

ARCTIC RISK MANAGEMENT NETWORK

ARMNET TEAM:

HINA KILIONI, DISASTER COORDINATOR, AND FREDERICK BROWER, RISK MANAGER

(NORTH SLOPE BOROUGH RISK MANAGEMENT)

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ANTHROPOLOGY/HISTORICAL ECOLOGY

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OCEANOGRAPHY

(APPLIED RESEARCH IN ENVIRONMENTAL SCIENCES
NONPROFIT, INC. WWW.ARIESNONPROFIT.COM)

LIANE BENOIT, M.P.A., F.R.C.G.S

SAR/EM POLICY RESEARCHER

(BENOIT & ASSOCIATES)



Barrow AK 8.4.2015

ARCTIC RISK MANAGEMENT NETWORK (ARMNET)



Barrow Sea Ice Cam 2015-08-27 00:05:00-0800

Barrow, AK 8.27.2015 (Sea Ice Webcam, http://seaice.alaska.edu/gi/observatories/barrow_webcam)

ARMNET GOALS

WHO: RISK MANAGEMENT PRACTITIONERS AND RESEARCHERS LINKED ACROSS THE ARCTIC REGIONS OF CANADA AND ALASKA

WHY: TO IMPROVE RISK, EMERGENCY AND DISASTER PREPAREDNESS AND MITIGATION THROUGH COMPARATIVE ANALYSIS AND APPLIED RESEARCH

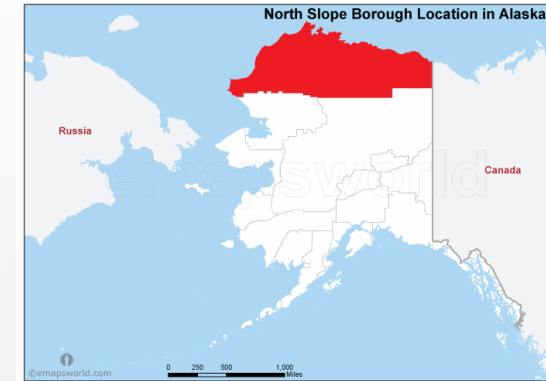
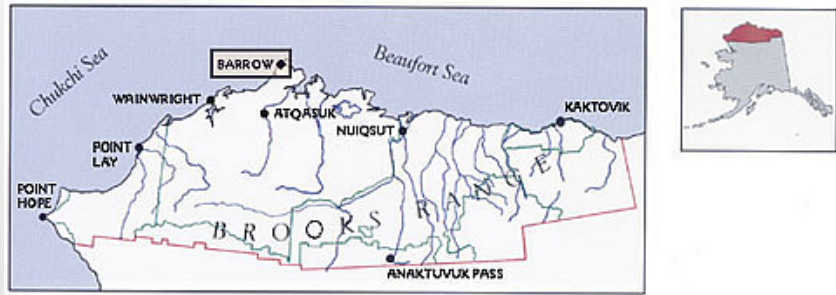
COASTAL OBSERVERS OF BARROW
COMMUNITY BASED MONITORING



CURRENT PARTNERS: NORTH SLOPE BOROUGH (NSB) RISK MANAGEMENT, APPLIED RESEARCH IN ENVIRONMENTAL SCIENCES NONPROFIT, INC. (ARIES), CANADIAN RISK AND HAZARDS NETWORK (CRHNET), BENOIT & ASSOCIATES

CURRENT FUNDING SPONSORS: US EMBASSY (OTTAWA), ARIES, NSB RISK MANAGEMENT, CRHNET, BENOIT & ASSOCIATES

NORTH SLOPE BOROUGH RISK MANAGEMENT



The Risk Management Office coordinates

- the NSB insurance retention levels and policy coverage.
- all claims management including general liability and workers compensation.
- implements assessment recommendations, employee safety training and quarterly property inspections.

Risk Management is also responsible for emergency management and disaster coordination within the NSB as required by municipal code 2.32.

<http://www.north-slope.org/departments/administration-finance/risk-management>



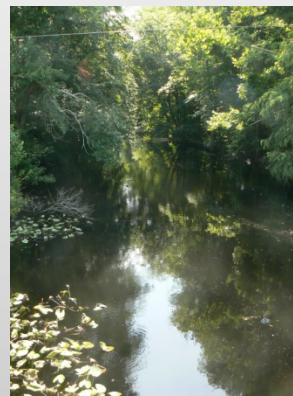
APPLIED RESEARCH IN ENVIRONMENTAL SCIENCES NONPROFIT, INC.

ANNE GARLAND AND KATHLEEN FISCHER RESEARCH
ASSOCIATE S

MISSION

ARIES IS A NON-PROFIT RESEARCH ASSOCIATION PROMOTING COLLABORATIVE RESEARCH, PUBLIC EDUCATION, AND PUBLIC OUTREACH DESIGNED TO ENHANCE CORPORATE AND COMMUNITY BASED DECISION MAKING.

WWW.ARIESNONPROFIT.COM



CANADIAN RISK AND HAZARDS NETWORK



Canadian Risk and Hazards
(Knowledge and Practice)
Network

Réseau canadien d'étude
des risques et dangers
(connaissances et pratiques)

CANADIAN RISK AND HAZARDS NETWORK

REDUCING RISK THROUGH PARTNERSHIPS

THE CRHNET IS A NOT-FOR-PROFIT ORGANIZATION ESTABLISHED IN 2003 TO PROMOTE AND STRENGTHEN DISASTER RISK REDUCTION AND EMERGENCY MANAGEMENT IN CANADA. THE NETWORK CREATES AN ENVIRONMENT FOR HAZARDS RESEARCH, EDUCATION AND EMERGENCY MANAGEMENT PRACTITIONER COMMUNITIES TO EFFECTIVELY SHARE KNOWLEDGE AND INNOVATIVE APPROACHES THAT REDUCE DISASTER VULNERABILITY.

WORKING TOGETHER FOR A SAFER TOMORROW

PROGRAM:

APPLIED RESEARCH IN ENVIRONMENTAL SCIENCES NONPROFIT, INC. (ARIES)

SPONSOR:

DHS NATIONAL CENTER OF RISK AND ECONOMIC ANALYSIS OF TERRORISM EVENTS
(CREATE) CENTER OF EXCELLENCE FOR SCIENCE AND TECHNOLOGY

DHS RESEARCH ASSOCIATES: ANNE GARLAND AND LLOYD MITCHELL , CO-PIS





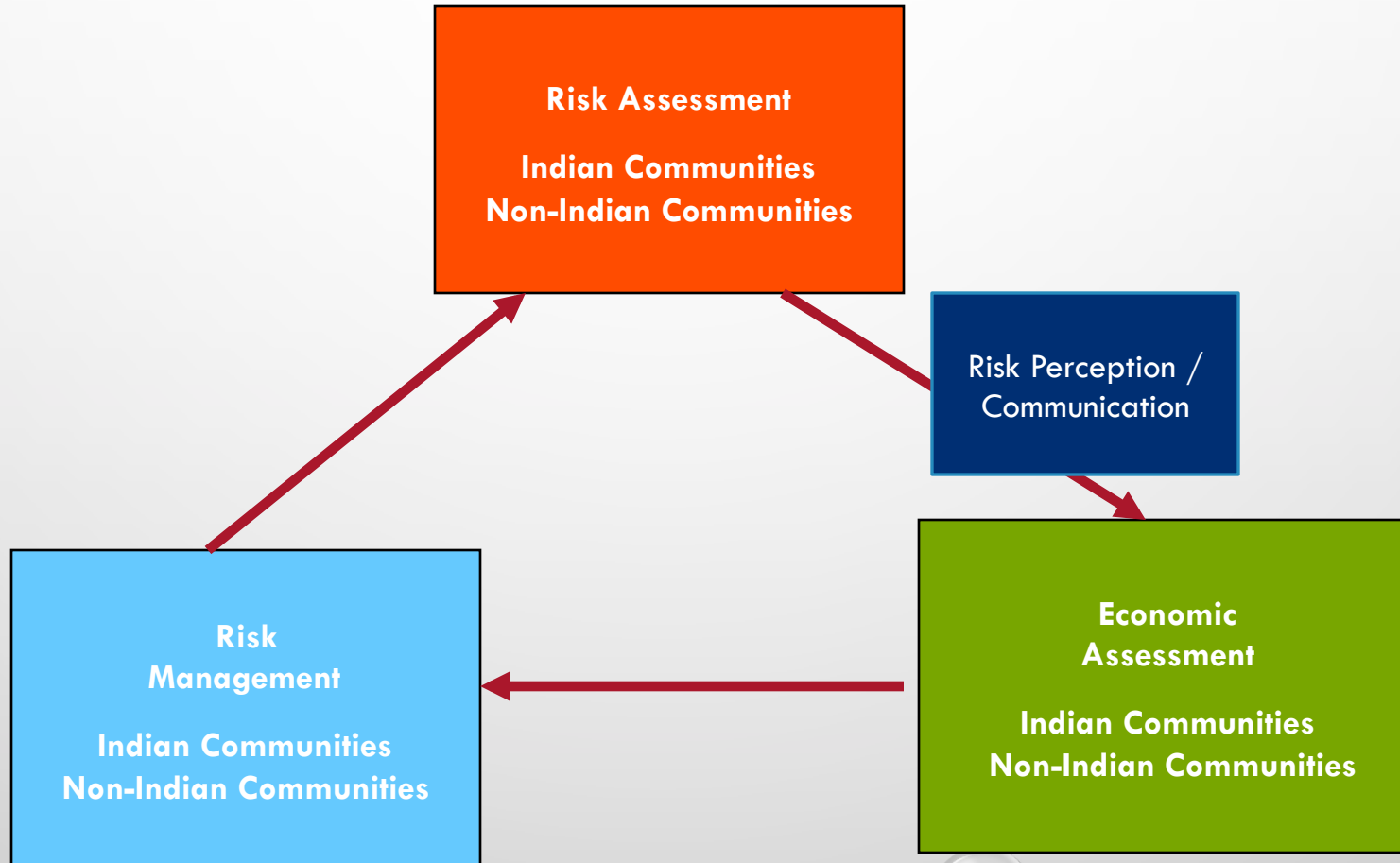
CREATE is an interdisciplinary national research center based at the University of Southern California <http://create.usc.edu/>

CREATE MISSION

To improve our Nation's security through research and development of advanced models and tools to evaluate the risks, costs and consequences of terrorism and **natural** and manmade hazards to guide economically viable investments in homeland security. (Strategic Plan 2012-2016)

“WORKING TOGETHER FOR A SAFER TOMORROW”

RESEARCH FRAMEWORK (TRIBALLY INCLUSIVE GEOGRAPHIC AREA)



WORKING TOGETHER FOR A SAFER TOMORROW MODEL

DHS NATIONAL CENTER OF RISK AND ECONOMIC
ANALYSIS OF TERRORISM EVENTS (CREATE)



ACTIVITIES

- OUTREACH EDUCATION
- INTEGRATED DISCIPLINES
- UNITIZED RESEARCH (TEAM)
- RESEARCH AND FIELD PROJECTS
- PRACTITIONER MODELS, TOOLS AND PRODUCTS
- **RESEARCH TRANSITIONS**
- NATIONAL CONFERENCE PRESENTATIONS AND PUBLICATIONS

[HTTP://CREATE.USC.EDU/](http://create.usc.edu/)



AUDIENCES/PARTICIPANTS

- TIGA RELATED (TRIBALLY INCLUSIVE GEOGRAPHIC AREAS)
- MINORITY RELATED (AFRICAN AMERICAN, AMERICAN INDIANS, HISPANICS, LATINOS, CHICANOS)

CUMULATIVE REGIONAL INTEGRATED OPERABILITY SCORE (CRIOS) FOR TRIBAL INCLUSIVE GEOGRAPHIC AREAS (TIGA)

ACHIEVING **REGIONAL**, LOCAL, AND TRIBAL INTEGRATION TO REDUCE RISKS AND THE
ECONOMIC IMPACTS OF DISASTER AND TERROR EVENTS



CRIOS Workshop, Cattaraugus Seneca
Reservation, Gowanda, NY, 2009

THE PROJECT ALIGNS WITH DHS SECRETARY NAPOLITANO FIRST ACTION DIRECTIVES OF JANUARY, 2009,
RELATIVE TO STATE, LOCAL, AND TRIBAL INTEGRATION.

[HTTP://WWW.DHS.GOV/NEWS/2009/01/28/SECRETARY-NAPOLITANO-ISSUES-FIRST-DIRECTIVES-
PROTECTION](http://www.dhs.gov/news/2009/01/28/secretary-napolitano-issues-first-directives-protection)

CUMULATIVE REGIONAL INTEGRATED OPERABILITY SCORE (CRIOS) FOR TRIBAL INCLUSIVE GEOGRAPHIC AREAS (TIGA)

- COLLABORATIVELY DESIGNED (2008) AND IMPLEMENTED BY A STUDENT PARTICIPANT TEAM OF APPLIED RESEARCH IN ENVIRONMENTAL SCIENCES NONPROFIT, INC. (ARIES), IN THE DEPARTMENT OF HOMELAND SECURITY (DHS CREATE) PROGRAM TITLED WORKING TOGETHER FOR A SAFER TOMORROW (WTST),
- APPLIES A THREE-STEP MODEL FOR **MULTI-JURISDICTIONALLY DIVERSE REGIONS** (TRIBALLY INCLUSIVE GEOGRAPHIC AREA OR TIGA) TO **INTEGRATE EMERGENCY RESOURCES, SERVICES, AND CAPABILITIES**
- **WITH THE MANAGEMENT GOAL OF OPERATING COOPERATIVELY** AS RESILIENT COMMUNITIES IN THE EVENT OF NATURAL DISASTERS OR FROM TERRORISM.

CRIOS 2007 (IPY) AND 2012-2015 NORTH SLOPE BOROUGH AK.

- Collaboration with the North Slope Risk Management and Local Emergency Planning Committee for risk assessment workshops
IPY2007-2008



- Historical Ecology for Risk Management: Youth Sustainability (HERMYS) 2012
Facebook Journal @arieshermys



- Coastal Erosion Mitigation Study of Critical Infrastructure

- Sea level rise
- Storm Surge
- Permafrost Calving
- RM Priority Risk for mitigation



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).



CLEARINGHOUSE FOR RISK REDUCTION PARTNERSHIPS

MOST IMPORTANTLY, ARMNET IS A CLEARINGHOUSE FOR ALL INFORMATION RELATED TO THE MANAGEMENT OF THE FREQUENT HAZARDS OF ARCTIC CLIMATE AND GEOGRAPHY IN NORTH AMERICA,

- EMERGING CHALLENGES ARISING FROM CLIMATE CHANGE,
- INCREASED MARITIME POLAR TRAFFIC,
- EXPANDING ECONOMIC DEVELOPMENT IN THE REGION.

PHOTO CREDITS: NORTH SLOPE BOROUGH PHOTOS OF KAKTOVIK BLIZZARD 2005, A. GARLAND 8.4.2015 BARROW AK SURGE, ANDARCTICSPILLHTTPWWW.DISTANCE-EDUCATION.ORGARTICLESTHE-BP-OIL-SPILL--NOT-THE-COMPANY-S-FIRST-ENVIRONMENTAL-DISASTER-264.HTML



Image Credit: Thomas Hallermann, Marine Photobank



Most of the Arctic, like most of the world, is commonly owned. With ownership comes the obligation to manage our resources for the benefit of the total.

To do that, we must understand the reality, the richness, and the responsibility of the North.

– Governor Walter J. Hickel, Founder **Institute of the North** <http://www.institutenorth.org/about/>



PROPOSED ARMNET PLANS

WE NEED YOUR HELP AND INPUT!

OVERVIEW AND FEEDBACK

WHO:

ARCTIC EM, RM, AND SAR PRACTITIONERS

ARCTIC RESEARCHERS (DISASTER RISK REDUCTION)

HOW:

ARMNET PARTNERSHIPS AMONG PRACTITIONERS AND DISASTER RESEARCHERS

(PHOTO: UAA COASTAL ENGINEER AND NSB DISASTER COORDINATORS IMPACT ASSESSMENT AND CONSULT OF ERODED RESERVOIR AT PRUDHOE BAY)

WHAT:

ARMNET INFRASTRUCTURE

WHERE AND WHEN:

ARMNET LOGISTICS



ARMNET INFRASTRUCTURE

WHAT:

- EXISTING RESEARCH CONTENT
- GAPS IN RESEARCH THAT NEED TO BE FILLED

HOW:

- ACCOMPLISH RESEARCH
- APPLY RESEARCH WITH COMMUNITIES
- EMO AND SAR INVOLVED TO PROVIDE GUIDANCE AND PERMISSIONS
- **RESEARCHERS SEEK TRAINING IN RISK AND DISASTER MANAGEMENT ABOUT EMO/SAR OPERATIONS**
 - EMERGENCY MANAGEMENT INSTITUTE INDEPENDENT STUDY ON LINE CERTIFICATES [HTTP://WWW.TRAINING.FEMA.GOV/IS/CRSLIST.ASPX](http://www.training.fema.gov/IS/CRSLIST.ASPX)
 - HIGHER EDUCATION EMHS CONFERENCE OR CURRICULA (EMI) [HTTP://TRAINING.FEMA.GOV/HIEDU/](http://training.fema.gov/hiedu/)

WHO:

- EMO AND SAR LIMITED TIME DOING THE RESEARCH
- PARTNER WITH DISASTER RESEARCHERS TO PLAN, DEVELOP RESEARCH FOCI

Be Ready for Risky Business
Risk Management Camp
July 6-10 10-5 pm
Tuzzy Library Classroom
Middle School Challenge
Apply Now! FB @arieshermys
CONTACT Mentors: Anne Garland (852-8660),
or Hina Kilioni, NSB Disaster Coordinator (852-0248 or 855-1225)

Are YOU Ready? To Bear the Risks?

Repair

Be Better at Change

React

Be ReadyART Challenge

Teen CERT

Hazard Charades!

Risk RankTeam

Be Ready

Risky Role Plays!

Be Green Engineers!

Stipends!

Be Citizen Scientists

Hazard Bingo

RISK

CURRENT CONTEXT

ARE THE RESEARCH NEEDS OF YOUR ORGANIZATION
REGARDING ARCTIC SAR/EM CURRENTLY BEING MET
BY THE CANADIAN ACADEMIC/RESEARCH
COMMUNITY IN YOUR RELEVANT REGIONS OF
STUDY?

NO ___ SOMEWHAT ___ ADEQUATELY ___ COMPLETELY ___

COMMENTS:



CONTEXT

AS AN ARCTIC RESEARCHER, WHERE DO
YOU CURRENTLY ACCESS RELEVANT
RESEARCH/NEW INFORMATION ON ARCTIC
SAR/EM/RM



ACADEMIC JOURNALS/PERIODICALS
NORTHERN ROUNDTABLE MEETINGS
BOOKS

TABLETOP EXERCISES

TRAINING EXERCISES

SAR/EM WEBSITES

ARCTIC CONFERENCES

CONSULTANTS

EG. ARCTICNET

NATIONAL SAR/EM CONFERENCES

OTHER _____

COMMENTS:

CONTEXT

WHAT ARE THE BIGGEST OBSTACLES TO
RESEARCH ON ARCTIC SAR/EM/RM



- LACK OF EMO TIME TO PARTNER
- LACK OF FUNDING/RESOURCES
- LACK OF RESEARCHERS/EXPERTS EDUCATED IN ARCTIC SAR/EM
- NO COORDINATING RESEARCH BODY
- LACK OF COMMUNITY RESOURCES/INTEREST

OTHER: _____

COMMENTS:

CONTEXT

RATE THE RESEARCH TOPICS RELATED TO ARCTIC RISKS AND HAZARDS THAT 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

OTHER _____

COMMENTS:



ARMNET INFRASTRUCTURE: WHAT AND HOW

COULD AN ARCTIC RISK MANAGEMENT
NETWORK (ARMNET) 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:

ARMNET LOGISTICS: WHERE AND WHEN

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

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?

ARMNET WHY?

LIST YOUR REASONS ARMNET MIGHT BE VALUABLE FOR RISK REDUCTION

EXAMPLE: INCLUDE OR DISCUSS A SITUATION, SCENARIO, OR
EMERGENCY EVENT WHICH WOULD BENEFIT FROM AN ASSOCIATION
WITH ARMNET

Want to Help with
Risky Business?
Join the STEAM Challenge

The North Slope Preparathon
September 2015!

MEET the challenge post a STEAM product
(Science, Technology, Engineering, Art, and Math)
on the Fb @North Slope Teen CERT

- **Push the arts** (photos, any artwork), media, (music, video/audio/PSA), drama (dance, skits, role plays) or language arts (oral history, stories, slogans, poetry) by Teams or Individuals
- **Reach out** to your peers and friends about North Slope **RISKS** and how to prepare for the **HAZARDS**
- **Entertain** for the awards by the NSB Risk Management who can use your work in NSB risk education efforts. (Your permission and credits to use your creative property will be respected as you wish.)
- **Plan** for a Talent Show and Exhibit
Depending on the number of entries, there may be enough for a **TALENT SHOW**, too!
More details later!



<http://www.ready.gov/september>



Barrow Storm surge 8.4.2015



Details: Contact Hina Kilion
NSB Disaster Coordinator

ARMNET VALUE?

IS THIS INITIATIVE OF INTEREST TO YOU? _____

SCORE USING THE FOLLOWING:

0 = NO INTEREST 1 = SOME INTEREST 2 = INTEREST 3 = STRONG INTEREST

THANK YOU FOR SHARING YOUR SUGGESTIONS!!