

ALASKA STATE LEGISLATURE
SENATE SPECIAL COMMITTEE ON ARCTIC AFFAIRS

February 6, 2025

1:33 p.m.

MEMBERS PRESENT

Senator Cathy Giessel, Chair
Senator Gary Stevens, Vice Chair
Senator Scott Kawasaki

MEMBERS ABSENT

Senator Donald Olson
Senator Bill Wielechowski

COMMITTEE CALENDAR

PRESENTATION(S): ARCTIC DOMAIN AWARENESS CENTER FROM THE
UNIVERSITY OF ALASKA ANCHORAGE

- HEARD

PREVIOUS COMMITTEE ACTION

No previous action to record

WITNESS REGISTER

JEFFREY LIBBY, Principal Investigator and Executive Director
Arctic Domain Awareness Center (ADAC)
University of Alaska Anchorage
Anchorage, Alaska

POSITION STATEMENT: Delivered a presentation on the Arctic
Domain Awareness Center.

ACTION NARRATIVE

[1:33:59 PM](#)

CHAIR GIESSEL called the Senate Special Committee on Arctic
Affairs meeting to order at [1:33 p.m.] Present at the call to
order were Senators Kawasaki, Stevens, and Chair Giessel.

PRESENTATION(S): ARCTIC DOMAIN AWARENESS CENTER
FROM
THE UNIVERSITY OF ALASKA ANCHORAGE

[1:34:28 PM](#)

CHAIR GIESSEL announced a presentation on the Arctic Domain Awareness Center (ADAC) from the University of Alaska Anchorage.

[1:34:52 PM](#)

JEFFREY LIBBY, Principal Investigator and Executive Director, Arctic Domain Awareness Center (ADAC), University of Alaska Anchorage, Anchorage, Alaska, said ADAC Addressing Rapid Changes through Technology, Innovation, and Collaboration (ADAC-ARCTIC) is the newest Department of Homeland Security (DHS) Center of Excellence. He provided a brief overview of the Center of Excellence award. He explained that the University of Alaska Anchorage (UAA) was previously awarded a Center of Excellence that focused on arctic maritime challenges. ADAC-ARCTIC has a broader arctic homeland security focus. He noted that ADAC-ARCTIC is the only Homeland Security Center of Excellence that focuses on a geographic region. ADAC-ARCTIC assists the Federal Emergency Management Agency (FEMA), Cybersecurity and Infrastructure Security Agency (CISA), and U.S. Customs and Border Protection (CBP), among others. He briefly described the work ADAC-ARCTIC is doing to support those agencies.

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CHAIR GIESSEL introduced members of the Senate Special Committee on Arctic Affairs. She invited Mr. Libby to introduce himself for the record.

[1:37:20 PM](#)

MR. LIBBY introduced himself and provided his credentials.

[1:37:43 PM](#)

MR. LIBBY said that ADAC-ARCTIC is following in the legacy of the previous UAA Center for Excellence and building on lessons learned. He highlighted that ADAC-ARCTIC has an extended 10-year term and contrasted this with the typical 5-year term length. He noted forthcoming challenges and an increased focus on Alaska and the Arctic region. ADAC-ARCTIC will work with the U.S. Department of Homeland Security (DHS) and indigenous communities to protect Alaska and to drive education and workforce opportunities.

[1:38:56 PM](#)

MR. LIBBY advanced to slide 2 and provided a brief overview of ADAC and ADAC-ARCTIC, highlighting relationships with Arctic homeland security professionals and the importance of adequate disaster and emergency response:

[Original punctuation provided.]

Mission for Alaska

The Arctic Domain Awareness Center develops research, technology and human capital to advance Arctic Homeland Security.

ARCTIC: Addressing Rapid Changes through Technology, Innovation, and Collaboration.

[1:40:55 PM](#)

SENATOR STEVENS asked for more information about Norway.

MR. LIBBY replied that ADAC is partnering exclusively with the University of Tromso - the Arctic University of Norway (UiT). He briefly mentioned a collaboration between the European Union (EU) and the US National Science Foundation that would provide funding and encourage international collaborations and research opportunities.

SENATOR STEVENS commented that Tromso is in northern Norway.

MR. LIBBY agreed. He commented on the climate and industry in Tromso, Norway, highlighting the lessons Alaska can learn from Norway's long history of industrial and commercial opportunities. He said ADAC also has a relationship with the Norwegian Polar Institute (NPI), also located in Tromso. He provided a brief history of the relationship between ADAC and NPI and highlighted future goals. He commented that ADAC is still in its nascent stage and expressed satisfaction that these relationships are already underway. He noted that NPI is scheduled to visit the University of Alaska in April 2025 to present to the first student cohort for the Arctic Leadership Initiative. Discussions will include challenges to Norway, how Norway is addressing those challenges, and how to encourage better collaborations and relations between Alaska and Norway.

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SENATOR STEVENS encouraged Mr. Libby to inform Chair Giessel of any opportunities for committee members to learn about and stay updated on those topics.

MR. LIBBY replied that there are many collaborations and initiatives underway, including collaborations between the Ted Stevens Center for Arctic Security Studies and the University of Alaska. He noted that ADAC has unique stakeholders, industry

partnerships, and federal partnerships that emphasize the need for arctic research. He noted that ADAC does not focus solely on increasing funding for the University of Alaska or UAA and gave examples of other programs that could receive funding. He briefly discussed how some challenges include subject-matter expertise that may result in international collaborations. He stated that Department of Homeland Security (DHS) funding allows ADAC to partner with national labs and institutions that have the necessary expertise and modeling capabilities that would help Alaska and the Arctic region develop solutions to increasing challenges. He agreed that connection and collaboration are important.

[1:45:18 PM](#)

MR. LIBBY advanced to slide 3 and played a video overview of ADAC-ARCTIC.

[1:48:10 PM](#)

SENATOR STEVENS asked whether ADAC is able to work with China.

MR. LIBBY replied that the relationship between the US and China is government to government and ADAC cannot overstep that boundary.

[1:48:56 PM](#)

MR. LIBBY advanced to slide 4 and provided a brief overview of Homeland Security Centers of Excellence across the US:

[Original punctuation provided.]

Homeland Security Centers of Excellence

University-led research organizations advancing solutions to challenges facing federal agencies, national laboratories, and industry partners. Centers actively collaborate with academia, policymakers and the federal government.

- ADAC-ARCTIC, led by the University of Alaska Anchorage
- Center for Accelerating Operation Efficiency (CAOE), led by Arizona State University
- Cross-Border Threat Screening and Supply Chain Defense (CBTS), led by Texas A&M University
- Master of Business Administration - Security Technology Transition (MBA STT), led by George Washington University

- National Counterterrorism Innovation, Technology, and Education Center (NCITE), led by University of Nebraska at Omaha
- Soft Target Engineering to Neutralize the Threat Reality (SENTRY), led by Northeastern University
- Criminal Investigations and Network Analysis Center (CINA), led by George Mason University
- Critical Infrastructure Resilience Institute (CIRI), led by the University of Illinois at Urbana-Champaign
- Coastal Resilience Center (CRC), led by the University of North Carolina at Chapel Hill

MR. LIBBY noted that, while other centers focus on a specific area of interest for homeland security abroad, ADAC-ARCTIC focuses on all international areas of interest, as the Arctic region faces unique geographic challenges. He expressed confidence in the University of Alaska's ability to address the issues and highlighted partnerships with business and industry stakeholders. He reiterated that ADAC-ARCTIC is a 10-year, cooperative agreement and ADAC is considering the potential for a long-term center of excellence.

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CHAIR GIESSEL observed that slide 4 names various universities within the US and asked how ADAC is partnering with Canada.

MR. LIBBY replied ADAC has a relationship with Canada that is facilitated through DHS. In addition, the University of Alaska has other relationships and research collaborations with Canada. He briefly described some of the collaborations between ADAC and Canada, including US Coast Guard initiatives. He clarified that nothing is solidified and indicated that ADAC would focus on relationships that would ensure any resulting research activities and programs are beneficial to Alaska.

CHAIR GIESSEL commented that Canadian Rangers are similar to Alaska's village public safety officers (VPSOs).

MR. LIBBY agreed. He briefly discussed the work done by Canadian Rangers and contrasted this with VPSO.

[1:53:09 PM](#)

MR. LIBBY advanced to slide 5 and discussed the four themes that underpin ADAC-ARCTIC, along with current and upcoming projects:

[Original punctuation provided.]

UAA: Building Legacy for Alaska

ADAC-ARCTIC provides research solutions to solve Homeland Security challenges. Delivers innovative education and workforce development strategies. Prepares future arctic leaders, researchers, students and policymakers.

Accomplishes mission through projects aligned with partners and key themes:

- Advance All-Domain Situation Awareness
- Improve Understanding of Risks and Impacts
- Enable Adaptation for Resilience
- Expand Collaboration and Cooperation

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MR. LIBBY advanced to slide 6, containing a flow chart to illustrate the relationship between ADAC-ARCTIC, the US Department of Homeland Security (DHS), University of Alaska Anchorage (UAA), University of Alaska (UA), and other organizations. He noted that, while the ADAC-ARCTIC is housed at UAA, ADAC-ARCTIC is a part of the broader University of Alaska system. He highlighted various research and education programs throughout the UA system that can benefit ADAC-ARCTIC. He highlighted the ADAC-ARCTIC Executive Counselors and the Strategic Trajectory Committee. He expressed confidence in the timeline overall and said ADAC-ARCTIC will launch new research projects in the coming year.

[1:58:00 PM](#)

MR. LIBBY advanced to slide 7, containing a flow chart to illustrate how UAA is addressing pressing challenges in the Arctic. He highlighted paths for risks and impacts, collaboration, and resilience. He noted various projects and indicated that projects would be discussed in greater depth in a future slide. He highlighted collaborative projects with indigenous elders.

[1:59:29 PM](#)

CHAIR GIESSEL commented that this is a diverse group.

MR. LIBBY agreed.

[1:59:37 PM](#)

MR. LIBBY advanced to slide 8, containing an infographic of the UAA strategic approach, including Arctic Science and Technology initiatives, empowerment and traditional knowledge, and workforce and educational programs. He briefly discussed the Reliable Arctic Power and Intelligent Energy Resilience project and its importance to Alaska. He highlighted annual workshops, which bring national and international collaborations for various challenges. He explained the use of a foresight model to consider potential future challenges.

[2:01:27 PM](#)

MR. LIBBY advanced to slide 9, containing a list of UAA Education Partners. He noted that these are current university partnerships. He surmised that the network would continue to grow as ADAC branches out to consider research activities and educational programs. He highlighted the arctic fellowship and arctic summer internship programs.

[2:03:07 PM](#)

MR. LIBBY advanced to slide 10, containing a list of business and industry partnerships. He pointed out that ADAC has made many partnerships in the short time since its inception and opined that this is exceptional. He highlighted the Marine Exchange of Alaska and UIC Sciences. He briefly described the collaboration between ADAC and UIC Sciences, which is integral to ADAC operations in the Barrow region. This partnership provides a necessary understanding of the logistics of working on tribal lands and with Indigenous communities. He noted that ADAC has two individuals (from ADAC Strategic Trajectory Committee and Alaska Native Success Initiative (ANSI)) working to build Indigenous relationships statewide. He stated that this would strengthen communication and trust between ADAC and Alaska's rural Arctic communities and Indigenous partners.

[2:04:55 PM](#)

MR. LIBBY advanced to slide 11 and discussed the mission of ADAC-ARCTIC:

[Original punctuation provided.]

UAA: Strategic Service

ADAC-ARCTIC

- Direct projects and research transition between Dept. of Homeland Security and stakeholders.

- Expand research and development through new project initiatives and engagement with Dept. of Homeland Security and stakeholders.
- Education and workforce solutions connect ADAC-ARCTIC, industry, students, professionals and communities.
- Agency and partner outreach to inform research initiatives and advance ADAC-ARCTIC's networks.

[2:06:47 PM](#)

MR. LIBBY advanced to slide 12 and discussed how ADAC is addressing Arctic environmental safety:

[Original punctuation provided.]

Arctic Environmental Safety

- Assess feasibility and impact of wellhead ignition blowouts.
- Develop response framework for Federal, State and Local Agencies.
- Advanced research methods through droplet distribution and combustion model.
- Modeling downwind dispersion to study potential impacts on indigenous and tribal communities in Arctic.

MR. LIBBY emphasized the importance of working with federal agencies and local communities.

[2:08:25 PM](#)

CHAIR GIESSEL asked if this could be a blowout in a subsea well or on the surface.

MR. LIBBY replied that current models are considering surface blowouts. He expressed hope that ADAC would assess the feasibility and impact of sub-surface blowouts in the future.

[2:08:47 PM](#)

MR. LIBBY advanced to slide 13 and discussed how ADAC is addressing risk management:

[Original punctuation provided.]

Risk Management Strategy

- Adapt, Assess, and Mitigate Risks in Arctic -- multi-stakeholder framework.
- Field research and workshops -- data collection, resources, constraints, and vulnerabilities.
- Issue-based analysis to map challenges, opportunities and sources of resilience.
- Case studies, exercises, and game theory modeling to inform policymakers with actionable insights for decision making.

MR. LIBBY said ADAC is working in partnership with the University of Alaska, University of New Hampshire, University of Buffalo, and the University of Maryland. He highlighted field research in arctic communities that would assess community challenges and concerns, along with local dynamics. He stated that this research would ensure communities have a voice with respect to what is impactful to them and would provide actionable insights for decision making. This research began in Nome.

[2:10:00 PM](#)

CHAIR GIESSEL asked whether the challenges include port improvements, energy sources (e.g. nuclear), and the proposed Graphite One mine.

MR. LIBBY replied yes. He explained that researchers are working with communities to better understand how each community would rank those challenges. He stated that working with communities and stakeholders to put theories in place and develop situational awareness, which ADAC can then provide to different agencies. He offered to provide additional information on this project.

[2:11:29 PM](#)

MR. LIBBY advanced to slide 14:

[Original punctuation provided.]

UAA: Arctic Energy Resilience

Reliable Arctic Power & Intelligent Energy Resilience Initiative.

- Addresses applicability gaps for renewable and green energy in Arctic.

- Evaluate renewable energy sources for operation in the Arctic region.
- Assess regional and community Arctic resources and apply renewable technology solutions.
- Provides operational framework for technologies to meet objectives and metrics.

MR. LIBBY emphasized that this is a wholistic approach to energy resources for specific regions and communities.

[2:12:33 PM](#)

MR. LIBBY advanced to slide 15 and discussed the ADAC drone project:

[Original punctuation provided.]

UAA Arctic Drone Capacity Building

Drone Community of Practice to Support Homeland Security Mission.

- Develop sustainable drone community of practice in Bering Strait region.
- Community assessments using USA-made drones to supply situational awareness before, during, and after a disaster response.
- Training agencies and partners for enhanced situational awareness and response operations in Western Alaska.

MR. LIBBY stated that FEMA and U.S. Customs and Border Patrol are interested in this project, for real-time information and surveillance efforts. He surmised that this project, with its unique capability, would see a great deal of activity in the future.

[2:14:24 PM](#)

CHAIR GIESSEL added that it is especially important with China and Russia, along with the many ships that pass through the Bering Strait.

MR. LIBBY agreed.

[2:14:44 PM](#)

MR. LIBBY advanced to slide 16 and provided an overview of the ADAC-ARCTIC Fellows program:

[Original punctuation provided.]

UAA: Arctic Human Capital

Investing in Future Homeland Security Professionals:

- ADAC-ARCTIC Fellows Program Engages provides technical and professional development experiences.
- Fellowship is open to undergraduate, graduate, and advanced graduate students.
- Engages with Minority-Serving Institutions and Significant Minority Enrollment and Title III waiver institutions.

MR. LIBBY said that, upon graduation, fellows must contribute to the greater good of society and offered examples.

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SENATOR STEVENS asked how many students are currently involved in the ADAC-ARCTIC Fellows program and inquired about the future of the program.

MR. LIBBY replied that there are two different awards and a total of 23 students. The ADAC-ARCTIC Fellows program has 11 students. The UAA Applied Environmental Research Center's Scientific Leadership Award brings an additional 12.

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SENATOR STEVENS asked if ADAC expects the number of fellows to grow.

MR. LIBBY replied that he is hopeful. He surmised that the fellowship will grow and emphasized the competitive nature of the program. He indicated that funding is an issue.

[2:18:03 PM](#)

MR. LIBBY advanced to slide 17:

[Original punctuation provided.]

UAA: Integrated Arctic Education

- Develop highly skilled workforce to advance Arctic initiatives.

- Educational pathways to build the next generation of Arctic leaders, researchers, scientists and policymakers.
- Arctic-oriented internship with Arctic Field Research Mission on North Slope - align student research to student goals.
- Scholarship and development opportunities for undergraduates, graduate students, and professionals.

MR. LIBBY explained that this is a collaboration and includes the Arctic Regional Security Orientation Course (ARSOC) offered through the Ted Stevens Center for Arctic Security Studies (TSC). He said that this ensures that homeland security professionals have a pipeline to professional development opportunities through the DOD regional center. He briefly discussed the topics covered, including cyber studies. He highlighted education related to working in the arctic, particularly for those who have not done so previously. He noted integrated work with Idaho National Laboratory, which takes a wholistic view of cyber-security initiatives. He briefly described this project, which address strengths, weaknesses, and gaps associated with various cyber challenges. He said the project would create programs for DHS, state, federal, and tribal partners

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CHAIR GIESSEL commented that the State of Alaska Division of Retirement and Benefits could benefit from this.

[2:20:01 PM](#)

MR. LIBBY advanced to slide 18:

[Original punctuation provided.]

UAA: Arctic Workforce Foundations

Building Future Workforce for the Arctic

- Attract, develop, and retain a workforce that meets needs of changing Arctic.
- Develop federally recognized Registered Apprenticeship programs through collaboration with education partners.
- Create pathways for students and professionals to experience in Alaska and Arctic conditions related to Homeland Security challenges.

MR. LIBBY explained that the University of Alaska has a sponsorship through the US Department of Labor (USDOL) to develop USDOL registered apprenticeship programs. The goal is to create opportunities for professionals and students to move into homeland security enterprise positions. He said ADAC is currently working with the Alaska Maritime Education Consortium (AMEC) to identify employment gaps and develop apprenticeship programs to fill those gaps. He said one possibility is to funnel students to the Alaska Marine Highway System (AMHS), which he opined is a great opportunity. He stated that cybersecurity may be the next apprenticeship option, as this is a heavy focus. He provided a brief overview of additional initiatives, including a UAA interdisciplinary Master of Science with a focus on arctic security. This degree program, which is in collaboration with TSC, will also include a cyber-security focus option.

[2:23:14 PM](#)

MR. LIBBY advanced to slide 19 and discussed the ADAC Indigenous Elders' project. He emphasized the importance of giving Indigenous elders a voice and ensuring they feel welcome:

[Original punctuation provided.]

**UAA
Harnessing Traditional Knowledge**

Utilize knowledge and experience of Arctic Indigenous peoples

- Build connections between Elders, Knowledge Keepers, and Leaders and ADAC-ARCTIC.
- Leader-in-Residence Program strengthens stakeholder knowledge of Indigenous community-specific teachings and cultural practices.
- Engaged conversations on Indigenous traditions, languages, language revitalization, and issues impacting circumpolar health and Alaska Native communities

MR. LIBBY added that each research project has a student component. Students are involved in field work and getting real-world experience, which hopefully leads to employment upon graduation.

[2:25:32 PM](#)

SENATOR STEVENS asked if the ADAC-ARCTIC includes both high school and college students.

MR. LIBBY replied that it is limited to college students. He explained that students must be 18 or older and must have US citizenship. Admitted students must maintain a 3.3 minimum grade point average (GPA). He emphasized that the program has rigorous standards and ADAC-ARCTIC has staff to offer guidance and ensure students remain on track. Students who are from outside of the University of Alaska system also work with faculty from their home university. He noted that students must present research findings at conferences. Students also help with data analysis and literature reviews.

[2:26:27 PM](#)

SENATOR KAWASAKI thanked Mr. Libby for the presentation and opined that this is good information. He asked about potential funding issues, particularly with DHS funding.

MR. LIBBY replied that, at this time, nothing has changed and ADAC is status quo with respect to funding. He said ADAC will remain on course until it receives a directive from its funding agency.

[2:27:31 PM](#)

CHAIR GIESSEL thanked Mr. Libby for his presentation.

MR. LIBBY encouraged members to reach out to ADAC and emphasized that ADAC is available to support the committee and upcoming arctic initiatives.

[2:28:38 PM](#)

There being no further business to come before the committee, Chair Giessel adjourned the Senate Judiciary Standing Committee meeting at 2:28 p.m.