

NICOLE MISARTI, Ph.D.

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Water and Environmental Research Center
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EDUCATION

2007 **PhD., Marine Science and Archaeology**, Institute of Marine Science, School of Fisheries and Ocean Sciences, University of Alaska Fairbanks, Fairbanks, Alaska

Dissertation Title: Six thousand years of change in the Northeast Pacific: An interdisciplinary view of maritime ecosystems

Coursework: Biological Oceanography, Marine Ecosystems, Climate Change in North Pacific Ecosystems, Methods in Stable Isotope Analysis, Modern Applied Statistics in Ecological and Marine Research

2000 **MS Anthropology/Archaeology**, University of Wisconsin-Madison, Madison, Wisconsin.

Coursework: geoarchaeology, geomorphology, pedology, field studies of soil, Lithic Analysis, archaeometry courses, archaeology courses, maritime cultures, ethnoarchaeology, origins of human civilizations.

1995 **Bachelor of Arts, cum laude: Environmental Studies/Northern Studies**, Middlebury College, Vermont.

ACADEMIC POSITIONS

2012-Present **Research Assistant Professor**, Water and Environmental Research, University of Alaska Fairbanks, Fairbanks, AK.

2010-2012 **Institutional Research Associate**, College of Earth, Ocean and Atmospheric Sciences, Oregon State University, Corvallis, OR.

2008-2010 **National Science Foundation Postdoctoral Fellow**, Idaho State University, Pocatello, ID.

2007 **Visiting Assistant Professor** Department of Anthropology, University of Alaska Fairbanks.
Courses Taught: Ancient Civilizations (30 students); Fundamentals of Archaeology (12 students); Circumpolar Archaeology (8 students)

2000-2001 **Teaching Assistant-** Anthropology, University of Madison-Wisconsin
Courses taught: Archaeology (50 students), General Anthropology (100 students)

GRANTS, FELLOWSHIPS, AWARDS

2014-2016 Alaska Sea Grant

Research Project: Long-term records of abundance and effects of large scale climate change on Alaska Peninsula sockeye salmon

Funding Agency: Sea Grant

Award: \$210,367

Principle Investigator: **N. Misarti**

Co-I: M. Shapley, B. Finney

2014 Arctic Social Sciences

Research Project: The Rats Intersections Project: Identifying Cultural and Environmental Relationships in the Rat Islands Group, c. 6000BP to 250BP

Funding Agency: National Science Foundation

Award: \$66,000 (UAF portion)

Principle Investigator: C. Funk

Co-I: **N. Misarti**, B. Hoffman

2013-2017 **Arctic SEES**
Research Project: WALRUS- Walrus Adaptability and Long-term Responses; Using multi-proxy data to project Sustainability
Funding Agency: National Science Foundation
Award: \$1,707,331
Principle Investigator: **N. Misarti**
Co-I: Lara Horstmann, Link Olson

2013-2016 **Arctic Social Sciences**
Research Project: Collaborative Research: The Hot Springs Village Site: a Window to Southern Bering Sea Paleo-Ecosystems and Human-Landscape Interactions
Funding Agency: National Science Foundation
Award: \$574,506
Principle Investigator: **N. Misarti (UAF)** and H. Maschner (ISU)

2012-2015 **Biological Oceanography**
Research Project: Establishing baselines for nearshore marine ecosystems by examining sea otter trophic variation over 5,000 years of climatic and anthropogenic change
Funding Agency: National Science Foundation
Award: \$370,000
Principle Investigator: **N. Misarti**
Co-I: B. Finney

2013 **Travel Award**
Funding Agency: Institute of Northern Engineering, UAF
Award: \$2500

2014 **UNAC Merit Award**
Funding Agency: College of Engineering and Mines, UAF
Award:

2008-2010 **National Science Foundation Post-Doctoral Fellowship**
Research Project: 55°North 55° South: Effects of global climate change on prehistoric coastal populations and marine ecosystems of the eastern pacific
Funding Agency: National Science Foundation
Award: \$145,000
Principle Investigator: **N. Misarti**

2008 **DISSCRS Symposium Participant (competitive)**
Project: Dissertations Initiative for the Advancement of Climate Change Research
Funding Agency: National Science Foundation
Award: Travel, room and board

2005-2006 **Global Change Student Research Grant (competitive)**
Research Project: A holistic long-term perspective of the North Pacific marine ecosystem.
Funding Agency: Center for Global Change, University of Alaska Fairbanks
Award: \$5,000.00
Principle Investigator: **N. Misarti**

PUBLICATIONS (peer reviewed)

2014 Misarti, N. and Maschner, H., The Paleo-Aleut to Neo-Aleut transition revisited. *Journal of Anthropological Archaeology*. Accepted with minor revisions July 2014.

2012 **Misarti N**, Finney, B, Jordan, J, Maschner, H, Addison, J, Shapley, M, Beget, J. Early deglaciation and coastal migration of first Americans along the North Pacific Rim. *Quaternary Science Review* 48(1-6).

2011 **Misarti, N.**, Finney B., and Maschner H. Reconstructing site organization in the eastern Aleutian Islands, AK using multi-element chemical analysis of soils. *Journal of Archaeological Science* 38(7):1441.

2009 **Misarti N**, Finney B.P. Maschner H., and Wooller, M., Changes in Northeast Pacific marine ecosystems over 4,500 years: Evidence from stable isotope analysis of bone collagen from archaeological middens. *The Holocene* 19(8):1139-1151.

2009 Maschner, H., Finney, B.P., Jordan, J.W., **Misarti, N.**, Tews, A.M., and Knudsen, G., Did the North Pacific ecosystem collapse in AD 1250? In Maschner, H., Mason, O.W. and McGhee, R. editors, *The Northern World AD 900-1400*, Salt Lake City: University of Utah Press pg 33-57.

2009 Maschner, H., Betts, M., Cornell, J., Dunne, J., Finney, B.P., Huntley, N., Jordan, J.W., King, A., **Misarti, N.**, Reedy-Maschner, K.L., Russell, R., Tews, A.M., Wood, S. and Benson, B. An introduction to the biocomplexity of Sanak Island, western Gulf of Alaska. *Pacific Science*: 63(4):673-709.

2009 Hazlett S., **Misarti N.**, McFarlane G., Wooller M.J., Investigating long-term feeding habits of the spiny dogfish (*Squalus acanthias*) using stable isotopes (C and N). *The Conservation and Management of Dogfish Sharks*. American Fisheries Society.

BOOKS/BOOK CHAPTERS/OTHER (non peer reviewed)

2014 Fitzhugh, B., Harada, N., Etnier, M., **Misarti, N.**, Savinetski, A., Nagashima, K., Hambrech, G., deVernal, A., Degroot, D., Krylovitch, O., Lembke-Jene, L. Paleocology of Subarctic Seas, ESSAS (Ecosystem Studies of the Subarctic Seas) Imber Issue 26, May 2014.

2012 **Misarti N**. Stable isotopes in ecology: How they work and what they can help us understand. In *Sanak Island, Alaska: A Natural and Cultural History*, eds. K. Reedy-Maschner and H. Maschner. Idaho Museum of Natural History Press, Pocatello ID.

-- Sockeye Salmon: Colder and wetter was better! In *Sanak Island, Alaska: A Natural and Cultural History*, eds. K. Reedy-Maschner and H. Maschner. Idaho Museum of Natural History Press, Pocatello ID.

-- Sea Otters. In *Sanak Island, Alaska: A Natural and Cultural History*, eds. K. Reedy-Maschner and H. Maschner. Idaho Museum of Natural History Press, Pocatello ID.

2010 Maschner, H., Benson, B., Knudsen, G., and **Misarti, N.** The Archaeology of Sapsuk River. Occasional Papers in Alaskan Field Archeology, Number 3. Bureau of Indian Affairs, Alaska Region, Branch of Regional Archeology. Anchorage, Alaska.

CONFERENCE PRESENTATIONS

Papers (*invited, **contributed)

2014 * **Misarti, N.** and Finney, B. From Fish to Humans; the paleoecology of higher trophic level species in the Gulf of Alaska. 2014 ESSAS Annual Science Meeting, Copenhagen, Denmark, April 7-9, 2014.

2014 ****Misarti, N.**, Wood, S., Finney, B. Exploring human-sea otter interactions over thousands of years in the Gulf of Alaska using stable isotope ratios. 2014 Ocean Sciences Meeting, Honolulu Feb 23-28, 2014.

2013 * **Misarti, N.** Historical Ecology: Tracking long term trends in fisheries. Plenary speaker at the Alaska Chapter- American Fisheries Society, 40th Annual Meeting in Fairbanks, AK, October 8-11, 2013.

2013 * **Misarti, N.**, Borrero, L, San Roman, M, Maschner, H, Finney, B. Marine paleo-food webs from southernmost Patagonia: Tracing human resource use by geographic area through stable isotope analysis. Paper presented at the Society for American Archaeology 78th Annual Meeting, Honolulu, HI April 4-7, 2013.

2013** Barnes, K, **Misarti, N.**, Finney, B, Maschner, H. The Shell Game: Exploring ancient human ecosystems using stable isotopes from marine shells. Paper presented at the Society for American Archaeology 78th Annual Meeting, Honolulu, HI April 4-7, 2013.

2013* Jordan, J, Maschner, H, **Misarti, N.**, Finney, B. Environmental change and long-term occupation of the Eastern Aleutian Arc: The view from Sanak Island. Paper presented at the Society for American Archaeology 78th Annual Meeting, Honolulu, HI April 4-7, 2013.

2013* **Misarti, N.**, Tracking long-term trends in trophic level through carbon and nitrogen stable isotope data of Pacific Cod. Paper presented at the 6th Western Alaska Interdisciplinary Science Conference, Nome, AK, March 20-22, 2013.

2012 **Jenson, A and **Misarti, N.** Under-utilized Important Data Sets from Barrow, Alaska, Paper presented at the American Geophysical Union Fall 2012 Meeting, San Francisco, California, December 3-7, 2012.

2012***Misarti, N.**, and Finney, B. Long-Term Variability in North Pacific Climate and Ecosystems. Paper presented at the American Association for the Advancement of Science, Vancouver Canada, February 16-20, 2012.

2012** **Misarti, N.**, Borrero LA, San Román M, L'Heureux, L, Maschner H, Morello, F, Borrazzo, K, Torres J, Finney, B. Ecosystem change along southern coastlines of Argentina and Chile; stable isotope analyses over thousands of years using archaeological remains Ecosystem change along southern coastlines of Argentina and Chile; stable isotope analyses over thousands of years using archaeological remains. Poster presented at the Ocean Sciences Meeting, Salt Lake City, Utah, February 20-24, 2012.

2012 **Maschner, H, **Misarti, N.**, Finney, B, Wood, S, Dunne, J, Reedy-Maschner, K, Betts, M. Shifting baselines through a 5000 year history of the North Pacific/Bering Sea marine ecosystem. Paper presented at the Alaska Marine Science Symposium, January 16-20, 2012.

2011 ** Butler, V, Stevenson, A, Miller, J, Yang, D, Speller, C F, **Misarti, N.** Anadromous salmonids in the Upper Klamath Basin before hydro-development? Identification of Pacific salmonid (*Oncorhynchus* spp.) species and life history through mtDNA and geochemical analysis of archaeological remains. Paper presented at the 16th Annual Meeting of the Fish Remains Working Group, International Council for Archaeozoology, Israel, October 23-30, 2011.

2011** **Misarti N.**, Borrero L, Maschner H, Torres J. Cambios en ecosistemas marinos de las costas meridionales de Argentina y Chile: análisis de isótopos estables en restos arqueológicos correspondientes a los últimos 5000 años. Paper presented at VIII Jornadas de Arqueología de la Patagonia, Malargüe, Argentina October 3-7, 2011.

2011** Butler N, Stevenson A, Miller J, Yang D, Speller C, and **Misarti N.** Anadromous salmonids in the Upper Klamath Basin before hydro-development? Identification of Pacific salmonid (*Oncorhynchus* spp.) species and life history through mtDNA and geochemical analysis of archaeological remains. Paper presented at the American Fisheries Society meetings, Seattle, WA September 4-7, 2011.

2011 ***Misarti N**, Maschner H, Barnes K, Wood S, and Finney B. Exploring changes in stable isotope ratios of sea otters over thousands of years on Sanak Island, Alaska. Paper presented at the Northwest Anthropological Association meetings, Moscow, ID April 21-23, 2011.

2011 ****Misarti N**, Maschner, H and Finney B. Carbon and Nitrogen isotope analysis of Pacific cod over 4500 years. Paper presented at the 38th Alaska Anthropological Association meetings, Fairbanks, AK, March 9-12, 2011.

2011 ****Misarti N**, Maschner H, Finney B, and Wooller, M. A long term view of Pacific marine ecosystems : creating baseline data sets to better understand current change through the use of archaeological materials. Paper presented at the 5th Arctic Frontiers meetings, Tromso, Norway, January 23-28 2011.

2010 ***Misarti N**, Finney,B, Huntly, N, Jordan,J, Maschner, H, Reedy-Maschner, K, Russell, R, Wood S. Cause and Effect: Discerning the Roles of the Aleut Through 4500 Years of Changing North Pacific Ecosystems. Paper presented at the 95th Ecological Society of America meetings. Pittsburgh, PA, August 2010.

2010****Misarti N**, Maschner H, Finney B. Isotopes, DNA and social complexity in the Aleut region. Paper presented at the 75th Society for American Archaeologists St. Louis MO, April 2010.

2010** **Misarti N**, Addison J, Finney B, Jordan J, Bigelow, N. Early deglaciation and late Pleistocene environments in the Northeastern Pacific: data from paleolimnology, geomorphology and palynology at 17,000 years before present. Paper presented at the 2010 Ocean Sciences Meeting, Portland OR, February 2010.

2009 ****Misarti N**, Maschner H, Finney B, Jordan J, Early Deglaciation and Coastal Migration Along the Northeast Pacific Rim. Paper presented at the 17th Annual Arctic Conference, Boulder, CO, November 2009.

2009 ****Butler VL**, **Misarti N**, Yang DY, Speller CF, Connolly TJ, Jenkins DL. Putting old bones to work for conservation biology: using ancient DNA and carbon/nitrogen isotope analysis to determine past salmon distribution in the Klamath Basin of southeastern Oregon. Paper presented at the 17th Annual Arctic Conference, Boulder, CO, November 2009.

2009 **Maschner H, Benson B, **Misarti N**, Knudson G. The archaeology of the Sapsuk River, AK. Paper presented at the 17th Annual Arctic Conference, Boulder, CO, November 2009.

2008* **Misarti N**, Finney B, Maschner H, Wood S, Russell R, Jordan J, Archaeology, (Paleo)Limnology, and (Paleo)Ecology: An interdisciplinary use of stable isotopes to correlate past and present ecosystems in the NE Pacific with human socio-economic dynamics.

2007* **Misarti N**, Finney B, Maschner H, Six thousand years of change in Northeast Pacific marine ecosystems: Evidence from stable isotope (C and N) analyses of bone collagen and lake sediments. Paper presented at the 15th Annual Arctic Conference, Pocatello, ID, October 2007.

2007* **Misarti N**, Finney B, Maschner H., Changes in a Northeast Pacific marine ecosystem over the past 4,500 years: Evidence from stable isotope (C and N) analysis of bone collagen and lake sediments. Paper presented at the Ecological Society of America's Annual Meeting, San Jose, CA, August 2007.

2006** **Misarti N**, Finney B, and Maschner H., Reconstructing midden composition through chemical analysis of soils in the Eastern Aleutians. Paper presented at the Society for American Archaeology's 71st Annual Meeting, San Juan, Puerto Rico April 2006.

2005* Finney B, **Misarti N**, Krumhardt A, Ordorczuk D, Odell M, Jordan JW and Maschner H., Paleoenvironmental history of Sanak Island, Alaska over the last 14,000 years. Paper presented at the Alaska Anthropological Association, Anchorage, AK March 2005.

2005***Misarti N**, Finney B and Maschner H., Ecosystem Change in the Northeast Pacific. Paper presented at the Alaska Anthropological Association, Anchorage, AK March 2005.

Posters (*invited, **contributed)

2014 Gier, E.; **Misarti, N.**; Finney, B.; Barnes, K.; McCarthy, M.: Nitrogen isotopes of amino acids in archaeological shell: a new nitrogen isotopic baseline tracer in near shore systems? 2014 Ocean Sciences Meeting, Honolulu Feb 23-28, 2014.

2014**Misarti, N., Mashcner, H. Finney, B. Perusing the past: 4000 years of carbon and notrigone stable isotope data from cormorant in the Gulf of Alaska. Poster presented at the Alaska Marine Science Symposium, January 2014.

2011 Stevenson, A, Butler, V, Miller, J, Yang, D, **Misarti, N.** Did salmonids migrate to streams above Upper Klamath Lake (Oregon) before AD1917? Using MtDNA and Sr:Ca ratios from archaeological fish remains to determine biogeography before hydrodevelopment. Poster presented at the 2011 ODOT Environmental Conference, Bend OR, April 6-, 2011.

2010**Lech V, **Misarti N**, Maschner H, and Finney B. Archaeofaunal identification using stable isotopes. Poster presented at the 75th Society for American Archaeologists St. Louis MO, April 2010.

2007***Misarti N**, Finney B, and Maschner H., Paleoenvironmental records of Sanak Island, Alaska. Poster presented at the Society for American Archaeology's 72nd Annual Meeting, Austin, TX, April 2007.

2005** Hazlett S, **Misarti N**, McFarlane G, Wooller MJ., Determining long-term feeding habits of the spiny dogfish (*Squalus acanthias*) using stable isotope (C and N) analysis. Creating a Fisheries Mosaic: Connections Across Jurisdictions, Disciplines, and Cultures, the 135th Annual Meeting of the American Fisheries Society, Anchorage, 10-15 September 2005.

2005* Jordan JW, Finney B, Odoreczuk D, **Misarti N** and Maschner H, Paleoecology of the Sanak Archipelago. Poster presented at the Society for American Archaeology, Salt Lake City, Utah March 2005.

SERVICE, OUTREACH, AND EDUCATION

- **NSF panelist (Arctic Social Sciences 2014, Graduate Research Program (Archaeology, 2013 and 2014))**
- Aleutian and Bering Sea Islands Working Group
- Guest lecturer Fisheries Seminar, SFOS, University of Alaska Fairbanks, 2012-2013
- host for University of Alaska Corporative Extension Service high school teacher visitation to Alaska Stable Isotope Facility
- guest counselor Dig Afognak, Afognak Island culture camp
- guest lecturer Alutiiq Museum, Kodiak AK
- Invited Session Chair, 38th Alaska Anthropological Association meetings
- **DSSCRS (Dissertations Initiative in Climate Research) 2008 participant**
- 500 hours volunteer for evening community educational and outreach programs at the Museum of the Aleutians
- 2 years of participation in Culture Camp for school-age native children from the Aleutian Islands
- educational programs for grade schools through Norwalk Community College Archaeology program; Norwalk CT

MEMBERSHIPS

American Association for the Advancement of Science, American Geophysical Union, Ecological Society of America, Anthropological Association of Alaska, Society for American Archaeology, Society of Archaeological Science