

What is an Arctic Risk Management Network?

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ARMNET Origins and Aim

The Arctic Risk Management Network (ARMNet) was conceived as a trans-disciplinary hub to encourage and facilitate greater cooperation, communication and exchange among American and Canadian academics and practitioners actively engaged in the research, management and mitigation of risks, emergencies and disasters in the Arctic regions. Its aim is to assist regional decision-makers through the sharing of:

- applied research
- best practices
- greater inter-operability

Since IPY 2007, Applied Research in Environmental Sciences Nonprofit, Inc. (ARIES) has worked with the North Slope Borough Risk Management and other NSB community organizations to improve risk reduction capability in Alaska. The Arctic Risk Management Network (ARMNET) is an ARIES initiative in partnership with the North Slope.

Proposed ARMNet Abstract and Model

The Arctic Risk Management Network (ARMNet) was conceived as a trans-disciplinary hub

- to encourage and facilitate greater cooperation, communication and exchange among American and Canadian academics and practitioners actively engaged in the research, management and mitigation of risks, emergencies and disasters in the Arctic regions.
- to assist regional decision-makers through the sharing of applied research and best practices
- to support greater inter-operability and bilateral collaboration
- To facilitate networking, joint exercises, workshops, teleconferences, radio programs, and virtual communications (eg. webinars).



ARMNet Goals and Objectives

- To make the North American Arctic a safer, more secure region through the dissemination, application and bilateral exchange of current research and best practices in northern risk and emergency management;
- To provide opportunities for the American proponents of the ARM Network to address Canadian ARM stakeholders;
- To generate Canadian awareness, interest and participation in the Network;
- To leverage existing ARM-related Canadian forums (annual conferences and meetings) to access the greatest number of potential Canadian Network participants;
- To identify common priorities among the risks and hazards facing Canadian and Alaskan territories and triage these topics for future research and bilateral collaboration;

Potential Partners

The ARMNET constituency will include all northern academics and researchers, Arctic-based corporations, First Responders (FRs), Emergency Management Offices (EMOs) and Risk Management Offices (RMOs), military, Coast Guard, northern police forces, Search and Rescue (SAR) associations, boroughs, territories and communities of the Arctic.

Inter-operable Communications

Bilateral collaboration among EMO and SAR will be facilitated through improved networking, joint exercises, conference workshops, teleconferences, radio programs, and virtual communications to increase inter-operability and communication redundancy across far North regions and local communities.

Clearinghouse: DRR Information

Most importantly, ARMNet will be a clearinghouse for all information related to the management of the frequent hazards of Arctic climate and geography in North America, including new and emerging challenges arising from:

- climate change,
- increased maritime polar traffic
- expanding economic development in the region.

Sponsors and Funding

ARMNet is an outcome of the Arctic Observing Network (AON) for Long Term Observations, Governance, and Management Discussions, www.arcus.org/search-program. The AON goals continue with CRIOS (www.ariesnonprofit.com/ARIESprojects.php) and coastal erosion research (www.ariesnonprofit.com/webinarCoastalErosion.php) led by the North Slope Borough Risk Management Office with collaboration from ARIES and support from the Canadian Risk and Hazards Network (CHRN). ARMNet is another project of the HERMYS program (Historical Ecology for Risk Management: Youth Sustainability) for which ARIES and the NSB Risk Management have collaborated since 2013. For HERMYS details, please follow the facebook journal @arieshermys.

Presentations in support of the development of ARMNet at three Canadian conferences (SARScene, Canadian Risk and Hazards Network, and ArcticNet) in the fall of 2015 were made possible through funding from the US Embassy in Ottawa.

ARMNet Can Help Risk Reductions

Arctic Risk Management (ARMNet) Network aims to link Risk Management Practitioners and Researchers across the Arctic Regions of Canada and Alaska to improve Risk, Emergency and Disaster Preparedness and Mitigation through comparative analysis and applied research.

The ARM Network addresses the current absence of any mechanism for the exchange of information and research on risks, hazards and the management of emergencies in the high Arctic between the USA and Canada; this represents a significant gap in the efforts of both nations to ensure the security and safety of this vulnerable region.

The beneficiaries of this project will be

- the people of Alaska and the Canadian Arctic territories whose safety and security will be enhanced through the research, exercises and best practices information exchanged through the ARM Network;
- the First Responders and EM practitioners in the far North who will be afforded a centralized platform for information and research on risk and emergency management specific to their region and sourced from academics and research communities on both sides of the border;

- the academic community will benefit from a mechanism through which to collaborate with their Canadian and American colleagues on issues of mutual concern and interest and through which they can disseminate their findings; and
- the populations of both countries who will benefit both socially and economically from a safer and more secure North American Arctic.

Relationship of ARMNet objectives to U.S. Embassy Priority Themes

Priority 1) Increase entrepreneurship and economic prosperity, maximize economic growth and bilateral trade, tourism, and investment, especially among youth and underserved communities

The ARM Network will support increased safety and security in the Arctic region, enhance adaptation and resilience to the impacts of climate change and development and build capacity in an underserved population (Arctic communities) through the dissemination and application of ARM and EM research and best practices to the risks and hazards of Arctic life. The existence of a safe and secure environment is an essential condition for economic growth and prosperity;

Priority 2) Enhance civil society's ability to respond to transnational crime, natural disasters or terrorist threats

The ARM Network directly addresses this priority by providing a platform to exchange critical research, best practices and information related to Arctic risks and hazards and the management of emergencies throughout the Canadian and American Arctic. It promotes bilateral exchange and collaboration and the leveraging of resources to maximize safety and security throughout the region

3) Enhance bilateral partnerships in promotion of rule of law assistance, development, and cooperation in the Americas and beyond;

The main objectives of the ARM network is to promote bilateral partnerships and cooperation in the management of risks and emergencies throughout the Arctic;

- 4) Promote cultural exchange and enhance understanding of our shared history, traditions, and values.

Many of the northern peoples in Alaska and Canada share the same ethnic and cultural heritage having, in many ways, more in common with each other than with their southern compatriots. Northerners on both sides of the border face similar threats and challenges related to climate, security and survival. The ARM Network will enhance these historic connections by fostering the bilateral exchange of applied risk and EM research, encouraging collaboration on issues of common concern and providing an essential link between Northern and academic communities.

ARMNet Plans for 2016

For development of ARMNet, assessments are being requested of the Arctic stakeholders who are beneficiaries. The criteria for consideration involves logistics and content infrastructure. Please see the assessment topics in the following survey tools, as part of presentations, at relevant conferences. Since ARMNet was accepted for an AGU poster, the assessment and brochure were sent to the AGU Natural Hazards Focus Group for their feedback. The ARMNet decided not to participate in the AGU poster session. After the non random sample is complete from these conferences, the tabulation of the assessment metrics will be in the report for the US Embassy to be submitted in January, 2016.

After the report and assessment outcomes are reviewed, sources of funding can be considered to develop and implement ARMNet. Based on the assessment results, development and implementation will be more relevant to the stakeholders. The aim is to ensure ARMNet's organization, infrastructure, and logistics are participatory driven. As proposals are developed for funding, assessments will continue throughout 2016. By AOS 2016, the assessment metrics, sample size, infrastructure development and proposals will be available for the presentation and further input from AOS.

See the ARMNet Project at <http://www.ariesnonprofit.com/P9.php>

Results of the Feasibility Assessments

Extensive consultations with academics and practitioners, and a questionnaire distributed to targeted stakeholders (e.g., Emergency Management Office directors, search and rescue specialists, Arctic scientists, NGO, etc.), supported the following conclusions:

- Risk and emergency managers in the far north in the US and Canada experience similar hazards than compatriots in the south;
- Few Arctic scientists see the relevance of their research (e.g., permafrost or erosion) to risk management and disaster risk reduction (e.g., threats to infrastructure, cultural and environmental resources and ecosystem services), indicating a need to clarify gaps and collaborate about applications of natural and physical science research;
- Arctic risk, disaster, and emergency management represent emerging fields of academic and applied science;

- A significant interest exists for logistics that would bridge the gap between research results and the research needs of Arctic emergency practitioners to reduce risks;
- Despite the wealth of Arctic research accomplished, no cooperative network currently exists to provide the critical link between researchers and risk/emergency managers to improve security and public safety in the Arctic territories of North America.
- A significant need for risk and emergency managers is “research facilitators” who can assist them to seek funding, coordinate, develop, implement and apply Arctic research to reduce risks to avoid disasters (i.e., mitigation for environmental and cultural resources, ecosystem services, and all hazards) using community based decision methods
- The following were considered the main obstacles to EMO/SAR/RM research applications:
 - Lack of funding/resources
 - Lack of researchers/experts educated in Arctic SAR/EM
 - No coordinating research body

YEAR 1 Proposal

After the feasibility study, recognition of the critical gap between Arctic research results and Arctic RM/EM practice makes it imperative to mitigate the lack of knowledge to action. With the feasibility assessment, strategies for knowledge to action are indicated by the Arctic RM/EM. The intent in Year 1 is to pursue several of these strategies collaboratively with a facilitator network to assist Arctic RM/EM with DRR (Disaster Risk Reduction). The deliverables derive from preferred choices by the Arctic RM/EM in the assessment. Alterations of these choices will include continued assessments as rapid risks and cascade effects change.

The feasibility study indicates Arctic researchers are not being funded for, aware about, or acknowledge value in applied sciences to assist risk reduction or disaster sciences. Arctic research is primarily funded about environmental conservation and change. The inclusion of local communities in this effort is for data collection about the biophysical environment. The communities are studied about how they interact with and effect the biophysical environment. They are typically included in the research as data providers or hired as local assistants for a variety of tasks.

Among Arctic research, capacity building to work with and assist local communities with risk reduction is lacking and this includes regional RM/EM. The coproduction of knowledge to strategies, and/ or participatory research with local and regional stakeholders is limited. The facilitation of applied research is critical for Arctic communities to reduce risks to the biophysical environment which also includes social-cultural considerations.

Arctic communities are experiencing unprecedented rapid change and emerging hazards. If not recognized, acknowledged, and mitigated (e.g., maritime traffic, off shore oil drilling, ocean acidification, threatened ecosystem services, extreme erosion from surges and permafrost thaw, wildfires, early thaw flooding, etc.), these risks will have vast cascade effects. The communities are facing decisions for which traditional strategies, that is, local traditional knowledge (LTK) and traditional ecological knowledge (TEK), may or may not be valuable or viable. All Arctic communities are deciding how they can respond to the rapid risks and hazards whether

denying/intransient, transformative or relocating. They are in the midst of a variety of risks, hazards, and continual disasters to which they are responding.

Consider the following cascade effects if the infrastructure of Arctic communities is threatened or compromised. 1. Limited support for logistics to accomplish field work, or in situ studies, about social-ecological research that informs global change. 2. Resource capitalization, such as oil and other minerals, is limited. 3. Restrictions about economic benefits from the Northwest Passage since community infrastructure provides provisioning and ecosystem services as well as emergency services.

At the AOS 2016, all these concerns were raised and acknowledged in all six themed sessions. The AOS sessions accepted papers that provided research gaps and potential solutions for improving Arctic Observing Systems, <http://www.arcticobservingsummit.org/aos-2016-white-papers-and-short-statements-public>. The call for coproduction of research among local communities was a hallmark of the sessions' outcomes.

However, the “knowledge brokers” or facilitators to work with researchers, economic interests, and local stakeholders, including RM/EM, is still to be determined. AOS outcomes agree that for best practices, facilitators across sectors should have an integrated and transdisciplinary approach. Examples of Facilitators could be community members who specialize in diverse Arctic research. Another source of facilitators could be NGO, who specialize in Applied and Transdisciplinary Research.

Currently, there are few funding agencies (state or federal), or grant sponsors (e.g. maritime and oil industries) which acknowledge this critical gap nor provide a mandate for applied and transdisciplinary research with local stakeholders. The primary funding for the Arctic is biophysical investigations to observe environmental changes. These continued research studies are to inform upscale beneficiaries such as industry, USCG, DOD, Navy, BOEM, etc.

Consequently, the Year 1 funding for ARMNet, is a challenge. Most grant sponsors include broader impacts for funding that include public engagement at local and national scales (e.g., web portals for data results, local events, workshops/meetings, paid informants or technicians, etc.) However, they are rarely inclusive of participatory research with and applications to benefit the communities with capacity building, whether economic resources, ecosystem issues, health, public safety, food insecurity, etc.

While subsistence hunting and ecological knowledge are a typical focus for local engagement, collaborations with RM/EM are rare about applied research and strategies to reduce risks. However, it is clear that facilitation among Arctic research and applied practice by RM/EM is an immediate priority to reduce risks at multiple scales. To serve the RM/EM sooner, the plan is to seek funds from Arctic researchers that have funding mandates to seek social-ecological applications. Seeking leveraged funds is the objective with cost share, donations, and small grants from grant awardees with relevant engagement monies.

The following are the proposed deliverables of Year 1. These choices align with the RM/EM preferences in the initial assessment and feasibility study.

Deliverables

1. Searchable database of research related to Arctic risk and emergency management sorted by key word and topic (information clearinghouse)
2. List serve of Arctic RM/EM researchers, academics, experts, practitioners, etc. (constituents and contributors to ARMNet)
3. Six ARMNet newsletters highlighting research, news items, interviews, announcements etc...related to Arctic EM/RM
4. Six teleconferences linking EM/RM experts and practitioners on subjects of relevance to Arctic EM/RM
5. Three ARMNet workshops for up to 25 participants (US and Canada) linking experts and practitioners and focused on issues of critical importance to Arctic resilience and safety.
6. Report of no less than 10 pages on the outcomes of year one ARMNet activities and accomplishments to include the outcome based evaluations.
7. Financial report on all approved expenditures

Long term proposals to relevant sponsors are being considered simultaneously, that is, DHS Science and Technology, NSF Research Coordinator Network, NOAA, and the Belmont Forum. Discussions with program and research managers for grant alignments is crucial for longevity of ARMNet for DRR. This means seeking grant foci that accept a “facilitator” role, across sectors with regional communities, as knowledge brokers, for expanded proposals to CA and US sponsors.

In conclusion, the recent UNISDR Science and Technology Conference to implement the Sendai Framework had multiple sessions to consider the limited use of risk and disaster research by local and regional communities. This includes policy and practice, especially at governmental and agency scales. Throughout the UNISDR sessions, the realization that a transdisciplinary approach with interdisciplinary facilitators, or an integrated team, is a potential solution. (<http://www.unisdr.org/partners/academia-research/conference/2016/>)

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Resilience Alliance <http://www.resalliance.org/>

<http://torrensresilience.org/characteristics-of-resilience>

Historical Ecology Wikipedia http://en.wikipedia.org/wiki/Historical_ecology
<http://www.ariesnonprofit.com/ARIESprojects.php> CRIOS

<http://iceandtime.wordpress.com/> Anne Jensen Blog -UIC Senior Scientist

<http://www.fema.gov/video-materials#teen> Teen CERT

<http://www.polartrec.com/expeditions/historical-ecology-for-risk-management> PolarTREC

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<http://www.inupiaheritage.org/our-culture> Inupiat Heritage Center - Inupiaq Learning Framework

<http://www.bup.edu.bd/journal/154-163.pdf> Triangulation in Social Science Research

http://www.preventionweb.net/files/43291_sendaiframeworkfordrren.pdf 2015 Sendai Framework

<http://www.irdrinternational.org/>, <http://www.getprepared.org.nz/excellence/>

<http://resiliencetoolbox.org/> Integrated Research on Disaster Risk Centers of NZ

http://www.anthc.org/chs/ces/climate/leo/upload/May21-2013b_HowardFerren-AKSC.pdf
AkCCO Presentation

Assessment Tools for Arctic Researchers (Nos. 1) and Arctic EMO/SAR/RM (Nos. 2)

No. 1 Arctic Researchers at AOOSM

<https://www.arcus.org/search-program/meetings/2015/aoosm/agenda>

Arctic Risk Management Network Survey: Is there a Need?

(Sponsor: Applied Research in Environmental Sciences Nonprofit, Inc. Email ariesnonprofit@yahoo.com)

ARMNet Project @ <http://www.ariesnonprofit.com/P9.php>

Organization Represented (Voluntary Information):

1. Are the research needs of your organization, regarding Arctic SAR/EM, currently being met by the Canadian and US academic/research community for your region(s) of study?

No ___ Somewhat ___ Adequately ___ Completely ___

Comments:

2. As an Arctic Researcher, where do you currently access relevant research/new information on Arctic SAR/EM/RM?

(check all)

___ Academic journals/periodicals ___ Northern Roundtable/Workshops eg. ADAC

___ Books ___ Published/Participatory Tabletop exercises

___ Field Training exercises eg. Artic Shield ___ SAR/EM websites

___ Arctic Conferences eg. ArcticNet, AOOSM ___ SAR/EM Consultants

___ National SAR/EM Conferences eg. SARScene,

Other _____

Comments:

3. What are the biggest obstacles to research on Arctic SAR/EM/RM (check all)

___ Lack of EMO time to partner and assist with research

___ Lack of funding/resources

___ Lack of researchers/experts educated in Arctic SAR/EM

___ No coordinating research body

___ Lack of community resources/interest

Other: _____

Comments:

4. Rate the research topics related to Arctic risks and hazards that you think are of greatest interest/concern to your relevant region(s) of study. (scale of 0 – 3)
 0 = no interest 1= some interest 2= strong interest 3 = critical interest

Flooding	___	catastrophic power failure	___	forest/tundra fire	___
Storm surge	___	coastal erosion	___	plane crash	___
Oil spill	___	chemical spill	___	ship sinking	___
terrorism	___	Infrastructure failure	___	extreme weather	___
vandalism	___	resupply failure/cut off	___	epidemic	___
SAR incident	___	water resources	___	water supply/drought	___
Other _____					

Comments:

5. Do you think an Arctic Risk Management Network (ARMNET) could support Arctic EMO by:
 Please score each line according to the following scale:

0 = not likely 1 = somewhat likely 2 = likely 3 = most likely

___	compiling and synthesizing existing Arctic risk/hazard research
___	matching EMO research needs and experts
___	facilitating pan-Arctic collaboration in new research
___	fostering the exchange of research between Arctic regions
___	supporting participatory research with the involvement of communities
___	networking EMOs/communities with common research interests
___	facilitating joint research projects/funding applications/training
___	Other:

Comments:

6. AMONG EMO, SAR, AND RESEARCHER PARTNERS, REDUNDANT AND INTER OPERABLE COMMUNICATIONS CAN INCLUDE THE FOLLOWING:

- VIRTUAL HUB (ANY TIME AVAILABILITY)
- RADIO PROGRAMS (REGULAR DISTRIBUTION SUCH AS PER MONTH)
- CDS (TELECONFERENCE RECORDINGS TO SHARE)
- DVDS (SHARING CASE STUDIES AND STRATEGIES)
- TELECONFERENCES (AS NEEDED OR ROUTINE)
- NEWSLETTER BRIEFS (VIRTUAL HUB, E-NEWSLETTERS AND MAIL)
- RISKY BUSINESS ARTWORK/MUSIC FOR SHARING ACROSS COMMUNITIES
- ROLE PLAYS (E.G, TELECONFERENCE, VIDEOS OR RADIO PROGRAMS)
- TABLE TOP EXERCISES (AMONG EMO, SAR AND RESEARCHERS)
- TRAINING SCENARIOS (AMONG EMO, SAR AND RESEARCHERS)
- APPLIED THEATER (LOCAL CREATIVE DRAMAS FOR RISK EDUCATION AND COMMUNICATION)
- REGULAR ARMNET WORKSHOPS AND RECEPTIONS AT FAVORITE CONFERENCES
- ANNUAL TRAVEL AWARDS FOR ARMNET PARTNERS (EMO, SAR AND RESEARCHERS) TO CONFERENCES
- OTHERS?

SCORE WITH THE FOLLOWING SCALE:

0=NOT LIKELY 1=SOMEWHAT LIKELY 2=LIKELY 3=MOST LIKELY

- VIRTUAL HUB
- RADIO PROGRAMS
- CDS
- DVDS
- TELECONFERENCES
- NEWSLETTER BRIEFS
- RISKY BUSINESS ARTWORK/MUSIC
- ROLE PLAYS
- TABLE TOP EXERCISES
- TRAINING SCENARIOS
- APPLIED THEATER
- WORKSHOPS AT CONFERENCES
- ANNUAL TRAVEL AWARDS TO CONFERENCES

7. Is this initiative of interest to you? _____ (0 = no interest 1 = some interest 2 = interest 3 = strong interest)

You are being invited to take part in this assessment because we feel that your experience in Emergency Management and/or Search and Rescue can contribute much to our understanding about development of an Arctic Risk Management Network. Your participation in this research is entirely voluntary. It is your choice whether to participate or not. We greatly appreciate your assistance to refine plans for ARMNet.

Thank You!

No. 1 Arctic Researchers at ArcticNet

<http://www.arcticnetmeetings.ca/asm2015/>

Arctic Risk Management Network Survey: Is there a Need?

(Sponsor: Applied Research in Environmental Sciences Nonprofit, Inc. Email ariesnonprofit@yahoo.com)

ARMNet Project at <http://www.ariesnonprofit.com/P9.php>

Researcher responding (voluntary): _____

Note: SAR = Search and Rescue; EM or EMO = Emergency Management or Emergency Management Office; RM = Risk Management

1. Do the research programs in which you are currently involved include research that is related to Arctic SAR/EM issues? Mark all that apply.

- I am currently incorporating SAR/EM issues in my research
- I am willing to explore including SAR/EM issues in my future research
- I am not currently including SAR/EM issues in my research
- I do not think SAR/EM issues can be incorporated into my research

Comments:

2. As an Arctic Researcher, where do you currently access relevant research or new information on Arctic SAR/EM/RM? Check all that apply.

- Academic journals/periodicals
- Northern Roundtable/workshops, e.g., Arctic Domain Awareness Center
- Books
- Published/participatory tabletop exercises (group discussions of responses to potential emergencies)
- Field training exercises, e.g., Arctic Shield
- SAR/EM websites
- Arctic conferences, e.g., ArcticNet, AOOSM
- SAR/EM consultants and professionals
- National SAR/EM conferences, e.g., SARScene
- None of the above

Other _____

Comments:

3. What are the biggest obstacles to research on Arctic SAR/EM/RM? Check all that apply.

- Lack of EMO time to partner and assist with research
- Lack of funding/resources
- Lack of researchers or experts educated in Arctic SAR/EM
- No coordinating research body
- Lack of community resources/interest

Other: _____

Comments:

4. Rate the research topics related to Arctic risks and hazards that you think are of greatest interest/concern to your geographical region(s) of Arctic study according to the following scale:

0 = no interest 1 = some interest 2 = strong interest 3 = critical interest

- flooding
- catastrophic power failure
- extreme weather
- vandalism

- | | |
|---|--|
| <input type="checkbox"/> forest/tundra fire | <input type="checkbox"/> resupply failure/cutoff |
| <input type="checkbox"/> storm surge | <input type="checkbox"/> epidemic |
| <input type="checkbox"/> coastal erosion | <input type="checkbox"/> plane crash |
| <input type="checkbox"/> oil spill | <input type="checkbox"/> chemical spill |
| <input type="checkbox"/> ship sinking | <input type="checkbox"/> terrorism |
| <input type="checkbox"/> infrastructure failure | <input type="checkbox"/> SAR incident |
| <input type="checkbox"/> water resource issue | <input type="checkbox"/> water supply/drought |

Other _____

Comments:

5. Do you think an Arctic Risk Management Network (ARMNET) could support Arctic researchers by the following:

Score with the following scale: 0 = not likely 1 = somewhat likely 2 = likely 3 = most likely

- compiling and synthesizing existing Arctic risk/hazard research
- matching EMO research needs with research experts
- facilitating pan-Arctic collaboration in new research
- fostering the exchange of research between Arctic regions
- supporting participatory research with the involvement of communities
- networking EMOs/communities with common research interests
- facilitating joint research projects/funding applications/training

Other: _____

Comments:

6. Among EM and SAR professionals and researcher partners, redundant and inter-operable communications may include various methods of communication beyond the Internet. How likely is it that your research program would be willing to participate using each of these methods of communication to reach EM/SAR/RM professionals?

Score with the following scale: 0=not likely 1=somewhat likely 2=likely 3=most likely

- Virtual hub
- Radio programs
- CDS
- DVDs
- Teleconferences
- Newsletter briefs
- Training scenarios
- Workshops at conferences
- Annual travel awards to conferences

Comments:

7. Is this initiative of interest to you? _____ (0 = no interest; 1 = some interest; 2 = interest; 3 = strong interest)

Comments:

You are being invited to take part in this assessment because we feel that your experience can contribute much to the design and development of an Arctic Risk Management Network. Your participation in this research is entirely voluntary. It is your choice whether to participate or not. We greatly appreciate your assistance to refine plans for ARMNet.

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ARMNet Project @ <http://www.ariesnonprofit.com/P9.php>

1. Are your research needs on Arctic SAR/EM currently being met by the Canadian academic/research community?

No ___ Somewhat ___ Adequately ___ Completely ___

Comments:

2. Where do you currently access relevant research/new information on Arctic SAR/EM/RM (check all)

___ Academic journals/periodicals ___ Northern Roundtable meetings

___ Books ___ Tabletop exercises

___ Training exercises ___ SAR/EM websites

___ Arctic Conferences eg. ArcticNet ___ Consultants

___ National SAR/EM Conferences eg. SARScene

Other _____

Comments:

3. What are the biggest obstacles to research on Arctic SAR/EM/RM (check all)

___ Lack of EMO time

___ Lack of funding/resources

___ Lack of researchers/experts educated in Arctic SAR/EM

___ No coordinating research body

___ Lack of community resources/interest

Other: _____

Comments:

4. Rate the research topics related to Arctic risks and hazards that are of greatest interest/concern to your region (scale of 0 – 3)

0 = no interest 1= some interest 2= strong interest 3 = critical interest

Flooding	__	catastrophic power failure	__	forest/tundra fire	__
Storm surge	__	coastal erosion	__	plane crash	__
Oil spill	__	chemical spill	__	ship sinking	__
terrorism	__	Infrastructure failure	__	extreme weather	__
vandalism	__	resupply failure/cut off	__	epidemic	__
SAR incident	__				
Other	_____				

Comments:

5. Could an Arctic Risk Management Network (ARMNET) support your EMO by:

Please score each line according to the following scale:

0 = not likely 1 = somewhat likely 2 = likely 3 = most likely

__	compiling and synthesizing existing Arctic risk/hazard research
__	matching EMO research needs and experts
__	facilitating pan-Arctic collaboration in new research
__	fostering the exchange of research between Arctic regions
__	supporting participatory research with the involvement of communities
__	networking EMOs/communities with common research interests
__	facilitating joint research projects/funding applications/training
__	Other:

Comments:

6. AMONG EMO, SAR, AND RESEARCHER PARTNERS, REDUNDANT AND INTER OPERABLE COMMUNICATIONS CAN INCLUDE THE FOLLOWING:

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- ANNUAL TRAVEL AWARDS TO CONFERENCES

7. Is this initiative of interest to you? _____ (0 = no interest 1 = some interest 2 = interest 3 = strong interest)

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Thank You!

Arctic Risk Management Network Survey: Is there a Need?

(Sponsor: Applied Research in Environmental Sciences Nonprofit, Inc. Email ariesnonprofit@yahoo.com)

ARMNet Project @ <http://www.ariesnonprofit.com/P9.php>

Organization Represented (Voluntary Information):

1. Are the research needs of your organization, regarding Arctic SAR/EM, currently being met by the Canadian academic/research community?

No ___ Somewhat ___ Adequately ___ Completely ___

Comments:

2. Where do you currently access relevant research/new information on Arctic SAR/EM/RM (check all)

___ Academic journals/periodicals ___ Northern Roundtable meetings

___ Books ___ Tabletop exercises

___ Training exercises ___ SAR/EM websites

___ Arctic Conferences eg. ArcticNet ___ Consultants

___ National SAR/EM Conferences eg. SARScene

Other _____

Comments:

3. What are the biggest obstacles to research on Arctic SAR/EM/RM (check all)

___ Lack of EMO time

___ Lack of funding/resources

___ Lack of researchers/experts educated in Arctic SAR/EM

___ No coordinating research body

___ Lack of community resources/interest

Other: _____

Comments:

4. Rate the research topics related to Arctic risks and hazards that you think are of greatest interest/concern to their regions (scale of 0 – 3)

0 = no interest 1= some interest 2= strong interest 3 = critical interest

Flooding	___	catastrophic power failure	___	forest/tundra fire	___
Storm surge	___	coastal erosion	___	plane crash	___
Oil spill	___	chemical spill	___	ship sinking	___
terrorism	___	Infrastructure failure	___	extreme weather	___
vandalism	___	resupply failure/cut off	___	epidemic	___
SAR incident	___				
Other	_____				

Comments:

5. Do you think an Arctic Risk Management Network (ARMNET) could support Arctic EMO by:

Please score each line according to the following scale:

0 = not likely 1 = somewhat likely 2 = likely 3 = most likely

___	compiling and synthesizing existing Arctic risk/hazard research
___	matching EMO research needs and experts
___	facilitating pan-Arctic collaboration in new research
___	fostering the exchange of research between Arctic regions
___	supporting participatory research with the involvement of communities
___	networking EMOs/communities with common research interests
___	facilitating joint research projects/funding applications/training
___	Other:

Comments:

6. AMONG EMO, SAR, AND RESEARCHER PARTNERS, REDUNDANT AND INTER OPERABLE COMMUNICATIONS CAN INCLUDE THE FOLLOWING:

- VIRTUAL HUB (ANY TIME AVAILABILITY)
- RADIO PROGRAMS (REGULAR DISTRIBUTION SUCH AS PER MONTH)
- CDS (TELECONFERENCE RECORDINGS TO SHARE)
- DVDS (SHARING CASE STUDIES AND STRATEGIES)
- TELECONFERENCES (AS NEEDED OR ROUTINE)
- NEWSLETTER BRIEFS (VIRTUAL HUB, E-NEWSLETTERS AND MAIL)
- RISKY BUSINESS ARTWORK/MUSIC FOR SHARING ACROSS COMMUNITIES
- ROLE PLAYS (E.G, TELECONFERENCE, VIDEOS OR RADIO PROGRAMS)
- TABLE TOP EXERCISES (AMONG EMO, SAR AND RESEARCHERS)
- TRAINING SCENARIOS (AMONG EMO, SAR AND RESEARCHERS)
- APPLIED THEATER (LOCAL CREATIVE DRAMAS FOR RISK EDUCATION AND COMMUNICATION)
- REGULAR ARMNET WORKSHOPS AND RECEPTIONS AT FAVORITE CONFERENCES
- ANNUAL TRAVEL AWARDS FOR ARMNET PARTNERS (EMO, SAR AND RESEARCHERS) TO CONFERENCES
- OTHERS?

SCORE WITH THE FOLLOWING SCALE:

0=NOT LIKELY 1=SOMEWHAT LIKELY 2=LIKELY 3=MOST LIKELY

- __ VIRTUAL HUB
- __ RADIO PROGRAMS
- __ CDS
- __ DVDS
- __ TELECONFERENCES
- __ NEWSLETTER BRIEFS
- __ RISKY BUSINESS ARTWORK/MUSIC
- __ ROLE PLAYS
- __ TABLE TOP EXERCISES
- __ TRAINING SCENARIOS
- __ APPLIED THEATER
- __ WORKSHOPS AT CONFERENCES
- __ ANNUAL TRAVEL AWARDS TO CONFERENCES

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