

**02 INFORMATION ABOUT PRINCIPAL INVESTIGATORS/PROJECT DIRECTORS(PI/PD) and
co-PRINCIPAL INVESTIGATORS/co-PROJECT DIRECTORS**

Submit only ONE copy of this form for each PI/PD and co-PI/PD identified on the proposal. The form(s) should be attached to the original proposal as specified in GPG Section II.C.a. Submission of this information is voluntary and is not a precondition of award. This information will not be disclosed to external peer reviewers. **DO NOT INCLUDE THIS FORM WITH ANY OF THE OTHER COPIES OF YOUR PROPOSAL AS THIS MAY COMPROMISE THE CONFIDENTIALITY OF THE INFORMATION.**

PI/PD Name: John C Priscu

Gender: Male Female
Ethnicity: (Choose one response) Hispanic or Latino Not Hispanic or Latino

Race:
(Select one or more)
 American Indian or Alaska Native
 Asian
 Black or African American
 Native Hawaiian or Other Pacific Islander
 White

Disability Status:
(Select one or more)
 Hearing Impairment
 Visual Impairment
 Mobility/Orthopedic Impairment
 Other
 None

Citizenship: (Choose one) U.S. Citizen Permanent Resident Other non-U.S. Citizen

Check here if you do not wish to provide any or all of the above information (excluding PI/PD name):

REQUIRED: Check here if you are currently serving (or have previously served) as a PI, co-PI or PD on any federally funded project

Ethnicity Definition:

Hispanic or Latino. A person of Mexican, Puerto Rican, Cuban, South or Central American, or other Spanish culture or origin, regardless of race.

Race Definitions:

American Indian or Alaska Native. A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

Asian. A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

Black or African American. A person having origins in any of the black racial groups of Africa.

Native Hawaiian or Other Pacific Islander. A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

White. A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

WHY THIS INFORMATION IS BEING REQUESTED:

The Federal Government has a continuing commitment to monitor the operation of its review and award processes to identify and address any inequities based on gender, race, ethnicity, or disability of its proposed PIs/PDs. To gather information needed for this important task, the proposer should submit a single copy of this form for each identified PI/PD with each proposal. Submission of the requested information is voluntary and will not affect the organization's eligibility for an award. However, information not submitted will seriously undermine the statistical validity, and therefore the usefulness, of information received from others. Any individual not wishing to submit some or all the information should check the box provided for this purpose. (The exceptions are the PI/PD name and the information about prior Federal support, the last question above.)

Collection of this information is authorized by the NSF Act of 1950, as amended, 42 U.S.C. 1861, et seq. Demographic data allows NSF to gauge whether our programs and other opportunities in science and technology are fairly reaching and benefiting everyone regardless of demographic category; to ensure that those in under-represented groups have the same knowledge of and access to programs and other research and educational opportunities; and to assess involvement of international investigators in work supported by NSF. The information may be disclosed to government contractors, experts, volunteers and researchers to complete assigned work; and to other government agencies in order to coordinate and assess programs. The information may be added to the Reviewer file and used to select potential candidates to serve as peer reviewers or advisory committee members. See Systems of Records, NSF-50, "Principal Investigator/Proposal File and Associated Records", 63 Federal Register 267 (January 5, 1998), and NSF-51, "Reviewer/Proposal File and Associated Records", 63 Federal Register 268 (January 5, 1998).

List of Suggested Reviewers or Reviewers Not To Include (optional)

SUGGESTED REVIEWERS:

Not Listed

REVIEWERS NOT TO INCLUDE:

Not Listed

COVER SHEET FOR PROPOSAL TO THE NATIONAL SCIENCE FOUNDATION

PROGRAM ANNOUNCEMENT/SOLICITATION NO./CLOSING DATE/if not in response to a program announcement/solicitation enter NSF 15-1					FOR NSF USE ONLY	
NSF 15-529			04/15/16		NSF PROPOSAL NUMBER	
FOR CONSIDERATION BY NSF ORGANIZATION UNIT(S) (Indicate the most specific unit known, i.e. program, division, etc.)						
PLR - ANTARCTIC INTEGRATED SYS SCI						
DATE RECEIVED	NUMBER OF COPIES	DIVISION ASSIGNED	FUND CODE	DUNS# (Data Universal Numbering System)	FILE LOCATION	
				625447982		
EMPLOYER IDENTIFICATION NUMBER (EIN) OR TAXPAYER IDENTIFICATION NUMBER (TIN)		SHOW PREVIOUS AWARD NO. IF THIS IS <input type="checkbox"/> A RENEWAL <input type="checkbox"/> AN ACCOMPLISHMENT-BASED RENEWAL		IS THIS PROPOSAL BEING SUBMITTED TO ANOTHER FEDERAL AGENCY? YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> IF YES, LIST ACRONYM(S)		
816010045						
NAME OF ORGANIZATION TO WHICH AWARD SHOULD BE MADE			ADDRESS OF AWARDEE ORGANIZATION, INCLUDING 9 DIGIT ZIP CODE			
Montana State University			Montana State University 309 MONTANA HALL BOZEMAN, MT. 597172470			
AWARDEE ORGANIZATION CODE (IF KNOWN)			ADDRESS OF PRIMARY PLACE OF PERF, INCLUDING 9 DIGIT ZIP CODE			
0025320000			Colorado State University Fort Collins ,CO ,805231776 ,US.			
NAME OF PRIMARY PLACE OF PERF		ADDRESS OF PRIMARY PLACE OF PERF, INCLUDING 9 DIGIT ZIP CODE				
Colorado State University		Fort Collins ,CO ,805231776 ,US.				
IS AWARDEE ORGANIZATION (Check All That Apply) (See GPG II.C For Definitions)		<input type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> FOR-PROFIT ORGANIZATION		<input type="checkbox"/> MINORITY BUSINESS <input type="checkbox"/> WOMAN-OWNED BUSINESS		<input type="checkbox"/> IF THIS IS A PRELIMINARY PROPOSAL THEN CHECK HERE
TITLE OF PROPOSED PROJECT Environmental Assessment of the McMurdo Dry Valleys: Witness to the Past and Guide to the Future						
REQUESTED AMOUNT \$ 92,935	PROPOSED DURATION (1-60 MONTHS) 1 months	REQUESTED STARTING DATE 05/01/16	SHOW RELATED PRELIMINARY PROPOSAL NO. IF APPLICABLE			
THIS PROPOSAL INCLUDES ANY OF THE ITEMS LISTED BELOW <input type="checkbox"/> BEGINNING INVESTIGATOR (GPG I.G.2) <input type="checkbox"/> DISCLOSURE OF LOBBYING ACTIVITIES (GPG II.C.1.e) <input type="checkbox"/> PROPRIETARY & PRIVILEGED INFORMATION (GPG I.D, II.C.1.d) <input type="checkbox"/> HISTORIC PLACES (GPG II.C.2.j) <input type="checkbox"/> VERTEBRATE ANIMALS (GPG II.D.6) IACUC App. Date _____ PHS Animal Welfare Assurance Number _____				<input type="checkbox"/> HUMAN SUBJECTS (GPG II.D.7) Human Subjects Assurance Number _____ Exemption Subsection _____ or IRB App. Date _____ <input type="checkbox"/> INTERNATIONAL ACTIVITIES: COUNTRY/COUNTRIES INVOLVED (GPG II.C.2.j) _____		
<input checked="" type="checkbox"/> FUNDING MECHANISM Conference				<input checked="" type="checkbox"/> COLLABORATIVE STATUS Not a collaborative proposal		
PI/PD DEPARTMENT Land Resources and Environmental Science		PI/PD POSTAL ADDRESS 334 Leon Johnson Hall				
PI/PD FAX NUMBER 406-994-5863		Bozeman, MT 59717 United States				
NAMES (TYPED)	High Degree	Yr of Degree	Telephone Number	Email Address		
John C Priscu	PhD	1982	406-994-3250	jpriscu@montana.edu		
CO-PI/PD						
CO-PI/PD						
CO-PI/PD						
CO-PI/PD						

CERTIFICATION PAGE

Certification for Authorized Organizational Representative (or Equivalent) or Individual Applicant

By electronically signing and submitting this proposal, the Authorized Organizational Representative (AOR) or Individual Applicant is: (1) certifying that statements made herein are true and complete to the best of his/her knowledge; and (2) agreeing to accept the obligation to comply with NSF award terms and conditions if an award is made as a result of this application. Further, the applicant is hereby providing certifications regarding conflict of interest (when applicable), drug-free workplace, debarment and suspension, lobbying activities (see below), nondiscrimination, flood hazard insurance (when applicable), responsible conduct of research, organizational support, Federal tax obligations, unpaid Federal tax liability, and criminal convictions as set forth in the NSF Proposal & Award Policies & Procedures Guide, Part I: the Grant Proposal Guide (GPG). Willful provision of false information in this application and its supporting documents or in reports required under an ensuing award is a criminal offense (U.S. Code, Title 18, Section 1001).

Certification Regarding Conflict of Interest

The AOR is required to complete certifications stating that the organization has implemented and is enforcing a written policy on conflicts of interest (COI), consistent with the provisions of AAG Chapter IV.A.; that, to the best of his/her knowledge, all financial disclosures required by the conflict of interest policy were made; and that conflicts of interest, if any, were, or prior to the organization's expenditure of any funds under the award, will be, satisfactorily managed, reduced or eliminated in accordance with the organization's conflict of interest policy. Conflicts that cannot be satisfactorily managed, reduced or eliminated and research that proceeds without the imposition of conditions or restrictions when a conflict of interest exists, must be disclosed to NSF via use of the Notifications and Requests Module in FastLane.

Drug Free Work Place Certification

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent), is providing the Drug Free Work Place Certification contained in Exhibit II-3 of the Grant Proposal Guide.

Debarment and Suspension Certification

(If answer "yes", please provide explanation.)

Is the organization or its principals presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency?

Yes

No

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) or Individual Applicant is providing the Debarment and Suspension Certification contained in Exhibit II-4 of the Grant Proposal Guide.

Certification Regarding Lobbying

This certification is required for an award of a Federal contract, grant, or cooperative agreement exceeding \$100,000 and for an award of a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding \$150,000.

Certification for Contracts, Grants, Loans and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

- (1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
- (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.
- (3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Certification Regarding Nondiscrimination

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) is providing the Certification Regarding Nondiscrimination contained in Exhibit II-6 of the Grant Proposal Guide.

Certification Regarding Flood Hazard Insurance

Two sections of the National Flood Insurance Act of 1968 (42 USC §4012a and §4106) bar Federal agencies from giving financial assistance for acquisition or construction purposes in any area identified by the Federal Emergency Management Agency (FEMA) as having special flood hazards unless the:

- (1) community in which that area is located participates in the national flood insurance program; and
- (2) building (and any related equipment) is covered by adequate flood insurance.

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) or Individual Applicant located in FEMA-designated special flood hazard areas is certifying that adequate flood insurance has been or will be obtained in the following situations:

- (1) for NSF grants for the construction of a building or facility, regardless of the dollar amount of the grant; and
- (2) for other NSF grants when more than \$25,000 has been budgeted in the proposal for repair, alteration or improvement (construction) of a building or facility.

Certification Regarding Responsible Conduct of Research (RCR)

(This certification is not applicable to proposals for conferences, symposia, and workshops.)

By electronically signing the Certification Pages, the Authorized Organizational Representative is certifying that, in accordance with the NSF Proposal & Award Policies & Procedures Guide, Part II, Award & Administration Guide (AAG) Chapter IV.B., the institution has a plan in place to provide appropriate training and oversight in the responsible and ethical conduct of research to undergraduates, graduate students and postdoctoral researchers who will be supported by NSF to conduct research. The AOR shall require that the language of this certification be included in any award documents for all subawards at all tiers.

CERTIFICATION PAGE - CONTINUED

Certification Regarding Organizational Support

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) is certifying that there is organizational support for the proposal as required by Section 526 of the America COMPETES Reauthorization Act of 2010. This support extends to the portion of the proposal developed to satisfy the Broader Impacts Review Criterion as well as the Intellectual Merit Review Criterion, and any additional review criteria specified in the solicitation. Organizational support will be made available, as described in the proposal, in order to address the broader impacts and intellectual merit activities to be undertaken.

Certification Regarding Federal Tax Obligations

When the proposal exceeds \$5,000,000, the Authorized Organizational Representative (or equivalent) is required to complete the following certification regarding Federal tax obligations. By electronically signing the Certification pages, the Authorized Organizational Representative is certifying that, to the best of their knowledge and belief, the proposing organization:

- (1) has filed all Federal tax returns required during the three years preceding this certification;
- (2) has not been convicted of a criminal offense under the Internal Revenue Code of 1986; and
- (3) has not, more than 90 days prior to this certification, been notified of any unpaid Federal tax assessment for which the liability remains unsatisfied, unless the assessment is the subject of an installment agreement or offer in compromise that has been approved by the Internal Revenue Service and is not in default, or the assessment is the subject of a non-frivolous administrative or judicial proceeding.

Certification Regarding Unpaid Federal Tax Liability

When the proposing organization is a corporation, the Authorized Organizational Representative (or equivalent) is required to complete the following certification regarding Federal Tax Liability:

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) is certifying that the corporation has no unpaid Federal tax liability that has been assessed, for which all judicial and administrative remedies have been exhausted or lapsed, and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

Certification Regarding Criminal Convictions

When the proposing organization is a corporation, the Authorized Organizational Representative (or equivalent) is required to complete the following certification regarding Criminal Convictions:

By electronically signing the Certification Pages, the Authorized Organizational Representative (or equivalent) is certifying that the corporation has not been convicted of a felony criminal violation under any Federal law within the 24 months preceding the date on which the certification is signed.

AUTHORIZED ORGANIZATIONAL REPRESENTATIVE		SIGNATURE	DATE
NAME			
TELEPHONE NUMBER	EMAIL ADDRESS	FAX NUMBER	

PROJECT SUMMARY

Overview:

Through the unique global partnership that is the Antarctic Treaty system, the entire continent is formally designated as a natural reserve, devoted to peace and science. To visit, and operate in, an environment like this comes with a responsibility to do so carefully and with minimal impact. It is thus imperative that scientists, contractors and managers operating in Antarctica convene regularly to assess the state of the environment and delineate requirements for the future that will maintain the pristine nature of the continent. A region of Antarctica that is particularly vulnerable to human impact is the McMurdo Dry Valleys (MDV). This area is the largest ice-free expanse on the continent (ice free area = 4,500 km²) and encompasses a total area of 22,700 km². The MDV contains cold desert soils millions of years old, special geological features and novel assemblages of primarily microscopic organisms. The landscape is a mosaic of glaciers, mountain ranges, permanently ice covered lakes, ephemeral streams and novel soil ecosystems. Materials are transported among landscape units by wind and water. Despite the apparent simplicity, complex interactions among species and between biological and physiochemical components occur within and between glaciers, streams, soils and lakes. The global uniqueness of this environment has led to increased levels of scientific research and tourism over the past decade. Given the increase in human presence, it is important to assess routinely the impact of these activities for both ethical and scientific reasons.

Intellectual Merit :

It has been 17 years since environmental stewardship of the McMurdo Dry Valleys (MDV) has been formally addressed. During these 17 years, research activities in the valleys have increased exponentially and major research campaigns have been established in the Taylor, Wright, Miers, Garwood, Beacon and Victoria Valleys. This 17 year period has seen the implementation of a dry valleys Specially Managed Area (ASMA) and several new Specially Protected Areas (ASPAs) in the region. Research has reached the point where we have to ask ourselves, are we beginning to sample our own disturbances? Given the relatively long hiatus since the last environmental assessment of the MDV, in concert with exponential increases in research activity, we propose to convene a fourth workshop to assess the environmental integrity of the region, discuss the success of present management strategies, and develop an international plan with which to move forward. The workshop will include more than 40 scientists, contractors and environmental manager to discuss environmental stewardship and scientific site integrity of the MDV. The document that will be produced by this workshop will set the stage for environmental stewardship in the MDV for the next decade.

Broader Impacts :

Workshop participants have been carefully chosen to ensure gender balance and representation from all career levels. The early career scientists will have a chance to change the way they will work in Antarctica, allowing them to conduct research in an environment that they have had a hand in shaping. Individuals from five countries will participate, providing a global balance to the workshop. This international collaboration will allow the recommendations to have global implications on the way research is conducted in the McMurdo Dry Valleys.

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For font size and page formatting specifications, see GPG section II.B.2.

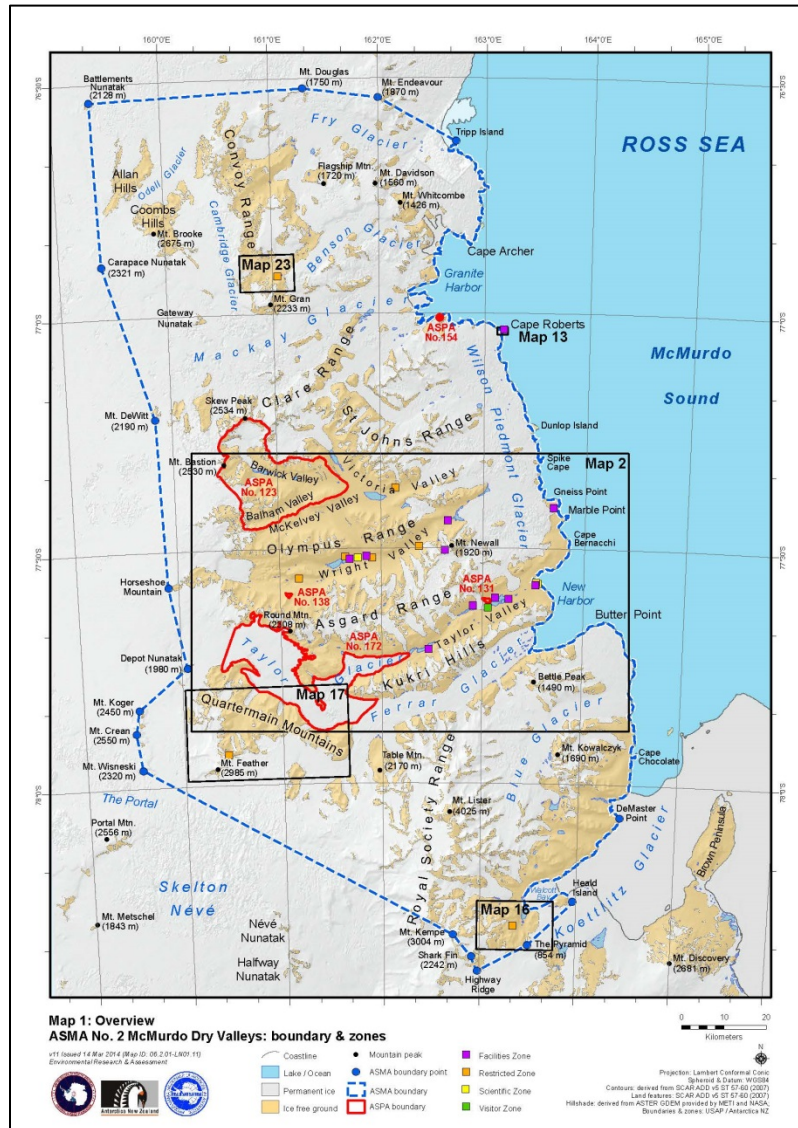
	Total No. of Pages	Page No.* (Optional)*
Cover Sheet for Proposal to the National Science Foundation		
Project Summary (not to exceed 1 page)	1	_____
Table of Contents	1	_____
Project Description (Including Results from Prior NSF Support) (not to exceed 15 pages) (Exceed only if allowed by a specific program announcement/solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)	5	_____
References Cited	1	_____
Biographical Sketches (Not to exceed 2 pages each)	2	_____
Budget (Plus up to 3 pages of budget justification)	4	_____
Current and Pending Support	1	_____
Facilities, Equipment and Other Resources	1	_____
Special Information/Supplementary Documents (Data Management Plan, Mentoring Plan and Other Supplementary Documents)	1	_____
Appendix (List below.) (Include only if allowed by a specific program announcement/ solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)	_____	_____
Appendix Items:		

*Proposers may select any numbering mechanism for the proposal. The entire proposal however, must be paginated. Complete both columns only if the proposal is numbered consecutively.

Project Description

Statement of need

Through the unique global partnership that is the Antarctic Treaty system, the entire continent is formally designated as a 'natural reserve, devoted to peace and science'. Antarctica is regarded as the last great wilderness on our planet, still pristine with wildlife and landscapes that show little evidence of direct human activity. To visit, and operate in, an environment like this comes with a responsibility to do so carefully and with minimal impact. It is thus imperative that scientists, contractors and managers operating in Antarctica convene regularly to assess the



state of the environment and delineate requirements for the future that will maintain the pristine nature of the continent. A region of Antarctica that is particularly vulnerable to human impact is the McMurdo Dry Valleys (MDV). This area is the largest ice-free expanse on the continent (ice free area = 4,500 km²) and encompasses a total area of 22,700 km² (Levy 2012) (Map 1). The MDV contains cold desert soils millions of year's old, special geological features and novel assemblages of primarily microscopic organisms. The landscape is a mosaic of glaciers, mountain ranges, permanently ice covered lakes, ephemeral streams and novel soil ecosystems. Materials are transported among landscape units by wind and water. The biological systems in the MDV are relatively simple; there are no vascular plants or vertebrates and few insects. Trophic interactions and biogeochemical cycles are largely limited to

microbiological populations and microinvertebrates. Despite the apparent simplicity, complex interactions among species and between biological and physiochemical components occur within and between glaciers, streams, soils and lakes. Recent evidence indicates that some of the valleys possess ancient subsurface brines that may influence contemporary surface ecosystem processes (Mikucki et al. 2015). The global uniqueness of this environment has led

to increased levels of scientific research and tourism over the past decade (Priscu 2001). Given the increase in human presence, it is important to assess routinely the impact of these activities for both ethical and scientific reasons.

Former meetings addressing environmental management of Antarctica and the MDV

Environmental concerns from human activities on the Antarctic continent were first addressed in the 1960's and 1970 through proceedings of colloquia (Parker 1972) and published manuscripts (e.g., Parker 1979) on the topic. International workshops specifically addressing environmental management of the McMurdo Dry Valleys were convened in 1991, 1995 and 1998. A brief description of these workshops follows:

- Wharton, R.A. (ed.) McMurdo Dry Valleys: A cold Desert Ecosystem. Report of a NSF workshop held at the Institute of Ecosystem Studies, The New York Botanical Garden, Millbrook, New York, 5-7 October 1991.
- Vincent, W.F. (ed.) Environmental Management of a Cold Desert Ecosystem: The McMurdo Dry Valleys. Report of a NSF Workshop held at Santa Fe, New Mexico, 14-17 March 1995.
- Wharton, R.A. and P. T. Doran (eds.) McMurdo Dry Valley Lakes: Impacts of Research Activities. Report of a NSF held at the University of Illinois at Chicago, 15-17 July 1998.

The general conclusion from each of these workshops has been that the environment is extremely sensitive to human presence and special priority should be given to the protection of scientific values and integrity of the region. This conclusion recognizes the global significance of the McMurdo Dry Valleys as an information resource and it acknowledges the principal reason for human activities in the valleys from the past into the foreseeable future. Protection of the scientific values of this region also serves to protect many other values which characterize this environment.

It has been 17 years since environmental stewardship of the McMurdo Dry Valleys has been formally addressed. During these 17 years, research activities in the valleys have increased exponentially and major research campaigns have been established in the Taylor, Wright, Miers, Garwood, Beacon and Victoria Valleys. This 17 year period has seen the implementation of a dry valley's Specially Managed Area (ASMA) and several new Specially Protected Areas (ASPAs) in the region (Map 1). Research has reached the point where we have to ask ourselves, are we beginning to sample our own disturbances? Given the relatively long hiatus since the last environmental assessment of the MDV, in concert with exponential increases in research activity, we propose to convene a fourth workshop to assess the environmental integrity of the region, discuss the success of present management strategies, and develop an international plan with which to move forward. Discussion will focus on environmental stewardship and scientific site integrity.

Approach and Organization

We propose to convene an international workshop in May 2016 at Colorado State University, CO (USA). Invitations will be sent to appropriate members of NSF, the Antarctic support

contractor (currently ASC), helicopter support personnel, tour operators, and key scientists who have conducted research on select components of the MDV ecosystem. The scientific invitations will include early, mid and late career scientists, and will ensure gender representation. The organizing committee for the workshop will consist of John Priscu (Chair-Montana State University), Berry Lyons (Ohio State University), Peter Doran (Louisiana State University), Diana Wall (Colorado State University), and Adrian Howkins (Colorado State University).

The overarching objectives of the workshop will be to:

1. Outline documented and potential human impacts (including level of severity) from various research activities in the MDV.
2. Determine the efficacy of the present management strategies in the MDV (e.g., Specially Managed Areas, Specially Protected Areas, Tourist zones) and discuss potential changes with respect to environmental protection and implementation.
3. Develop recommendations for management of future research and tourist activities in the area with an emphasis on logistical requirements needed to implement these recommendations.

Specific questions to be considered by the participants:

1. What is the current research and tourist “footprint” in the area, and is it affecting the integrity of the ecosystem?
2. How is projected climate change in the area going to influence environmental management decisions?
3. How will drones affect the environment and what rules will be placed on their use?
4. We now have the dry valleys ASMA with new ASPA’s in place since the last environmental review. How have these managed and protected areas provided environmental protection to the environment?
5. To what level do we need to catalogue sampling sites and sites of instrument deployment?
6. What are the current regulations for handling hazardous materials and are they adequate?
7. Are current guidelines for the response to environmental incidents (e.g., spills and other releases) adequate?
8. What is the effect of increased helicopter use on carbon deposition and landing sites in the MDV?
9. How will extended season research affect the integrity of the environment?
10. Do we need guidelines for ROV and autonomous deployments in the lakes?
11. What is the status of former sites of known pollution (e.g., Vanda Station)?

Day one of the meeting will include short presentations focusing on the status of selected ecosystem components and the present state of management. These presentations will focus on the overarching objectives and specific questions described above and set the tone for ensuing discussion. To encourage input from all participants, the objectives will be addressed in a working group format similar to that used in previous NSF-sponsored environmental

workshops on the McMurdo Dry Valleys. Two groups will be formed, each comprised of scientists, contractors and managers with expertise in the various activities associated with research and environmental protection in the MDV. Each Group will address the objectives and specific questions. The groups will then meet together to discuss the individual outcomes and develop a consensus of ideas. Writing groups will be formed to produce a draft report followed by discussion during the last day of the workshop. This format should allow all perspective ideas to be aired, discussed and put in writing. The Chair of the workshop will then work together with the organizing committee, discussion group leaders, and rapporteurs to prepare a final document for distribution in both hardbound format and as an electronic document. This report will build upon the three previous NSF-sponsored environmental workshops. The workshop report will also be submitted for distribution in the "LTER Network News", "EOS", the Committee of Managers of Antarctic Programs (COMNAP) and the Scientific Committee on Antarctic Research (SCAR). Highlights of the report will also be presented at the SCAR Open Science Meeting.

Tentative Schedule

Day 1

Participants arrive; 7:30 pm, welcome social

Day 2

8:30 am	Welcome and Introduction (Priscu)
8:45	History of Science Activity in the McMurdo Dry Valleys (Howkins)
9:15	Environmental Management of the McMurdo Dry Valleys (Harris)
9:45	Climate in the MDV: past, present and future (Marchant)
10:15	Break
10:45	Glaciological Research (Pettit)
11:45	Lunch
12:30 pm	Stream Research Activities (McKnight)
1:00	Dry Valley Soil Research Activities (Wall)
11:15	Lake Research Activities (Doran)
1:30	Group Assignments and Charges to Participants
2:00	Break
2:30	Groups I & II meet separately to consider the objectives 1 and 2 and questions 1 to 5
5:00	Wrap Up (Priscu)
6:30	Reception and Dinner

DAY 3

8:30 am	Review and Schedule (Priscu)
8:45	Groups I & II meet jointly to consider objectives 1 and 2 and questions 1 to 5
10:00	Break
10:15	Groups I & II meet separately to consider objective 3 and questions 6 to 11
11:15	Groups I & II meet jointly to discuss objective 3 and questions 6 to 11
12:30 pm	Lunch
1:30	Produce an outline for final report
3:00	Break
3:30	Break out into writing groups
6:30	Dinner

Day 4

8:00 am Draft Reports Available
 8:30 Groups I & II meet jointly to discuss draft reports
 9:30 Break
 10:00 Groups I & II meet jointly to complete draft reports
 11:45 Wrap Up and Adjourn
 Noon Lunch
 1:00-3:00 pm Finalize Draft Report (organizing committee, discussion group leaders, and *rapporteurs*)

Participants

Name	Affiliation
Ball, Becky	Arizona State University
Barrett, Jeb	Virginia Tech
Brook, Ed	Oregon State University
Cannone, Nicoletta	University of Insubria, (Italy)
Christner, Brent	LSU
Connell, Laurie	University of Maine
Doran, Peter	LSU
Ducklow, Hugh	Lamont Doherty
Dugan, Hilary	University of Wisconsin
Gooseff, Michael	Colorado State
Harris, Colin	Environmental Research and Assessment (UK)
Howkins, Adrian	Colorado State University
Hawes, Ian	University of Canterbury (NZ)
Hobbie, John	Marine Biological Lab
Hogg, Ian	University of Waikato (NZ)
Howard-Williams, Clive	NIWA (NZ)
Kennicutt, Chuck	Texas A&M
Layborn Parry, J	Bristol University (UK)
Lee, Charles	University of Waikato (NZ)
Lee, Dr. H-K	KOPRI (S. Korea)
Levy, Joe	University of Texas, Austin
Lo Giudice, Angela	Università Degli Studi Di Messina (Italy)
Lyons, Berry	The Ohio State University
Mackey, Tyler	U.C. Davis

Marchant, Dave	Boston University
McKay, Chris	NASA Ames
McKnight, Diane	University of Colorado
Mikucki, Jill	University of Tennessee
Morgan Kiss, Rachael	Miami University
Obryk, Maciek	Portland State University
Pettit, Erin	University of Alaska
Priscu, John	Montana State University
Sletton, Ron	University of Washington
Swanger, Kate	UMass, Lowell
Takacs-Vesbach, Cristina	University of New Mexico
Tranter, Martyn	Bristol University (UK)
Vick Majors, Tristy	Montana State University
Vincent, Warwick	Laval University (Canada)
Virginia, Ross	Dartmouth College
Voytek, Mary	NASA
Wall, Diana	Colorado State University
Welch, Kathy	The Ohio State University
PHI representative	TBD
ANZ environmental	TBD
ASC Enviro 1	TBD
ASC Enviro 2	TBD
ASC Science rep	TBD
Eco Tour rep	TBD
Artist or writer	TBD

References

Levy, J. 2012. How big are the McMurdo Dry Valleys? Estimating ice-free area using Landsat image data. *Antarctic Science*. doi:10.1017/S0954102012000727.

Mikucki, J. plus 8 others. 2015. Deep groundwater and potential subsurface habitats beneath an Antarctic dry valley. *Nature Comm.* 6:6831. doi: 10.1038/ncomms7831.

Parker, B.C. 1972. *Proceedings of the Colloquium on Conservation Problems in Antarctica*. 10-12 September 1971. Blacksburg, Virginia. Allen Press. 356 p.

Parker, B.C. 1979. *Environmental Impact in Antarctica. Select papers by scientists addressing impact assessment, monitoring, and potential impact of man's activities in the Antarctic*. University of Virginia Press. 390 p.

Priscu, J.C. (editor) 2001. *Year-Round Access to the McMurdo Region: Opportunities for Science and Education*. Report of a National Science Foundation Workshop at the National Science Foundation, Arlington, Virginia, 8-10 September 1999.

Vincent, W.F. (editor). 1995. *Environmental Management of a Cold Desert Ecosystem: The McMurdo Dry Valleys*. Report of a NSF Workshop held at Santa Fe, New Mexico, 14-17 March 1995.

Wharton, R.A. (editor). 1991. *McMurdo Dry Valleys: A cold Desert Ecosystem*. Report of a NSF workshop held at the Institute of Ecosystem Studies, The New York Botanical Garden, Millbrook, New York, 5-7 October 1991.

Wharton, R.A. and P. Doran (eds). 1998. *McMurdo Dry Valley Lakes: Impacts of Research Activities*. Report of a NSF held at the University of Illinois at Chicago, 15-17 July 1998.

John C. Priscu

Professor, Department of Land Resources & Environmental Sciences, Montana State University,
Bozeman Montana. Email: jpriscu@montana.edu; webpage: <http://www.montana.edu/priscu/>

Professional Preparation:

Univ. of Nevada, Las Vegas, Biology, B.S, 1975
Univ. of Nevada, Las Vegas, Biology (microbial), M.S., 1978
Univ. of California, Davis, Ecology (microbial), Ph.D., 1982

Appointments:

Assistant, Associate, Full Professor, Montana State Univ. 1984-present
Division of Scientific and Industrial Research, New Zealand, Staff Research Scientist. 1982-1984

Products:

(i) five products most closely related to this project

Priscu, J.C. (editor) 1998. Ecosystem Dynamics in a Polar Desert: the McMurdo Dry Valleys, Antarctica. Vol 72. American Geophysical Union, Washington, DC. 369 pp, includes CDROM.

Grebmeier, J. and **J.C. Priscu** (co-chairs). 2011. Frontiers in Understanding Climate Change and Polar Ecosystems. Committee on Frontiers in Understanding Climate Change and Polar Ecosystems Polar Research Board Division of Earth and Life Studies. The National Academies Press, 86 pp. ISBN-10: 0-309-21087-9.

Priscu, J.C. and K.O. Hand. 2012. The microbial habitability of extraterrestrial icy worlds: A view from Earth. *Microbe* 7: 167-172.

Priscu, J.C., A. M. Achberger, J. E. Cahoon, B.C. Christner, R. L. Edwards, W.L. Jones, A.B. Michaud, M.R. Siegfried, M.L. Skidmore, R.H. Spigel G.W. Switzer, S. Tulaczyk, T.J. Vick-Majors. 2013. A microbiologically clean strategy for access to the Whillans Ice Stream subglacial environment. *Antarctic Science*. Published on-line, 28 March 2013. Doi:10.1017/S0954102013000025.

Priscu, J.C., J. Laybourn-Parry, M. Haggblom. 2014. Polar and alpine microbiology in a changing world. *FEMS Microbiology Ecology*. 89:209-210.

(ii) five other significant publications

Lyons, W.B., J. Laybourn-Parry, K. A. Welch and **J.C. Priscu**. 2006. Antarctic lake systems and climate change. In: D.M. Bergstrom, P. Convey, A.H.L. Huiskes (Eds.). *Trends in Antarctic Terrestrial and Limnetic Ecosystems: Antarctica as a Global Indicator*. Springer, Dordrecht.

Priscu, J.C., B.C. Christner, J.E. Dore, M.B. Westley, B.N. Popp, K.L. Casciotti, and W.B. Lyons. 2008. Extremely supersaturated N₂O in a perennially ice-covered Antarctic lake: Molecular and stable isotopic evidence for a biogeochemical relict. *Limnology and Oceanography*, 53: 2439-2450.

Vick-Majors, T.J. and **J.C. Priscu**. 2012. Bacterioplankton productivity in lakes of the Taylor Valley, Antarctica during the polar night transition. *Aquatic Microbial Ecology*. 68:57-76.

Michaud, A.B., Šabacká, M. and **J.C. Priscu**. 2012. Cyanobacterial diversity across landscape units in a polar desert: Taylor Valley, Antarctica. *FEMS Microbiology Ecology*, 82: 268–278. doi: 10.1111/j.1574-6941.2012.01297.x

Morgan-Kiss R. M., M.P. Lizotte, W. Kong and **J.C. Priscu**. 2015. Photoadaptation to the polar night by phytoplankton in a permanently ice-covered Antarctic lake. *Limnology and Oceanography*. In Press.

Synergistic Activities

Organizer, 5th International Conference on Polar and Alpine Microbiology, Big Sky, Montana, September 9-12, 2013.

Editor: Special volume on polar and alpine microbiology in a changing world 2014. *FEMS Microbiol. Ecol.* 89:209-210.

NSF Office Advisory Committee, Office of Polar Programs. 2000-03

NSF Advisory Committee for Environmental Research and Education. 2000-03

Chair, SCAR group of specialists on Antarctic subglacial lake research. 2000-2009

Collaborators and other Affiliations

• Collaborators and Co-editors (Total=57)

Achberger, A. LSU; Adams, H. MSU; Alekhina, I. AARI, Russia; Amaral-Zettler, L. MBL; Barbante, C. U. Venice, Italy; Barcheck, C. UCSC; Barletta, R. South Alabama; Berisford, D. JPL; Buizert, C. Oregon State; Burnett, J. UNL; Cahoon, J. MSU; Carnevali, M. DRI; Carter S. SIO; Christner, B. LSU; Doran P. LSU; Dore, J. MSU; Fisher, A. UCSC; Foreman, C. MSU; Fountain, A. PSU; Fricker, H. SIO; Haggblom, M. Rutgers; Hand, K. JPL; K. Christianson UW-Seattle; L.H. Beem; Laybourn-Parry, J. U. Bristol; Lizotte, M. UNC; Love, G. UC-Riverside; Lyons, W. OSU; Lyons, W. OSU; Mader, H. U. Bristol; Mankoff, K. SUNY; McConnell, J. DRI; McKay, C. NASA; McKnight, D. U. Colorado; Michaud, A. MSU; Mikucki, J. UTK; Mitchell, A. U. Aberystwyth, UK; Morgan-Kiss, R. Miami, Ohio; Murray, A. DRI; Powell, R. NIU; Purcell, A. UTK; Rack, F. UNL; Rassuchine, O. UC-Riverside; Rohrssen, M. UC-Riverside; Sampson, D. UCSC; Scherer, R. NIU; Schwartz, S. UCSC; Siegert, M. U. Bristol; Siegfried, M. SIO; Stone, W. Stone Aerospace; Tranter, M. U. Bristol; Tulaczyk, S. UCSC; Vesbach, C. UNM; Vick-Majors, T. MSU; Wadham, U. Bristol; Wall, D. CSU; Williams, M. UC-Riverside;

• Graduate Advisors and Postdoctoral Sponsors (Total=2)

J. Deacon (Thesis advisor, Deceased), C. Goldman (Dissertation advisor)

• Thesis advisor and Postdoctoral Scholar Sponsor at Montana State University (17 post-doctoral students; 19 graduate students)

Sponsor for the following post-doctoral scientists:

R. Murray; W. Dodds; M. Lizotte; N. Kangatharalingam; K. Lohman; C. Fritsen; P. Lee; D. Brawner; J. Dore; P. Neale; C. Foreman; R. Morgan-Kiss; B. Christner; S. Jepsen; J. Mikucki; J. D'Andrilli; H. Adams

Supervisor to the following graduate students:

R. Angelo, Ph.D. 1989; L. Wang, Ph.D. 1992; T. Miller, M.Sc. 1991; T. Sharp, M.Sc. 1993; K. Schwarz, M.Sc. 1993; C. Woolston, M.Sc. 1994; M. Briggs, M.Sc. 1994; C. Takacs-Vesbach, Ph.D. 1999; N. Tursich, M.Sc. 2002; S. Konley, M.Sc. 2003; J. Mikucki, Ph.D. 2005; J. Moore, M.Sc. 2007; T. Vick, M.Sc. 2010; M. Sabacka, Ph.D. 2011; A. Michaud, Ph.D. in prog; P. Santibinez, Ph.D. in prog; T. Vick-Majors, Ph.D. in prog; P. Kudalarn, M.Sc. in prog; J. Patriarch, M.Sc. in prog.

SUMMARY PROPOSAL BUDGET

YEAR 1

ORGANIZATION Montana State University				FOR NSF USE ONLY			
				PROPOSAL NO.	DURATION (months)		
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR John Priscu				AWARD NO.	Proposed	Granted	
				A. SENIOR PERSONNEL: PI/PD, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.7. show number in brackets)			
				CAL	ACAD	SUMR	
1.				0.00	0.00	0.00	
2.							
3.							
4.							
5.							
6.	(0) OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)			0.00	0.00	0.00	0
7.	(1) TOTAL SENIOR PERSONNEL (1 - 6)			0.00	0.00	0.00	0
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)							
1.	(0) POST DOCTORAL SCHOLARS			0.00	0.00	0.00	0
2.	(0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)			0.00	0.00	0.00	0
3.	(0) GRADUATE STUDENTS						0
4.	(0) UNDERGRADUATE STUDENTS						0
5.	(0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)						0
6.	(0) OTHER						0
TOTAL SALARIES AND WAGES (A + B)							0
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)							0
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)							0
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)							
TOTAL EQUIPMENT							0
E. TRAVEL 1. DOMESTIC (INCL. U.S. POSSESSIONS)							0
2. FOREIGN							0
F. PARTICIPANT SUPPORT COSTS							
1.	STIPENDS \$ _____						0
2.	TRAVEL _____						51,325
3.	SUBSISTENCE _____						34,300
4.	OTHER _____						2,900
TOTAL NUMBER OF PARTICIPANTS (49)				TOTAL PARTICIPANT COSTS			88,525
G. OTHER DIRECT COSTS							
1. MATERIALS AND SUPPLIES							0
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION							3,500
3. CONSULTANT SERVICES							0
4. COMPUTER SERVICES							0
5. SUBAWARDS							0
6. OTHER							0
TOTAL OTHER DIRECT COSTS							3,500
H. TOTAL DIRECT COSTS (A THROUGH G)							92,025
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE) Participant Support (Rate: 0.0000, Base: 88525) (Cont. on Comments Page)							
TOTAL INDIRECT COSTS (F&A)							910
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)							92,935
K. SMALL BUSINESS FEE							0
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)							92,935
M. COST SHARING PROPOSED LEVEL \$ 0				AGREED LEVEL IF DIFFERENT \$			
PI/PD NAME John Priscu				FOR NSF USE ONLY			
ORG. REP. NAME*				INDIRECT COST RATE VERIFICATION			
				Date Checked	Date Of Rate Sheet	Initials - ORG	

SUMMARY PROPOSAL BUDGET COMMENTS - Year 1

**** I- Indirect Costs**

Publication costs (Rate: 26.0000, Base 3500)

SUMMARY PROPOSAL BUDGET Cumulative

ORGANIZATION Montana State University				FOR NSF USE ONLY			
				PROPOSAL NO.	DURATION (months)		
PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR John Priscu				AWARD NO.	Proposed	Granted	
				A. SENIOR PERSONNEL: PI/PI, Co-PI's, Faculty and Other Senior Associates (List each separately with title, A.7. show number in brackets)			
				CAL	ACAD	SUMR	
1.				0.00	0.00	0.00	
2.							
3.							
4.							
5.							
6. () OTHERS (LIST INDIVIDUALLY ON BUDGET JUSTIFICATION PAGE)				0.00	0.00	0.00	0
7. (0) TOTAL SENIOR PERSONNEL (1 - 6)				0.00	0.00	0.00	0
B. OTHER PERSONNEL (SHOW NUMBERS IN BRACKETS)							
1. (0) POST DOCTORAL SCHOLARS				0.00	0.00	0.00	0
2. (0) OTHER PROFESSIONALS (TECHNICIAN, PROGRAMMER, ETC.)				0.00	0.00	0.00	0
3. (0) GRADUATE STUDENTS							0
4. (0) UNDERGRADUATE STUDENTS							0
5. (0) SECRETARIAL - CLERICAL (IF CHARGED DIRECTLY)							0
6. (0) OTHER							0
TOTAL SALARIES AND WAGES (A + B)							0
C. FRINGE BENEFITS (IF CHARGED AS DIRECT COSTS)							0
TOTAL SALARIES, WAGES AND FRINGE BENEFITS (A + B + C)							0
D. EQUIPMENT (LIST ITEM AND DOLLAR AMOUNT FOR EACH ITEM EXCEEDING \$5,000.)							
TOTAL EQUIPMENT							0
E. TRAVEL 1. DOMESTIC (INCL. U.S. POSSESSIONS)							0
2. FOREIGN							0
F. PARTICIPANT SUPPORT COSTS							
1. STIPENDS \$ _____							0
2. TRAVEL _____							51,325
3. SUBSISTENCE _____							34,300
4. OTHER _____							2,900
TOTAL NUMBER OF PARTICIPANTS (49)							
TOTAL PARTICIPANT COSTS							88,525
G. OTHER DIRECT COSTS							
1. MATERIALS AND SUPPLIES							0
2. PUBLICATION COSTS/DOCUMENTATION/DISSEMINATION							3,500
3. CONSULTANT SERVICES							0
4. COMPUTER SERVICES							0
5. SUBAWARDS							0
6. OTHER							0
TOTAL OTHER DIRECT COSTS							3,500
H. TOTAL DIRECT COSTS (A THROUGH G)							92,025
I. INDIRECT COSTS (F&A)(SPECIFY RATE AND BASE)							
TOTAL INDIRECT COSTS (F&A)							910
J. TOTAL DIRECT AND INDIRECT COSTS (H + I)							92,935
K. SMALL BUSINESS FEE							0
L. AMOUNT OF THIS REQUEST (J) OR (J MINUS K)							92,935
M. COST SHARING PROPOSED LEVEL \$ 0				AGREED LEVEL IF DIFFERENT \$			
PI/PI NAME John Priscu				FOR NSF USE ONLY			
ORG. REP. NAME*				INDIRECT COST RATE VERIFICATION			
		Date Checked		Date Of Rate Sheet		Initials - ORG	

C *ELECTRONIC SIGNATURES REQUIRED FOR REVISED BUDGET

BUDGET JUSTIFICATION – Montana State University

F. PARTICIPANT SUPPORT COSTS: \$88,525

Airfare is requested for 31 North American-based participants who do not reside in the Denver area (\$650/participant) and 11 participants that do not reside in North America (\$2,500/participant): \$47,650 total

On-site costs. \$700 is requested for all participants. These costs include \$75/d for food per diem + \$125/night for hotel for a 3.5 day duration ($\$75 + \$125 \times 3.5 = \$700$): $\$700 \times 49 = \$34,300$ total

Ground transportation. \$75/participant is requested for ground transportation to/from the Denver airport ($\$75 \times 49 = \$3,675$ total).

Coffee/light breakfast service for the duration of the workshop: \$2,900

G. OTHER DIRECT COSTS: \$3,500

These funds will be used to pay design and printing costs for 500 high quality color glossy reports, and 500 glossy, full color pamphlets that highlight the recommendations of the workshop.

H. TOTAL DIRECT COSTS: \$92,025

I. INDIRECT COSTS: \$910

An off campus rate of 26% has been applied to publication costs for the report.

Participant support costs excluded from the indirect cost base according to GPG Chapter II.C.2.g.

J. TOTAL DIRECT AND INDIRECT COSTS: \$92,935

Current and Pending Support

(See GPG Section II.D.8 for guidance on information to include on this form.)

The following information should be provided for each investigator and other senior personnel. Failure to provide this information may delay consideration of this proposal.			
Investigator: J.C. Priscu	Other agencies (including NSF) to which this proposal has been/will be submitted. NSF		
Support: <input checked="" type="checkbox"/> Current	<input type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
Project/Proposal Title: Whillans Ice Stream Subglacial Access Research Drilling: Integrative Study of Marine Ice Sheet Stability and Subglacial Life Habitats in West Antarctica			
Source of Support: NSF			
Total Award Amount: \$390,403		Total Award Period Covered: 09/01/14 to 08/31/15	
Location of Project: MSU/Antarctica			
Person-Months Per Year Committed to the Project.		Cal: 1.5	Acad: Sumr:
Support: <input checked="" type="checkbox"/> Current	<input type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
Project/Proposal Title: EAGER: COLLABORATIVE RESEARCH: Habitability of Antarctic lakes and detectability of microbial life in icy environments by autonomous year-round instrumentation			
Source of Support: NSF			
Total Award Amount: \$114,633		Total Award Period Covered: 05/01/13 to 04/30/15	
Location of Project: MSU/Antarctica			
Person-Months Per Year Committed to the Project.		Cal: 1.0	Acad: Sumr:
Support: <input type="checkbox"/> Current	<input type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
1.Project/Proposal Title: Increased Connectivity in a Polar Desert Resulting from Climate Warming: McMurdo Dry Valley LTER Program			
Source of Support: NSF			
Total Award Amount: \$696,276		Total Award Period Covered: 03/31/11 to 04/01/17	
Location of Project: MSU/Antarctica			
Person-Months Per Year Committed to the Project.		Cal: 0.5	Acad: Sumr:
Support: <input type="checkbox"/> Current	<input checked="" type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
Project/Proposal Title: Collaborative Research: Subglacial Antarctic Lakes Scientific Access (SALSA): Integrated study carbon cycling in hydrologically-active subglacial environments (this proposal)			
Source of Support: NSF			
Total Award Amount: \$1,168,083		Total Award Period Covered: 05/01/2016 to 04/30/2019	
Location of Project: MSU/Antarctica			
Person-Months Per Year Committed to the Project.		Cal: 1.0	Acad: Sumr:
Support: <input type="checkbox"/> Current	<input checked="" type="checkbox"/> Pending	<input type="checkbox"/> Submission Planned in Near Future	<input type="checkbox"/> *Transfer of Support
Project/Proposal Title: Environmental Assessment of the McMurdo Dry Valleys: Witness to the Past and Guide to the Future			
Source of Support: NSF			
Total Award Amount: \$92,935		Total Award Period Covered: 05/15/2016	
Location of Project: Colorado State University, Ft. Collins, Colorado			
Person-Months Per Year Committed to the Project.		Cal: 1.0	Acad: Sumr:
*If this project has previously been funded by another agency, please list and furnish information for immediately preceding funding period.			



Facilities

The School of Global Environmental Sustainability at Colorado State University will provide a room for the meeting with ample space for all the workshop participants. This room will be equipped with internet connectivity and audio-visual equipment for presentations. It will have the capacity for video-conferencing with participants who are unable to attend the meeting in person. Additional rooms will be provided for the breakout sessions that are scheduled in the program, which will also have internet connectivity and appropriate audio visual equipment. Xerox, fax, and scanning facilities will be provided by the School of Global Environmental Sustainability. A local arrangements committee is in place to take care of on-site organization, and there will be staff support from the School of Global Environmental Sustainability to help with planning. This staff support will assist with providing name-tags, programs, and other necessary materials for the workshop.

The Montana State University Office of Sponsored Programs will handle the distribution of funds required for participant support under the supervision of J. Priscu.

Space and computer facilities for all members of the organizing committee allow the level of communication necessary to conduct planning and final report preparation.

Data Management Plan

The workshop is structured to ensure that a draft report is written before the last day. The workshop report will include an overview of the discussions and a list of recommendations to ensure that all nations involved remain stewards of the McMurdo Dry Valley environment. The report will be circulated to national delegates to the Antarctic Treaty, the Council of Managers of National Antarctic Program (COMNAP) and the Scientific Committee on Antarctic Research (SCAR). We will work with SCAR to ensure that all standing scientific committees address the recommendations in the final report.