

## Cover

Source: Arctic, Antarctic, and Alpine Research, 47(2)

Published By: Institute of Arctic and Alpine Research (INSTAAR),  
University of Colorado

URL: <https://doi.org/10.1657/AAAR0047-2-c1>

---

The BioOne Digital Library (<https://bioone.org/>) provides worldwide distribution for more than 580 journals and eBooks from BioOne's community of over 150 nonprofit societies, research institutions, and university presses in the biological, ecological, and environmental sciences. The BioOne Digital Library encompasses the flagship aggregation BioOne Complete (<https://bioone.org/subscribe>), the BioOne Complete Archive (<https://bioone.org/archive>), and the BioOne eBooks program offerings ESA eBook Collection (<https://bioone.org/esa-ebooks>) and CSIRO Publishing BioSelect Collection (<https://bioone.org/csiro-ebooks>).

---

BioOne is an innovative nonprofit that sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common



# Arctic, Antarctic, and Alpine Research

Vol. 47, No. 2 May 2015

## Contents

### Special Issue on Changing Cryosphere under a Warming Climate

Introduction—Changing cryosphere under a warming climate <i>Tingjun Zhang and Ninglian Wang</i> .....	191–193
Active layer stratigraphy and organic layer thickness at a thermokarst site in Arctic Alaska identified using ground penetrating radar <i>Alessio Gusmeroli, Lin Liu, Kevin Schaefer, Tingjun Zhang, Timothy Schaefer, and Guido Grosse</i> .....	195–202
Carbon and nitrogen properties of permafrost over the Eboling Mountain in the upper reach of Heihe River basin, northwestern China <i>Cuicui Mu, Tingjun Zhang, Qingbai Wu, Bin Cao, Xiankai Zhang, Xiaoqing Peng, Xudong Wan, Lei Zheng, Qingfeng Wang, and Guodong Cheng</i> .....	203–211
Mapping surface soil freeze-thaw cycles in China based on SMMR and SSM/I brightness temperatures from 1978 to 2008 <i>Rui Jin, Tingjun Zhang, Xin Li, Xingguo Yang, and Youhua Ran</i> .....	213–229
Changes of soil thermal regimes in the Heihe River Basin over Western China <i>Qingfeng Wang, Tingjun Zhang, Xiaoqing Peng, Bin Cao, and Qingbai Wu</i> .....	231–241
The climate characteristics of the first date of $\leq 0^{\circ}\text{C}$ temperature in East China <i>Yinge Liu, Zhongming Guo, Qi Zhou, Xiaobo Wu, and Jianqiao He</i> .....	243–253
Remote sensing of the mean annual surface temperature and surface frost number for mapping permafrost in China <i>Youhua Ran, Xin Li, Rui Jin, and Jianwen Guo</i> .....	255–265
Thermal impacts of boreal forest vegetation on active layer and permafrost soils in northern Da Xing'anling (Hinggan) Mountains, Northeast China <i>Xiaoli Chang, Huijun Jin, Yanlin Zhang, Ruixia He, Dongliang Luo, Yongping Wang, Lanzhi Lü, and Qiuliang Zhang</i> .....	267–279
Variations in albedo on Dongkemadi Glacier in Tanggula Range on the Tibetan Plateau during 2002–2012 and its linkage with mass balance <i>Xuejiao Wu, Ninglian Wang, Anxin Lu, Jianchen Pu, Zhongming Guo, and Huawei Zhang</i> .....	281–292
Variations in firn line altitude and firn zone area on Qiyi Glacier, Qilian Mountains, over the period of 1990 to 2011 <i>Zhongming Guo, Ninglian Wang, Hongbo Wu, Yuwei Wu, Xuejiao Wu, and Quanlian Li</i> .....	293–300
Changes in glacier volume in the north bank of the Bangong Co Basin from 1968 to 2007 based on historical topographic maps, SRTM, and ASTER stereo images <i>Wei Junfeng, Liu Shiyin, Guo Wanqin, Xu Junli, Bao Weijia, and Shangguan Donghui</i> .....	301–311
Estimation and analysis of snow water equivalents based on C-band SAR data and field measurements <i>Shaobo Sun, Tao Che, Jian Wang, Hongyi Li, Xiaohua Hao, Zengyan Wang, and Jie Wang</i> .....	313–326
Electrical conductivity during the ablation process of the Glacier No. 1 at the headwaters of the Urumqi River in the Tianshan Mountains <i>Tianding Han, Xiangying Li, Mingjie Gao, Mika Sillanpää, Hongzheng Pu, and Chengyang Lu</i> .....	327–334
Other Research	
Glacier changes in the Lancang River Basin, China, between 1968–1975 and 2005–2010 <i>Liu Qiao, Liu Shiyin, Guo Wanqin, Nie Yong, Shangguan Donghui, Xu Junli, and Yao Xiaojun</i> .....	335–344
Shrub encroachment affects the diversity of plants, butterflies, and grasshoppers on two Swiss subalpine pastures <i>Bärbel Koch, Peter J. Edwards, Wolf U. Blanckenhorn, Thomas Walter, and Gabriela Hofer</i> .....	345–357
Different responses of soil respiration and its components to experimental warming with contrasting soil water content <i>Peng Fei, Xu Manhou, You Quangang, Zhou Xuhui, Wang Tao, and Xue Xian</i> .....	359–368
Diatoms at >5000 meters in the Quelccaya Summit Dome Glacier, Peru <i>Sherilyn C. Fritz, Bruce E. Brinson, W. E. Billups, and Lonnie G. Thompson</i> .....	369–374
Does the coralline alga <i>Leptophytum foecundum</i> (Kjellman) capture paleoenvironmental variability in the Arctic Ocean? <i>Laurie Bougeois, Branwen Williams, Jochen Halfar, Brenda Konar, Walter Adey, Andreas Kronz, and Ulrich G. Wortmann</i> .....	375–387
Atmospheric deposition and interactions with <i>Pinus pumila</i> Regal canopy on Mount Tateyama in the Northern Japanese Alps <i>Yoshitoshi Uehara, Atsushi Kume, Masaaki Chiwa, Hideharu Honoki, Jing Zhang, and Koichi Watanabe</i> .....	389–399
Book Reviews	
<i>North by Degree: New Perspectives on Arctic Exploration</i> , edited by Susan A. Kaplan and Robert McCracken Peck.....	401
<i>Antarctic Lakes</i> , by Johanna Laybourn-Parry and Gemma L. Wadham.....	401–402
Erratum— <i>Tundra-Taiga Biology: Human, Plant, and Animal Survival in the Arctic</i> , by R. M. M. Crawford.....	402
Polar and Alpine Meetings Calendar.....	403–405

Arctic, Antarctic, and Alpine Research

Vol. 47, No. 2, pp. 191–405, May 2015



# Arctic, Antarctic, and Alpine Research

An Interdisciplinary Journal



UNIVERSITY OF COLORADO BOULDER

Vol. 47, No. 2 May 2015