

Preserving Our Knowledge:

Documentation of the Bering Strait Environmental and Subsistence Terminologies (Siberian/St. Lawrence Island Yupik, Seward Peninsula Iñupiaq)

Preliminary Report under the ‘Shared Beringia’-NPS Award,
Cooperative Agreement, No. H9807070005
(January 2010 – December 2011)

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Executive Summary

The NPS grant H9807070005 was initially awarded in spring 2007 for a two-year (20 months) project, *SIKU – The Ice We Want Our Children to Know*, that was focused on the documentation of indigenous ecological knowledge in Alaska and Russian Chukotka. The project’s other declared goal was to strengthen Beringia residents’ contribution to the International Polar Year (IPY) 2007–2008 program. IPY 2007–2008 was a major concerted attempt by the international polar science community to document the status of polar environment and the ongoing changes across polar regions. It was also the first major science initiative, in which participation of Northern indigenous people was actively sought and their knowledge of the ice-dominated polar ecosystems has been promoted in multi-disciplinary understanding of the polar regions.

In 2009, the project was extended for two more years (24 months), till December 2011, so that the team might continue its effort and, specifically, focus on the documentation of endangered indigenous environmental and subsistence terminologies in selected communities in Alaska and Chukotka. In 2009–2010, additional research was conducted in Gambell and Shaktolik in Alaska, and in Uelen, Yanarakynnot, Novo-Chaplino, and Lorino in Chukotka. In 2010–2011 the data collected during the previous years were processed and have been presented in two books and several scholarly and outreach articles, as well as in public presentations. Three other volumes are currently in preparation and scheduled to be completed in 2012. This preliminary report summarizes main activities during 2010–2011 and presents justification for requested no-cost extension of the award till December 2012, to allow the team to deliver its products in full.

1. Project Goals

The main goal of the second phase of the ‘Preserving Our Knowledge’ project under the NPS award was to document traditional terms for various environmental phenomena and subsistence activities. The project team also sought to organize the data collected under the formats that may be of most practical use to today’s Native adults and youth, who are primarily bilingual or non-Native speakers. The format selected for this project was that of illustrated bilingual ‘topical dictionary,’ that is, extended word list in Native languages arranged by specific topic and/or field of expertise. A crucial task is to make such topical dictionary “user-friendly,” that is, to combine texts and lexical descriptions with the visual documentation, including digital color photographs, drawings by Native artists and professional illustrators, historical black-and-white pictures, and audio-visual documentation.

With the extension of the project in 2009, the team received additional 24 months, till December 2011, to continue its operations and to process the records collected during earlier phases. In 2009–2010, additional research was conducted by PI in Gambell and Shaktoolik in Alaska, and by Bogoslovskaya, Golbtseva, Kalyuzhina, Apalu, and other local partners in Uelen, Yanarakynnot, Novo-Chaplino, Lorino, and Provideniya in Chukotka. The main activities and project outcomes during 2010–2011 are summarized below.

2. Documentation of Indigenous Environment and Subsistence Terminologies

Siberian/St. Lawrence Island Yupik Component. Main efforts by the project team on the Chukotkan side were focused on (1) processing records collected for the SIKU project in 2007–2009; and (2) completing the “Siberian Yupik Ecological Dictionary” compiled by Lyudmila Bogoslovskaya and Lyudmila Ainana. In the former field, the Russian data collected in 2007–

2009 have been organized for a book, *Our Ice, Snow and Winds* co-edited by Lydumila Bogoslovskaya and Igor Krupnik. The volume includes some 30 individual contributions organized in three major sections: (1) Contemporary Cultural Ice Scapes on the Chukchi Peninsula; 2) Modern and Traditional Use of Chukotka Ice Scapes; and 3) Instrumental and Historic Records on Climate Change in Chukotka. It features numerous contributions by Chukotka local residents and several bilingual lexicons, such as local sea ice ‘dictionaries’ from Uelen (Chukchi, over 200 terms, compiled by Victoria Golbtseva and Uelen Elders), Yanarynnot (Chukchi, over 60 terms, compiled by Arthur Apalu and Vladimir Kasyak), Naukanski Yupik (50 terms, compiled by Elizaveta Dobrieva and Boris Alpergen from Lavrentiya), Chaplinski Yupik (60 terms, compiled by Lyudmila Ainana), Chaplinski Yupik-Sireniki (55 terms, compiled by Aron Nutawyi and Natalya Rodionova-Radunovich). Uelen and Yanrakynnot dictionaries are illustrated by contemporary color photos; Naukan and Sireniki dictionaries feature pencil drawings produced by Boris Alpergen and Vadim Yenan, respectively. In addition, the Russian SIKU volume features Chukchi terminology for local winds from Uelen (Golbtseva) and Yanrakynnot (Apalu) and Chukchi Reindeer herders’ terminology for snow from the community of Vaegi (compiled by V.N. Nuvano and V.V. Nuvano). The Russian SIKU book, thus, includes bilingual materials in three Chukotkan indigenous languages—Chukchi, Naukanski Yupik and Chaplinski Yupik. It will be the first publication of its kind in promoting indigenous ecological knowledge and traditional environmental terminologies documented in multiple communities and with full input by local experts.

The activities under the second Chukotka effort of the project team, *Siberian Yupik Ecological Dictionary*, have to be modified, due to change in project personnel. First, Victor Tatega, Yupik elder from Sireniki and one of the last fluent male speakers of the language,

passed away in 2009. Loss of Tatega endangered the proposed visual documentation of the Yupik environmental terminology that was planned as interaction between a male (Tatega) and female (L. Ainana) speakers. Unfortunately, we could not find an adequate replacement for Tatega due to the lack of fluent male Yupik speakers of his age group and knowledge caliber. Second, Igor Zagrebin, who was tasked with organizing audio-visual documentation of Yupik environmental terminology at the Provideniya ‘Beringia’ Museum pulled out of the project in 2010, due to his appointment as the Director of the Russian ‘Beringia’ Park. With his departure and the loss of Tatega as prospective male Yupik speaker, the dictionary team of Bogoslovskaya and Ainana reverted to the pursuit of a regular printed dictionary organized in some 30 topical chapters. The dictionary has been checked by Christopher Koonooka from Gambell, Alaska for accuracy in transliteration of St. Lawrence Island Yupik forms. The revised dictionary will be available in PDF format by late 2012 (see *Appendix 2*).

Seward Peninsula Component. The strategy for the Shaktoolik and Wales Iñupiaq environmental documentation also underwent substantial correction, due to project personnel change. Krupnik made two trips to Shaktoolik in 2009 and 2010 and documented rather rudimentary local sea ice terminology from a few remaining elders still fluent in local Iñupiaq dialect. He also started collecting pencil drawings by local villagers for the proposed “Shaktoolik Dictionary of the Seasons.” The work was postponed due to the health condition of the key Shaktoolik contributor, Mr. Paul Asiksik from Anchorage, who underwent complex heart surgery in 2009. Asiksik, age 64, the native of Shaktoolik and the last remaining fluent Inupiaq speaker in the community, was supposed to work with the few elderly informants to document the Inupiaq terminology still remembered in Shaktoolik. Due to his unavailability, the Shaktoolik

portion of the project was put on hold. The situation will be re-assessed during Igor Krupnik's planned visit to Shaktoolik in late May-June 2012.

Wales Inupiaq Sea ice Dictionary compiled by Winton Weyapuk has over 100 terms. The material has been featured in several public presentations and in a published paper (Krupnik and Weyapuk 2010). The PDF file of completed dictionary illustrated by Weyapuk's photographs from Wales and checked for accuracy in transliteration by Dr. Lawrence Kaplan, will be available in the final PDF format for printing and posting in Summer 2012 (see *Appendix 2*).

Comparative 'Beringia'/Circumpolar Component. During the IPY years, over 30 indigenous terminologies for sea ice, snow and other environmental parameters have been collected for the international SIKU project and related activities across the circumpolar area – in Alaska, Canada, Greenland, Northern Scandinavia and Arctic Russia. Indigenous sea ice 'dictionaries' collected in Chukotka and on the Seward Peninsula in 2007–2009 made the most extensive block of these records. They have been incorporated into a larger database of over 30 indigenous ice lexicons that was compiled as one of the outcomes of the international SIKU project in 2010. The results of this work were presented in a series of papers (Krupnik 2011; Krupnik and Müller-Wille 2010; Krupnik and Weyapuk 2010, etc.). Individual ice lexicons in the database have been analyzed by professional linguists (i.e. Alana Jones, University of Toronto; Lawrence Kaplan, Michael Krauss and Steven Jacobson, University of Alaska Fairbanks; Michael Fortescue, University of Copenhagen; Nicole Tersis, CRNS, Paris, and others). The comparative study of indigenous ice terminologies is certain to be continued using the records collected in Alaska and Chukotka for the 'Shared Beringia' project in 2007–2009.

3. Promotion of Indigenous ecological knowledge in research and public debates. The second phase of the extended ‘Shared Beringia’ project corresponded with the completion of the IPY 2007–2008 (that was officially closed in June 2010). Project participants used several venues assessing the results of IPY to promote the role of indigenous knowledge, languages and subsistence terminologies, including some of the most attended interdisciplinary venues, such as the IPY ‘Open Science’ Conference in Oslo, 2010, with over 2400 participants (see *Appendix 1*). This message was also disseminated at the special workshop, “Indigenous Peoples, Marginalized Populations and Climate Change” organized by UNESCO and United Nations University (Mexico City, July 2011), where the project PI served as a workshop co-chair and a member of the expert panel. The workshop was planned as the main venue to facilitate the inclusion of indigenous peoples’ knowledge into the next IPCC Assessment Report due in 2014. Several publications produced under the SIKU and related initiatives during IPY 2007–2008 have been recommended as sources for the new IPCC global climate assessment. In addition, several public and outreach venues were used by the project team to advocate for new role of indigenous knowledge and languages in the current global change debate (see *Appendix 1*).

We may rightly claim that the extended project supported the NPS ‘Shared Beringia’ program made significant contribution to the new public and scholarly perspective on indigenous knowledge and may be credited as a critical driver in this process.

4. Engagement of local Beringia residents. Many residents of Beringian communities in Alaska and Chukotka played active role in the second phase of project (also in its first phase). Altogether, more than 40 Native residents—hunters, elders, language and subsistence experts, artists, local scientists and cultural activists—contributed to the project efforts in 2007–2011.

They reside in four communities in Alaska (Gambell, Wales, Shaktoolik, and Nome) and five communities in Chukotka (Uelen, Yanrakynnot, Lavrentiya, Novo-Chaplino, Sireniki) as well as in the local hubs of Provideniya and Anadyr.

Of particular importance was training of indigenous science and park personnel via their participation in the NPS ‘Shared Beringia’ project. Four Russian ‘Beringia’ park rangers (Arthur Apalu, Alexander Borovik, Roman Armaergen and Oleg Ragtilkon) made critical contribution to the project by performing ice and weather observations in their respective communities, also via documenting elders’ stories, local subsistence terminologies, taking photographs and participating in the dictionary efforts. Local indigenous science contributors in Anadyr (Victoria Golbtseva, Natalya Rodionova, Vladilen Nuvano) and Provideniya (Lyudmila Ainana) were instrumental in recording ecological and subsistence nomenclatures and working with village knowledge experts. Their record stands as a very special achievement of the project that may become one of its most lasting legacies.

5. Publications, dissemination of science. The project team was successful in disseminating project outcomes via both scholarly venues and various public and educational means. In 2010–2011, the project team produced *two* books and 12 papers, in addition to about a dozen papers published in 2007–2009 (see *Appendix 1*). Three more collections resulting from the project are currently in preparation and are to be completed during 2012 (see *Appendix 2*). Altogether, the team is poised to deliver *two* major science volumes (in English and in Russian); *two* educational or public catalogs (Wales Sea Ice dictionary and Russian book on dog-driving) and an ecological dictionary under a four-year award, besides some 20 scientific and outreach papers, book

chapters, and short contributions. We are certain that this list will be eventually expanded as more publications come out of the project data in the years ahead.

Also, in 2010–2011, the team members delivered 14 oral presentations at various scholarly and public venues (see *Appendix 1*) in Alaska, Chukotka, as well as internationally (in Norway, Mexico, US and Russia). Several of those presentations were also transmitted on the web and were available to broad public audiences. Of particular importance was the panel on indigenous observations of environmental change in Beringia organized at the ‘Beringia Days’ annual conference in Nome on September 9, 2011. Several project team members—Paul Apangalook, Arthur Apalu, Alexander Borovik, Victoria Golbtseva—shared their records and elders’ observations. Igor Krupnik served as panel organizer and chair. In addition, two Russian project team members, Lyudmila Bogoslovskaya and Boris Vdovin, sent their prepared presentations. The expert panel was featured on the *Alaska Dispatch* piece on Beringia Days in September 2011 and also in the *Nome Nugget*, local newspaper (<http://nomenugget.net/>). It was widely called one of the most memorable events of the 2011 Beringia conference.

6. Project Deliverables in Progress. At the time of this writing (March 2012), three major project deliverables are in preparation and scheduled to completed during 2012 (see *Appendix 2*). The project team is working hard to process the data it collected during three years of research and to make them available to local Beringia communities, Native project contributors, science audience, and general public.

Since major project deliverables are still in progress and some of the activities proposed under the initial agreement had to be modified due to change in personnel and conditions on the ground, the team requests a no-cost extension of the project timeline till December 2012. We are

certain that with more time granted to complete our work (at no additional cost) we would be able to present the results of the project and to share them with the participating Beringian communities in full.

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Appendix 1: Publications (a) and posters/presentations (b) given at conferences and workshops on the outcomes of the NPS ‘Shared Beringia’ grant, 2010–2011

a) Publications

Books, Collections, Catalogs

Bogoslovskaya, L.S., ed. and comp.

2011 Nadezhda: Gonka po krayu zemli (Hope: A Race along the edge of the Land. Great Arctic Race, Mushers of Chukotka and Sled Dogs, their true Friends). Illustrated catalog. Moscow and Anadyr, 112 pp. (includes traditional terminologies for dog sled and harness).

Krupnik, I., Aporta, C., Gearheard, S., Laidler, G., Kielsen Holm, L., eds.

2010 *SIKU: Knowing Our Ice. Documenting Inuit Sea Ice Knowledge and Use*. Dordrecht: Springer, 502, pp. (several chapters covering sea ice terminologies for various Inuit groups in Alaska, Canada, Greenland and Russia)

Papers

Bogoslovskaya, L.S., and V.V. Golbtseva

Maritime Cultures of the Russian Arctic. In *Issues in the Studies and Preservation of the Maritime Legacy of Russia*. Kaliningrad: Terra Balta. 2010, pp. 244-245 (in Russian).

Bogoslovskaya, L.S., Golbtseva, V.V., and Shalarev, A.A.

The Future of the Traditional Maritime Cultures of the Russian Arctic. In *Issues in the Studies and Preservation of the Maritime Legacy of Russia*. Kaliningrad: Terra Balta. 2010, pp. 348–357.

Bogoslovskaya, L.S., Spiridonov, V.A., Suprunenko, Yu.S.

Maritime and Coastal Landscapes of the White Sea and Chukotka as Components of the Maritime Cultural Legacy of Russia. In *Issues in the Studies and Preservation of the Maritime Legacy of Russia*. Kaliningrad: Terra Balta. 2010, pp. 442-453 (in Russian).

Krupnik, I.

“How Many Eskimo Words for Ice?” Collecting Inuit Sea Ice Terminologies in IPY 2007–2008 *Canadian Geographer/Le Géograph canadien* 2011, 55(1):56-68.

SIKU: International Polar Year, #166 (An Overview) – with Claudio Aporta and Gita Laidler. In *SIKU: Knowing Our Ice*. 2010, Pp. 1-28

Franz Boas and Inuktitut Terminology for Ice and Snow: From the Emergence of the Field to the 'Great Eskimo Vocabulary Hoax'. With Ludger Muller-Wille. In *SIKU: Knowing Our Ice*. 2010, Pp. 377-400

Qaanuq Ilitaavut: How We Learned What We Know (Wales Inupiaq Sea Ice Dictionary). With Winton Weyapuk. In *SIKU: Knowing Our Ice*. 2010, Pp. 321-354.

It's Cold, But Not Cold Enough: Observing Ice and Climate Change in Gambell, Alaska in IPY 2007-2008 and Beyond (with Leonard Apangalook and Paul Apangalook). In *SIKU: Knowing Our Ice*. 2010. Pp. 81-114.

How Many Eskimo Words for *Ice* (New Studies on Eskimo Ice Terminologies during International Polar Year 2007–2008). In *Studia Anthropologica: A Festschrift in Honour to Prof. Michail Chlenov*. A Fedorchuk and S. Chlenova, eds. Moscow: Gescharim, pp. 409–443 (written April 2010)

The Earth is Even Faster. Preface to the 2010 Edition. In *The Earth Is Faster Now. Indigenous Observations of Arctic Environmental Change*. I. Krupnik and D. Jolly, eds. 2nd edition. Fairbanks: ARCUS, pp. xxiii–xxvii.

SIKU Project nears completion. *Arctic Studies Center Newsletter* 2010, no. 17: 12–13.

Hovelsrud, G., **Krupnik, I.**, and J. White

2011 Human-based observing systems; indigenous monitoring. In *Understanding Earth's Polar Challenges: International Polar Year 2007–2008*. I. Krupnik et al., eds. Edmonton: Canadian Circumpolar Institute, pp. 435–456.

b) Posters and Oral Presentations

Arthur Apalu, Aleksandr Borovik, Paul Apangalook, Victoria Golbtseva and Bivers Gologergen

Indigenous Observations of Change in the Beringia Region. Roundtable at the *Shared Beringia Conference* 2011 (moderated and organized by **Igor Krupnik**). Nome, AK, 9 September 2011

Bogoslovskaya, L.S.

Traditional knowledge of Arctic people: its preservation, transmission and integration with scientific data. Seminar at the Russian Heritage Institute, Moscow, Russia, 18 February 2010 (in Russian)

Traditional Knowledge of the People of Chukotka related to Climate Change. International Conference, "Problems of Adaptation to Climate Change," Moscow, 7-9 November 2011 (in Russian).

Bogoslovskaya, L.S., Spiridonov, V.A., Suprunenko, Yu.S.

Maritime and Coastal Landscapes of the White Sea and Chukotka as Components of the Maritime Cultural Legacy of Russia. St. Petersburg, October 2010

Bogoslovskaya, L.S., Golbtseva, V.V., Kalyuzhina, N.I., Krupnik, I., Vdovin, B.I., and I.A. Zagrebin

Climate Change in the Bering Strait Region: Integration of Indigenous and Scientific Knowledge (SIKU-Chukotka Activities, 2006-2010). IPY 2007–2008 ‘Open Science’ Conference, Oslo, Norway, 12 June 2010.

Golbtseva, V., Nuvano, V., and L.Bogoslovskaya

Preservation of Linguistic and Cultural Diversity of the Asiatic Eskimo and Chukchi. 2nd International Conference, “Language and Cultural Diversity in Cyberspace.” Yakutsk, Russia, 12-14 July 2011 (in Russian)

Krupnik, I.

A Time to Share: SIKU-ISIUOP IPY 2007–2008 Records and Prospects for ELOKA Partnership. Paper presented at the *Exchange of the Local Knowledge in the Arctic* workshop, Boulder, CO, 15 November 2011

“Indigenous Peoples’ Arctic Ecosystem Monitoring in IPY 2007–2008 and Beyond” Arctic Council ‘Ecosystem- Based Management (EBM) Experts Group,’ – Washington, DC, 18 October, 2011, Department of the Interior, 25-minute paper,

“Seeking New Balance via Sharing and Respect. Lessons from the International Polar Year 2007–2008”. Symposium co-hosted by Conversations with the Earth, NMAI, Indigenous Peoples Climate Change Assessment, UN University, NMAI, 4 October 2011; archived at <http://www.ustream.tv/recorded/17680252> (Pt.2)

Bringing Local and Indigenous Knowledge into International Climate Change Debates. Paper presented at the International Workshop, “Indigenous Peoples, Marginalized Populations and Climate Change,” Mexico City, 20 July 2011.

“Inuit Knowledge and Climate Change” – film screening at the National Museum of American Indian, public session, Washington, DC – March 27, 2011

SIKU: Recording Indigenous Knowledge and Use of Sea Ice During the IPY Years and Beyond. Paper presented at the IPY 2007–2008 ‘Open Science’ Conference, Oslo, Norway, June 12, 2010.

“It’s Cold But Not Cold Enough”: Arctic Residents’ Observations of Ice and Climate Change in IPY 2007–2008 and Beyond. Paper presented at the Annual Meeting of the American Meteorological Society, Atlanta, January 20, 2010, 10 pp.

Class on Arctic indigenous sea ice knowledge – University of Alaska Fairbanks, October 2010

[Early 2012]

Bogoslovskaya, L. and B. Vdovin

The Role of Ice-scapes in the Preservation of Biological Diversity of Marine Ecosystems off the Chukotka Peninsula. Paper prepared for the International Workshop organized by the CAFF (Conservation of Arctic Flora and Fauna) Project, St. Petersburg, Russia, March 3, 2012, 5 pp.

Krupnik, I.

What Did We Learn from Indigenous Knowledge of Arctic Environmental Change: 2000-2010. Paper presenter at the American Association for the Advancement of Sciences' Annual Meeting, Session on indigenous knowledge, Vancouver, 18 February 2012, 8 pp.

Appendix 2: Updated Timelines for Project Deliverables (January–December 2012)

Presently, *three* major project deliverables are in preparation for the submission in 2012:

1. *Russian SIKU Volume* (“Our Ice, Snow and Winds”), a collection by several authors, of about 350 pages, in three parts, with some 200 available illustrations. Volume chapters are currently being edited for content (January–April 2012) and the work on the volume layout will start in May 2012. We anticipate the full volume file in PDF format to be available by August 1, 2012. Since the project budget does not include funding for publication costs, we anticipate several more months in additional fundraising, so that the book may be printed in Russia and delivered to the participating communities in Chukotka.

2. *Wales Iñupiaq Sea Ice Dictionary*, a 112-page collection with about 100 illustrations, including contemporary color ice photos and historical photographs from 1922. The layout for the volume has been prepared in 2009. Several Iñupiaq ice definitions, including those featured on the volume photographs, have to be corrected for accuracy (April 2012), after being checked by Dr. Lawrence Kaplan, linguist at the Alaska Native Language Center, University of Alaska Fairbanks. Also, the initial layout has to be revised by professional graphic designer (May–June). We anticipate completing a revised PDF file of the ‘Wales sea ice dictionary’ by June–July 2012. It will be then color-printed by a professional copier (\$35 per unit) in 60–80 copies using the available project funds. At least 40–50 copies are to be mailed to the community of Wales in late summer 2012.

3. *Siberian Yupik ‘Ecological Dictionary,’* 400-page lexicon of about 6000 terms in 30 thematic chapters prepared by Lyudmila Ainana and Lyudmila Bogoslovskaya. Main work on the dictionary has been conducted in 2008–2010 and initial layout was prepared in 2011. The manuscript is to undergo careful proofreading (August–September 2012), after which the original layout will be updated and modified. We anticipate having the final updated PDF file of the ‘Wales Dictionary’ by November–December 2012. The Russian Institute of Cultural and Natural Heritage originally pledged its support for the volume publication in Russia; but this

commitment has not been confirmed lately. Nonetheless, we anticipate having this book published in Russia, via the Heritage Institute or otherwise, in 2013.

4. 2012 *'Shared Beringia' Conference* (Provideniya, Russia, July 2012) – the venue and budget for the new 'Shared Beringia' conference are being currently discussed by the Russian host agencies, so that the official call for paper abstract submission has not been issued yet. The team is planning to present a project summary paper at the 2012 'Shared Beringia' conference (to be delivered by Lyudmila Bogoslovskaya or one of the local team members). If the Russian conference in July 2012 does not materialize due to budget constraints the team is eager to present a final summary of the project and the resulting publications at the next annual conference in 2013.