.4	<0.4	129	345	na	3.5	21.7
Granite Pass, Mont.	3/9/2003	E	–2.5	3.7	5.17	6.8	<3.1	<1.7	<1.0	0.9	2.3	<1.0	1.6	2.4	0.5	68	252	na	3.3	43.1
Green Ridge, Colo.	3/25/2003	E	–1.3	3.8	5.58	2.6	10.0	3.3	1.2	1.8	4.1	1.0	4.0	10.7	0.7	24	85	na	1.6	18.9
Gypsum Creek, Wyo.	3/26/2003	E	13.2	5.4	6.20	0.6	21.0	4.1	8.8	0.8	7.2	2.9	10.0	6.7	0.6	32	116	na	2.2	12.9
Hopewell, N. Mex.	3/28/2003	E	12.5	4.9	6.22	0.6	26.4	3.3	2.0	1.1	5.4	1.3	7.3	12.1	0.6	34	124	na	2.6	7.9
Kings Hill, Mont.	3/1/2003	E	–0.5	3.9	5.51	3.1	7.0	2.5	2.3	1.2	7.1	1.1	5.9	8.5	0.8	30	102	9.5	5.4	19.8
Lake, Wyo.	2/26/2003	E	–3.9	3.3	5.43	3.7	4.0	<1.7	1.3	0.4	5.9	<1.0	3.7	6.4	0.5	25	102	na	2.1	21.0
Lake Irene Forest, Colo.	4/1/2003	E	–5.5	5.2	5.23	5.9	9.0	4.9	1.2	5.3	4.6	2.1	6.9	10.2	1.6	65	231	na	4.1	23.2
Lake Irene Meadow, Colo.	4/1/2003	E	–10.0	5.4	5.07	8.5	4.0	<1.7	<1.0	<0.4	4.9	<1.0	5.5	9.8	0.4	76	226	na	1.7	6.0
Lewis Lake Divide, Wyo.	2/28/2003	E	–2.5	3.8	5.46	3.5	3.5	<1.7	1.3	<0.4	8.5	<1.0	3.8	6.2	<0.4	74	227	na	1.3	25.4
Lionshead, Mont.	3/3/2003	E	2.4	6.3	5.73	1.9	9.0	2.5	2.3	1.6	22.6	1.7	9.7	18.3	0.6	45	146	na	4.4	10.6
Loch Vale Forest, Colo.	4/8/2003	E	0.3	6.5	5.21	6.2	12.5	3.3	2.5	2.0	6.9	2.4	8.5	10.4	1.0	112	324	7.3	2.9	21.3
Loch Vale Meadow, Colo.	4/9/2003	E	6.4	3.9	5.82	1.5	14.5	2.5	1.1	<0.4	6.1	<1.0	5.9	9.5	<0.4	82	235	5.9	0.9	8.0
Lone Pine, Colo.	4/2/2003	E	–11.9	5.5	5.09	8.1	6.0	<1.7	<1.0	0.5	4.8	<1.0	5.4	11.1	<0.4	40	157	na	2.7	8.3

Table 12. Selected chemical and physical data for Rocky Mountain snowpack samples for 2003.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; (), suspect ionic balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Loveland Pass, Colo.	4/23/2003	E	–0.3	3.9	5.67	2.1	12.5	3.3	2.6	0.9	5.0	2.5	5.2	9.4	0.6	63	201	na	3.6	21.7
Lynx Pass, Colo.	3/25/2003	E	–11.4	5.9	4.99	10.2	5.5	<1.7	<1.0	0.5	4.6	<1.0	4.9	12.5	<0.4	38	129	na	0.8	8.8
Mills Lake, Colo.	4/8/2003	E	3.9	6.0	5.55	2.8	20.0	4.1	2.7	1.9	8.5	1.5	10.3	14.8	1.1	91	265	na	4.8	13.5
Molas Lake, Colo.	3/29/2003	E	9.6	6.1	5.77	1.7	20.5	4.1	10.1	6.5	4.0	10.3	5.7	10.6	1.2	29	88	6.0	3.1	12.9
Monarch Pass, Colo.	3/27/2003	E	–2.4	5.1	5.30	5.0	12.0	4.1	1.2	1.7	5.1	1.4	5.0	10.5	0.7	46	134	5.7	3.0	26.5
Monida Pass, Mont.	2/27/2003	E	18.5	4.5	6.31	0.5	16.0	3.3	3.2	0.8	9.1	2.3	3.6	7.6	0.4	25	90	na	0.9	1.6
Mount Belmont, Mont.	3/3/2003	E	–1.2	4.4	5.37	4.3	7.5	2.5	1.4	2.3	8.9	<1.0	5.7	7.4	1.8	29	91	na	4.7	34.4
Ned Wilson, Colo.	5/13/2003	E	9.6	4.5	6.20	0.6	21.5	3.3	1.6	0.4	5.4	<1.0	6.1	9.3	0.4	98	270	na	4.8	13.6
Niwot Snotel, Colo.	3/28/2003	E	–6.4	5.3	5.22	6.0	7.0	<1.7	1.1	0.8	10.5	<1.0	8.1	12.0	0.8	41	180	na	1.5	11.8
Noisy Basin, Mont.	3/6/2003	E	–4.4	3.6	5.22	6.0	<3.1	<1.7	1.0	0.6	5.3	<1.0	3.4	6.0	0.4	53	238	na	1.3	15.6
Old Battle, Wyo.	3/26/2003	E	–1.9	5.9	5.29	5.1	10.0	2.5	2.5	2.3	7.9	1.1	8.7	11.6	0.7	81	253	na	2.1	17.4
Old Faithful Fire Road, Wyo.	2/27/2003	E	8.7	4.7	5.91	1.2	13.5	3.3	7.2	0.7	10.7	3.2	7.9	8.9	0.4	26	100	na	1.8	12.2
Old Faithful (in road), Wyo.	2/27/2003	E	13.2	5.5	5.56	2.8	14.5	4.1	4.3	2.6	8.9	5.4	4.0	4.5	2.4	na	22	na	10.5	15.6
Oldman Lake, Mont.	3/17/2003	E	–3.5	4.7	5.14	7.2	3.5	<1.7	1.3	0.8	3.6	1.2	2.8	3.8	0.4	73	203	na	1.8	35.4
Phantom Valley, Colo.	3/27/2003	E	–9.1	5.7	5.10	7.9	8.5	<1.7	1.2	1.2	6.6	<1.0	7.5	12.8	0.8	29	117	na	2.0	11.1
Rabbit Ears 1, Colo.	3/25/2003	E	–8.2	6.5	5.10	7.9	8.0	3.3	1.9	3.1	8.2	1.1	8.6	12.3	1.0	67	192	7.4	2.8	19.3
Rabbit Ears 2, Colo.	3/25/2003	E	–12.9	7.9	4.97	10.7	7.5	2.5	1.9	1.4	6.4	<1.0	8.1	12.0	1.1	65	194	7.3	1.7	20.3
Red Mountain, Mont.	3/5/2003	E	–0.5	3.2	5.54	2.9	6.5	<1.7	2.5	0.8	5.2	<1.0	3.8	5.3	0.6	33	125	na	4.3	32.5
Red Mountain Pass, Colo.	3/29/2003	E	0.7	2.8	5.77	1.7	11.5	2.5	1.1	0.7	2.5	1.0	3.2	6.0	0.4	60	180	4.7	0.7	29.0

Table 12. Selected chemical and physical data for Rocky Mountain snowpack samples for 2003.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park; (), suspect ionic balance; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Rendezvous Mountain, Wyo.	3/27/2003	E	7.0	4.0	5.64	2.3	11.0	4.9	3.3	0.5	7.3	1.4	5.3	5.1	<0.4	90	280	na	1.6	21.8
Ripple Creek NADP, Colo.	4/4/2003	E	17.6	5.1	6.39	0.4	26.4	4.1	1.9	0.5	4.6	1.0	5.7	11.0	0.4	66	208	na	1.7	3.6
Slumgullion Pass, Colo.	3/28/2003	E	15.0	5.1	5.80	1.6	16.5	5.8	3.7	13.4	<1.0	5.7	4.7	6.8	4.0	21	74	5.1	11.9	11.8
Snow Bowl, Mont.	3/8/2003	E	–5.8	3.2	5.15	7.1	<3.1	<1.7	<1.0	0.6	2.7	<1.0	2.4	3.3	0.4	57	221	na	2.4	28.8
Snyder Lake, Mont.	3/15/2003	E	–5.9	4.1	5.21	6.2	<3.1	<1.7	1.6	<0.4	4.8	<1.0	2.5	4.9	<0.4	36	170	na	2.8	26.4
South Pass, Wyo.	4/1/2003	E	1.5	3.1	5.76	1.7	8.5	2.5	2.5	1.0	6.2	<1.0	5.3	4.6	0.7	46	144	na	2.9	32.6
Spring Gulch, Mont.	3/3/2003	E	–1.0	3.8	5.47	3.4	8.0	4.1	<1.0	10.1	3.9	1.4	4.0	7.1	3.1	19	67	7.4	3.3	40.3
Sunlight Peak, Colo.	3/25/2003	E	–6.3	5.3	5.21	6.2	10.0	4.9	1.3	2.0	6.3	1.2	6.4	12.6	1.6	48	161	5.7	2.9	20.7
Sylvan Lake, Wyo.	2/25/2003	E	–3.8	3.4	5.41	3.9	<3.1	<1.7	<1.0	0.6	5.8	<1.0	3.2	5.3	0.4	50	165	na	1.3	9.8
Sylvan Lake (in road), Wyo.	2/25/2003	E	–5.3	4.3	5.27	5.4	<3.1	<1.7	<1.0	<0.4	8.1	<1.0	4.6	6.7	0.4	43	100	na	1.3	8.8
Taos Ski Valley, N. Mex.	3/29/2003	E	–3.4	3.9	5.44	3.6	9.5	2.5	1.5	0.6	5.5	1.0	6.3	9.0	0.6	79	231	4.2	2.0	17.4
Teton Pass, Wyo.	3/26/2003	E	24.0	6.1	6.20	0.6	24.0	5.8	5.0	3.0	9.2	2.5	7.4	8.5	1.6	54	203	na	7.8	5.8
Togwotee Pass, Wyo.	3/26/2003	E	2.8	3.1	5.74	1.8	9.0	2.5	2.2	1.0	5.7	1.0	4.2	5.8	0.6	53	218	na	2.5	23.2
Tower, Colo.	4/11/2003	E	–2.1	4.6	5.57	2.7	14.0	3.3	1.6	0.8	7.4	1.0	9.5	11.2	0.7	102	297	na	2.5	15.7
Twenty-one Mile, Mont.	3/3/2003	E	0.1	4.1	5.59	2.6	7.0	<1.7	2.4	0.8	8.9	1.6	5.3	9.0	0.5	24	94	na	2.4	14.9
University Camp, Colo.	4/7/2003	E	–1.4	5.5	5.22	6.0	10.5	2.5	1.0	1.1	7.6	<1.0	6.7	10.0	0.7	52	179	na	2.1	26.7
West Yellowstone, Mont.	2/28/2003	E	0.4	4.9	5.61	2.5	9.0	2.5	2.9	1.5	14.0	2.0	7.4	12.3	0.6	21	81	na	2.1	18.6
West Yellowstone (in road), Mont.	2/27/2003	E	6.2	6.8	5.92	1.2	15.5	4.9	5.1	1.2	21.4	4.8	12.3	12.4	1.4	na	38	na	4.3	16.0
Wolf Creek Pass, Colo.	3/28/2003	E	2.2	4.8	5.70	2.0	18.5	3.3	4.0	3.8	4.4	1.9	9.9	10.9	1.1	68	197	na	4.0	18.2

Table 13. Selected chemical and physical data for Rocky Mountain snowpack samples for 2004.

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; (), suspect ionic balance%, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Apgar Lookout, Mont.	3/9/2004	E	–10.2	5.3	5.09	8.1	<3.1	<1.7	1.5	<0.4	5.0	2.0	4.3	7.7	0.5	61	177	na	1.7	2.2
Banner Summit, Idaho	3/15/2004	E	12.5	7.6	6.12	0.8	15.4	2.3	32.7	0.5	<1.0	12.5	15.7	3.0	<0.4	64	173	7.7	4.1	8.4
Berthoud Pass, Colo.	4/7/2004	E	–13.2	5.1	5.27	5.4	6.3	<1.7	1.0	0.9	5.7	1.5	4.5	9.7	0.6	50	166	na	4.0	10.3
Big Mountain, Mont.	3/5/2004	E	–13.5	4.6	5.12	7.6	<3.1	<1.7	<1.0	1.2	3.3	1.5	3.6	5.3	0.6	74	252	5.6	1.7	8.0
Big Sky, Mont.	3/17/2004	E	–4.6	3.3	5.43	3.7	<3.1	<1.7	<1.0	<0.4	3.0	<1.0	3.0	4.5	<0.4	23	77	na	0.9	–4.8
Brooklyn Lake, Wyo.	3/26/2004	E	–1.4	6.4	5.23	5.9	13.1	3.5	1.0	5.1	6.4	1.7	9.8	12.4	1.4	54	147	6.3	14.0	18.8
Brumley, Colo.	3/25/2004	E	–5.1	5.7	5.06	8.7	8.4	2.2	<1.0	6.7	4.5	3.0	5.1	11.4	2.0	29	79	na	7.2	22.1
Buffalo Pass, Colo.	3/31/2004	E	–15.4	7.5	4.99	10.2	6.4	<1.7	<1.0	1.4	6.5	1.7	9.4	11.9	0.8	102	279	na	2.1	3.4
Cameron Pass, Colo.	3/15/2004	E	–11.3	6.5	4.97	10.7	5.8	<1.7	2.1	2.0	4.9	2.8	6.7	11.8	1.0	35	132	na	2.6	9.0
Canyon, Wyo.	2/25/2004	E	–16.6	3.2	5.12	7.6	<3.1	<1.7	<1.0	<0.4	3.3	<1.0	2.6	6.1	<0.4	29	111	na	0.5	11.1
Chief Joseph Pass, Mont.	3/8/2004	E	–8.0	4.0	5.20	6.3	<3.1	<1.7	1.6	1.4	2.4	1.3	2.5	3.0	1.2	48	176	2.9	4.2	26.5
Daisy Pass, Mont.	3/2/2004	E	–5.4	4.5	5.38	4.2	3.5	<1.7	<1.0	1.2	5.1	<1.0	3.8	4.9	0.9	73	220	na	1.1	23.1
Dry Lake, Colo.	3/25/2004	E	–12.0	8.2	4.97	10.7	6.7	<1.7	<1.0	<0.4	3.4	<1.0	6.9	17.0	0.4	47	127	na	1.1	–7.0
Dunckley Pass, Colo.	4/1/2004	E	–3.1	4.9	5.69	2.0	14.4	2.5	<1.0	2.2	5.0	1.0	5.7	11.5	0.6	59	174	na	1.2	18.1
Elk River, Colo.	3/25/2004	E	–8.9	6.0	5.18	6.6	11.0	2.0	<1.0	1.0	4.4	<1.0	7.5	14.4	0.4	43	118	na	1.7	6.4
Elkhart Park, Wyo.	3/23/2004	E	–13.1	5.8	5.06	8.7	3.4	<1.7	<1.0	<0.4	3.3	<1.0	5.5	7.4	0.6	36	110	5.9	<0.4	8.8
Four Mile Meadow, Wyo.	3/18/2004	E	–4.8	5.2	5.28	5.2	3.4	<1.7	<1.0	<0.4	3.4	<1.0	2.3	6.3	0.5	23	81	na	0.8	16.8
Fremont Pass, Colo.	4/8/2004	E	–2.7	4.6	5.32	4.8	6.1	<1.7	<1.0	2.9	4.8	<1.0	4.2	9.0	0.8	29	120	4.4	2.5	16.7

Table 13. Selected chemical and physical data for Rocky Mountain snowpack samples for 2004.—Continued

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Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Galena Summit, Idaho	3/15/2004	E	1.9	4.3	5.52	3.0	5.0	<1.7	10.7	0.6	2.8	4.0	6.8	3.0	na	44	145	7.6	2.7	16.8
Garnet Canyon, Wyo.	3/25/2004	E	2.2	4.7	5.64	2.3	9.7	2.5	1.2	2.8	4.9	<1.0	5.3	7.5	1.4	48	119	na	2.7	21.6
Grand Mesa, Colo.	3/28/2004	E	2.5	8.1	5.58	2.6	27.0	5.0	1.4	7.8	6.4	2.6	10.9	13.9	2.2	37	101	na	5.3	25.3
Granite Pass, Mont.	3/7/2004	E	–15.1	5.4	4.92	12.0	<3.1	<1.7	1.3	1.1	2.1	1.3	2.0	2.8	0.7	64	222	na	6.3	45.7
Gypsum Creek, Wyo.	3/23/2004	E	–7.1	4.3	5.35	4.5	4.6	<1.7	<1.0	0.4	2.5	1.3	3.1	6.9	0.6	24	91	na	0.9	3.1
Hopewell, N. Mex.	3/27/2004	E	–6.1	5.5	5.23	5.9	10.9	1.8	<1.0	2.1	4.5	1.3	6.9	11.3	1.0	34	87	na	4.1	12.9
Kings Hill, Mont.	2/28/2004	E	–10.2	3.8	5.11	7.8	4.2	<1.7	<1.0	1.1	4.8	<1.0	4.1	7.1	0.8	42	128	8.0	3.0	23.0
Lake, Wyo.	2/25/2004	E	–5.5	3.5	5.42	3.8	<3.1	<1.7	1.2	<0.4	5.1	<1.0	2.8	5.7	0.5	28	105	na	2.1	8.6
Lake Irene Forest, Colo.	3/30/2004	E	–8.4	6.1	5.12	7.6	9.3	<1.7	<1.0	1.8	5.0	<1.0	7.2	12.4	1.0	44	145	na	2.6	9.3
Lake Irene Meadow, Colo.	3/30/2004	E	–7.8	3.7	5.23	5.9	<3.1	<1.7	<1.0	<0.4	3.5	<1.0	2.6	8.2	<0.4	35	105	na	1.4	–7.2
Lewis Lake Divide, Wyo.	2/23/2004	E	–1.7	3.7	5.54	2.9	4.4	<1.7	3.0	<0.4	4.9	<1.0	5.2	5.7	<0.4	80	235	na	1.9	16.5
Lionshead, Mont.	3/1/2004	E	–10.9	7.3	5.04	9.1	4.1	<1.7	1.8	2.0	9.6	1.6	7.6	10.0	0.9	na	170	na	2.1	16.2
Loch Vale Forest, Colo.	4/6/2004	E	–11.9	6.8	5.20	6.3	9.8	<1.7	<1.0	2.1	9.3	<1.0	8.0	14.4	0.7	73	219	4.5	3.9	10.4
Loch Vale Meadow, Colo.	4/6/2004	E	–5.4	4.9	5.29	5.1	7.1	<1.7	<1.0	0.9	5.7	<1.0	5.8	11.5	0.4	110	302	na	2.0	4.2
Loveland Pass, Colo.	4/9/2004	E	–13.1	4.8	5.17	6.8	3.7	<1.7	1.1	<0.4	5.2	2.3	3.8	8.4	0.4	42	144	na	0.8	7.6
Lynx Pass, Colo.	3/26/2004	E	–10.2	4.7	5.40	4.0	11.1	<1.7	<1.0	1.1	2.8	<1.0	3.6	11.8	<0.4	29	80	na	0.9	10.5
Mills Lake, Colo.	3/24/2004	E	–7.8	6.7	5.25	5.6	11.6	1.7	<1.0	0.5	8.6	<1.0	8.7	16.3	0.8	58	170	na	2.5	5.7

Table 13. Selected chemical and physical data for Rocky Mountain snowpack samples for 2004.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; (), suspect ionic balance%, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Molas Lake, Colo.	3/27/2004	E	–2.7	5.2	5.51	3.1	9.3	<1.7	3.8	1.6	3.6	4.5	4.9	9.1	1.1	37	99	3.5	1.1	7.4
Monarch Pass, Colo.	3/25/2004	E	–14.0	4.5	4.83	14.8	11.2	3.1	<1.0	6.1	4.0	2.1	4.7	7.8	2.0	31	82	na	5.7	(45.4)
Monida Pass, Mont.	2/26/2004	E	–4.8	4.6	5.32	4.8	4.2	<1.7	2.4	<0.4	4.4	1.5	4.3	7.5	<0.4	15	57	na	0.9	8.7
Mount Belmont, Mont.	2/27/2004	E	–5.5	5.5	5.27	5.4	7.3	1.9	3.0	3.2	5.9	2.5	5.1	8.3	1.8	22	68	na	3.9	25.3
Ned Wilson, Colo.	4/13/2004	E	–7.1	3.5	5.40	4.0	7.9	<1.7	<1.0	<0.4	3.7	<1.0	3.7	7.2	<0.4	76	224	na	2.0	18.0
Niwot Snotel, Colo.	3/16/2004	E	–9.0	7.5	5.15	7.1	7.2	<1.7	<1.0	1.8	12.7	1.1	9.1	18.0	0.6	23	88	na	1.1	0.9
Noisy Basin, Mont.	3/4/2004	E	–7.0	4.4	5.10	7.9	<3.1	<1.7	<1.0	<0.4	3.1	<1.0	3.2	5.5	<0.4	82	303	na	1.5	11.6
Old Battle, Wyo.	3/25/2004	E	–1.2	6.1	5.31	4.9	11.7	3.5	<1.0	2.7	5.0	1.7	9.9	14.3	1.4	74	197	na	5.4	3.6
Old Faithful Fire Road, Wyo.	2/26/2004	E	1.4	3.4	5.63	2.3	4.3	<1.7	1.5	<0.4	5.6	1.6	3.5	6.3	0.5	37	123	na	1.1	3.3
Old Faithful (in road), Wyo.	2/26/2004	E	–2.6	6.7	5.96	1.1	21.1	2.7	3.2	1.7	8.6	4.9	7.0	8.1	1.4	27	62	na	4.5	(31.6)
Oldman Lake, Mont.	3/11/2004	E	–9.2	4.4	5.08	8.3	<3.1	<1.7	<1.0	1.9	1.6	<1.0	2.7	4.9	0.9	68	190	na	2.0	22.3
Phantom Valley, Colo.	3/7/2004	E	–13.7	7.8	4.96	11.0	7.7	<1.7	<1.0	1.5	5.5	<1.0	8.7	16.3	0.8	17	71	na	2.7	1.3
Rabbit Ears 1, Colo.	3/31/2004	E	–16.9	7.2	4.90	12.6	4.2	<1.7	<1.0	0.7	4.9	<1.0	7.9	13.0	<0.4	76	214	na	0.9	3.7
Red Mountain, Mont.	3/3/2004	E	–10.8	6.0	5.05	8.9	5.6	<1.7	2.6	0.4	6.0	1.6	5.5	6.4	0.6	35	136	na	1.5	27.2
Red Mountain Pass, Colo.	3/27/2004	E	1.3	4.0	5.79	1.6	9.2	<1.7	4.1	0.4	3.2	4.3	3.5	6.5	<0.4	49	140	na	1.3	8.8
Rendezvous Mountain, Wyo.	3/24/2004	E	–5.5	3.9	5.48	3.3	<3.1	<1.7	1.2	0.5	4.5	<1.0	3.8	4.5	<0.4	90	243	na	0.7	6.1
Ripple Creek NADP, Colo.	4/1/2004	E	–8.3	4.9	5.42	3.8	8.6	<1.7	<1.0	0.6	4.3	<1.0	4.7	10.9	<0.4	83	220	na	1.6	5.2

Table 13. Selected chemical and physical data for Rocky Mountain snowpack samples for 2004.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; (), suspect ionic balance%, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Slumgullion Pass, Colo.	3/26/2004	E	–11.5	4.4	5.02	9.5	7.9	2.8	<1.0	6.4	3.3	1.4	4.8	7.4	2.2	19	81	5.0	3.8	37.9
Snow Bowl, Mont.	3/6/2004	E	–24.4	3.2	4.73	18.6	<3.1	<1.7	<1.0	0.9	1.6	<1.0	2.4	3.4	0.8	57	198	na	3.6	56.9
Snyder Lake (Glacier NP), Mont.	3/8/2004	E	–5.4	3.9	5.26	5.5	<3.1	<1.7	1.5	0.5	2.9	1.5	2.7	5.3	0.5	43	137	na	3.2	4.7
South Pass, Wyo.	3/29/2004	E	–10.0	5.9	5.16	6.9	7.0	<1.7	<1.0	1.8	4.6	<1.0	8.0	8.4	0.9	41	122	na	1.8	10.7
Spring Gulch, Mont.	2/27/2004	E	–14.3	5.2	4.95	11.2	4.4	<1.7	<1.0	3.3	8.7	<1.0	6.5	9.5	1.3	22	68	na	2.0	26.5
Sunlight Peak, Colo.	4/2/2004	E	–6.7	5.8	5.26	5.5	18.5	3.9	<1.0	5.5	6.4	1.6	8.9	14.5	2.3	39	133	na	4.7	22.8
Sylvan Lake, Wyo.	2/24/2004	E	–6.6	3.6	5.42	3.8	<3.1	<1.7	<1.0	0.5	4.0	<1.0	3.1	5.0	0.5	46	142	na	1.3	0.9
Sylvan Lake (in road), Wyo.	2/24/2004	E	–6.5	4.0	5.32	4.8	<3.1	<1.7	1.5	0.5	4.9	<1.0	3.9	6.4	<0.4	44	104	na	1.9	5.8
Taos Ski Valley, N. Mex.	3/28/2004	E	–12.2	3.6	5.05	8.9	4.2	<1.7	<1.0	0.9	4.3	<1.0	3.8	6.6	0.7	36	115	4.1	7.5	27.8
Teton Pass, Wyo.	3/19/2004	E	6.7	4.7	6.03	0.9	8.6	2.9	1.6	2.0	5.6	1.4	4.4	6.5	0.7	48	199	na	2.5	6.4
Togwotee Pass, Wyo.	3/18/2004	E	–0.5	3.1	5.69	2.0	4.6	<1.7	1.7	0.8	3.4	<1.0	3.6	5.0	0.4	40	138	na	1.5	18.8
Twenty-one Mile, Mont.	3/1/2004	E	–12.2	6.7	5.06	8.7	6.0	<1.7	1.2	2.8	5.5	1.4	4.3	7.4	1.3	36	134	na	1.4	29.9
University Camp, Colo.	4/5/2004	E	–8.8	6.4	5.21	6.2	5.9	<1.7	<1.0	1.0	9.0	<1.0	7.9	12.7	0.5	60	184	na	0.8	3.7
West Yellowstone, Mont.	2/26/2004	E	–2.8	5.6	5.20	6.3	5.0	<1.7	1.8	0.8	7.5	1.4	4.8	11.7	1.0	24	90	na	1.4	9.1
West Yellowstone (in road), Mont.	2/26/2004	E	–4.6	5.5	5.37	4.3	3.3	<1.7	4.6	0.9	8.9	5.5	5.2	8.2	0.8	38	83	na	1.1	7.7
Wolf Creek Pass, Colo.	3/26/2004	E	–3.6	5.9	5.27	5.4	7.1	2.0	<1.0	5.2	7.9	2.0	9.2	11.4	1.4	68	187	na	4.3	10.1

Table 14. Selected chemical and physical data for Rocky Mountain snowpack samples for 2005.

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Banner Summit, Idaho	3/10/2005	E	–7.2	4.3	5.25	5.6	<3.1	<1.7	<1.0	<0.4	2.8	<1.0	2.6	4.1	<0.4	32	109	5.1	1.3	11.6
Berthoud Pass, Colo.	4/4/2005	E	–6.7	6.6	5.18	6.6	7.5	<1.7	5.1	1.0	5.7	4.0	6.0	11.2	0.4	63	204	na	4.2	9.9
Big Mountain, Mont.	3/5/2005	E	–10.8	5.4	5.09	8.1	<3.1	<1.7	<1.0	<0.4	3.0	1.0	3.6	5.5	<0.4	53	160	4.2	1.6	4.8
Big Sky, Mont.	3/9/2005	E	1.7	4.5	5.52	3.0	9.0	<1.7	<1.0	0.7	4.7	2.4	3.2	6.0	<0.4	18	59	na	1.7	13.2
Brooklyn Lake, Wyo.	3/31/2005	E	–5.0	4.7	5.38	4.2	6.5	<1.7	1.5	0.7	4.8	<1.0	6.0	6.7	<0.4	58	189	5.7	2.7	16.6
Brumley, Colo.	3/21/2005	E	–6.4	4.7	5.32	4.8	5.5	<1.7	1.3	0.5	2.7	<1.0	3.6	6.8	<0.4	30	130	na	1.9	17.2
Buffalo Pass, Colo.	3/29/2005	E	–11.6	5.9	5.13	7.4	4.5	<1.7	1.1	0.7	4.8	<1.0	7.1	7.9	<0.4	110	351	6.3	2.9	10.3
Cameron Pass, Colo.	3/23/2005	E	–5.6	5.2	5.34	4.6	7.0	<1.7	2.1	2.1	5.6	1.4	6.4	7.8	0.6	51	189	na	2.3	15.4
Canyon, Wyo.	2/23/2005	E	–6.5	4.6	5.29	5.1	<3.1	<1.7	1.2	0.6	6.9	<1.0	2.7	5.9	<0.4	21	90	na	2.4	23.5
Chief Joseph Pass, Mont.	3/8/2005	E	–8.5	4.9	5.17	6.8	<3.1	<1.7	<1.0	0.8	3.7	1.0	3.0	4.3	0.4	27	92	na	2.6	15.2
Daisy Pass, Mont.	3/1/2005	E	–6.7	4.3	5.33	4.7	<3.1	<1.7	<1.0	0.4	6.1	<1.0	3.2	5.8	<0.4	43	142	na	24.3	10.8
Deadman Pass, Colo.	4/1/2005	E	–2.1	5.3	5.44	3.6	9.5	<1.7	5.0	2.3	4.2	1.2	7.4	9.2	0.7	48	190	na	6.1	15.9
Divide Peak, Wyo.	3/30/2005	E	–6.8	6.2	5.24	5.8	5.5	<1.7	2.2	0.5	5.3	<1.0	7.4	9.2	<0.4	46	137	na	1.2	7.2
Dry Lake, Colo.	3/23/2005	E	–10.8	6.1	5.21	6.2	8.0	<1.7	2.5	0.5	5.0	<1.0	8.1	11.4	<0.4	45	147	6.1	1.2	6.4
Dunckley Pass, Colo.	3/28/2005	E	1.6	5.0	5.54	2.9	8.5	<1.7	1.9	0.8	5.3	1.1	5.6	8.4	<0.4	46	168	na	1.4	7.7
E5 (Glacier NP), Mont.	3/23/2005	E	–9.0	5.0	5.19	6.5	<3.1	<1.7	<1.0	0.8	3.3	1.1	4.4	5.0	0.4	84	240	na	11.5	0.2
Elk River, Colo.	3/24/2005	E	–3.8	4.9	5.56	2.8	12.5	<1.7	2.4	1.3	4.3	<1.0	7.2	9.8	0.5	40	138	5.4	2.3	15.5
Elkhart Park, Wyo.	3/15/2005	E	–10.4	5.5	5.17	6.8	<3.1	<1.7	<1.0	1.0	4.3	<1.0	4.2	6.7	0.8	45	112	na	3.0	5.6
Four Mile Meadow, Wyo.	3/14/2005	E	–6.0	5.2	5.25	5.6	<3.1	<1.7	<1.0	<0.4	5.2	<1.0	2.7	6.5	<0.4	17	70	na	1.5	8.0

Table 14. Selected chemical and physical data for Rocky Mountain snowpack samples for 2005.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Fremont Pass, Colo.	4/6/2005	E	–8.0	5.3	5.20	6.3	6.0	<1.7	1.3	1.1	3.2	1.0	3.7	7.5	0.4	32	134	5.2	2.1	18.7
Galena Summit, Idaho	3/10/2005	E	–10.8	4.7	5.16	6.9	<3.1	<1.7	<1.0	<0.4	5.3	<1.0	3.8	5.8	<0.4	36	121	3.9	0.6	12.0
Garnet Canyon, Wyo.	3/17/2005	E	4.9	5.3	5.79	1.6	8.0	<1.7	11.5	1.2	9.7	1.2	8.7	9.1	<0.4	34	126	na	0.9	14.5
Grand Mesa, Colo.	3/21/2005	E	–0.3	4.5	5.50	3.2	6.5	<1.7	<1.0	1.3	5.1	<1.0	5.3	6.4	0.5	72	220	na	4.9	15.7
Granite Park, Mont.	3/25/2005	E	–11.7	5.8	5.16	6.9	<3.1	<1.7	1.6	0.5	5.3	1.8	6.0	7.3	<0.4	65	182	na	1.0	–2.2
Granite Pass, Mont.	3/7/2005	E	–4.4	4.9	5.29	5.1	<3.1	<1.7	<1.0	2.1	<1.0	1.8	2.1	3.3	1.2	23	78	na	21.7	–0.2
Gypsum Creek, Wyo.	3/15/2005	E	–4.1	4.6	5.37	4.3	<3.1	<1.7	<1.0	0.9	3.0	<1.0	3.1	7.1	<0.4	20	84	na	2.1	–11.4
Hopewell, N. Mex.	3/19/2005	E	–9.4	5.0	5.22	6.0	3.5	<1.7	<1.0	0.6	2.8	<1.0	4.8	7.6	<0.4	48	156	4.9	2.2	2.0
Kings Hill, Mont.	2/26/2005	E	–5.5	5.9	5.24	5.8	7.0	<1.7	2.1	1.7	6.9	1.8	5.7	8.9	0.9	23	72	6.4	8.7	17.7
Lake Irene Forest, Colo.	4/5/2005	E	–3.4	4.6	5.32	4.8	6.5	<1.7	1.2	1.1	5.7	<1.0	5.7	9.4	<0.4	56	188	na	4.6	12.1
Lake Irene Meadow, Colo.	4/5/2005	E	–12.0	4.9	5.25	5.6	<3.1	<1.7	1.2	0.4	4.6	<1.0	4.3	8.6	<0.4	43	143	na	0.8	–4.6
Lewis Lake Divide, Wyo.	2/21/2005	E	–4.0	4.0	5.44	3.6	<3.1	<1.7	<1.0	<0.4	8.2	<1.0	3.9	6.2	<0.4	61	211	na	1.0	7.8
Lionshead, Mont.	3/9/2005	E	0.0	6.4	5.28	5.2	3.5	<1.7	<1.0	1.7	12.2	<1.0	6.0	9.8	0.6	38	122	na	4.0	17.9
Loch Vale Forest, Colo.	4/7/2005	E	–7.7	5.9	5.25	5.6	5.5	<1.7	1.1	0.9	6.3	<1.0	6.8	10.9	0.4	81	242	4.7	3.7	4.7
Loch Vale Meadow, Colo.	4/7/2005	E	–4.6	5.0	5.26	5.5	3.5	<1.7	<1.0	<0.4	4.3	<1.0	4.7	8.3	<0.4	56	153	na	0.7	1.2
Loveland Pass, Colo.	4/9/2005	E	–5.0	4.6	5.33	4.7	4.5	<1.7	2.8	0.5	3.3	3.5	3.1	7.2	0.4	50	160	5.5	1.1	6.6
Lynx Pass, Colo.	3/18/2005	E	–9.7	4.4	5.34	4.6	7.0	<1.7	2.2	<0.4	3.2	1.1	5.7	9.5	<0.4	27	120	na	0.9	1.7

Table 14. Selected chemical and physical data for Rocky Mountain snowpack samples for 2005.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Mills Lake, Colo.	4/7/2005	E	–1.9	5.7	5.47	3.4	9.0	<1.7	1.9	2.3	7.3	1.1	9.0	12.3	0.7	61	180	na	na	3.3
Molas Lake, Colo.	3/22/2005	E	1.1	4.7	5.24	5.8	3.5	<1.7	1.2	0.6	2.5	<1.0	3.4	6.2	<0.4	67	197	4.0	1.1	11.9
Monarch Pass, Colo.	3/24/2005	E	2.9	4.2	5.93	1.2	16.0	2.5	1.7	0.7	4.1	1.5	4.9	7.3	<0.4	48	157	na	1.6	22.3
Monida Pass, Mont.	3/24/2005	E	–8.9	5.9	5.42	3.8	3.5	<1.7	<1.0	<0.4	14.7	<1.0	7.5	12.9	<0.4	9	32	na	0.9	3.9
Mount Belmont, Mont.	2/25/2005	E	–15.8	7.8	5.04	9.1	3.5	<1.7	<1.0	2.6	3.0	1.8	6.9	9.7	2.1	10	31	na	9.0	–0.1
Ned Wilson, Colo.	4/22/2005	E	–5.6	3.9	5.47	3.4	7.0	<1.7	1.7	0.5	3.7	<1.0	4.5	7.0	<0.4	98	244	na	1.3	17.1
Niwot Snotel, Colo.	3/18/2005	E	–3.4	5.6	5.38	4.2	7.5	<1.7	2.4	0.5	10.6	1.2	8.8	13.5	<0.4	30	110	na	0.7	3.2
Noisy Basin, Mont.	3/4/2005	E	–9.6	4.6	5.24	5.8	<3.1	<1.7	<1.0	<0.4	3.6	2.4	4.1	5.0	<0.4	49	160	na	1.7	–10.0
Old Battle, Wyo.	3/30/2005	E	–4.3	4.6	5.25	5.6	4.5	<1.7	2.2	0.5	4.0	<1.0	5.7	7.1	<0.4	84	250	na	2.3	13.6
Old Faithful Fire Road, Wyo.	2/23/2005	E	–16.2	4.3	5.27	5.4	<3.1	<1.7	<1.0	<0.4	9.7	<1.0	3.8	9.4	<0.4	25	90	na	1.2	6.5
Old Faithful (in road), Wyo.	2/23/2005	E	9.6	6.1	5.86	1.4	16.5	4.9	3.4	4.3	14.9	4.1	6.9	9.5	2.0	na	41	na	6.6	20.4
Phantom Valley, Colo.	3/17/2005	E	–10.0	5.3	5.23	5.9	4.5	<1.7	1.4	0.6	4.5	<1.0	4.5	8.0	<0.4	26	92	na	1.0	14.9
Rabbit Ears 1, Colo.	3/24/2005	E	–9.7	5.5	5.18	6.6	4.5	<1.7	1.2	0.4	4.7	<1.0	7.2	8.7	<0.4	68	243	6.1	1.7	4.9
Rabbit Ears 2, Colo.	3/24/2005	E	–10.0	5.9	5.12	7.6	4.0	<1.7	1.2	0.5	4.2	<1.0	7.2	8.9	<0.4	66	240	na	1.7	4.1
Red Mountain, Mont.	3/2/2005	E	–3.2	5.1	5.34	4.6	8.5	<1.7	<1.0	1.2	5.8	1.1	4.6	7.9	0.7	16	68	na	1.6	19.0
Red Mountain Pass, Colo.	3/22/2005	E	–8.1	4.2	5.30	5.0	3.5	<1.7	1.1	0.5	2.9	<1.0	3.7	5.5	<0.4	74	225	na	2.4	17.1
Rendezvous Mountain, Wyo.	3/16/2005	E	–10.4	4.7	5.61	2.5	4.0	<1.7	<1.0	<0.4	5.1	<1.0	3.9	4.8	<0.4	56	197	na	1.0	14.3
Ripple Creek NADP, Colo.	3/28/2005	E	–1.8	4.7	5.64	2.3	14.0	<1.7	2.9	0.7	4.5	1.2	6.3	9.4	<0.4	48	145	6.4	2.5	17.8

Table 14. Selected chemical and physical data for Rocky Mountain snowpack samples for 2005.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Ripple Creek Pass, Colo.	3/28/2005	E	–3.7	4.7	5.41	3.9	10.5	<1.7	2.9	0.6	4.9	1.1	6.5	9.2	<0.4	44	151	5.9	0.8	15.1
Slumgullion Pass, Colo.	3/23/2005	E	–6.5	4.0	5.36	4.4	5.5	<1.7	1.3	1.1	2.4	<1.0	3.6	5.1	0.5	38	140	na	3.6	25.8
Snow Bowl, Mont.	3/6/2005	E	–10.9	5.1	5.12	7.6	5.0	<1.7	1.6	1.3	3.5	1.6	4.1	4.7	0.5	37	117	na	7.6	29.0
South Pass, Wyo.	3/18/2005	E	–11.5	6.7	5.13	7.4	5.0	<1.7	<1.0	1.6	5.4	<1.0	6.5	8.1	0.7	32	125	6.3	1.7	14.1
Spring Gulch, Mont.	2/25/2005	E	–3.0	4.9	5.34	4.6	8.0	2.5	<1.0	3.3	5.6	<1.0	4.4	6.6	1.1	11	39	na	8.4	36.8
Sunlight Peak, Colo.	3/25/2005	E	–4.3	4.1	5.19	6.5	3.5	<1.7	<1.0	<0.4	3.6	<1.0	3.7	6.2	<0.4	55	193	4.7	0.6	15.8
Sylvan Lake, Wyo.	2/22/2005	E	–3.5	3.9	5.35	4.5	<3.1	<1.7	<1.0	<0.4	6.2	<1.0	3.4	5.1	<0.4	40	144	na	0.7	11.0
Sylvan Lake (in road), Wyo.	2/22/2005	E	–7.0	4.1	5.24	5.8	<3.1	<1.7	<1.0	<0.4	7.1	<1.0	3.6	6.2	<0.4	35	97	na	0.9	13.4
Taos Ski Valley, N. Mex.	3/20/2005	E	–13.9	6.0	5.19	6.5	15.0	<1.7	4.2	1.6	5.7	<1.0	12.2	9.4	0.6	62	201	na	10.9	20.7
Teton Pass, Wyo.	3/17/2005	E	5.5	4.7	5.91	1.2	8.5	2.5	3.9	0.6	8.2	1.3	7.7	7.9	0.5	54	188	na	2.1	5.1
Togwotee Pass, Wyo.	3/14/2005	E	–5.4	3.9	5.37	4.3	<3.1	<1.7	<1.0	0.8	3.9	<1.0	3.1	5.3	<0.4	27	108	na	3.0	3.0
Tower Falls, Wyo.	3/1/2005	E	0.4	4.0	5.66	2.2	<3.1	<1.7	<1.0	<0.4	11.5	<1.0	2.8	6.6	<0.4	8	37	na	0.4	16.5
Twenty-one Mile, Mont.	2/28/2005	E	–4.8	4.9	5.30	5.0	<3.1	<1.7	<1.0	1.1	6.7	1.0	3.0	6.6	0.4	23	85	na	3.7	9.3
University Camp, Colo.	4/14/2005	E	–6.3	6.0	5.18	6.6	8.0	<1.7	1.5	1.4	7.4	<1.0	8.0	11.1	0.4	45	147	na	3.4	13.1
West Yellowstone, Mont.	2/24/2005	E	–6.5	4.6	5.38	4.2	<3.1	<1.7	<1.0	0.5	8.9	<1.0	3.8	8.6	<0.4	16	60	na	1.7	4.5
West Yellowstone (in road), Mont.	2/24/2005	E	0.1	5.2	5.75	1.8	7.0	<1.7	1.9	0.9	15.0	1.9	6.4	9.1	0.8	na	54	na	2.7	20.6
Wolf Creek Pass, Colo.	3/23/2005	E	–5.4	5.0	5.22	6.0	4.0	<1.7	1.0	0.5	3.2	1.1	5.8	7.4	<0.4	110	323	na	3.8	1.2

Table 15. Selected chemical and physical data for Rocky Mountain snowpack samples for 2006.

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Apgar Lookout, Mont.	3/10/2006	E	–4.4	4.1	5.35	4.5	<3.1	<1.7	1.5	<0.4	5.3	1.8	3.5	5.8	0.4	64	184	na	0.7	0.8
Banner Summit, Id.	3/9/2006	E	–3.9	2.8	5.46	3.5	<3.1	<1.7	<1.0	<0.4	2.0	<1.0	1.4	2.3	<0.4	76	240	4.1	0.9	18.8
Berthoud Pass, Colo.	4/3/2006	E	36.2	7.0	6.54	0.3	36.9	2.5	3.3	0.8	3.2	2.8	5.5	8.6	na	70	201	na	3.7	–6.2
Big Mountain, Mont.	3/3/2006	E	–4.3	3.7	5.32	4.8	<3.1	<1.7	<1.0	<0.4	2.8	1.3	2.3	3.8	<0.4	98	304	4.1	0.7	1.5
Big Sky, Mont.	3/8/2006	E	4.0	4.1	5.88	1.3	7.0	<1.7	3.5	0.7	5.7	3.3	5.1	4.6	0.5	41	150	na	1.6	3.6
Brooklyn Lake, Wyo.	3/30/2006	E	–4.4	5.3	5.39	4.1	7.5	<1.7	2.3	1.6	5.0	1.5	7.9	9.9	0.9	79	230	5.3	4.8	2.8
Brumley, Colo.	3/24/2006	E	5.8	3.8	5.85	1.4	9.0	<1.7	1.2	<0.4	3.0	<1.0	4.4	8.2	<0.4	43	150	na	2.0	–11.7
Buffalo Pass, Colo.	3/28/2006	E	–8.7	6.2	5.09	8.1	5.0	<1.7	1.4	0.6	5.0	1.1	7.7	11.5	0.5	122	358	5.1	2.9	–0.6
Cameron Pass, Colo.	3/31/2006	E	–6.5	7.0	5.08	8.3	5.0	<1.7	3.5	0.5	4.4	3.7	6.2	9.0	0.4	68	201	na	2.4	6.7
Canyon, Wyo.	2/22/2006	E	–3.5	3.2	5.38	4.2	<3.1	<1.7	<1.0	<0.4	4.7	<1.0	2.0	5.2	<0.4	28	113	na	0.9	10.4
Chief Joseph Pass, Mont.	3/6/2006	E	0.8	3.1	5.53	3.0	<3.1	<1.7	2.0	<0.4	2.8	2.5	2.2	3.0	0.4	55	185	5.1	2.0	–4.7
Daisy Pass, Mont.	2/28/2006	E	–2.1	2.8	5.45	3.5	<3.1	<1.7	<1.0	<0.4	4.5	<1.0	2.3	3.7	<0.4	77	278	na	0.7	14.4
Deadman Pass, Colo.	3/31/2006	E	0.3	4.8	5.42	3.8	8.5	<1.7	1.7	0.9	4.4	1.2	6.3	10.4	0.5	56	177	na	3.2	3.0
Divide Peak, Wyo.	3/28/2006	E	–1.3	8.0	5.15	7.1	16.5	3.3	4.6	1.3	7.2	2.1	9.4	18.3	na	35	101	na	3.4	14.5
Dry Lake, Colo.	3/17/2006	E	–5.8	6.2	5.13	7.4	7.5	<1.7	1.8	<0.4	4.2	1.5	6.6	16.2	<0.4	58	185	5.7	1.2	–7.4
Dunckley Pass, Colo.	3/29/2006	E	8.4	4.5	5.99	1.0	13.0	2.5	1.8	1.4	4.9	1.5	6.1	9.9	<0.4	65	200	na	1.7	–2.6
Elk River, Colo.	3/17/2006	E	1.0	5.0	5.73	1.9	13.5	<1.7	2.5	0.7	4.2	1.6	6.4	14.3	0.4	42	138	na	2.1	–1.2
Elkhart Park, Wyo.	3/14/2006	E	–3.7	3.8	5.34	4.6	<3.1	<1.7	<1.0	<0.4	3.2	1.0	3.5	5.8	<0.4	31	120	5.8	0.6	–13.6
Four Mile Meadow, Wyo.	3/11/2006	E	–1.0	3.0	5.62	2.4	<3.1	<1.7	1.0	<0.4	3.6	1.4	2.1	5.2	0.4	29	104	na	0.7	–10.4
Fremont. Pass, Colo.	4/6/2006	E	17.3	5.0	6.34	0.5	17.0	<1.7	1.4	0.5	2.9	1.2	4.5	8.3	<0.4	50	173	na	1.9	–17.0
Galena Summit, Id.	3/9/2006	E	–1.5	2.8	5.54	2.9	<3.1	<1.7	1.1	<0.4	2.7	<1.0	1.8	3.0	0.4	61	236	5.1	2.8	16.2
Garnet Canyon, Wyo.	3/13/2006	E	–1.3	4.0	5.66	2.2	6.5	<1.7	2.1	0.8	6.2	1.9	4.6	6.6	0.6	63	191	na	3.1	15.5
Grand Mesa, Colo.	3/28/2006	E	5.4	5.2	5.85	1.4	18.0	3.3	2.4	1.2	6.3	1.6	7.8	11.6	0.7	40	136	na	4.2	10.3

Table 15. Selected chemical and physical data for Rocky Mountain snowpack samples for 2006.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Granite Pass, Mont.	3/7/2006	E	0.2	3.6	5.37	4.3	<3.1	<1.7	1.7	1.0	1.7	2.6	1.8	2.4	0.5	86	257	na	5.1	10.4
Gypsum Creek, Wyo.	3/14/2006	E	–6.7	4.3	5.29	5.1	<3.1	<1.7	<1.0	2.2	3.5	1.3	2.9	6.3	1.2	33	117	na	1.4	2.1
Hopewell, N. Mex.	3/25/2006	E	31.5	9.1	6.52	0.3	45.9	5.8	4.8	3.1	8.8	3.8	11.9	19.6	1.2	23	92	na	6.2	1.4
Kings Hill, Mont.	2/25/2006	E	–0.8	3.9	5.47	3.4	<3.1	<1.7	<1.0	1.1	5.1	1.3	3.4	5.8	0.8	45	130	6.7	9.0	–4.6
Lake Irene, Colo.	4/4/2006	E	2.2	4.1	5.60	2.5	9.5	<1.7	1.2	1.3	4.7	1.2	6.1	10.8	0.9	65	197	na	2.3	–2.8
Lewis Lake Divide, Wyo.	2/20/2006	E	–0.4	2.7	5.44	3.6	<3.1	<1.7	<1.0	<0.4	4.6	<1.0	2.2	3.8	<0.4	88	264	na	0.5	15.7
Lionshead, Mont.	2/27/2006	E	2.8	3.7	5.67	2.1	<3.1	<1.7	<1.0	0.7	10.0	1.2	3.8	7.4	0.4	49	163	na	2.7	–8.6
Loch Vale Forest, Colo.	4/3/2006	E	11.2	4.9	6.01	1.0	14.5	<1.7	1.3	0.7	4.8	1.1	6.8	10.8	0.7	90	258	na	2.7	–14.8
Loch Vale Meadow, Colo.	4/3/2006	E	11.3	4.8	6.26	0.5	20.5	2.5	1.3	<0.4	3.8	1.1	5.9	10.0	<0.4	64	173	na	1.4	0.4
Loveland Pass, Colo.	4/7/2006	E	105	14.7	7.19	0.1	79.3	4.9	5.9	1.1	4.3	4.5	8.4	13.8	na	70	210	na	3.5	(–15.7)
Lynx Pass, Colo.	3/18/2006	E	5.4	3.9	5.76	1.7	7.5	<1.7	1.3	<0.4	3.1	1.0	4.4	10.2	<0.4	49	174	na	7.0	–21.5
Medano Pass, Colo.	3/22/2006	E	41.3	10.6	6.04	0.9	49.4	9.1	4.2	9.3	12.0	3.1	15.9	16.6	2.8	37	161	na	25.0	4.9
Molas Lake, Colo.	3/29/2006	E	19.0	5.9	6.00	1.0	26.4	3.3	2.4	0.7	4.6	2.8	5.1	12.8	0.8	50	177	3.9	3.1	–1.6
Monarch Pass, Colo.	3/20/2006	E	37.8	7.2	6.59	0.3	38.9	4.9	2.5	1.6	5.2	2.8	6.4	8.9	0.7	38	155	na	5.5	–2.3
Monida Pass, Mont.	2/23/2006	E	8.5	4.4	5.86	1.4	3.5	<1.7	1.2	1.7	14.0	1.9	4.2	7.5	1.0	19	62	na	0.6	–0.7
Mosca Pass, Colo.	3/23/2006	E	30.4	8.9	6.22	0.6	36.9	4.1	6.7	2.1	9.8	2.2	13.8	18.0	1.1	38	147	na	3.6	–3.3
Mount Belmont, Mont.	2/24/2006	E	48.6	10.7	6.46	0.3	9.5	19.7	1.4	13.2	21.7	2.8	5.7	7.4	3.6	24	77	na	33.6	1.1
Music Pass, Colo.	3/21/2006	E	31.4	8.8	6.29	0.5	40.4	4.1	4.0	2.4	9.9	2.1	13.4	13.4	1.0	46	180	3.5	7.9	0.9
Niwot Snotel, Colo.	3/3/2006	E	141	18.2	7.10	0.1	63.9	4.1	3.3	1.5	6.1	1.6	11.2	11.3	<0.4	23	78	na	11.8	(–35.3)
Noisy Basin, Mont.	3/2/2006	E	–0.7	4.3	5.32	4.8	<3.1	<1.7	1.1	1.3	3.9	1.5	2.7	4.6	0.7	102	335	na	1.2	11.1
Old Battle, Wyo.	3/28/2006	E	–3.9	7.0	5.16	6.9	10.0	2.5	2.3	0.7	5.6	1.7	7.8	13.2	0.5	89	250	na	2.1	10.4
Old Faithful Fire Road, Wyo.	2/22/2006	E	–3.3	3.4	5.59	2.6	<3.1	<1.7	1.1	<0.4	6.4	1.3	2.5	6.3	0.4	26	100	na	0.9	0.5
Old Faithful (in road), Wyo.	2/22/2006	E	3.4	4.0	5.84	1.4	4.5	<1.7	2.0	1.9	9.0	3.2	3.8	6.0	1.0	na	57	na	4.3	6.8
Phantom Valley, Colo.	3/6/2006	E	–4.2	5.7	5.24	5.8	7.5	<1.7	1.5	0.7	4.2	1.3	7.3	12.5	0.7	20	73	na	1.0	–3.7

Table 15. Selected chemical and physical data for Rocky Mountain snowpack samples for 2006.—Continued

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Rabbit Ears 1, Colo.	3/27/2006	E	–4.8	5.1	5.30	5.0	7.5	<1.7	1.7	0.6	5.1	1.2	7.2	11.0	0.4	107	282	na	1.2	1.2
Rabbit Ears 2, Colo.	3/27/2006	E	–5.1	5.5	5.34	4.6	9.0	<1.7	2.0	0.5	5.3	1.3	7.8	12.1	<0.4	106	292	na	1.1	0.1
Red Mountain, Mont.	3/4/2006	E	–0.2	4.1	5.66	2.2	6.0	<1.7	1.8	1.2	7.4	2.1	4.0	7.2	1.1	40	134	na	2.6	16.4
Red Mountain Pass, Colo.	3/29/2006	E	10.5	4.9	6.03	0.9	17.5	2.5	2.2	1.5	4.5	2.2	5.5	11.6	0.4	63	221	na	3.0	–1.3
Rendezvous Mountain, Wyo.	3/15/2006	E	2.0	3.0	5.80	1.6	<3.1	<1.7	1.9	<0.4	4.7	1.6	3.5	4.1	0.4	77	265	na	1.4	–14.9
Ripple Creek NADP, Colo.	3/29/2006	E	3.7	4.3	5.92	1.2	12.5	2.5	1.9	<0.4	4.2	1.3	4.7	10.1	na	64	167	5.7	2.0	5.7
Slumgullion Pass, Colo.	3/30/2006	E	15.0	4.2	6.31	0.5	18.5	<1.7	1.4	1.1	2.7	1.4	3.9	7.0	1.2	35	134	4.2	3.3	–6.1
Snow Bowl, Mont.	3/5/2006	E	–3.0	3.3	5.42	3.8	<3.1	<1.7	1.6	0.5	3.2	1.8	2.6	3.4	0.6	75	233	na	2.1	7.7
South Pass, Wyo.	3/29/2006	E	–3.4	6.5	5.13	7.4	7.5	<1.7	2.9	0.5	5.1	1.5	8.7	8.6	na	43	136	na	0.9	10.7
Spring Gulch, Mont.	2/24/2006	E	3.7	4.1	5.76	1.7	9.0	2.5	<1.0	4.6	7.0	1.5	3.8	8.0	2.5	21	68	na	4.2	18.5
Sunlight Peak, Colo.	3/30/2006	E	–0.3	4.2	5.77	1.7	10.5	<1.7	2.1	0.5	5.9	1.3	6.6	9.8	0.8	69	224	na	2.0	7.6
Sylvan Lake, Wyo.	2/21/2006	E	–2.4	2.9	5.49	3.2	<3.1	<1.7	<1.0	<0.4	4.4	<1.0	2.4	4.4	<0.4	45	148	na	1.0	6.1
Sylvan Lake (in road), Wyo.	2/21/2006	E	–4.3	3.0	5.49	3.2	<3.1	<1.7	<1.0	<0.4	4.7	<1.0	2.6	4.9	0.4	40	103	na	0.8	2.8
Taos Ski Valley, N. Mex.	3/26/2006	E	37.6	12.1	6.47	0.3	61.4	6.6	6.3	3.5	9.7	4.5	26.2	21.3	1.5	20	79	4.0	11.3	–1.0
Teton Pass, Wyo.	3/16/2006	E	2.4	3.7	5.76	1.7	5.0	<1.7	2.7	1.4	5.7	2.2	4.1	5.2	na	75	268	na	2.2	8.8
Togwotee Pass, Wyo.	3/11/2006	E	–1.7	3.3	5.44	3.6	<3.1	<1.7	1.1	<0.4	3.1	1.2	2.6	4.6	3.8	49	156	na	1.2	–2.9
Twenty-one Mile, Mont.	2/27/2006	E	–1.1	3.5	5.54	2.9	<3.1	<1.7	<1.0	1.1	8.0	1.4	2.9	6.5	0.8	35	128	na	1.9	5.3
University Camp, Colo.	4/5/2006	E	44.8	8.6	6.61	0.2	35.4	3.3	2.1	1.2	5.6	1.3	8.8	10.5	0.5	55	164	na	4.6	(–15.4)
West Yellowstone, Mont.	2/23/2006	E	–1.2	3.7	5.61	2.5	<3.1	<1.7	<1.0	0.4	8.5	1.1	2.8	7.5	0.4	27	102	na	0.4	0.0
West Yellowstone (in road), Mont.	2/23/2006	E	1.6	3.9	5.72	1.9	<3.1	<1.7	1.0	0.4	11.3	1.3	3.8	7.9	0.9	na	63	na	<0.4	0.3
Wolf Creek Pass, Colo.	3/30/2006	E	–1.9	6.2	5.50	3.2	14.5	2.5	3.6	1.1	7.6	3.5	9.4	15.8	0.5	56	210	na	5.9	6.0

Table 16. Selected chemical and physical data for Rocky Mountain snowpack samples for 2007.

[E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Apgar Lookout, Mont.	3/13/2007	E	–4.4	4.7	5.24	5.8	4.0	<1.7	1.4	0.6	4.6	1.5	4.0	6.4	<0.4	59	153	na	2.0	16.0
Banner Summit, Idaho	3/8/2007	E	0.8	3.8	5.56	2.8	4.5	<1.7	4.4	0.6	3.1	1.6	3.8	4.1	<0.4	50	160	na	1.7	19.1
Berthoud Pass, Colo.	3/30/2007	E	–2.9	4.9	5.27	5.4	6.2	<1.7	2.3	1.5	1.3	2.4	3.8	8.1	0.7	46	173	na	3.0	7.7
Big Mountain, Mont.	3/2/2007	E	–5.8	4.0	5.23	5.9	<3.1	<1.7	1.4	<0.4	2.1	1.4	3.2	4.1	<0.4	70	260	na	0.9	3.9
Big Sky, Mont.	3/7/2007	E	1.1	3.2	5.56	2.8	4.6	<1.7	<1.0	0.6	3.7	<1.0	2.7	3.8	<0.4	32	114	na	0.8	21.0
Brooklyn Lake, Wyo.	3/27/2007	E	5.6	4.5	5.65	2.2	12.4	3.4	1.6	5.2	<1.0	1.7	7.5	8.5	1.5	58	153	na	3.5	2.8
Brumley, Colo.	3/22/2007	E	7.4	4.9	5.60	2.5	17.8	2.0	3.6	1.7	3.8	1.3	8.4	10.5	0.6	34	122	na	1.3	6.3
Buffalo Pass, Colo.	4/3/2007	E	–6.0	6.0	5.18	6.6	8.6	1.9	1.2	1.5	5.2	1.1	8.7	11.5	0.6	89	290	na	2.0	8.0
Cameron Pass, Colo.	3/28/2007	E	–1.9	6.5	5.28	5.2	8.8	<1.7	12.8	1.7	3.2	13.5	5.1	8.7	0.6	58	179	na	3.6	7.6
Canyon, Wyo.	2/21/2007	E	1.0	3.7	5.67	2.1	5.2	<1.7	1.5	<0.4	7.0	1.2	4.3	6.1	<0.4	25	124	na	2.6	11.2
Chief Joseph Pass, Mont.	3/5/2007	E	–1.7	3.5	5.45	3.5	<3.1	<1.7	2.9	0.7	3.0	1.0	2.9	3.5	0.4	39	140	na	4.2	16.2
Daisy Pass, Mont.	2/27/2007	E	3.1	3.6	5.75	1.8	5.2	<1.7	1.4	1.8	5.0	1.3	4.5	5.1	0.4	68	250	na	4.0	4.1
Divide Peak, Wyo.	3/27/2007	E	13.0	7.1	5.91	1.2	25.3	5.2	2.8	1.9	7.1	1.8	10.5	16.9	0.9	44	117	na	3.4	1.6
Dry Lake, Colo.	3/16/2007	E	–9.0	7.0	5.07	8.5	11.9	1.8	1.1	0.6	4.9	1.3	7.6	15.9	<0.4	36	132	na	0.7	7.6
Dunckley Pass, Colo.	3/28/2007	E	2.6	4.8	5.70	2.0	13.4	2.3	1.3	3.2	4.3	1.2	6.1	10.4	0.9	49	164	na	1.9	12.9
Elk River, Colo.	3/16/2007	E	7.5	5.7	5.86	1.4	27.6	2.9	1.6	4.5	3.0	1.6	7.3	14.3	0.7	35	117	na	0.5	14.2
Elkhart Park, Wyo.	3/14/2007	E	–5.3	4.4	5.33	4.7	16.6	<1.7	1.2	0.6	3.6	<1.0	4.1	6.7	0.5	23	87	na	1.1	42.7
Four Mile Meadow, Wyo.	3/12/2007	E	–0.2	3.7	5.53	3.0	4.7	<1.7	1.4	0.6	5.0	1.1	3.5	5.9	0.5	23	88	na	2.4	16.3
Fremont Pass, Colo.	4/6/2007	E	0.5	4.6	5.55	2.8	9.5	1.9	1.9	2.5	2.0	1.3	5.3	8.5	0.8	36	146	na	3.7	14.0
Galena Summit, Idaho	3/8/2007	E	3.5	3.7	5.66	2.2	5.8	<1.7	2.3	1.8	2.3	1.6	3.2	5.0	0.5	35	146	na	2.5	3.9
Garnet Canyon, Wyo.	3/23/2007	E	0.7	4.4	5.50	3.2	6.0	<1.7	1.4	1.9	5.0	1.3	4.7	6.4	0.8	38	110	na	4.9	14.3
Grand Mesa, Colo.	3/26/2007	E	17.7	6.3	6.04	0.9	23.0	5.7	2.9	7.1	2.6	2.4	11.6	13.8	1.8	33	113	na	3.2	–3.9
Granite Pass, Mont.	3/6/2007	E	16.0	4.4	5.59	2.6	<3.1	<1.7	1.6	1.4	<1.0	1.9	2.5	1.8	0.7	54	172	na	7.1	–59.8

Table 16. Selected chemical and physical data for Rocky Mountain snowpack samples for 2007.—Continued

E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Grizzly Ridge, Utah	3/30/2007	E	13.9	5.4	6.20	0.6	19.8	4.6	2.7	1.8	5.7	1.7	6.1	11.4	0.8	24	91	na	5.1	3.2
Gypsum Creek, Wyo.	3/14/2007	E	–1.4	4.7	5.33	4.7	7.5	2.2	1.1	5.5	<1.0	1.6	4.7	6.9	1.7	22	80	na	2.5	22.9
Hopewell, N. Mex.	3/24/2007	E	4.2	5.7	5.77	1.7	16.5	2.6	2.3	1.8	7.6	2.4	9.1	12.7	0.5	27	98	na	6.6	6.7
Kings Hill, Mont.	2/24/2007	E	15.9	5.5	6.12	0.8	6.8	1.9	2.0	2.5	14.0	2.4	6.0	8.2	1.0	33	121	na	13.5	–7.5
Lake Fork, Utah	3/30/2007	E	16.4	5.7	6.17	0.7	18.3	4.3	2.4	2.4	8.0	2.0	6.7	10.7	0.8	28	111	na	5.7	0.3
Lake Irene, Colo.	4/5/2007	E	2.5	4.5	5.47	3.4	6.9	<1.7	<1.0	9.2	<1.0	1.8	5.0	8.8	1.6	58	186	na	4.8	3.6
Lewis Lake Divide, Wyo.	2/19/2007	E	4.7	3.7	5.79	1.6	4.1	<1.7	1.3	<0.4	8.5	1.0	4.1	5.6	<0.4	59	203	na	1.2	0.4
Lionshead, Mont.	2/26/2007	E	6.0	5.5	5.89	1.3	11.5	2.2	2.2	1.4	13.1	2.4	6.7	10.9	0.7	36	153	na	8.9	9.9
Loch Vale Forest, Colo.	4/3/2007	E	–9.5	5.5	5.28	5.2	8.8	<1.7	1.2	1.5	4.7	1.3	6.3	11.4	0.8	78	215	na	4.8	6.1
Loch Vale Meadow, Colo.	4/3/2007	E	–3.7	4.8	5.30	5.0	6.7	<1.7	1.2	0.5	4.8	<1.0	5.5	9.9	<0.4	62	178	na	0.3	8.4
Lone Pine, Colo.	3/29/2007	E	–1.3	4.8	5.40	4.0	8.8	2.1	1.1	2.8	<1.0	1.2	5.2	8.2	1.4	46	133	na	5.1	12.4
Loveland Pass, Colo.	4/7/2007	E	–5.2	4.9	5.28	5.2	5.6	<1.7	1.9	0.4	2.6	2.7	3.7	8.7	<0.4	52	189	na	0.9	2.8
Medano Pass, Colo.	3/21/2007	E	11.8	6.3	5.63	2.3	20.0	5.4	2.2	11.7	<1.0	2.5	9.4	9.2	2.1	46	155	na	25.6	11.7
Molas Lake, Colo.	3/27/2007	E	28.5	7.2	6.55	0.3	41.0	3.7	2.7	0.9	3.8	2.3	7.1	12.1	0.4	42	128	na	2.7	2.3
Monarch Pass, Colo.	3/19/2007	E	34.2	7.1	6.38	0.4	26.3	6.6	2.8	19.6	<1.0	5.2	8.9	6.9	3.6	30	116	na	7.6	0.5
Mount Belmont, Mont.	2/23/2007	E	6.2	6.5	5.53	3.0	13.9	4.8	2.4	9.0	<1.0	3.1	7.8	6.5	3.3	11	45	na	30.3	16.6
Music Pass, Colo.	3/20/2007	E	–2.6	5.1	5.41	3.9	14.4	2.5	2.4	3.1	2.5	1.2	8.2	9.7	1.1	87	244	na	7.0	20.3
Noisy Basin, Mont.	3/1/2007	E	–4.3	4.2	5.29	5.1	<3.1	<1.7	1.4	0.5	3.1	1.8	4.0	4.9	<0.4	72	285	na	1.6	–2.6
Old Battle, Wyo.	3/26/2007	E	0.0	5.4	5.51	3.1	13.5	2.6	1.7	0.7	4.2	1.3	7.7	12.2	0.4	61	167	na	3.4	9.9
Old Faithful Fire Road, Wyo.	2/21/2007	E	4.4	3.9	5.92	1.2	5.0	<1.7	2.2	<0.4	8.3	1.3	4.6	5.8	0.4	23	102	na	1.3	1.6
Old Faithful (in road), Wyo.	2/21/2007	E	14.4	6.0	6.18	0.7	13.4	3.4	5.4	3.7	10.4	5.4	7.0	8.0	1.1	na	49	na	14.9	2.9
Phantom Valley, Colo.	3/8/2007	E	–3.5	5.8	5.21	6.2	6.4	<1.7	<1.0	1.0	2.5	<1.0	5.7	9.8	0.5	32	116	na	2.4	2.0
Rabbit Ears 1, Colo.	3/28/2007	E	–5.5	6.0	5.11	7.8	10.2	<1.7	<1.0	1.3	4.2	<1.0	6.8	9.8	0.4	66	190	na	1.1	17.2
Rabbit Ears 2, Colo.	3/28/2007	E	–5.9	6.1	5.15	7.1	6.4	<1.7	1.0	0.9	4.7	<1.0	7.2	11.1	0.5	65	191	na	1.1	4.8

Table 16. Selected chemical and physical data for Rocky Mountain snowpack samples for 2007.—Continued

E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Red Mountain, Mont.	3/3/2007	E	2.6	3.6	5.55	2.8	5.8	<1.7	1.1	0.5	3.2	<1.0	3.6	4.2	0.4	40	146	na	2.4	12.3
Red Mountain Pass, Colo.	3/27/2007	E	15.7	5.3	6.28	0.5	23.5	3.2	1.8	3.4	3.3	1.9	6.4	9.8	0.6	56	178	na	4.6	2.8
Rendezvous Mountain, Wyo.	3/13/2007	E	14.1	4.0	6.18	0.7	8.8	4.5	1.4	<0.4	5.6	<1.0	4.5	5.7	<0.4	54	183	na	1.9	–7.3
Ripple Creek NADP, Colo.	3/27/2007	E	13.4	4.7	6.29	0.5	19.6	3.3	1.1	0.6	3.6	1.2	3.9	8.7	0.9	31	85	na	2.1	2.6
Slumgullion Pass, Colo.	3/29/2007	E	8.5	4.0	5.99	1.0	18.8	2.2	1.5	4.3	<1.0	1.9	5.1	6.5	0.9	24	98	na	4.9	11.4
Snow Bowl, Mont.	3/4/2007	E	–3.5	4.8	5.25	5.6	<3.1	<1.7	1.4	1.1	<1.0	2.1	3.6	3.7	0.7	66	228	na	11.0	–6.5
South Pass, Wyo.	3/19/2007	E	2.5	5.3	5.60	2.5	13.6	3.0	2.6	5.2	2.8	1.8	8.2	11.0	1.8	21	70	na	5.2	11.8
Spring Gulch, Mont.	2/23/2007	E	1.0	4.1	5.60	2.5	5.9	<1.7	<1.0	1.4	3.7	<1.0	3.1	7.9	0.5	15	70	na	9.8	5.6
Sunlight Peak, Colo.	3/29/2007	E	2.8	4.9	5.68	2.1	20.8	2.2	1.6	1.0	3.9	1.2	5.9	10.4	0.5	50	170	na	1.8	21.6
Sylvan Lake, Wyo.	2/20/2007	E	–1.2	3.9	5.51	3.1	6.4	<1.7	1.2	0.7	4.2	<1.0	4.4	5.4	0.4	36	145	na	2.9	22.9
Sylvan Lake (in road), Wyo.	2/20/2007	E	–0.3	4.0	5.55	2.8	5.2	<1.7	1.3	<0.4	6.0	1.2	4.8	6.0	<0.4	na	110	na	1.1	12.5
Taos Ski Valley, N. Mex.	3/25/2007	E	13.0	6.9	6.10	0.8	16.9	14.6	2.3	6.5	2.0	2.0	11.4	11.5	1.5	45	142	na	13.2	6.3
Teton Pass, Wyo.	3/15/2007	E	10.9	4.8	6.04	0.9	8.8	3.0	2.0	2.6	6.8	1.8	5.1	6.9	0.8	51	161	na	5.9	–1.1
Togwotee Pass, Wyo.	3/12/2007	E	5.1	4.4	5.60	2.5	7.2	2.3	<1.0	5.4	2.7	1.5	3.6	5.1	1.3	30	122	na	7.8	13.6
Twenty-one Mile, Mont.	2/22/2007	E	7.3	4.9	5.96	1.1	6.1	<1.7	2.0	0.5	8.8	2.2	4.2	7.6	0.4	31	115	na	9.6	–7.0
University Camp, Colo.	4/2/2007	E	–3.6	5.5	5.29	5.1	6.6	<1.7	<1.0	2.1	5.1	<1.0	6.4	10.5	0.9	48	156	na	2.8	6.0
West Yellowstone, Mont.	2/22/2007	E	12.1	5.2	6.12	0.8	10.8	<1.7	2.0	0.7	10.7	1.7	5.5	9.5	0.6	20	83	na	5.0	–7.1
West Yellowstone (in road), Mont.	2/22/2007	E	17.4	7.5	6.31	0.5	15.1	3.2	11.3	1.5	16.6	11.0	8.2	9.4	1.3	na	60	na	5.2	2.3
Wild Basin, Colo.	4/2/2007	E	20.2	6.3	5.84	1.4	10.1	2.4	1.2	5.4	4.4	1.3	8.6	12.4	1.3	44	164	na	13.7	–25.9
Wolf Creek Pass, Colo.	3/28/2007	E	3.4	5.5	5.74	1.8	29.2	3.3	3.2	1.8	4.2	2.9	10.0	11.4	0.7	59	179	na	9.3	22.3

Table 17. Selected chemical and physical data for Rocky Mountain snowpack samples for 2008.

E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (meq/L)	SC (mS/cm)	pH	H (meq/L)	Ca (meq/L)	Mg (meq/L)	Na (meq/L)	K (meq/L)	NH^4 (meq/L)	Cl (meq/L)	SO_4 (meq/L)	NO_3 (meq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Apgar Lookout, Mont.	4/13/2008	E	–2.7	4.5	5.29	5.1	4.5	<1.7	1.8	0.6	6.3	1.3	4.4	6.0	<0.4	72.9	207	na	1.5	22.0
Banner Summit, Idaho	3/6/2008	E	–3.4	2.7	5.50	3.2	4.0	<1.7	2.2	0.6	1.9	<1.0	1.7	2.7	<0.4	54.2	183	na	0.6	46.0
Berthoud Pass, Colo.	4/3/2008	E	0.0	8.1	5.08	8.3	14.5	2.5	3.1	2.3	2.7	2.8	4.7	9.7	0.8	59.2	203	na	4.2	(32.0)
Big Mountain, Mont.	2/29/2008	E	–4.7	5.2	5.12	7.6	4.0	<1.7	<1.0	<0.4	2.2	<1.0	2.4	4.0	<0.4	96.9	297	na	0.9	36.6
Big Sky, Mont.	3/5/2008	E	6.0	4.0	5.94	1.1	13.5	<1.7	1.3	0.8	8.0	1.1	5.1	7.2	0.5	40.6	150	na	1.4	12.0
Brooklyn Lake, Wyo.	3/27/2008	E	–3.8	5.5	5.30	5.0	10.5	<1.7	2.4	0.8	4.1	2.4	6.8	9.8	0.6	73.8	237	na	3.4	9.1
Brumley, Colo.	3/25/2008	E	1.0	7.5	5.08	8.3	12.0	<1.7	3.1	0.6	2.4	1.6	4.3	7.3	<0.4	48.0	164	na	2.5	30.0
Buffalo Pass, Colo.	4/1/2008	E	–3.5	7.2	5.10	7.9	11.0	<1.7	2.3	0.6	4.2	1.1	6.8	10.2	<0.4	121.6	384	na	1.6	17.9
Cameron Pass, Colo.	3/23/2008	E	–4.4	7.9	5.02	9.5	9.0	<1.7	6.3	1.6	3.5	6.8	4.2	8.2	0.7	50.0	167	na	5.7	21.8
Canyon, Wyo.	2/20/2008	E	–0.6	3.1	5.61	2.5	4.0	<1.7	<1.0	<0.4	5.7	<1.0	1.9	5.5	<0.4	35.6	133	na	2.7	24.5
Chief Joseph Pass, Mont.	3/1/2008	E	–4.1	6.6	5.01	9.8	4.5	<1.7	<1.0	0.6	2.3	<1.0	2.0	3.4	0.5	61.7	202	na	1.9	52.2
Daisy Pass, Mont.	2/26/2008	E	–4.3	5.5	5.18	6.6	5.0	<1.7	<1.0	0.4	4.6	<1.0	2.6	4.8	<0.4	90.5	300	na	0.7	38.3
Divide Peak, Wyo.	3/26/2008	E	–4.0	6.8	5.25	5.6	16.0	2.5	3.0	1.2	5.0	1.6	7.3	14.3	0.6	66.0	187	na	1.9	17.9
Dry Lake, Colo.	3/4/2008	E	–14.9	8.5	4.98	10.5	8.0	<1.7	1.1	0.6	3.2	1.0	5.1	15.9	<0.4	65.0	193	na	1.1	3.1
Dunckley Pass, Colo.	4/2/2008	E	4.2	6.2	5.42	3.8	17.5	3.3	3.9	2.5	1.9	3.4	6.8	10.3	1.1	66.2	202	na	1.9	14.2
Elk River, Colo.	3/21/2008	E	–1.5	5.7	5.27	5.4	12.5	<1.7	<1.0	0.8	4.5	<1.0	4.0	11.5	0.4	51.2	157	na	1.7	19.9
Elkhart Park, Wyo.	3/18/2008	E	–8.5	6.1	5.10	7.9	6.0	<1.7	<1.0	0.8	5.3	<1.0	4.1	7.3	0.8	26.6	106	na	1.1	27.4
Four Mile Meadow, Wyo.	3/20/2008	E	–0.9	3.4	5.58	2.6	4.5	<1.7	<1.0	<0.4	6.1	1.0	2.2	6.2	<0.4	28.4	112	na	1.3	16.8
Fremont Pass, Colo.	4/5/2008	E	3.5	4.0	5.58	2.6	12.0	<1.7	1.7	1.6	2.7	1.4	3.4	7.3	0.7	48.4	180	na	0.5	13.8
Galena Summit, Idaho	3/6/2008	E	3.0	2.5	5.60	2.5	4.0	<1.7	<1.0	<0.4	2.0	<1.0	1.2	2.5	<0.4	54.7	194	na	<0.4	11.8
Garnet Canyon, Wyo.	3/17/2008	E	–7.0	5.6	5.16	6.9	5.0	<1.7	1.1	0.4	5.0	<1.0	2.6	5.9	<0.4	69.8	218	na	1.0	36.8
Grand Mesa, Colo.	4/2/2008	E	6.5	5.0	5.79	1.6	19.5	3.3	4.3	1.1	3.5	2.3	7.1	8.3	0.5	65.9	197	na	3.5	15.8
Granite Pass, Mont.	3/3/2008	E	–5.6	3.6	5.28	5.2	<3.1	<1.7	1.5	0.6	1.1	1.0	1.9	2.6	<0.4	85.4	257	na	5.0	20.9

Table 17. Selected chemical and physical data for Rocky Mountain snowpack samples for 2008.—Continued

E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (meq/L)	SC (mS/cm)	pH	H (meq/L)	Ca (meq/L)	Mg (meq/L)	Na (meq/L)	K (meq/L)	NH^4 (meq/L)	Cl (meq/L)	SO_4 (meq/L)	NO_3 (meq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Grizzly Ridge, Utah	3/25/2008	E	0.9	5.2	5.40	4.0	13.5	<1.7	1.2	0.8	3.5	<1.0	4.9	8.5	0.5	30.3	99	na	6.6	23.3
Gypsum Creek, Wyo.	3/18/2008	E	–3.8	4.5	5.33	4.7	6.5	<1.7	1.1	1.7	4.3	1.2	3.0	7.8	0.8	23.3	98	na	1.9	20.8
Hopewell, N. Mex.	3/29/2008	E	–4.8	5.2	5.22	6.0	8.0	<1.7	<1.0	1.1	3.4	<1.0	4.5	6.8	0.5	66.6	177	na	6.4	24.2
Kings Hill, Mont.	2/23/2008	E	1.1	4.1	5.60	2.5	12.0	<1.7	<1.0	0.6	6.0	1.0	3.9	6.2	0.7	34.8	112	na	2.9	26.7
Lake Fork, Utah	3/24/2008	E	5.7	5.2	5.37	4.3	15.5	<1.7	1.7	0.4	2.1	1.1	3.5	5.5	<0.4	32.9	117	na	0.7	20.6
Lake Irene, Colo.	4/10/2008	E	–1.5	4.4	5.43	3.7	8.5	<1.7	2.0	0.6	4.7	1.2	5.6	9.6	0.5	66.2	219	na	2.6	8.6
Lewis Lake Divide, Wyo.	2/18/2008	E	0.0	3.2	5.70	2.0	4.5	<1.7	1.1	<0.4	7.7	1.1	2.7	5.2	<0.4	77.6	250	na	0.5	25.9
Lionshead, Mont.	2/27/2008	E	–0.6	4.9	5.26	5.5	6.0	<1.7	1.1	0.8	12.0	1.2	4.1	8.9	0.5	62.1	202	na	2.1	28.3
Loch Vale Forest, Colo.	4/8/2008	E	0.8	4.6	5.60	2.5	11.5	<1.7	3.7	1.0	5.4	1.8	6.8	10.7	0.6	97.5	310	na	4.3	9.0
Loch Vale Meadow, Colo.	4/8/2008	E	8.2	5.0	5.96	1.1	16.5	2.5	7.0	0.6	7.4	2.9	9.6	11.2	0.4	75.9	245	na	2.5	4.8
Loveland Pass, Colo.	4/11/2008	E	2.6	3.5	5.60	2.5	9.0	<1.7	2.7	<0.4	3.3	2.9	3.4	6.5	<0.4	61.4	212	na	1.3	6.4
Molas Lake, Colo.	3/30/2008	E	2.2	4.2	5.68	2.1	4.0	<1.7	<1.0	<0.4	1.4	<1.0	2.0	5.1	<0.4	64.3	208	na	1.0	–10.7
Monarch Pass, Colo.	3/26/2008	E	–6.4	6.2	5.02	9.5	18.5	3.3	4.9	1.0	2.4	2.4	6.1	5.7	<0.4	53.2	172	na	3.6	(47.2)
Mount Belmont, Mont.	2/22/2008	E	1.7	5.1	5.32	4.8	9.5	<1.7	1.5	1.6	6.1	1.6	4.3	6.6	1.5	21.4	74	na	5.2	24.7
Music Pass, Colo.	3/28/2008	E	–3.9	6.0	5.38	4.2	7.0	<1.7	<1.0	1.1	3.6	<1.0	3.5	6.8	0.4	73.3	204	na	2.5	21.4
Noisy Basin, Mont.	2/28/2008	E	–4.7	4.7	5.23	5.9	5.0	<1.7	1.5	0.8	4.5	1.5	4.8	5.3	0.4	86.6	303	na	1.3	20.8
Old Battle, Wyo.	3/26/2008	E	–5.3	6.1	5.16	6.9	10.0	<1.7	1.9	1.6	2.8	1.4	6.3	11.5	0.7	77.7	221	na	3.4	9.4
Old Faithful (in road), Wyo.	2/20/2008	E	4.4	4.7	5.88	1.3	9.5	<1.7	4.1	1.8	14.0	5.6	4.0	7.7	0.9	na	79	na	4.6	17.2
Old Faithful Fire Road, Wyo.	2/20/2008	E	–0.5	3.4	5.61	2.5	4.5	<1.7	1.7	<0.4	8.1	1.8	2.6	6.7	<0.4	32.3	111	na	0.4	20.4
Rabbit Ears 1, Colo.	3/28/2008	E	–5.3	5.2	5.36	4.4	11.5	<1.7	3.1	0.7	3.8	1.4	7.7	10.4	0.5	87.9	263	na	2.4	9.3
Rabbit Ears 2, Colo.	3/28/2008	E	–3.8	5.8	5.26	5.5	11.0	<1.7	2.7	0.7	5.3	1.9	7.4	11.3	0.4	84.5	253	na	1.4	10.0
Red Mountain, Mont.	3/4/2008	E	1.9	3.7	5.62	2.4	11.0	<1.7	<1.0	1.1	6.5	1.1	3.4	6.0	0.8	48.1	169	na	2.9	25.7
Red Mountain Pass, Colo.	3/31/2008	E	17.0	6.0	5.51	3.1	24.0	2.5	1.7	1.0	3.7	1.3	4.1	7.0	0.4	89.9	274	na	4.1	10.1

Table 17. Selected chemical and physical data for Rocky Mountain snowpack samples for 2008.—Continued

E, depth-integrated environmental; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; µS/cm, microsiemens per centimeter; SC, specific conductance at 25°C; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; SWE, snow/water equivalent; cm, centimeters; NADP, National Atmospheric Deposition Program; $\delta^{34}S$, stable sulfur isotope ratio ($^{34}S/^{32}S$); Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; %, percent]

Site name	Sample date	Sample type	ANC (meq/L)	SC (mS/cm)	pH	H (meq/L)	Ca (meq/L)	Mg (meq/L)	Na (meq/L)	K (meq/L)	NH^4 (meq/L)	Cl (meq/L)	SO_4 (meq/L)	NO_3 (meq/L)	DOC (mg/L)	SWE (cm)	Snow depth (cm)	$\delta^{34}S$ (per mil)	Hg (ng/L)	Ionic balance (%)
Rendezvous Mountain, Wyo.	3/19/2008	E	1.5	5.0	5.30	5.0	5.5	<1.7	1.0	<0.4	6.6	<1.0	3.2	4.4	<0.4	79.4	271	na	0.7	33.1
Ripple Creek NADP, Colo.	4/2/2008	E	3.2	5.5	5.41	3.9	13.0	<1.7	3.2	0.6	4.0	1.8	4.6	9.3	<0.4	54.4	160	na	1.0	13.3
Slumgullion Pass, Colo.	4/1/2008	E	5.7	4.5	5.46	3.5	13.0	<1.7	1.2	1.2	1.7	1.1	2.8	5.2	<0.4	43.3	148	na	2.9	16.4
Snow Bowl, Mont.	3/2/2008	E	–4.2	6.2	5.02	9.5	5.5	<1.7	1.2	0.7	3.5	1.2	3.1	3.4	0.5	75.2	237	na	3.9	45.2
South Pass, Wyo.	3/24/2008	E	–4.0	4.4	5.37	4.3	9.0	<1.7	1.4	1.5	3.9	1.0	5.7	7.2	1.3	40.7	125	na	2.1	18.2
Spring Gulch, Mont.	2/22/2008	E	9.4	4.6	5.62	2.4	17.5	2.5	1.6	2.4	6.2	1.2	4.1	6.6	0.8	12.9	50	na	4.8	21.0
Sunlight Peak, Colo.	4/4/2008	E	12.3	5.7	5.61	2.5	20.5	3.3	4.6	0.8	5.1	2.8	5.8	9.6	<0.4	72.8	226	na	2.2	9.4
Sylvan Lake, Wyo.	2/19/2008	E	0.2	3.2	5.63	2.3	4.0	<1.7	<1.0	0.6	5.4	<1.0	2.7	4.8	0.4	53.4	179	na	2.6	23.0
Sylvan Lake (in road), Wyo.	2/19/2008	E	–2.0	3.2	5.48	3.3	3.5	<1.7	<1.0	<0.4	4.6	<1.0	2.0	4.5	<0.4	na	108	na	5.5	27.4
Taos Ski Valley, N. Mex.	3/30/2008	E	2.3	5.6	5.30	5.0	10.5	<1.7	1.5	3.4	3.9	1.3	5.7	6.4	1.1	75.9	218	na	14.0	21.5
Teton Pass, Wyo.	3/20/2008	E	4.4	4.1	5.63	2.3	8.0	<1.7	1.6	0.8	9.7	1.6	3.8	6.6	<0.4	63.9	222	na	1.9	15.5
Togwotee Pass, Wyo.	3/20/2008	E	0.3	3.1	5.69	2.0	5.5	<1.7	1.3	0.6	5.0	1.2	2.6	4.1	<0.4	68.4	255	na	2.2	27.4
Twenty–one Mile, Mont.	2/21/2008	E	–3.2	5.3	5.32	4.8	4.5	<1.7	1.1	<0.4	6.8	1.5	1.7	5.8	0.4	42.5	139	na	7.6	31.3
University Camp, Colo.	4/9/2008	E	4.0	5.0	5.70	2.0	14.5	<1.7	3.8	1.7	7.0	2.2	8.4	11.2	0.6	52.5	183	na	3.1	5.8
West Yellowstone, Mont.	2/21/2008	E	–3.5	3.9	5.57	2.7	5.5	<1.7	1.3	<0.4	10.2	1.8	3.2	8.8	<0.4	32.7	113	na	3.8	17.6
West Yellowstone (in Road), Mont.	2/21/2008	E	4.2	4.2	6.04	0.9	9.5	<1.7	2.0	0.4	13.8	2.4	3.8	9.0	0.8	na	71	na	1.7	15.7
Wolf Creek Pass, Colo.	4/1/2008	E	–0.8	6.1	5.23	5.9	13.0	<1.7	1.6	0.7	3.4	1.2	4.9	8.4	<0.4	92.9	265	na	3.0	25.8

Table 18. Quality-assurance data: selected chemical concentrations in blank samples for 1993–2008.

["FB" field blank; "LB" laboratory blank; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; SC, specific conductance at 25°C; µS/cm, microsiemens per centimeter; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
							1993									
Laboratory Blank	7/1/1993	LB	–3.5	1.6	5.51	3.1	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	0.8	na	na
							1995									
Laboratory Blank	7/21/1995	LB	–1.4	1.1	5.55	2.8	<3.1	<1.7	na	<0.4	na	na	na	na	na	na
Laboratory Blank	7/21/1995	LB	–1.2	1.2	5.56	2.8	<3.1	<1.7	na	<0.4	na	na	na	na	na	na
							1996									
Laboratory Blank	6/28/1996	LB	na	na	na	na	<3.1	<1.7	<1.0	na	na	na	na	na	<0.4	na
Laboratory Blank	6/28/1996	LB	na	na	na	na	<3.1	<1.7	<1.0	na	na	na	na	na	<0.4	na
Laboratory Blank	7/3/1996	LB	–4.0	1.2	5.52	3.0	<3.1	<1.7	<1.0	na	na	na	na	na	2.8	na
Laboratory Blank	7/3/1996	LB	–2.5	1.2	5.59	2.6	<3.1	<1.7	<1.0	na	na	na	na	na	0.6	na
							1997									
Laboratory Blank	6/6/1997	LB	–3.6	1.2	5.56	2.8	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	0.4	na
Laboratory Blank	6/6/1997	LB	–3.5	1.2	5.54	2.9	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	0.5	na
Laboratory Blank	6/9/1997	LB	–2.8	1.1	5.51	3.1	<3.1	<1.7	<1.0	na	na	na	na	na	na	na
							1998									
Cement Gulch Divide, Mont.	3/10/1998	FB	–8.3	1.2	5.33	4.7	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
West Yellowstone, Mont.	3/5/1998	FB	–5.7	1.7	5.47	3.4	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	1.0	<0.4	<0.4	na
Willow Creek, Wyo.	3/25/1998	FB	–6.0	1.5	5.24	5.8	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	0.8	<0.4	<0.4	na
Laboratory Blank	6/8/1998	LB	na	14.9	na	na	<3.1	<1.7	1.7	<0.4	<1.0	<1.0	1.7	<0.4	5.4	na
Laboratory Blank[1]	6/10/1998	LB	–58.0	18.5	4.21	61.7	<3.1	<1.7	2.2	<0.4	<1.0	<1.0	0.8	<0.4	2.4	na
							1999									
Cameron Pass, Colo.	4/8/1999	FB	–3.6	3.2	5.44	3.6	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Deadman Pass, Colo.	3/23/1999	FB	–4.7	1.6	5.41	3.9	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	0.8	na
E7 (Glacier NP), Mont.	3/31/1999	FB	–3.4	2.1	5.35	4.5	<3.1	<1.7	<1.0	0.5	<1.0	<1.0	<0.6	<0.4	1.1	na
Granite Park, Mont.	3/31/1999	FB	–1.9	1.8	5.53	3.0	<3.1	<1.7	1.3	0.9	<1.0	1.2	0.7	<0.4	1.1	na
Rabbit Ears 1, Colo.	3/30/1999	FB	–5.7	1.7	5.29	5.1	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	0.7	na
Sunlight Creek, Mont.	3/9/1999	FB	–5.6	4.0	5.14	7.2	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	0.8	<0.4	0.6	na
West Yellowstone (in road), Mont.	3/6/1999	FB	–4.1	3.6	5.36	4.4	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	0.7	0.5	na
West Yellowstone, Mont.	3/6/1999	FB	–4.9	4.3	5.24	5.8	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	0.7	0.5	na
Laboratory Blank	6/9/1999	LB	–3.3	1.1	5.51	3.1	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Laboratory Blank	6/9/1999	LB	–3.7	1.3	5.50	3.2	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na

Table 18. Quality-assurance data: selected chemical concentrations in blank samples for 1993–2008.—Continued

[["FB" field blank; "LB" laboratory blank; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; SC, specific conductance at 25°C; µS/cm, microsiemens per centimeter; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
1999 (cont.)																
Laboratory Blank	6/15/1999	LB	–2.8	1.0	5.49	3.2	<3.1	<1.7	<1.0	0.5	<1.0	<1.0	<0.6	0.7	<0.4	na
Laboratory Blank	6/16/1999	LB	–5.4	1.3	5.31	4.9	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Laboratory Blank	6/16/1999	LB	–4.3	1.0	5.43	3.7	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
2000																
Apgar Lookout, Mont.	3/6/2000	FB	1.2	1.4	5.49	3.2	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	0.4	na
Culebra, Colo.	2/27/2000	FB	0.3	1.7	5.60	2.5	5.4	<1.7	<1.0	<0.4	<1.0	<1.0	1.0	0.6	<0.4	na
E2 (Glacier NP), Mont.	3/20/2000	FB	0.2	1.2	5.50	3.2	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	na	na
Grand Mesa, Colo.	3/22/2000	FB	–3.8	1.3	5.07	8.5	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	0.4	na
Hopewell, N. Mex.	3/12/2000	FB	–2.6	1.7	5.12	7.6	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	1.1	na
Independence Pass , Colo.	4/10/2000	FB	0.0	1.4	5.10	7.9	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	0.5	na
Lizard Head Pass, Colo.	2/27/2000	FB	1.1	2.0	5.73	1.9	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	1.0	0.6	<0.4	na
Mount Belmont, Mont.	3/3/2000	FB	–0.8	1.2	5.26	5.5	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Phantom Valley, Colo.	3/19/2000	FB	–2.7	1.3	5.34	4.6	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	0.7	na
Slumgullion Pass, Colo.	3/25/2000	FB	–0.9	1.9	5.11	7.8	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	0.5	0.5	na
W5 (Glacier NP), Mont.	3/21/2000	FB	2.3	1.5	5.64	2.3	<3.1	<1.7	2.8	1.5	<1.0	2.3	<0.6	<0.4	0.7	na
West Yellowstone, Mont.	3/5/2000	FB	–0.1	1.7	5.18	6.6	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	0.5	na	na
Laboratory Blank	2/29/2000	LB	na	2.0	na	na	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	1.0	0.6	<0.4	na
Laboratory Blank	2/29/2000	LB	na	2.2	na	na	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	1.0	0.7	<0.4	na
Laboratory Blank	5/1/2000	LB	–1.1	1.0	5.39	4.1	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Laboratory Blank	5/2/2000	LB	–4.2	<1.0	5.38	4.2	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
2001																
Bowman 2 (Glacier NP), Mont.	3/9/2001	FB	–2.3	1.4	5.53	3.0	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Dinah Shore 1 (Glacier NP), Mont.	3/9/2001	FB	–0.9	1.5	5.58	2.6	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Four Mile Meadow, Wyo.	3/12/2001	FB	–3.0	1.5	5.36	4.4	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	0.4	na
Hopewell, N. Mex.	3/16/2001	FB	–4.1	1.7	5.46	3.5	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Mount Belmont, Mont.	3/8/2001	FB	–0.2	1.7	5.60	2.5	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Noisy Basin, Mont.	3/8/2001	FB	–1.0	1.7	5.42	3.8	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Slumgullion Pass, Colo.	3/27/2001	FB	–2.4	1.4	5.29	5.1	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
W5 (Glacier NP), Mont.	3/9/2001	FB	–3.4	2.2	5.43	3.7	<3.1	<1.7	<1.0	<0.4	<1.0	1.0	<0.6	0.8	<0.4	na
Laboratory Blank	6/7/2001	LB	–2.7	1.2	5.56	2.8	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Laboratory Blank	6/7/2001	LB	–3.4	1.3	5.55	2.8	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na

Table 18. Quality-assurance data: selected chemical concentrations in blank samples for 1993–2008.—Continued

["FB" field blank; "LB" laboratory blank; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; SC, specific conductance at 25°C; µS/cm, microsiemens per centimeter; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
2001 (cont.)																
Laboratory Blank	6/6/2001	LB	–4.3	2.1	5.31	4.9	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Laboratory Blank	6/5/2001	LB	–5.0	2.3	5.28	5.2	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Laboratory Blank	6/7/2001	LB	–5.2	3.1	5.56	2.8	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Laboratory Blank	6/4/2001	LB	–8.1	3.3	5.15	7.1	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Laboratory Blank	6/7/2001	LB	–8.4	2.3	5.31	4.9	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	0.4	na
2002																
Elk River, Colo.	3/12/2002	FB	–3.2	4.0	5.53	3.0	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Hopewell, N. Mex.	3/15/2002	FB	–2.9	1.9	5.57	2.7	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Kings Hill, Mont.	3/2/2002	FB	–3.3	3.9	5.54	2.9	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Loveland Pass, Colo.	4/6/2002	FB	–3.5	2.1	5.57	2.7	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	1.2
Phantom Valley, Colo.	3/7/2002	FB	–3.6	3.2	5.55	2.8	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Rabbit Ears 2, Colo.	3/23/2002	FB	–4.4	2.8	5.48	3.3	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	0.7
Red Mountain Pass, Colo.	3/27/2002	FB	–3.8	3.7	5.48	3.3	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	5/3/2002	LB	–4.6	1.1	5.51	3.1	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	6/5/2002	LB	–5.4	1.3	5.46	3.5	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	6/5/2002	LB	–7.5	1.2	5.43	3.7	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	3/21/2002	LB	–4.0	1.4	5.45	3.5	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	0.7
Laboratory Blank	6/6/2002	LB	–6.8	1.0	5.46	3.5	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	0.7
2003																
Arapaho Creek, Colo.	3/25/2003	FB	–2.6	1.3	5.51	3.1	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Elkhart Park, Wyo.	3/25/2003	FB	–2.9	1.7	5.39	4.1	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	0.4
Grand Mesa, Colo.	3/24/2003	FB	–4.5	3.7	5.21	6.2	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Gypsum Creek, Wyo.	3/26/2003	FB	–2.9	1.6	5.49	3.2	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Hopewell, N. Mex.	3/28/2003	FB	–2.2	2.2	5.47	3.4	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Monida Pass, Mont.	2/27/2003	FB	–0.8	1.3	5.64	2.3	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	0.8
Phantom Valley, Colo.	3/27/2003	FB	–3.8	2.0	5.35	4.5	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Red Mountain Pass, Colo.	3/29/2003	FB	–3.8	1.5	5.51	3.1	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	0.4
Laboratory Blank	5/20/2003	LB	–3.9	1.4	5.56	2.8	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	1.4
Laboratory Blank	5/21/2003	LB	–4.9	1.2	5.59	2.6	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	1.0
Laboratory Blank	5/22/2003	LB	–3.8	1.5	5.52	3.0	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	1.0
Laboratory Blank	5/22/2003	LB	–4.4	1.3	5.51	3.1	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	1.3

Table 18. Quality-assurance data: selected chemical concentrations in blank samples for 1993–2008.—Continued

["FB" field blank; "LB" laboratory blank; ANC, acid neutralization capacity; µeq/L, microequivalents per liter; SC, specific conductance at 25°C; µS/cm, microsiemens per centimeter; pH values in standard units; H, hydrogen; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	ANC (µeq/L)	SC (µS/cm)	pH	H (µeq/L)	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
							2004									
Lake Irene Forest, Colo.	3/30/2004	FB	–10.6	2.7	5.25	5.6	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	0.5	<0.4	0.6
West Yellowstone, Mont.	2/26/2004	FB	–4.2	1.9	5.38	4.2	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	5/26/2004	LB	–4.4	1.8	5.48	3.3	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	5/27/2004	LB	–2.5	1.4	5.74	1.8	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
							2005									
Galena Summit, Idaho	3/10/2005	FB	–6.8	3.9	5.20	6.3	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	0.4	<0.4	0.9
Lake Irene Forest, Colo.	4/5/2005	FB	–4.9	2.4	5.46	3.5	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
Loveland Pass, Colo.	4/9/2005	FB	–1.7	2.2	5.72	1.9	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	5/26/2005	LB	–4.0	1.4	5.71	1.9	<3.1	<1.7	4.0	2.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	5/26/2005	LB	–2.4	1.4	5.71	1.9	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	2.4
Laboratory Blank	5/26/2005	LB	–0.1	1.9	5.58	2.6	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
							2006									
Galena Summit, Idaho	3/9/2006	FB	–3.3	2.2	5.43	3.7	na	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Mosca Pass, Colo.	3/23/2006	FB	–2.4	2.3	5.41	3.9	na	<1.7	<1.0	<0.4	<1.0	1.1	<0.6	0.4	<0.4	<0.4
Laboratory Blank	5/19/2006	LB	–1.9	1.6	5.56	2.8	na	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	1.3	<0.4
Laboratory Blank	5/24/2006	LB	–2.0	1.8	5.48	3.3	na	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	5/25/2006	LB	–2.0	1.5	5.55	2.8	na	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	na
							2007									
Elkhart Park, Wyo.	3/14/2007	FB	–2.7	2.5	5.40	4.0	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Galena Summit, Idaho	3/8/2007	FB	1.5	3.0	5.34	4.6	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	0.5
Taos Ski Valley, N. Mex.	3/25/2007	FB	–0.8	2.4	5.56	2.8	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	0.5
Laboratory Blank	5/15/2007	LB	–0.5	2.1	5.60	2.5	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	5/17/2007	LB	0.0	2.1	5.59	2.6	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	5/18/2007		0.5	2.0	5.65	2.2	4.0	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
							2008									
Elkhart Park, Wyo.	3/18/2008	FB	–1.8	3.4	5.27	5.4	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	0.4	<0.4	<0.4
Galena Summit, Idaho	3/6/2008	FB	–3.1	2.5	5.44	3.6	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	4/24/2008	LB	–2.5	1.3	5.69	2.0	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	4/28/2008	LB	–1.3	1.4	5.68	2.1	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	<0.4
Laboratory Blank	4/29/2008	LB	–1.9	1.5	5.62	2.4	<3.1	<1.7	<1.0	<0.4	<1.0	<1.0	<0.6	<0.4	<0.4	0.7

[1]High concentrations in this outlier laboratory blank are uncharacteristic of other blanks.

Table 19. Quality-assurance data: relative percent differences in concentrations between environmental and replicate samples for 1993–2008.

[E, depth-integrated environmental; FR, field replicate; RPD, relative percent difference; µeq/L, microequivalents per liter; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
						1998						
Loch Vale Forest, Colo.	4/7/1998	E	4.5	<1.7	<1.0	<0.4	4.3	<1.0	8.1	11.9	0.6	na
		FR	4.5	<1.7	<1.0	<0.4	4.4	<1.0	8.5	11.6	0.5	na
		RPD	0.0	na	na	na	2.3	na	4.8	2.6	18.2	na
West Yellowstone (in road), Mont.	3/5/1998	E	13.0	3.3	13.9	2.1	23.0	12.4	20.6	15.3	3.7	na
		FR	13.5	3.3	14.4	1.3	21.4	12.4	21.2	15.4	3.9	na
		RPD	3.8	0.0	3.5	47.1	7.2	0.0	2.9	0.7	5.3	na
						1999						
Deadman Pass, Colo.	3/23/1999	E	14.5	3.3	2.3	1.6	5.2	1.8	9.5	13.7	1.2	na
		FR	16.5	3.3	2.8	1.6	6.9	1.6	10.5	14.6	1.8	na
		RPD	12.9	0.0	19.6	0.0	28.1	11.8	10.0	6.4	40.0	na
E1 (Glacier NP), Mont.	3/24/1999	E	5.0	<1.7	2.3	0.8	4.6	1.4	3.7	4.8	0.8	na
		FR	<3.1	<1.7	<1.0	0.6	4.3	1.1	3.8	4.7	1.0	na
		RPD	na	na	na	28.6	6.7	24.0	2.7	2.1	22.2	na
E2 (Glacier NP), Mont.	4/1/1999	E	<3.1	<1.7	<1.0	<0.4	3.7	<1.0	2.2	3.3	0.8	na
		FR	<3.1	<1.7	<1.0	<0.4	4.3	<1.0	3.1	3.0	0.5	na
		RPD	na	na	na	na	15.0	na	34.0	9.5	46.2	na
E3 (Glacier NP), Mont.	3/28/1999	E	<3.1	<1.7	1.2	0.5	3.8	1.0	4.0	4.1	0.7	na
		FR	<3.1	<1.7	<1.0	0.8	3.9	<1.0	3.7	4.0	1.0	na
		RPD	na	na	na	46.2	2.6	na	7.8	2.5	35.3	na
E4 (Glacier NP), Mont.	3/29/1999	E	<3.1	<1.7	3.1	1.8	4.1	1.3	4.2	4.6	1.1	na
		FR	<3.1	<1.7	8.1	3.9	3.3	1.5	4.4	4.0	0.7	na
		RPD	na	na	88.4	73.7	20.2	8.6	2.6	12.3	44.4	na
E5 (Glacier NP), Mont.	3/30/1999	E	<3.1	<1.7	<1.0	0.5	3.2	<1.0	3.5	3.1	0.8	na
		FR	<3.1	<1.7	1.1	<0.4	3.7	1.1	3.5	3.6	0.7	na
		RPD	na	na	na	na	14.5	na	0.0	14.9	13.3	na
E6 (Glacier NP), Mont.	3/31/1999	E	<3.1	<1.7	1.2	0.8	3.8	1.2	4.1	4.3	1.2	na
		FR	<3.1	<1.7	1.2	0.7	3.4	2.7	5.5	4.3	1.2	na
		RPD	na	na	0.0	13.3	11.1	76.9	29.2	0.0	0.0	na
E7 (Glacier NP), Mont.	3/31/1999	E	<3.1	<1.7	1.9	3.8	3.1	1.6	4.1	3.7	2.8	na
		FR	<3.1	<1.7	1.6	2.1	3.2	1.1	4.1	2.8	1.9	na
		RPD	na	na	17.1	57.6	3.2	37.0	0.0	27.7	38.3	na
Granite Park, Mont.	3/31/1999	E	<3.1	<1.7	1.4	<0.4	4.1	1.4	3.9	4.9	0.7	na
		FR	<3.1	<1.7	1.7	<0.4	3.5	1.6	4.3	4.7	0.7	na
		RPD	na	na	19.4	na	15.8	13.3	9.8	4.2	0.0	na
W1 (Glacier NP), Mont.	3/22/1999	E	<3.1	<1.7	1.6	0.6	7.7	1.3	4.5	5.1	0.8	na
		FR	3.5	<1.7	1.4	0.4	4.7	1.2	4.4	5.2	1.0	na
		RPD	na	na	13.3	40.0	48.4	8.0	2.2	1.9	22.2	na
W2 (Glacier NP), Mont.	3/28/1999	E	<3.1	<1.7	1.2	0.7	5.1	<1.0	4.2	6.0	0.9	na
		FR	<3.1	<1.7	1.3	0.6	4.6	<1.0	4.8	5.3	0.7	na
		RPD	na	na	8.0	15.4	10.3	na	13.3	12.4	25.0	na

Table 19. Quality-assurance data: relative percent differences in concentrations between environmental and replicate samples for 1993–2008.—Continued

[E, depth-integrated environmental; FR, field replicate; RPD, relative percent difference; µeq/L, microequivalents per liter; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
1999 (cont.)												
W3 (Glacier NP), Mont.	4/1/1999	E	<3.1	<1.7	1.4	<0.4	2.4	1.1	3.6	2.7	0.4	na
		FR	<3.1	<1.7	<1.0	<0.4	2.6	<1.0	1.2	2.1	na	na
		RPD	na	na	na	na	8.0	na	100.0	25.0	na	na
West Yellowstone (in road), Mont.	3/6/1999	E	17.0	<1.7	4.4	0.5	26.3	4.9	13.6	8.4	3.0	na
		FR	17.5	<1.7	3.9	0.5	31.0	4.9	14.7	9.6	3.5	na
		RPD	2.9	na	12.0	0.0	16.4	0.0	7.8	13.3	15.4	na
2000												
Apgar Lookout, Mont.	3/6/2000	E	<3.1	<1.7	<1.0	<0.4	4.4	<1.0	4.9	6.1	0.4	na
		FR	<3.1	<1.7	1.2	0.4	4.6	<1.0	5.4	6.5	0.5	na
		RPD	na	na	na	na	4.4	na	9.7	6.3	22.2	na
Buffalo Pass, Colo.	4/5/2000	E	7.0	<1.7	1.2	0.9	5.6	<1.0	9.8	10.7	<0.4	na
		FR	6.6	1.7	1.3	5.5	4.1	5.5	9.8	11.4	na	na
		RPD	5.9	na	8.0	143.8	30.9	na	0.0	6.3	na	na
Culebra, Colo.	2/27/2000	E	12.2	1.8	1.6	1.4	4.3	<1.0	5.6	9.2	0.6	na
		FR	10.2	1.7	1.4	2.0	3.9	<1.0	5.7	9.0	0.7	na
		RPD	17.9	5.7	13.3	35.3	9.8	na	1.8	2.2	15.4	na
Dry Lake, Colo.	3/19/2000	E	5.5	<1.7	<1.0	0.8	5.5	<1.0	10.1	11.9	0.6	na
		FR	5.1	<1.7	1.0	1.2	6.0	1.5	10.4	13.3	na	na
		RPD	7.5	na	na	40.0	8.7	na	2.9	11.1	na	na
E2 (Glacier NP), Mont.	3/20/2000	E	<3.1	<1.7	<1.0	<0.4	2.7	<1.0	2.5	2.4	0.5	na
		FR	<3.1	<1.7	1.6	0.4	4.8	1.0	5.0	5.1	0.5	na
		RPD	na	na	na	na	56.4	na	66.7	72.0	0.0	na
E3 (Glacier NP), Mont.	3/22/2000	E	<3.1	<1.7	<1.0	0.4	3.8	<1.0	2.4	3.9	0.6	na
		FR	<3.1	<1.7	<1.0	<0.4	4.6	<1.0	3.8	5.6	0.6	na
		RPD	na	na	na	na	19.0	na	45.2	35.8	0.0	na
E4 (Glacier NP), Mont.	3/21/2000	E	<3.1	<1.7	5.9	1.2	3.7	<1.0	5.0	6.2	1.4	na
		FR	<3.1	<1.7	1.3	0.5	3.7	<1.0	4.0	5.1	0.5	na
		RPD	na	na	127.8	82.4	0.0	na	22.2	19.5	94.7	na
E5 (Glacier NP), Mont.	3/21/2000	E	<3.1	<1.7	<1.0	0.4	2.4	<1.0	3.9	3.4	0.8	na
		FR	<3.1	<1.7	<1.0	<0.4	1.6	<1.0	2.6	2.8	0.5	na
		RPD	na	na	na	na	40.0	na	40.0	19.4	46.2	na
E6 (Glacier NP), Mont.	3/21/2000	E	<3.1	<1.7	<1.0	0.7	2.7	<1.0	4.4	4.2	0.7	na
		FR	<3.1	<1.7	<1.0	0.8	3.0	<1.0	4.2	3.6	0.6	na
		RPD	na	na	na	13.3	10.5	na	4.7	15.4	15.4	na
E7 (Glacier NP), Mont.	3/22/2000	E	<3.1	<1.7	1.1	1.8	3.8	<1.0	4.5	4.8	1.6	na
		FR	<3.1	<1.7	<1.0	0.7	3.2	<1.0	4.2	4.2	0.6	na
		RPD	na	na	na	88.0	17.1	na	6.9	13.3	90.9	na
Granite Park, Mont.	3/22/2000	E	<3.1	<1.7	<1.0	<0.4	4.1	<1.0	4.6	4.9	na	na
		FR	<3.1	<1.7	1.2	<0.4	3.9	<1.0	4.6	5.3	0.5	na
		RPD	na	na	na	na	5.0	na	0.0	7.8	na	na

Table 19. Quality-assurance data: relative percent differences in concentrations between environmental and replicate samples for 1993–2008.—Continued

[E, depth-integrated environmental; FR, field replicate; RPD, relative percent difference; µeq/L, microequivalents per liter; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
2000 (cont.)												
Independence Pass (in road), Colo.	4/10/2000	E	4.0	<1.7	<1.0	<0.4	3.4	<1.0	4.2	7.4	0.5	na
		FR	4.5	<1.7	<1.0	<0.4	3.7	<1.0	3.9	7.3	0.6	na
		RPD	11.8	na	na	na	8.5	na	7.4	1.4	18.2	na
Independence Pass, Colo.	4/10/2000	E	9.5	2.5	1.3	1.6	3.7	1.3	5.2	8.5	0.9	na
		FR	9.0	2.5	1.1	1.6	3.2	<1.0	5.0	7.9	1.4	na
		RPD	5.4	0.0	16.7	0.0	14.5	na	3.9	7.3	43.5	na
Lizard Head Pass, Colo.	2/26/2000	E	9.5	<1.7	<1.0	0.6	2.3	<1.0	4.2	11.1	0.4	na
		FR	9.7	<1.7	<1.0	0.5	2.7	<1.0	4.5	9.4	<0.4	na
		RPD	2.1	na	na	18.2	16.0	na	6.9	16.6	na	na
Loveland 2, Colo.	4/21/2000	E	9.0	2.5	2.9	2.3	4.2	3.1	5.7	6.5	0.9	na
		FR	9.4	2.9	2.8	3.7	<1.0	3.4	5.5	7.9	na	na
		RPD	4.3	14.8	3.5	46.7	na	9.2	3.6	19.4	na	na
Loveland 3, Colo.	4/21/2000	E	40.9	11.5	22.7	4.2	3.2	21.6	10.0	4.8	2.7	na
		FR	39.1	11.6	21.2	4.9	<1.0	20.6	11.0	5.7	na	na
		RPD	4.5	0.9	6.8	15.4	na	4.7	9.5	17.1	na	na
W5 (Glacier NP), Mont.	3/21/2000	E	<3.1	<1.7	1.1	0.4	3.1	<1.0	3.0	4.2	0.6	na
		FR	<3.1	<1.7	<1.0	0.9	3.2	<1.0	2.5	3.4	0.5	na
		RPD	na	na	na	76.9	3.2	na	18.2	21.1	18.2	na
W6 (Glacier NP), Mont.	3/22/2000	E	<3.1	<1.7	<1.0	<0.4	4.6	<1.0	4.0	5.0	0.8	na
		FR	<3.1	<1.7	<1.0	<0.4	4.9	<1.0	4.2	5.3	0.6	na
		RPD	na	na	na	na	6.3	na	4.9	5.8	28.6	na
W7 (Glacier NP), Mont.	3/22/2000	E	<3.1	<1.7	1.2	<0.4	3.0	<1.0	3.5	4.0	0.6	na
		FR	<3.1	<1.7	<1.0	<0.4	3.3	<1.0	2.6	4.3	0.4	na
		RPD	na	na	na	na	9.5	na	29.5	7.2	40.0	na
W8 (Glacier NP), Mont.	3/22/2000	E	<3.1	<1.7	1.0	<0.4	3.1	<1.0	3.7	5.0	0.5	na
		FR	<3.1	<1.7	1.3	<0.4	3.6	<1.0	4.0	5.1	0.7	na
		RPD	na	na	26.1	na	14.9	na	7.8	2.0	33.3	na
W9 (Glacier NP), Mont.	3/23/2000	E	<3.1	<1.7	1.2	<0.4	3.3	<1.0	4.6	5.7	0.9	na
		FR	<3.1	<1.7	1.3	<0.4	3.1	<1.0	3.8	2.9	1.0	na
		RPD	na	na	8.0	na	6.2	na	19.0	65.1	10.5	na
W10 (Glacier NP), Mont.	3/23/2000	E	<3.1	<1.7	<1.0	<0.4	4.0	<1.0	3.9	5.2	na	na
		FR	<3.1	<1.7	<1.0	<0.4	3.6	<1.0	4.4	5.5	na	na
		RPD	na	na	na	na	10.5	na	12.0	5.6	na	na
2001												
Apgar Lookout (A), Mont.	3/14/2001	E	4.6	<1.7	2.2	0.8	12.3	<1.0	10.4	14.2	1.0	1.3
		FR	4.8	<1.7	2.2	0.6	10.8	<1.0	10.0	13.8	1.3	2.8
		RPD	4.3	na	0.0	28.6	13.0	na	3.9	2.9	26.1	73.2
Apgar Lookout (B), Mont.	3/14/2001	E	5.5	<1.7	2.3	0.8	12.7	<1.0	10.9	13.2	0.9	2.2
		FR	5.0	<1.7	2.3	0.6	11.2	<1.0	10.5	13.6	0.8	2.7
		RPD	9.5	na	0.0	28.6	12.6	na	3.7	3.0	11.8	20.4

Table 19. Quality-assurance data: relative percent differences in concentrations between environmental and replicate samples for 1993–2008.—Continued

[E, depth-integrated environmental; FR, field replicate; RPD, relative percent difference; µeq/L, microequivalents per liter; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
						2001 (cont.)						
Bowman 1 (Glacier NP), Mont.	3/8/2001	E	<3.1	<1.7	1.1	<0.4	2.1	<1.0	4.1	8.5	0.4	na
		FR	<3.1	<1.7	1.3	<0.4	2.2	<1.0	9.1	8.4	<0.4	na
		RPD	na	na	16.7	na	4.7	na	75.8	1.2	na	na
Bowman 2 (Glacier NP), Mont.	3/8/2001	E	<3.1	<1.7	1.9	<0.4	2.4	<1.0	6.1	7.3	0.6	na
		FR	<3.1	<1.7	1.9	<0.4	2.8	<1.0	5.0	7.2	0.5	na
		RPD	na	na	0.0	na	15.4	na	19.8	1.4	18.2	na
Dinah Shore 1 (Glacier NP), Mont.	3/9/2001	E	3.1	<1.7	2.0	0.4	3.5	<1.0	4.9	8.2	0.5	na
		FR	3.2	<1.7	1.7	<0.4	3.2	<1.0	5.1	8.5	0.6	na
		RPD	3.2	na	16.2	na	9.0	na	4.0	3.6	18.2	na
Dinah Shore 2 (Glacier NP), Mont.	3/9/2001	E	<3.1	<1.7	1.0	0.6	2.1	<1.0	4.1	5.4	0.8	na
		FR	3.5	<1.7	1.2	0.6	2.5	<1.0	4.2	5.7	0.7	na
		RPD	na	na	18.2	0.0	17.4	na	2.4	5.4	13.3	na
Granite Park, Mont.	3/10/2001	E	<3.1	<1.7	1.5	<0.4	4.0	<1.0	10.5	7.7	0.4	na
		FR	<3.1	<1.7	1.4	<0.4	3.5	<1.0	5.2	7.3	0.5	na
		RPD	na	na	6.9	na	13.3	na	67.5	5.3	22.2	na
Loveland Pass, Colo.	4/27/2001	E	13.5	3.3	2.4	0.5	5.9	2.1	6.1	9.2	<0.4	na
		FR	10.0	2.5	2.5	<0.4	3.9	2.0	6.1	11.2	0.5	na
		RPD	29.8	27.6	4.1	na	40.8	4.9	0.0	19.6	na	na
Marion Lake 1 (Glacier NP), Mont.	3/13/2001	E	<3.1	<1.7	1.6	0.7	4.8	<1.0	6.9	8.1	0.7	na
		FR	<3.1	<1.7	1.5	0.6	5.0	<1.0	6.4	7.4	0.6	na
		RPD	na	na	6.5	15.4	4.1	na	7.5	9.0	15.4	na
Marion Lake 2 (Glacier NP), Mont.	3/13/2001	E	3.5	<1.7	3.1	1.8	3.3	1.2	5.8	6.7	1.3	na
		FR	<3.1	<1.7	2.4	1.2	3.7	1.1	6.3	6.9	0.8	na
		RPD	na	na	25.5	40.0	11.4	8.7	8.3	2.9	47.6	na
Molas Lake, Colo.	3/28/2001	E	8.0	<1.7	1.3	0.5	2.7	<1.0	5.5	10.6	0.5	na
		FR	7.0	<1.7	1.4	0.6	3.4	<1.0	5.6	10.8	0.6	na
		RPD	13.3	na	7.4	18.2	23.0	na	1.8	1.9	18.2	na
Mount Belmont, Mont.	3/8/2001	E	9.5	2.5	2.6	2.9	4.6	1.6	11.3	12.6	1.9	na
		FR	8.5	2.5	2.0	4.5	6.0	1.4	10.7	12.4	2.5	7.3
		RPD	11.1	0.0	26.1	43.2	26.4	13.3	5.5	1.6	27.3	na
Napa 1 (Glacier NP), Mont.	3/8/2001	E	3.1	<1.7	1.3	1.2	3.2	<1.0	5.0	9.0	1.1	1.9
		FR	3.9	<1.7	1.5	0.7	2.8	<1.0	4.6	8.6	0.8	na
		RPD	22.9	na	14.3	52.6	13.3	na	8.3	4.5	31.6	na
Napa 2 (Glacier NP), Mont.	3/8/2001	E	3.5	<1.7	1.5	<0.4	2.6	<1.0	3.9	6.6	0.4	0.9
		FR	<3.1	<1.7	1.0	<0.4	3.8	<1.0	4.5	7.4	0.5	1.2
		RPD	na	na	40.0	na	37.5	na	14.3	11.4	22.2	28.6
Old Faithful (in road), Wyo.	3/3/2001	E	58.4	9.1	10.3	6.0	26.9	12.5	29.9	14.8	6.2	na
		FR	54.9	7.4	8.7	4.8	27.7	10.2	27.7	14.3	6.6	13.1
		RPD	6.2	20.6	16.8	22.2	2.9	20.3	7.6	3.4	6.2	na

Table 19. Quality-assurance data: relative percent differences in concentrations between environmental and replicate samples for 1993–2008.—Continued

[E, depth-integrated environmental; FR, field replicate; RPD, relative percent difference; µeq/L, microequivalents per liter; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
						2001 (cont.)						
Phantom Valley, Colo.	3/13/2001	E	9.0	<1.7	2.6	0.8	6.4	<1.0	10.8	18.5	0.8	na
		FR	8.5	<1.7	2.5	0.8	6.5	1.2	11.8	19.3	0.8	na
		RPD	5.7	na	3.9	0.0	1.6	na	8.8	4.2	0.0	na
Smith Creek 1 (Glacier NP), Mont.	3/10/2001	E	4.4	<1.7	1.4	1.8	2.6	<1.0	4.9	7.5	1.3	2.2
		FR	6.5	<1.7	1.4	1.2	1.7	<1.0	4.5	7.2	1.2	na
		RPD	38.5	na	0.0	40.0	41.9	na	8.5	4.1	8.0	na
Smith Creek 2 (Glacier NP), Mont.	3/10/2001	E	5.9	<1.7	<1.0	0.8	2.8	<1.0	3.5	6.1	0.6	0.8
		FR	3.4	<1.7	<1.0	0.5	2.7	<1.0	3.8	6.3	0.4	na
		RPD	53.8	na	na	46.2	3.6	na	8.2	3.2	40.0	na
Swiftcurrent 1 (Glacier NP), Mont.	3/13/2001	E	5.0	<1.7	1.5	0.8	6.3	<1.0	7.8	10.7	0.7	na
		FR	3.8	<1.7	1.6	1.1	4.6	<1.0	7.9	11.0	1.0	1.2
		RPD	27.3	na	6.5	31.6	31.2	na	1.3	2.8	35.3	na
Swiftcurrent 2(A) (Glacier NP), Mont.	3/13/2001	E	7.0	2.5	1.7	0.5	6.9	1.2	5.7	7.3	0.6	na
		FR	5.7	1.7	1.6	0.7	6.8	<1.0	8.6	11.6	0.7	na
		RPD	20.5	38.1	6.1	33.3	1.5	na	40.6	45.5	15.4	na
Swiftcurrent 2(B) (Glacier NP), Mont.	3/13/2001	E	4.8	<1.7	1.7	0.8	5.9	<1.0	8.6	10.9	0.9	na
		FR	5.5	1.7	1.5	0.6	6.5	<1.0	8.7	12.1	0.8	na
		RPD	13.6	na	12.5	28.6	9.7	na	1.2	10.4	11.8	na
Togwotee Pass, Wyo.	3/12/2001	E	4.0	<1.7	1.0	0.5	3.5	<1.0	3.9	7.1	0.5	na
		FR	4.5	<1.7	1.3	0.5	3.8	<1.0	4.3	7.3	0.6	2.4
		RPD	11.8	na	26.1	0.0	8.2	na	9.8	2.8	18.2	na
W2 (Glacier NP), Mont.	3/8/2001	E	4.0	<1.7	1.9	1.9	4.9	1.6	9.9	10.0	1.0	na
		FR	<3.1	<1.7	1.5	1.7	4.3	<1.0	6.7	10.2	1.1	na
		RPD	na	na	23.5	11.1	13.0	na	38.6	2.0	9.5	na
W5 (Glacier NP), Mont.	3/9/2001	E	<3.1	<1.7	1.8	0.8	5.2	<1.0	8.1	10.8	0.7	na
		FR	<3.1	<1.7	1.6	1.4	4.0	2.6	7.1	11.0	1.4	na
		RPD	na	na	11.8	54.5	26.1	na	13.2	1.8	66.7	na
W6 (Glacier NP), Mont.	3/10/2001	E	<3.1	<1.7	1.2	<0.4	4.6	<1.0	6.4	8.7	0.5	na
		FR	<3.1	<1.7	1.3	<0.4	4.6	<1.0	6.2	8.4	0.6	na
		RPD	na	na	8.0	na	0.0	na	3.2	3.5	18.2	na
W7 (Glacier NP), Mont.	3/10/2001	E	<3.1	<1.7	2.3	0.9	3.9	1.7	6.0	6.9	0.8	na
		FR	<3.1	<1.7	3.0	1.0	4.1	2.0	6.3	7.0	0.4	na
		RPD	na	na	26.4	10.5	5.0	16.2	4.9	1.4	66.7	na
W8 (Glacier NP), Mont.	3/10/2001	E	<3.1	<1.7	1.6	<0.4	3.5	<1.0	6.3	7.9	0.7	na
		FR	<3.1	<1.7	1.5	0.4	3.3	<1.0	5.7	7.5	0.6	na
		RPD	na	na	6.5	na	5.9	na	10.0	5.2	15.4	na
W9 (Glacier NP), Mont.	3/9/2001	E	4.0	<1.7	2.2	1.1	3.1	2.0	6.7	8.6	0.8	na
		FR	4.0	<1.7	1.7	0.9	2.3	<1.0	6.8	8.7	1.0	na
		RPD	0.0	na	25.6	20.0	29.6	na	1.5	1.2	22.2	na

Table 19. Quality-assurance data: relative percent differences in concentrations between environmental and replicate samples for 1993–2008.—Continued

[E, depth-integrated environmental; FR, field replicate; RPD, relative percent difference; µeq/L, microequivalents per liter; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
2001 (cont.)												
W10 (Glacier NP), Mont.	3/9/2001	E	3.5	<1.7	1.8	<0.4	4.7	<1.0	7.1	9.1	0.7	1.6
		FR	4.0	<1.7	2.0	0.4	4.8	<1.0	7.5	9.0	0.4	na
		RPD	13.3	na	10.5	na	2.1	na	5.5	1.1	54.5	na
West Yellowstone, Mont.	3/5/2001	E	4.5	<1.7	1.4	0.6	13.6	1.1	7.6	18.6	0.9	1.8
		FR	5.5	<1.7	1.8	0.4	12.1	1.2	8.0	19.4	0.7	na
		RPD	20.0	na	25.0	40.0	11.7	8.7	5.1	4.2	25.0	na
2002												
Apgar Lookout, Mont.	3/4/2002	E	<3.1	<1.7	<1.0	<0.4	5.5	<1.0	3.4	6.8	0.5	1.0
		FR	<3.1	<1.7	<1.0	<0.4	5.0	<1.0	2.8	6.3	<0.4	1.0
		RPD	na	na	na	na	9.5	na	19.4	7.6	na	0.0
Lake Irene Forest, Colo.	3/29/2002	E	15.0	2.5	1.6	1.1	4.7	1.2	7.0	14.3	0.6	3.0
		FR	19.0	2.5	2.2	0.9	5.6	1.4	7.7	15.0	0.4	2.8
		RPD	23.5	0.0	31.6	20.0	17.5	15.4	9.5	4.8	40.0	6.9
Lake Irene Meadow, Colo.	3/29/2002	E	10.5	<1.7	1.3	0.6	3.5	1.1	5.8	14.7	<0.4	1.3
		FR	11.5	<1.7	1.5	0.6	4.0	1.2	6.1	14.5	<0.4	0.5
		RPD	9.1	na	14.3	0.0	13.3	8.7	5.0	1.4	na	88.9
Vallecito Snotel, Colo.	3/22/2002	E	27.4	4.9	1.7	5.4	<1.0	2.1	7.9	14.4	1.6	6.2
		FR	29.9	4.9	3.5	6.7	<1.0	2.5	8.2	15.7	2.9	6.7
		RPD	8.7	0.0	69.2	21.5	na	17.4	3.7	8.6	57.8	7.8
W10 (Glacier NP), Mont.	3/12/2002	E	<3.1	<1.7	<1.0	<0.4	3.5	<1.0	3.4	6.5	0.4	2.0
		FR	<3.1	<1.7	<1.0	0.6	4.3	<1.0	3.8	6.7	<0.4	2.0
		RPD	na	na	na	na	20.5	na	11.1	3.0	na	0.0
West Yellowstone (in road), Mont.	2/28/2002	E	15.0	3.3	8.8	2.8	31.0	6.8	18.2	13.1	4.4	2.4
		FR	18.5	4.1	13.0	3.1	37.6	8.5	26.8	17.7	5.6	2.5
		RPD	20.9	21.6	38.5	10.2	19.2	22.2	38.2	29.9	24.0	4.1
2003												
Apgar Lookout, Mont.	3/12/2003	E	<3.1	<1.7	1.2	0.4	6.9	1.3	4.4	6.9	0.5	1.0
		FR	<3.1	<1.7	1.2	0.5	7.7	<1.0	4.4	7.1	0.4	1.0
		RPD	na	na	0.0	22.2	11.0	na	0.0	2.9	22.2	0.0
Cameron Pass, Colo.	3/26/2003	E	5.5	2.5	1.3	0.8	4.2	<1.0	6.0	8.9	0.5	3.0
		FR	4.5	<1.7	1.2	0.7	4.5	<1.0	4.9	8.6	0.5	2.8
		RPD	20.0	na	8.0	13.3	6.9	na	20.2	3.4	0.0	6.9
Granite Pass, Mont.	3/9/2003	E	<3.1	<1.7	<1.0	0.9	2.3	<1.0	1.6	2.4	0.5	3.3
		FR	<3.1	<1.7	<1.0	0.5	1.8	<1.0	1.6	2.1	0.4	6.8
		RPD	na	na	na	57.1	24.4	na	0.0	13.3	22.2	69.3
Green Ridge, Colo.	3/25/2003	E	10.0	3.3	1.2	1.8	4.1	1.0	4.0	10.7	0.7	1.6
		FR	13.0	4.9	2.0	2.5	3.5	1.2	4.6	12.6	0.8	1.6
		RPD	26.1	39.0	50.0	32.6	15.8	18.2	14.0	16.3	13.3	0.0

Table 19. Quality-assurance data: relative percent differences in concentrations between environmental and replicate samples for 1993–2008.—Continued

[E, depth-integrated environmental; FR, field replicate; RPD, relative percent difference; µeq/L, microequivalents per liter; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
2003 (cont.)												
Gypsum Creek, Wyo.	3/26/2003	E	21.0	4.1	8.8	0.8	7.2	2.9	10.0	6.7	0.6	2.2
		FR	12.0	3.3	4.0	0.9	7.3	1.1	6.5	6.6	na	2.0
		RPD	54.5	21.6	75.0	11.8	1.4	90.0	42.4	1.5	na	9.5
Hopewell, N. Mex.	3/28/2003	E	26.4	3.3	2.0	1.1	5.4	1.3	7.3	12.1	0.6	2.6
		FR	23.0	4.1	1.8	1.0	5.8	1.2	7.2	11.8	0.5	2.3
		RPD	13.8	21.6	10.5	9.5	7.1	8.0	1.4	2.5	18.2	12.2
Lake Irene Forest, Colo.	4/1/2003	E	9.0	4.9	1.2	5.3	4.6	2.1	6.9	10.2	1.6	4.1
		FR	7.5	2.5	1.3	2.4	4.3	1.2	6.1	9.6	1.2	3.6
		RPD	18.2	64.9	8.0	75.3	6.7	54.5	12.3	6.1	28.6	13.0
Lake Irene Meadow, Colo.	4/1/2003	E	4.0	<1.7	<1.0	<0.4	4.9	<1.0	5.5	9.8	0.4	1.7
		FR	4.0	<1.7	<1.0	<0.4	4.0	<1.0	4.7	8.7	<0.4	1.0
		RPD	0.0	na	na	na	20.2	na	15.7	11.9	na	51.9
Red Mountain Pass, Colo.	3/29/2003	E	11.5	2.5	1.1	0.7	2.5	1.0	3.2	6.0	0.4	0.7
		FR	11.0	2.5	1.1	1.6	2.3	1.2	4.5	8.6	0.9	6.4
		RPD	4.4	0.0	0.0	78.3	8.3	18.2	33.8	35.6	76.9	160.6
Snow Bowl, Mont.	3/8/2003	E	<3.1	<1.7	<1.0	0.6	2.7	<1.0	2.4	3.3	0.4	2.4
		FR	<3.1	<1.7	<1.0	0.4	2.7	<1.0	2.7	3.5	0.4	3.6
		RPD	na	na	na	40.0	0.0	na	11.8	5.9	0.0	40.0
West Yellowstone (in road), Mont.	2/27/2003	E	15.5	4.9	5.1	1.2	21.4	4.8	12.3	12.4	1.4	4.3
		FR	14.5	3.3	5.7	1.4	22.5	5.4	13.0	11.9	1.9	4.5
		RPD	6.7	39.0	11.1	15.4	5.0	11.8	5.5	4.1	30.3	4.5
2004												
Buffalo Pass, Colo.	3/31/2004	E	6.4	<1.7	<1.0	1.4	6.5	1.7	9.4	11.9	0.8	2.1
		FR	6.0	<1.7	<1.0	1.1	6.7	<1.0	9.8	12.6	0.4	2.0
		RPD	6.5	na	na	24.0	3.0	na	4.2	5.7	66.7	4.9
Lake Irene Forest, Colo.	3/30/2004	E	9.3	<1.7	<1.0	1.8	5.0	<1.0	7.2	12.4	1.0	2.6
		FR	9.0	<1.7	<1.0	2.7	4.7	<1.0	7.2	12.7	0.9	4.1
		RPD	3.3	na	na	40.0	6.2	na	0.0	2.4	10.5	44.8
West Yellowstone (in road), Mont.	2/26/2004	E	3.3	<1.7	4.6	0.9	8.9	5.5	5.2	8.2	0.8	1.1
		FR	<3.1	<1.7	2.0	<0.4	8.7	2.1	4.8	8.1	0.7	1.5
		RPD	na	na	78.8	na	2.3	89.5	8.0	1.2	13.3	30.8
2005												
Banner Summit, Idaho	3/10/2005	E	<3.1	<1.7	<1.0	<0.4	2.8	<1.0	2.6	4.1	<0.4	1.3
		FR	<3.1	<1.7	<1.0	0.6	3.1	<1.0	2.6	4.1	<0.4	1.0
		RPD	na	na	na	na	10.2	na	0.0	0.0	na	26.1
Buffalo Pass, Colo.	3/29/2005	E	4.5	<1.7	1.1	0.7	4.8	<1.0	7.1	7.9	<0.4	2.9
		FR	5.0	<1.7	1.4	0.8	5.8	<1.0	7.4	8.0	<0.4	na
		RPD	10.5	na	24.0	13.3	18.9	na	4.1	1.3	na	na

Table 19. Quality-assurance data: relative percent differences in concentrations between environmental and replicate samples for 1993–2008.—Continued

[E, depth-integrated environmental; FR, field replicate; RPD, relative percent difference; µeq/L, microequivalents per liter; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
2005 (cont.)												
Hopewell, N. Mex.	3/19/2005	E	3.5	<1.7	<1.0	0.6	2.8	<1.0	4.8	7.6	<0.4	2.2
		FR	3.5	<1.7	<1.0	0.8	3.4	<1.0	4.6	6.9	<0.4	2.6
		RPD	0.0	na	na	28.6	19.4	na	4.3	9.7	na	16.7
Lake Irene Meadow, Colo.	4/5/2005	E	<3.1	<1.7	1.2	0.4	4.6	<1.0	4.3	8.6	<0.4	0.8
		FR	5.0	<1.7	1.8	<0.4	5.5	1.0	5.6	9.5	<0.4	1.1
		RPD	na	na	40.0	na	17.8	na	26.3	9.9	na	31.6
Ned Wilson Rep 1, Colo.	4/22/2005	E	7.0	<1.7	1.7	0.5	3.7	<1.0	4.5	7.0	<0.4	1.3
		FR	8.5	<1.7	1.5	<0.4	3.3	<1.0	4.9	7.8	<0.4	1.4
		RPD	19.4	na	12.5	na	11.4	na	8.5	10.8	na	7.4
Ned Wilson Rep 2, Colo.	4/22/2005	E	7.0	<1.7	1.7	0.5	3.7	<1.0	4.5	7.0	<0.4	1.3
		FR	6.5	<1.7	1.4	<0.4	3.1	<1.0	4.6	6.3	<0.4	1.4
		RPD	7.4	na	19.4	na	17.6	na	2.2	10.5	na	7.4
Ripple Creek Pass, Colo.	3/28/2005	E	10.5	<1.7	2.9	0.6	4.9	1.1	6.5	9.2	<0.4	0.8
		FR	8.0	<1.7	1.8	0.5	4.0	<1.0	5.2	8.2	<0.4	0.8
		RPD	27.0	na	46.8	18.2	20.2	na	22.2	11.5	na	0.0
West Yellowstone (in road), Mont.	2/24/2005	E	7.0	<1.7	1.9	0.9	15.0	1.9	6.4	9.1	0.8	2.7
		FR	6.0	<1.7	2.0	0.8	15.5	2.4	6.0	9.1	0.5	2.5
		RPD	15.4	na	5.1	11.8	3.3	23.3	6.5	0.0	46.2	7.7
2006												
Banner Summit, Idaho	3/9/2006	E	<3.1	<1.7	<1.0	<0.4	2.0	<1.0	1.4	2.3	<0.4	0.9
		FR	<3.1	<1.7	<1.0	<0.4	1.8	<1.0	1.3	2.4	na	<0.4
		RPD	na	na	na	na	10.5	na	7.4	4.3	na	na
Buffalo Pass, Colo.	3/28/2006	E	5.0	<1.7	1.4	0.6	5.0	1.1	7.7	11.5	0.5	2.9
		FR	5.5	<1.7	1.4	0.6	5.2	1.1	7.7	11.0	<0.4	3.0
		RPD	9.5	na	0.0	0.0	3.9	0.0	0.0	4.4	na	3.4
Medano Pass, Colo.	3/22/2006	E	49.4	9.1	4.2	9.3	12.0	3.1	15.9	16.6	2.8	25.0
		FR	46.9	8.2	3.9	6.7	12.2	2.7	17.1	17.3	2.5	22.0
		RPD	5.2	10.4	7.4	32.5	1.7	13.8	7.3	4.1	11.3	12.8
Mosca Pass, Colo.	3/23/2006	E	36.9	4.1	6.7	2.1	9.8	2.2	13.8	18.0	1.1	3.6
		FR	48.4	5.8	7.4	2.4	10.1	2.3	14.7	17.9	1.4	2.9
		RPD	27.0	34.3	9.9	13.3	3.0	4.4	6.3	0.6	24.0	21.5
Music Pass, Colo.	3/21/2006	E	40.4	4.1	4.0	2.4	9.9	2.1	13.4	13.4	1.0	7.9
		FR	34.9	4.1	3.4	2.0	9.8	1.9	13.0	13.9	1.0	8.2
		RPD	14.6	0.0	16.2	18.2	1.0	10.0	3.0	3.7	0.0	3.7
Ripple Creek NADP Rep 1, Colo.	3/29/2006	E	12.5	2.5	1.9	<0.4	4.2	1.3	4.7	10.1	na	2.0
		FR	15.0	2.5	2.0	<0.4	4.5	1.4	4.8	10.2	<0.4	0.9
		RPD	18.2	0.0	5.1	na	6.9	7.4	2.1	1.0	na	75.9

Table 19. Quality-assurance data: relative percent differences in concentrations between environmental and replicate samples for 1993–2008.—Continued

[E, depth-integrated environmental; FR, field replicate; RPD, relative percent difference; µeq/L, microequivalents per liter; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
2006 (cont.)												
Ripple Creek NADP Rep 2, Colo.	3/29/2006	E	12.5	2.5	1.9	<0.4	4.2	1.3	4.7	10.1	na	2.0
		FR	13.0	2.5	1.8	0.4	4.1	1.4	4.5	10.9	<0.4	1.3
		RPD	3.9	0.0	5.4	na	2.4	7.4	4.3	7.6	na	42.4
West Yellowstone (in road), Mont.	2/23/2006	E	<3.1	<1.7	1.0	0.4	11.3	1.3	3.8	7.9	0.9	<0.4
		FR	<3.1	<1.7	1.3	<0.4	14.7	1.6	4.9	9.4	0.5	0.5
		RPD	na	na	26.1	na	26.2	20.7	25.3	17.3	57.1	na
2007												
Banner Summit, Idaho	3/8/2007	E	4.5	<1.7	4.4	0.6	3.1	1.6	3.8	4.1	<0.4	1.7
		FR	4.6	<1.7	4.2	0.5	2.8	1.5	3.7	3.9	<0.4	1.3
		RPD	2.2	na	4.7	18.2	10.2	6.5	2.7	5.0	na	26.7
Buffalo Pass, Colo.	4/3/2007	E	8.6	1.9	1.2	1.5	5.2	1.1	8.7	11.5	0.6	2.0
		FR	8.6	1.9	1.2	5.7	4.8	1.5	8.7	12.2	0.7	1.6
		RPD	0.0	0.0	0.0	116.7	8.0	30.8	0.0	5.9	15.4	22.2
Hopewell, N. Mex.	3/24/2007	E	16.5	2.6	2.3	1.8	7.6	2.4	9.1	12.7	0.5	6.6
		FR	20.1	2.7	2.3	2.1	6.0	2.5	9.4	12.8	0.5	8.1
		RPD	19.7	3.8	0.0	15.4	23.5	4.1	3.2	0.8	0.0	20.4
Lake Fork, Utah	3/30/2007	E	18.3	4.3	2.4	2.4	8.0	2.0	6.7	10.7	0.8	5.7
		FR	20.3	3.9	2.4	2.1	9.5	2.1	7.4	11.5	0.6	3.4
		RPD	10.4	9.8	0.0	13.3	17.1	4.9	9.9	7.2	28.6	50.5
Ripple Creek NADP Rep 1, Colo.	3/27/2007	E	19.6	3.3	1.1	0.6	3.6	1.2	3.9	8.7	0.9	2.1
		FR	18.9	2.3	1.1	0.5	3.3	1.1	3.7	8.6	<0.4	1.6
		RPD	3.6	35.7	0.0	18.2	8.7	8.7	5.3	1.2	na	27.0
Ripple Creek NADP Rep 2, Colo.	3/27/2007	E	19.6	3.3	1.1	0.6	3.6	1.2	3.9	8.7	0.9	2.1
		FR	23.2	3.0	1.3	0.7	3.5	1.5	4.2	9.3	<0.4	2.3
		RPD	16.8	9.5	16.7	15.4	2.8	22.2	7.4	6.7	na	9.1
West Yellowstone (in road), Mont.	2/22/2007	E	15.1	3.2	11.3	1.5	16.6	11.0	8.2	9.4	1.3	5.2
		FR	13.0	2.7	12.0	1.0	17.3	12.1	8.0	9.1	1.2	3.0
		RPD	14.9	16.9	6.0	40.0	4.1	9.5	2.5	3.2	8.0	53.7
2008												
Banner Summit, Idaho	3/6/2008	E	4.0	<1.7	2.2	0.6	1.9	<1.0	1.7	2.7	<0.4	0.6
		FR	<3.1	<1.7	2.1	0.7	1.7	<1.0	1.7	2.7	<0.4	0.5
		RPD	na	na	4.7	15.4	11.1	na	0.0	0.0	na	18.2
Buffalo Pass, Colo.	4/1/2008	E	11.0	<1.7	2.3	0.6	4.2	1.1	6.8	10.2	<0.4	1.6
		FR	11.5	<1.7	2.8	0.6	4.4	1.3	7.6	10.3	0.4	2.1
		RPD	4.4	na	19.6	0.0	4.7	16.7	11.1	1.0	na	27.0
Hopewell, N. Mex.	3/29/2008	E	8.0	<1.7	<1.0	1.1	3.4	<1.0	4.5	6.8	0.5	6.4
		FR	7.0	<1.7	<1.0	1.1	3.5	<1.0	4.5	6.5	0.6	5.3
		RPD	13.3	na	na	0.0	2.9	na	0.0	4.5	18.2	18.8

Table 19. Quality-assurance data: relative percent differences in concentrations between environmental and replicate samples for 1993–2008.—Continued

[E, depth-integrated environmental; FR, field replicate; RPD, relative percent difference; µeq/L, microequivalents per liter; Ca, calcium; Mg, magnesium; Na, sodium; K, potassium; NH_4, ammonium; Cl, chloride; SO_4, sulfate; NO_3, nitrate; DOC, dissolved organic carbon; mg/L, milligrams per liter; NADP, National Atmospheric Deposition Program; Hg, mercury; ng/L, nanograms per liter; na, not analyzed; <, below reporting limits; NP, National Park]

Site name	Sample date	Sample type	Ca (µeq/L)	Mg (µeq/L)	Na (µeq/L)	K (µeq/L)	NH_4 (µeq/L)	Cl (µeq/L)	SO_4 (µeq/L)	NO_3 (µeq/L)	DOC (mg/L)	Hg (ng/L)
Lake Fork, Utah	3/24/2008	E	15.5	<1.7	1.7	0.4	2.1	1.1	3.5	5.5	<0.4	0.7
		FR	9.5	<1.7	1.1	0.4	2.0	<1.0	2.8	5.4	<0.4	1.2
		RPD	48.0	na	42.9	0.0	4.9	na	22.2	1.8	na	52.6
Music Pass, Colo.	3/28/2008	E	7.0	<1.7	<1.0	1.1	3.6	<1.0	3.5	6.8	0.4	2.5
		FR	6.0	<1.7	<1.0	1.0	3.9	<1.0	3.8	6.7	0.4	5.6
		RPD	15.4	na	na	9.5	8.0	na	8.2	1.5	0.0	76.5
Ripple Creek NADP Rep 1, Colo.	4/2/2008	E	13.0	<1.7	3.2	0.6	4.0	1.8	4.6	9.3	<0.4	1.0
		FR	14.5	2.5	3.9	0.7	3.8	2.0	4.9	9.5	<0.4	1.1
		RPD	10.9	na	19.7	15.4	5.1	10.5	6.3	2.1	na	9.5
Ripple Creek NADP Rep 2, Colo.	4/2/2008	E	13.0	<1.7	3.2	0.6	4.0	1.8	4.6	9.3	<0.4	1.0
		FR	15.5	2.5	4.3	0.5	3.5	2.3	5.5	9.6	<0.4	1.0
		RPD	17.5	na	29.3	18.2	13.3	24.4	17.8	3.2	na	0.0
South Pass, Wyo.	3/24/2008	E	9.0	<1.7	1.4	1.5	3.9	1.0	5.7	7.2	1.3	2.1
		FR	8.0	<1.7	1.3	0.7	4.3	1.0	5.5	7.3	<0.4	1.5
		RPD	11.8	na	7.4	72.7	9.8	0.0	3.6	1.4	na	33.3
Taos Ski Valley, N. Mex.	3/20/2008	E	10.5	<1.7	1.5	3.4	3.9	1.3	5.7	6.4	1.1	14.0
		FR	9.5	<1.7	1.4	2.2	4.5	1.1	6.1	6.5	0.9	7.6
		RPD	10.0	na	6.9	42.9	14.3	16.7	6.8	1.6	20.0	59.3
West Yellowstone (in road), Mont.	2/21/2008	E	9.5	<1.7	2.0	0.4	13.8	2.4	3.8	9.0	0.8	1.7
		FR	6.5	<1.7	2.3	0.6	13.7	2.6	4.3	9.8	0.8	1.3
		RPD	37.5	na	14.0	40.0	0.7	8.0	12.3	8.5	0.0	26.7
Wolf Creek Pass, Colo.	4/1/2008	E	13.0	<1.7	1.6	0.7	3.4	1.2	4.9	8.4	<0.4	3.0
		FR	8.0	<1.7	1.2	0.4	3.4	<1.0	4.0	7.1	<0.4	3.2
		RPD	47.6	na	28.6	54.5	0.0	na	20.2	16.8	na	6.5
Summary Statistics for relative percent difference between depth-integrated environemntal and replicate sample concentrations, 1993–2008												
Mean			15	18	17	30	30	12	17	8	25	27
Median			12	10	12	22	21	10	11	4	19	20
Standard deviation			13	22	20	27	27	11	20	11	22	30
Minimum			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum			54.5	66.7	127.8	143.8	56.4	90.0	100.0	72.0	94.7	160.6

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