



Arctic Domain Awareness Center - Addressing Rapid Changes through Technology, Innovation and Collaboration (ADAC-ARCTIC)

A Nationwide Consortium Led by the University of Alaska Anchorage

A DHS Center of Excellence

ADAC-ARCTIC's expert researchers develop, test, and evaluate research that addresses critical gaps in Arctic homeland security, supporting interdisciplinary work that aims to tackle complex challenges such as environmental monitoring, maritime safety, infrastructure protection, and emergency response. The Center's research and education programs will engage diverse stakeholders, including indigenous peoples to address dramatic changes in the Arctic region due to increasing sea ice, coastal erosion, environmental hazards, and other challenges.

Research and Education Capabilities

- Advancing all-domain situational awareness
- Improving understanding of risks and potential impacts
- Enabling adaptation for resilience
- Expanding collaboration and cooperation across the Homeland Security Enterprise

About ADAC-ARCTIC

LAUNCH	2024
PARTNERS	More than 37 university, non-profit, private industry, and national laboratory partners
EXPERTISE	Global security, computer science, engineering, cybersecurity, economics, risk science, policy studies, supply chain management, data analytics, and operational research
DHS ALIGNMENT	U.S. Customs and Border Protection (CBP), Cybersecurity and Infrastructure Security Agency (CISA), DHS Office of Policy, Federal Emergency Management Agency (FEMA), DHS Science and Technology (S&T), U.S. Coast Guard (USCG)

Feedback from Our Partners

"As a Department of Homeland Security Center of Excellence, ADAC-ARCTIC's research activities have enhanced Coast Guard mission and capabilities and strengthened our national sovereignty in the high north."

Linda F. Fagan, Admiral, U.S. Coast Guard, 2023



University Partners

Johnson C. Smith University*
Le Moyne College
Princeton University
Prince William Sound College
Rensselaer Polytechnic Institute
Rowan University
San Diego State University*
Stanly Community College
Tuskegee University*
United States Coast Guard Academy,
Center for Arctic Study and Policy
United States Naval Academy
University at Buffalo, SUNY
University of Alaska Fairbanks
University of Alaska Southeast
University of Alaska Statewide
University of Houston
University of Maryland
University of New Hampshire
University of Southern California
University of Texas at El Paso*
Utah State University

*Minority Serving Institutions (MSI)

Enterprise Partners

Air Force Research Laboratory
Arctic Slope Regional Corporation
Federal Bureau of Ocean Energy Management
Chinik Eskimo Community
CISA Region 10
City and Port of Nome
City of Utqjaġvik
City of Valdez
Cold Regions Research and Engineering
Laboratory
Concord Consortium
Don Young Port of Alaska in Anchorage
Environmental Protection Agency
Federal Emergency Management Agency
(various)
Idaho National Laboratory
Interagency Arctic Research Policy Committee
Inupiat Community of the Arctic Slope Kawerak,
Inc.
Kaiser Research, LLC
Marine Exchange of Alaska
Model Forest Policy Program
Native Village of Unalakleet
National Oceanic and Atmospheric Administration
North Slope Borough (various)
Northwest Planning, LLC
Norwegian Polar Institute
Oak Ridge National Laboratory
Owl Research Institute
Pacific Northwest National Laboratory
Patriot Solutions International
Rasmuson Foundation
Sound & Sea Systems, LLC
State of Alaska (various)
Ted Stevens Center for Arctic Security Studies
Treadwell Development Corp
UIC Science, LLC
U.S. Arctic Research Commission
U.S. Coast Guard (various)
Voice of the Arctic Inupiat



For a complete list of partners and more information, please visit www.adacarctic.com

For more information on DHS Centers of Excellence, please visit [www.dhs.gov/science and technology/centers-excellence](http://www.dhs.gov/science-and-technology/centers-excellence)



First Year Efforts



Reliable Arctic Power & Intelligent Energy Resilience (RAPIER)

This project will identify renewable power options for remote Arctic facilities, including solar, wind, and nuclear sources. Team members will collaborate with rural communities to recommend renewable energy infrastructure and create a scaled prototype of renewable technology in the Arctic. A portfolio of diverse energy sources could power a range of dynamic energy needs in the Arctic, including during spikes in maritime traffic, natural disasters, and adverse weather.



Adapting, Assessing and Mitigating Risks to a Complex Future in the Arctic; A Multi-Stakeholder Framework

A multi-stakeholder framework securing, monitoring and managing the Arctic regions requires strong communication, partnerships and strategies. This project will create a novel framework to study optimal partnership strategies, create decision-making models, and generate case studies and decision support tools. The project will guide future planning needs and train the workforce for changing conditions, accounting for intersections between issues, opportunities to improve coordination among agencies, indigenous communities, foreign partners, and other stakeholders.



Expansion of a Drone Community of Practice in the Bering Strait Region in support of DHS Operations

To meet evolving environmental challenges, this project expands a community-based Unmanned Aerial Systems (UAS) team into a regional Drone Community of Practice (DCoP). Working with partners in Unalakleet, Shaktoolik, and Golovin, the project team will recruit, train, and establish a fully functioning DCoP with existing DHS partners and the Native Village of Unalakleet. This effort will leverage lessons learned from a prior UAS training program in Unalakleet, while adding data for long-term monitoring, and integrating more closely with DHS operations. The program will strengthen coastal community and critical infrastructure resilience, awareness of changes in landscape, and disaster response.



Investing in Future Homeland Security Enterprise (HSE) Professionals: ADAC-ARCTIC Fellows Program

Arctic-focused research offers students unique opportunities to engage with the Arctic challenges to homeland security. ADAC-ARCTIC now leads a fellowship program first created with DHS support in November 2016. The program graduated its seventh cohort in 2023. Graduating fellows will be well suited to provide vital Arctic expertise as future members of the HSE, furthering the Department's mission to hire and retain a world-class, diverse workforce.