



The Resilience and Adaptive Management (RAM) Group

<http://ram.uaa.alaska.edu>

We are dedicated to developing social adaptation strategies in the face of rapid global change.

We incorporate a vision that weaves multi-disciplinary research and diverse ways of knowing into a cohesive and integrated framework for Resilience in high latitudes.

National Science Foundation:

<http://www.nsf.gov>

The NSF is an independent federal agency which provides funding for approximately 20% of all federally supported basic research.

Core Personnel:

Dr. Lilian Na'ia Alessa
Dr. Andy 'Anaru' Kliskey
Dr. Mark Altaweel
Dr. Chris Bone
Brad Barr, Postdoc
Kalb Stevenson, Postdoc
Mark Ferrell, Research Assistant
Sean Mack, Geospatial Scientist
Holly McQuinn, EPSCoR Coord.
Kim Jochum, Doctoral Student
Bill Overbaugh, Doctoral Student



Studying Fresh Water in Rural Alaska

In a manuscript recently submitted to the Journal of the American Water Resources Association, a RAM Group team (Alessa, Kliskey, Altaweel, Bone, Stevenson) explore future freshwater challenges that the state of Alaska will face. These challenges include increasing rural community access to water, better management of resource use, and adequately understanding and preparing for climate-driven change. Despite these significant issues, Alaska, in contrast to many parts of the world, is relatively water rich and is far more equipped to address its water problems. Increases in global water stress have influenced and complicated conflicts and are motivating nations to develop markets and trade as one of the primary means to manage their needs for this resource. The RAM Group has undertaken research about fresh water, looking at the following issues in particular:

- *Domestic Fresh Water Issues*
Disparities exist between urban areas and rural communities regarding water quality and access.
- *Non-domestic Fresh Water Issues*
Due to Alaska's unique industrial makeup of minimal agriculture and electricity production, coupled with mining, oil and gas industries, non-domestic freshwater issues are in contrast to the majority of regions around the world.
- *Response to Climate Change*
Research reveals the presence of local processes driving the temperature regime instead of global climate patterns. Additionally, glacial dynamics cannot be readily understood by assuming that landforms will react in unison to changes in global temperature patterns.
- *Global Water Use Trends*
Increased global water demands will instigate or exacerbate conflicts.
- *Water Procurement and Conservation Strategies*
Major limitations of modern procurement and conservation strategies include costs and infrastructure requirements that prohibit poorer communities and countries from adopting them.
- *Water Markets*
Water is often used as a commodity, and traded as such, but this raises some important equity issues. These issues are viewed in the context of Alaska and the world undergoing significant social and ecological

changes affecting freshwater supplies. The RAM Group has identified Alaska's key challenges and also taken a keen look at Alaska's potential future international role. The manuscript, titled **Alaska's Freshwater Resources: Issues Affecting Local and International Interests** along with more information about our research can be found at:

<http://ram.uaa.alaska.edu>.

Spring Blossoms

Spring brings new energy for most Alaskans, and the RAM Group is no exception. This Spring we will be greeted by blossoming flora and new fauna. The most significant arrival of new life for the RAM Group has been the arrival of Claire and Abigail Pfeiffer, born to Dr. Lilian Na'ia Alessa and Dr. Dave Pfeiffer on November 10, 2009. The beautiful girls are happy and healthy and already show their individual personalities, bringing much joy to their parents and at times gracing the RAM Group with their presence and eliciting smiles all around. Though they are both active, Abigail is a non-stop ball of energy. It is evident that she, like her parents, is a runner! Claire is more of the daydreamer, and contemplates life and all pretty things.

We are all blessed by their arrival.



In This Issue

- Studying Fresh Water Use in Rural Alaska P.1
- Spring Blossoms P.1
- Personnel Update P.2
- New Offices P.2
- Websites of Interest P.2





New Offices

In mid August, the RAM Group moved from the UAA EBL Building into all new office and computational lab space in the new ConocoPhillips Integrated Science Building. The new offices are on the second floor:

Dr. Lilian Alessa RM 201-H
Dr. Andrew Kliskey RM 201-G
Computational Lab RM 201-D

The new mailing address is:
3101 Science Circle
Anchorage, AK 99508

RAM Lab phone number:
(907) 786-7749

Personnel Updates

The RAM Group has added Drs Chris Bone and Kalb Stevenson, and graduate student Kim Jochum to the staff.

Dr. Bone received his Ph.D. in Geography from Simon Fraser University in British Columbia. Chris' research focus is the use of geographic information systems and agent-based modeling of social-ecological systems, specifically within the context of natural resource management. He will use his background to develop models that analyze the relationships between land use change, hydrological cycles and climate change.

Dr. Stevenson received his Ph.D. in Biology from University of Alaska, Fairbanks/UAA joint PhD program. Kalb previously earned his M.S. in Environmental Science, from the University of Arizona. His research interests include integrative biology and overcoming limits to short-season agriculture and food production in the North. Kalb currently teaches Environmental Science and Principles of Physiology labs.

Kim Jochum has worked over the last 5 years in Hannover, North Germany. She earned her MS in wildlife biology. Between 2006 and 2008 Kim has worked on a polar bear behavior project in Churchill Canada. She began a PhD program in September 2009 with the RAM group at UAA and the Biology and Wildlife Department at UAF. Kim's research interests are in wildlife management and global environmental issues in general, and including human perceptions and thinking into management strategies.

The RAM Group also welcomes Holly McQuinn, the new EPSCoR Administrative Coordinator at UAA. The RAM Group is an Alaska EPSCoR Partner and Holly will work closely with all RAM Group personnel on many administrative tasks. Holly replaces Melia Knecht, the previous EPSCoR Administrative Coordinator.

Recommended Websites

Alaska EPSCoR, homepage - information on the NSF Experimental Program to Stimulate Competitive Research, awards, competitions, meetings, and more: <http://www.alaska.edu/epscor/>

US Fish and Wildlife Service, Fisheries and Ecological Services Conservation Genetics Laboratory info re: AYK Salmon Populations: http://www.alaska.fws.gov/fisheries/genetics/landscape_genetics.htm



RAM Research News
Issue 08 April/May 2010



UAA
Conoco Phillips Integrated Science Building
3101 Science Circle
Room 201-D
Anchorage, AK 99508

Upcoming Events

For more information on upcoming events, check The RAM Group homepage, which includes publications, research, and much more: <http://ram.uaa.alaska.edu>, or send an email to anhm1@uaa.alaska.edu