CURRICULUM VITAE

Vladimir B. AIZEN (EISEN)
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EDUCATION

1997		**Certified Professional Hydrologist (No. 1451)**, American Institute of Hydrology, **U.S.A.**
1988	**PhD**	**Glaciology**. USSR Academy of Sciences, Moscow, **USSR**
1981	**MSc**	**Geography**. Kyrgyz State University, Bishkek, **Kyrgyz Republic, USSR**
1975	**BSc**	**Engineering Hydrology.** Tashkent Engineering Institute of Hydro-Melioration, Tashkent, **Uzbek Republic, USSR**

PROFESSIONAL EXPERIENCE

2001 – present	**Research Professor**. Geography Department, College of Science, University of Idaho, Moscow, USA
2009- 12 months	**Visiting Professor**. Research Institute for Humanity and Nature, Kyoto, **Japan**
1994 - 2001	**Associate Researcher**. Donald Bren School of Environmental Science & Management and Department of Geography, University of California, Santa Barbara, **USA**
1997 - 12 months	**Visiting Researcher**. Niigata and Morioka Universities, **Japan**.
1993 - 8 months	**Visiting Researcher**. Scott Polar Research Institute, University of Cambridge, **U.K.**
1982-93	**Senior Scientist**, Institute of Geography, Russian Academy of Sciences, Moscow, **USSR**.
1975-82	**Associate Researcher and Head**. Ala Archa Complex Geophysical Station, Republic of Kyrgyzstan, **USSR.**

FIELD OF SPECIALIZATION

(i) **Main field:** *Glaciology, Hydrology, Climatology, GIS, Remote Sensing data analysis*

(ii) **Other fields:** *Global and regional climate, water resources, environmental change analysis and socio-economical impact, snow and ice isotope-geochemistry, ice-core paleo-climatic and environmental reconstructions, land-surface and remote sensing data analysis, alpine watershed hydrology, climatic and hydrological modeling and data statistical analysis.*

TEACHING EXPERIENCE

MSc and PhD Courses: **Geog 404/504** Glaciology, **Geog 400/501** Alpine Environment; **Geog 500** MSc Research and Thesis; **Geog 591** Alpine Research Seminar Series; **Geog 600** Doctoral Research and Dissertation (**University of Idaho**)

Graduate course: Climate, Snow, Glaciers and Runoff regime. Statistical methods and mathematical modeling in climatology and hydrology (**University of Idaho**)

Graduate seminar series: Climate, Snow, Glaciers and Environment. Climate in Mountains. Statistical Methods and Mathematical Modeling in Climatology and Hydrology (**University of California Santa Barbara)**

Undergraduate Course: Geog 112 Environmental Hydrology (**University of California, Santa Barbara**)

SELECTED STUDENT ADVISEES AND MAJOR PROFESSOR

Zhou Hang, PhD, graduated May 2016
Bjorn Greegholm, PhD, graduated May 2016
George Zamora, MSc since 2014
Alex Owen, MSc since 2011
Daniel Joswiak, PhD, graduated 2009
Arzhan Surazakov, PhD, graduated 2008
Michael Clancy, MSc, graduated 2008
Susan Kaspari, PhD, graduated in 2007
Daniel Sturgis, PhD, graduated 2006
Ruzica Dadic, PhD, graduated 2006
Brian Anderson, PhD, graduated 2005
Christina Schwartz, PhD, graduated 2005
Maria Glazirina, MSc, graduate 2005
Deana DeWire, MSc, graduated 2005
Daniel Joswiak, MSc, graduated in 2004
Michael Clancy, MSc, graduated 2008

RESEARCH AWARDS AND SUPPORT

2015 **UNESCO** "The 3rd Pamir's International High Elevation Geophysical Expedition" (HEIGE). Leader (**4.5M – five years combine funds from UNESCO, US, Japan, Germany and France team**) IGCP № 650.

2014 **NSF** Paleo-Climate Program. Collaborative Project: "Pleistocene/Holocene Climate Reconstruction from a Pamir high resolution deep ice-core" **PI ($1,6M –four years**) AGS-1401826/1401899.

2013 **UofI** OSP: "A workshop for US Universities Consortium and the University of Central Asia partnership for research and education" (seed grant), **PI**.

2013 **IAEA** "Assessing the Impact of Climate Change and its Effects on Soil and Water Resources in Polar and Mountainous Regions" **Co-PI** (€1,8M – four years) INT/5/153.

2010 **NSF** OISE Program: "Workshop on changes in surface and ground water in the Tarim River Basin, Urumqi, Xinjiang" **PI ($87,655 – two years**) OISE-0936264.

2008 **NSF** Paleo-Climate Program. COLLABORATIVE PROJECT: "Asian Ice Core Array (AICA): Reconstruction of Past Physical and Chemical Climate over Central Asia" **PI ($1M four years**) ATM-0754479 and ATM- 0754644.

2008 **NASA LCLUC** COLLABORATIVE RESEARCH: "Diagnosis of changes in alpine water storages and land surface degradation in Pamir mountains and Amu Dariya River basin" **PI** (**$884,621 four years**) #NNX08L68G.

2007 **NASA** "Estimation of seasonal snow cover, glacial and lake area changes at the Ob/Yenisey river heads during the last 40 years using NASA ESE products and in situ data" **PI** (**$448,000 - four years**) #NNX07AQ676.

2007 **NSF** ANT Antarctic Glaciology Program. Collaborative Proposal: "2000+ Year Detailed, Calibrated Climate Reconstruction from a South Pole Ice Core Set in an Antarctic - Global Scale Context" **Co-PI** (**$362,000 – tree years**) #AP0636475.

2006 **EPSCoR** Research and instrumentation grant (**$80,000 one year**).

2005 **CADIP** (Central Asia Deep Ice-Core Project). Nine countries international project based on multi-national funds (**Leader**), **~$350,000 a year since 2005 and by present.**

2005 **NASA** "Estimation of seasonal snow cover and glacial area changes in central Asia (Tien Shan) during the last 60 years using NASA ESE products and in-situ data", **PI ($532,666/three years)** #NNG05GR45G .

2004 **NSF/EPSCoR** grant: "Major Research and Facilities" (**$300,000**).

2003 **INEEL** "Education Outreach Activities in Global Climate/Environmental Changes and Vadose Zone Science and Technology", **PI** (**$42,500/one year)**.

2003 **NSF** "Effect of Changes in Climate, Snow Pack, Glaciers, and Permafrost on River Runoff in Tien Shan, Central Asia", **PI** (**$380,000/three years).** ATM- 0233583.

2002 **The USA National Geographic Society** Research Grant. "Dynamics of southern monsoons and regime of the south-eastern Tibenan glaciers" **PI** (**$30,000/one year**).

2001 **INEEL** "Research/Educational Grant in Hydrology (Water quantity & Quality), **PI** (**$38,000/four years**).

2000 **NSF** "Field ice-core drilling project in Tien Shan, Central Asia", **PI** (**$160,000/one year**) ATM – 9905670.

2000 **DOE** "Paleo-climatic and glaciological reconstructions in Central Asia." **PI ($1,600,000/four years)**, DOE -A107

1999 **NATO COLLABORATIVE LINKAGE GRANT** "Long-term environmental changes in Central Asia." **Project Coordinator,** (**$18,000/two years**).

1998 **DOE "**Glaciological and meteorological monitoring at high altitudes firn fields." **PI** (**$400,000/two years**).

1997 **NSF** "Simulation of Snow and Glacier Runoff in Central Asia Alpine Watersheds." **PI** (**$230,000/two years**), ATM - 9711491

1996 **JSPS** (Japan Society for the Promotion of Science) award "Dynamic of precipitation in Central Asia and Japan in relation with the global climatic change."

1991 **NASA EOS** "Glacio-Hydrological Regime in Central-Asian alpine basins. Present state and future trends in water resources." **Associate** (**$5,400,000/eight years**).

1988 **USSR Academy of Sciences Grant.** "Tien Shan, Tibet, Himalayas glaciological project." **PI** (**$900,000/five years**)**.**

1986 **UNESCO International Hydrological Program Grant. "**Atlas of the World Snow and Ice Resources." **Associate** (**$1,500,000 associate/five years**).

1982 **USSR Academy of Sciences Grant.** "Pamir and Tien Shan glaciological project." **Co-PI** (**$45,000/four years).**

INVITED LECTURES AND PRESENTATIONS

2017 Xining (Qinghai Lake, China). NSF/Chinese Academy of Sciences Cooperation Workshop: "Impact of a changing cryosphere on Lakes and streams in mountain regions" (invited lecture)

2016 Salekhard. Conference: Global Cryosphere Watch (Asian Cryo-net), WMO/ Institute of Arctic and Antarctic Research, St. Petersburg, RUSSIA (invited presentation)

2015 Paris, UNESCO. Conference: "Central Asia modern and past climate and water resources variability and local communities" **FRANCE** (invited lecture)

2014 Bishkek, CAIAG 10 years Festschrift International Symposium "Remote sensing and land-surface investigations in Central Asia" **KYRGYZSTAN** (invited presentation).

2014 Paris, UNESCO Conference: "Climate Change Impacts in Major Mountain Regions of the World" **FRANCE** (invited presentation)

2013 Beijing, WMO 1st Global Cryosphere Watch Workshop, **CHINA** (invited)

2013 Tashkent, NASA LCLUC Regional Workshop, **UZBEKISTAN** (invited)

2013 Huaraz, Conference. Glacier flooding and disaster risk management, **PERU** (invited presentation).

2013 Vienna, Workshop. Climate change and its impact on glacier retreat and land-water-ecosystem quality in polar and mountain regions across the world: From assessment to action, **AUSTRIA** (invited)

2013 Bonn, Symposium. Water in the Anthropocene: Challenges for Science and Governance, **GERMANY** (invited presentation).

2012 Almaty, Central Asia Cryosphere Center under the UNESCO auspice. International Symposium "Problems of Cryosphere in Eurasia High Mountains", **KAZAKHSTAN** (invited presentation).

2012 London, Kings College. A Workshop "Mountain Research Initiative Global Commission" 2012, **U.K.** (invited)

2011 Urumqi, International Symposium on Changing Cryosphere, Water Availability and Sustainable Development in Central Asia, **PR of China** (invited presentation).

2011 Reykjavik, The Third Pole Environment Symposium, **ICELAND** (invited presentation).

2011 Washington DC, NSF Ice-Coring Planning Committee, **USA.**

2010 AGU San Francisco Fall Meeting, Third Pole Environment Session supported by US Global Change Program, **USA** (invited presentation).
2010 International Symposium on Stable Isotopes in Environmental Studies. University of California, Davis, USA (**invited** presentation).
2010 Internationales Symposium, Deutsche Forschungsreisen in den Hochgebirgen Zentralasiens, Munhen, **GERMANY** (invited presentation).
2010 "Global Change and World's Mountains", Perth, **SCOTLAND** (one of the organizers).
2010 2nd Tarim River Basin Workshop, Xinjiang, PR of **CHINA** (one of the organizers).
2010 UN Symposium: "WATER FOR LIFE", Dushanbe, **TAJIKISTAN** (invited presentation).
2009 International Conference: Asian Economy and Global Climate Change: "Central Asia XXI Water Problem and Retrospective", Tokyo, **JAPAN**
2009 NSF and Chinese Academy of Sciences joint Workshop: "The Tarim River Basin Water Sink", Xian, **PRof CHINA** (organizer).
2009 Central Asia Institute for Applied Geosciences: International Conference on High Elevation Research: "Changes in Climate, Snow, Glaciers and River Runoff in Central Asia in the last 100 years". Bishkek, **KYRGYZSTAN** (organizer).
2009 Kyoto International conference on the Asia water problems: "What has happened with Central Asian snow and glacier water resources in the last 100 years?" Kyoto, **JAPAN** (invited presentation).
2008 NEESPI session at AGU GC52A: "Is Central Asia really exsiccating?", San Francisco, **U.S.A** (invited presentation).
2008 GFZ, Workshop: "Central Asia Observatory" Potsdam, **GERMANY**
2008 NASA Headquarter, Washington DC, **U.S.A.**
2008 Padova University, CEOP-HE Meeting and International Conference: "Mountains as Early Indicators of Climate Change", Padova, **ITALY** (invited presentation).
2007 Climate Change Session, AGU Fall Meeting, San Francisco, **U.S.A.**
2007 CliC 2nd Asian Symposium, Lanzhou, **CHINA** (one of the organizers).
2007 Workshop, Hokkaido University, Sapporo, **JAPAN**
2006 Workshop, GFZ, Potsdam, **GERMANY**
2006 Workshop, Glaciological Commission, Bavarian Academy of Sciences, Munich, **GERMANY**
2006 CliC 1st Asian Symposium, Yokohama, **JAPAN** (invited presentation).
2006 AAAS Symposium, St. Louis, **U.S.A.** (invited presentation)
2006 Nagoya University, **JAPAN** (invited lecture).
2005 IGS Symposium, Lanzhou, CHINA
2005 University of Heidelberg, Heidelberg, **GERMANY (**invited lecture)
2004 INEEL, Idaho Falls, **U.S.A.** (invited lecture).
2004 AGU Fall Meeting, San Francisco **U.S.A.**
2004 Scott Polar Research Institute, Cambridge, **U.K.** (invited lecture)
2003 Institute for Snowy Areas and Disaster Prevention at the Niigata University, Niigata, **JAPAN** (invited lecture).
2003 Workshop, World Snow and Ice Data Center, University of Colorado, Boulder, **U.S.A**.
2003 Workshop, Glaciological Commission of the Bavarian Academy of Sciences, Munich, **GERMANY.**
2002 Workshop, Cold and Arid Regions Environmental and Engineering Research Institute, Lanzhou, **CHINA.**
2001 University of Idaho, Moscow, **U.S.A.** (invited lecture).
2000 Workshop at National Polar Research Institute, Tokyo, **JAPAN**
2000 Cold and Arid Regions Environmental and Engineering Research Institute, Lanzhou, **CHINA.** (invited lecture).
2000 Scott Polar Research Institute, Cambridge, **U.K.** (invited lecture).
1999 INEEL, Idaho Falls, **U.S.A.** (invited lecture).
1998 Workshop, Scott Polar Research Institute, Cambridge, **U.K.**
Workshop, NSF, "Earth History System program", Washington DC, **U.S.A.**
1997 University of Zurich, Zurich, **SWITZERLAND** (invited lecture).
1997 International Symposium at the University of Alaska, Fairbanks, **U.S.A.**

1996 Nagoya, University, Nagoya, **JAPAN** (invited lecture).
1996 Nagaoka Technological Institute, Nagaoka, **JAPAN** (invited lecture).
1994 New York City-University, New York, **U.S.A.** (invited lecture).
1993 University of Cambridge, Cambridge, **U.K.** (invited lecture).
1992 Jawaharlal Nehru University, Delhi, **INDIA.** (series of invited lectures).
1990 London City-University, London, **U.K.** (invited lecture).
1990 University of California, Santa Barbara, **U.S.A.** (invited lecture).
1989 International Symposium "Britain in Arctic" University of Cambridge, Cambridge, **U.K.** (invited presentation on behalf of the Russian delegation).
1988 Lanzhou State University, Lanzhou, **CHINA.** (invited lecture)

Professional presentations presented at over 100 National and International Meetings

PROFESSIONAL AND PUBLIC SERVICE

2013- present member, the WMO GCW Program, Asia Cryo-net Steering Committee
2012 – 2014 member, 3rd Pole Environment Program Steering Committee.
2008 - present member, CEOP-HE Steering Committee
2006 - 2012 member, Asian CliC Steering Committee.
2005 – present affiliate Professor, University of Maine
2005 – present affiliate Professor, Geology Department, University of Idaho
2005 Annals of Glaciology V.43, Co-Editor
2006 – present NSF Paleoclimate and Hydrology programs Panel reviewer
2005 – 2012 NASA LCLUC Panel reviewer
2004 – present member, AGU, Cryosphere Committee
2003 – 2012 member, NASA NEESPI (Asian Part) Steering Committee.
2001 – present affiliate Professor, Environmental Science Program, University of Idaho
2000 - present affiliate Professor, Geography Department, University of California Santa Barbara
1997 – present associate reviewer, NSF (Paleoclimate, Atmospheric Science and Hydrology Programs)
1996 – present associate reviewer, Journal of Hydrology, Journal of Hydrometeorology
1995 – present associate reviewer, NASA (EOS, Hydrology, LCLUC Programs)
1994 – present associate reviewer, Journal of Glaciology, Annals of Glaciology, Journal of Geophysical Research, EOS AGU, Geophysical Research Letter, Environmental Science Letter, Global and Planetary Change, Journal of Hydrometeorology, Journal of Hydrology, Journal of Climate, Quaternary Science, Science Magazine, Journal Remote Sensing, Springer Publisher, Quaternary Research Journal, Advanced Meteorology Journal, Elsevier Publisher.

PROFESSIONAL SOCIETIES AND HONORS

2002 American Association for Advancement of Science (AAAS)
2001 American Permafrost Society
1998 European Geophysical Union (EGU)
1997 American Institute of Hydrology
1996 Teaching Reward, Niigata University, JAPAN
1995 International Association of Hydrological Sciences
1994 International Mountain Society.
1994 The American Alpine Club
1994 American Geophysical Union (AGU).
1993 International Glaciological Society.
1990 American Geographical Society
1990 Award, USSR Academy of Science, Moscow, USSR
1978 The Gold Medal of Hydro-meteorological Service of the USSR
1977 Russian Glaciological Society
1977 Reward, East Siberian Hydro-meteorological Survey.

1976	Russian Geographical Society
1974	A master of sports of the USSR in Alpine Climbing
1974	The "Snow Leopard" prize winner for climbing all peaks over 7000 m in USSR
1971-77	A Champion of USSR and the Nat. Arm. Forces of the USSR in Alpine Climbing

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Leader and associate of 46 expeditions in Asia, North and South America (*Tien Shan, Pamir, Tibet, Himalaya, Altai, Caucasus, Siberian Arctic ,Rocky Mountains*, *and Andes*)

SPECIFIC SKILLS

Knowledge of languages:	***English and Russian (fluent), Kyrgyz, Chinese (simple conversation)***
Art:	***Drawing and painting***
Sport:	***Alpinism, downhill and cross-country ski***

LAST 25 YEARS SELECTED PUBLICATIONS

Manuscripts in process and in review:

Aizen, V., E. Aizen, H. Zhou, J. Kubota. Climate changes in central Asia in the 20-21st century. *International Journal of Climatology* (in review)

Aizen, V., H. Zhou, E. Aizen, The Pamir glacier dynamics. *Journal Glaciology* (re-submitted)

Aizen, E., V. Aizen, H. Zhou. 2017. Climate, aridity and atmospheric circulation in the Pamir, Central Asia for the 20th – 21st centuries. *J. Global and Planetary Change* (submitted)

Aizen, V. B., E.M. Aizen, A. B. Surazakov, S.A. Nikitin, Z. Hang, J. Kubota. Glaciers changes in Central Asia in XX century (in process).

Aizen, E.M., V.B. Aizen, Chronology of Siberian forest fire reconstructed from Altai ice core chemistry analysis (in process)

Aizen, V.B. and E.M. Aizen. The Central Asian Cryosphere. Book, Springer (in process)

Published manuscripts:

Zhou, H., V. Aizen, E., Aizen, **2017**. Constructing a long-term monthly climate dataset in central Asia *J. Global and Planetary Change.* doi: 10.1002/joc.5259

Grigholm, B., P. Mayewski, V. Aizen, K.Kreuz, E.Aizen, S.Kang, K. Maasch, S. Sneed. **2017.** A Twentieth Century Major Soluble Ion Record of Dust and Anthropogenic Pollutants from Inilchek Glacier, Tien Shan: Major Soluble Ion Record From Inilchek. *Journal of Geophysical Research Atmosphere*, doi: 10.1002/2016JD025407

Hang, Z., E. Aizen, V. Aizen. **2016.** Seasonal snow cover regime and historical change in Central Asia from 1986 to 2008. *J. Global Planetary Changes*, V 148, doi:10.1016/j.gloplacha.2016.11.011

Grigholm, B.**,** P. Mayewski, S. Kang, V. Aizen, K. Kreutz, C. Wake, E. Aizen, K. Maasch, M. Handley, S. Sneed. **2016**. Mid-twentieth century increases in anthropogenic Pb, Cd and Cu in central Asia set in hemispheric perspective using Tien Shan ice core. *Atmospheric Environment*, Vol. 131, Pages 17–28**.** doi:10.1016/j.atmosenv.2016.01.030

Aizen, E., V. Aizen, N. Takeuchi, P. Mayewski, B. Grigholm, D. Joswiak, S. Nikitin, K. Fujita, M. Nakawo, A. Zapf, M. Scwikowski. **2016**. Abrupt and moderate climate changes at high-mid latitudes of Asia during the Holocene. *Journal of Glaciology*, doi:10.1017/jog.2016.34.

Grigholm, B., P. Mayewski, S. Kang, V. Aizen, Y. Zhang, U. Morgenstern, M. Scwikowski, Kaspari, N.Takeuchi, Maasch, K., Dixon, D., Birkel, S., Handley, M. and Sneed, S. **2016**. 20th century weakening of the westerly winds over the Tibetan Plateau. *Atmospheric Environment*, Vol. 131, Pages 17–28**.** doi:10.1016/j.atmosenv.2016.01.030

Grigholm, B., P. Mayewski, S. Kang, Y. Zhang, U. Morgenstern, M. Schwikowski, S. Kaspari, V. Aizen, E. Aizen, N.Takeuchi, K. Maasch, S. Birkel, M. Handley, S. Sneed. **2015**, 20th century dust lows and the weakening of the westerly winds over the Tibetan Plateau. *Geophysical Research Letters*, doi: 10.1002/2015GL063217

Aizen, Vladimir, Elena Aizen. **2014**. The Central Asia climate and water resources variability. Proceedings: International Symposium "Remote sensing and land-surface investigations in Central Asia" Bishkek, KYRGYZSTAN.

Nozomu Takeuchi, Koji Fujita, Vladimir Aizen, Chiyuki Narama, Yusuke Yokoyama, Sachiko Okamoto, Kazuhiro Naoki, Jumpei Kubota. **2014**. The disappearance of glaciers in the Tien Shan Mountains in Central Asia at the end of Pleistocene. J. Quaternary Science Reviews, Volume 103, 1 November 2014, Pages 26–33.

Aizen, V., E. Aizen. **2014**. IPCC Report, WGII, AR5, Chapter 24, Asia: Impacts, Adaptation, and Vulnerability Cambridge University Press UK, and NY, USA.

Lambrecht, A., C. Mayer, V. Aizen, D. Floricioiu, A. Surazakov. From **2014**. The Fedchenko glacier in the Pamir during eight decades. Journal of Glaciology, Vol. 60, No. 220, 2014 doi: 10.3189/2014JoG13J110

Aizen, Vladimir, Elena Aizen. **2013**. Modern and past climate and environment change impact on cryosphere/water resources in Central Asia. Proceedings: Glacier Flooding and Disaster Risk Management Workshop, Huaraz, Peru (http://www.highmountains.org/workshop/peru-2013)

Zhou, Hang, Elena Aizen, Vladimir Aizen. **2013**. Historical Snow Cover Variability Data Reconstructed from AVHRR and MODIS over High Asia. Elsevier: *J. Remote Sensing of Environment*, V. 136, pp.146-162, doi:101016/j.rse.2013.04.015

Okamoto, Sachiko, Koji Fujita, Hideki Narita, Jun Uetaki, Nozomu Takeuchi, Takayuki Miyake, Fumio Nakazawa, Vladimir Aizen, Stanislav Nikitin, Masayoshi Nakawo. **2011**. Reevaluation of the reconstruction of summer temperatures from melt features in Belukha ice cores, Siberian Altai. J. Geophysical Research, Vol.116, D02110, doi: 10.1029/2010JD013977.

Koji Fujita, Nozomu Takeuchi, Stanislav A. Nikitin, Arzhan B. Surazakov, Sachiko Okamoto, Vladimir B. Aizen, Jumpei Kubota. **2011**. An ideal climatic condition for steady-state glacier in the Kyrgyz Tien Shan derived from GPS surveys and energy-balance model. The Cryosphere, 5, 539–549.

Aizen, V.B. **2011**. Tien Shan Glaciers. Encyclopedia of Snow, Ice and Glaciers. Ed: V.P.Sigh, Springer Publisher, p.1253.

Aizen, V.B. **2011**. Altai Glaciers. Encyclopedia of Snow, Ice and Glaciers. Ed: V.P.Sigh, Springer Publisher, p.1253.

Aizen, V.B. **2011**. Pamir Glaciers. Encyclopedia of Snow, Ice and Glaciers. Ed: V.P.Sigh, Springer Publisher, p.1253.

Aizen, V.B. **2011**. High Elevation Glacioclimatology. Encyclopedia of Snow, Ice and Glaciers. V.P.Sigh, Springer Publisher, p.1253.

Nakazawa, F., T. Miyaki, K. Fujita, N.Takeuchi, J. Uetaki, T. Fujiki, V. Aizen, M. Nakawo. **2011**. Seasonal resolution interpretation of chemical signals enabled by seasonal dating from pollen analysis in a pit at Belukha glacier of Altai Mountains, Russia. Arctic, Antarctic, and Alpine Research, Vol. 43, No. 1, 2011, pp. 66–72.

Jun Uetake, Shiro Kohshima, Fumio Nakazawa, Nozomu Takeuchi, Koji Fujita, Takayuki Miyake, Hideki Narita, Vladimir B Aizen, Masayoshi Nakawo. **2010**. Psychrophilic yeast inhabited in ice core from Belukha Glacier, Siberian Altai indicate recent warming in Siberian Altai. Journal of Geophysical Research, vol. 116, G01019, doi:10.1029/2010JG001337.

Surazakov, A.B., V.B. Aizen, E.M. Aizen, S.A. Nikitin, **2010**: A new comprehensive dataset on glacier area changes from 1960s to 2008 in Altai-Sayan, Tien Shan and Pamir Mountain Systems of Central Asia. Proceedings, San Francisco AGU Fall Meeting 2010, GC41A- 0868.

Surazakov, A.B., V. B. Aizen**, 2010**. Positional accuracy evaluation of declassified Hexagon KH-9 mapping camera imagery. Photogrammetric Engineering & Remote Sensing, Vol.76, N 5, pp.603-608.

Aizen, Vladimir, Tandong Yao, Pratap Singh, Igor Severski. **2009**. Book: Ed. Lettenmaier, D.P., Water in the Changing World, Chapter 11, Part 3, UNESCO Publisher, pp.181-210.

Aizen, V.B., P.A. Mayewski, E.M Aizen, D.R. Joswiak, S. Kaspari, S. Sneed, A.B. Surazakov, B. Grigholm, A. Finaev. **2009**. Stable-Isotope and Chemical Time Series from Fedchenko Glacier Firn Core (Pamir).J. of Glaciology, V.55/190 pp.275-291.

Groisman, Pavel Ya., Elizabeth A. Clark, Vladimir M. Kattsov, Dennis P. Lettenmaier, Irina N. Sokolik, Vladimir B. Aizen, Oliver Cartus, Jiquan Chen, Susan Conard, John Katzenberger, Olga Krankina, Jaakko Kukkonen, Toshinobu Machida, Shamil Maksyutov, Dennis Ojima, Jiaguo

Qi, Vladimir E. Romanovsky, Maurizio Santoro, Christiane C. Schmullius, Alexander I. Shiklomanov, Kou Shimoyama, Herman H. Shugart, Jacquelyn K. Shuman, Mikhail A. Sofiev, Anatoly I. Sukhinin, Charles Vörösmarty, Donald Walker, and Eric F. Wood. **2009**. The Northern Eurasia Earth Science Partnership: an example of science applied to societal needs. *Bulletin of the American Meteorological Society*, V. 90, issue 5.

Surazakov, A.B., V. B. Aizen, S.A.Nikitin. **2007**. Glacier Area and River Runoff Changes in the Head of Ob River Basins During the Last 50 Years. *Environmental Research Letters*, http://dx.doi.org/10.1088/1748-9326/2/4/045017.

Aizen, V. B. and E.M. Aizen. **2007**. Climate, Glaciers and River Runoff in Central Asia, Changes and Consequences. *Proceedings of International Symposium: Energy and Environment*, July 4-6, Sapporo, Japan.

Aizen, V.B., E.M. Aizen, V. A. Kuzmichenok. **2007**. Glaciers and Hydrological Changes in the Tien Shan: Simulation and Prediction, *Environmental Research Letters*, http://dx.doi.org/10.1088/1748-9326/2/4/045019.

Aizen, V.B., E.M. Aizen. **2006.** Climate and Central Asia glaciers, changes and consequences. Proceedings of 1-st Asia CliC Symposium, JAMSTEC, Yokohama, Japan, pp.7-14.

Aizen, V.B., E.M. Aizen, D. R. Joswiak, K. Fujita, N. Takeuchi, S.A. Nikitin. **2006**. Climatic and atmospheric circulation pattern variability from ice-core isotope/geochemistry records (Altai, Tien Shan and Tibet), *Annals of Glaciology*, V.43, pp.49-60.

Aizen, V.B., E.M. Aizen, A.B. Surazakov, V.A. Kuzmichenok. **2006.** Assessment of Glacial Area and Volume Change in Tien Shan (Central Asia) During the Last 150 years Using Geodetic, Aerial Photo, ASTER and SRTM Data. *Annals of Glaciology*, V.43, pp.202-213.

Takeuchi, N., J. Uetake, K. Fujita, V. Aizen, S. Nikitin. **2006**. A snow algal community on Akkem Glacier in the Russian Altai Mountains. *Annals of Glaciology*, V. 43, pp.

Aizen, V.B., E.M. Aizen, V.A. Kuzmichenok, A.B. Surazakov. **2006**. Glacier changes in the Tien Shan as determined from topographic and remotely sensed data. *First NEESPI Special Issue in , J. Global and Planetary Changes*, V56, № 3-4, pp. 328-340.

Aizen, V.B., E.M. Aizen, V.A. Kuzmichenok. **2006**. Simulation and stochastic forecasting of water cycle components in Central Asian alpine basins. *First NEESPI Special Issue in J. Global and Planetary Changes* V56, № 3-4, pp. 341-358.

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