



**IMPLEMENTATION REPORT
FOR THE
2022 NATIONAL
STRATEGY FOR THE
ARCTIC REGION**

JANUARY 2025



**THE WHITE HOUSE
WASHINGTON**



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INTRODUCTION

Overview of the 2022 National Strategy for the Arctic Region

The Biden-Harris Administration, recognizing the need to address the profound changes confronting the Arctic, initiated the development of a new statement of U.S. Arctic policy shortly after taking office. In October 2022, the United States issued its current [National Strategy for the Arctic Region](#) (NSAR 2022), revising and updating the initial National Strategy for the Arctic Region released in 2013. More than 15 federal departments and agencies contributed to the development of NSAR 2022, which also benefitted from input received from the State of Alaska; Alaska Native Tribes, organizations, and other entities; civil society; and Arctic Allies and partners.

In many respects, NSAR 2022 reflects a large degree of continuity in U.S. policy and leadership relating to the Arctic since the release of the 2013 Strategy. This continuity in policy is a testament to the enduring interests of the United States in the Arctic.

Unlike the earlier policy statements, however, NSAR 2022 needed to take account of Russia's unprovoked and unlawful full-scale invasion of Ukraine that began in February 2022, which fundamentally altered relations between Russia and Western nations, including policies in the Arctic Region. NSAR 2022 also addresses the climate crisis with greater urgency than earlier Arctic policy statements, given the rapid pace of changes underway. NSAR 2022 directs new investments in sustainable development to improve livelihoods for Arctic residents, while conserving the environment.

NSAR 2022 provides a roadmap for U.S. actions with respect to Arctic policy over the coming decade. It begins with a vision for the Arctic: The United States seeks an Arctic region that is peaceful, stable, prosperous and cooperative. That vision, also reflected in the [2022 National Security Strategy](#), remains the desired end-state, notwithstanding the challenges resulting from Russia's war in Ukraine. In pursuit of this end-state, NSAR 2022 is organized around four mutually reinforcing pillars, spanning both domestic and international issues.

- **Pillar 1 – Security:** This pillar focuses primarily on actions to deter threats to the U.S. homeland and to our Allies and reaffirms our nation's commitment to protect the American people and defend our sovereign territory.
- **Pillar 2 – Climate Change and Environmental Protection:** This pillar describes steps the U.S. government will take in partnership with Alaskan communities and the State of Alaska to build resilience to the impacts of climate change and to reduce emissions from the Arctic as part of broader global mitigation efforts.
- **Pillar 3 – Sustainable Economic Development:** This pillar includes a range of initiatives to spur development of Alaska's economy on a sustainable basis and to



improve livelihoods in Alaska, including for Alaska Native communities. The pillar also addresses efforts to work with other nations in advancing sustainable development throughout the Arctic.

- **Pillar 4 – International Cooperation and Governance:** This pillar lays out steps the United States will take to sustain institutions for Arctic cooperation, including in response to the threats to cooperation resulting from Russia’s war in Ukraine.

NSAR 2022 also includes five guiding principles to be applied across all four pillars: (1) consult, coordinate, and co-manage with Alaska Native Tribes and communities; (2) deepen relationships with Allies and partners; (3) plan for long lead-time investments; (4) cultivate cross-sectoral coalitions and innovative ideas; and (5) commit to a whole-of-government, evidence-based approach.

NSAR 2022 and its implementation, as described in this report, are also grounded in strong science. The Biden-Harris Administration has sought to integrate its efforts to advance U.S. Arctic policy with its efforts to advance scientific understanding of the Arctic, including through the mutually reinforcing work of the Arctic Executive Steering Committee (AESC) and the Interagency Arctic Research Policy Committee.

Implementing NSAR 2022

The AESC, created in 2015 pursuant to [Executive Order 13689](#), serves as the primary mechanism for coordinating and overseeing implementation of NSAR 2022. Soon after the release of NSAR 2022, the AESC launched the development of the NSAR 2022 [Implementation Plan](#) as a means to track progress in fulfilling the commitments contained in NSAR 2022.

The NSAR 2022 Implementation Plan, issued in October 2023, identifies more than 200 “next steps” to advance the four pillars of NSAR 2022. For each of these next steps, the Implementation Plan sets forth a lead federal department or agency, as well as supporting federal departments and agencies; metrics for measuring progress; and identification of potential external partners.

The Implementation Plan also states that it:

will be reviewed on an annual basis to ensure that progress continues to be made in positioning the United States to best prepare and respond to changes, challenges, and opportunities in the Arctic region. Federal departments and agencies will report on progress made against these implementation actions through an annual report, to be reviewed under the auspices of the Arctic Executive Steering Committee. This Implementation Plan will be revisited after 5 years to ensure that it still meets the intent and priorities of the Nation.

This document constitutes the first annual report mandated under the Implementation Plan.



Acronyms

ACHOD	Arctic Chiefs of Defense Staff
ALCOM	Alaskan Command, Department of Defense
ANCSA	Alaska Native Claims Settlement Act
ANTHC	Alaska Native Tribal Health Consortium
ASPR	Arctic Security Policy Roundtable
ASFR	Arctic Security Forces Roundtable
BIA	Bureau of Indian Affairs, Department of the Interior
BIL	Bipartisan Infrastructure Law
BLM	Bureau of Land Management, Department of the Interior
BOEM	Bureau of Ocean Energy Management, Department of the Interior
BRIC	Building Resilient Infrastructure and Communities
CBP	Customs and Border Protection, Department of Homeland Security
CISA	Cybersecurity and Infrastructure Security Agency
CMTS	United States Committee on the Marine Transportation System
DFC	United States International Development Finance Corporation
DHS	Department of Homeland Security
DOC	Department of Commerce
DOD	Department of Defense
DOE	Department of Energy
DOI	Department of the Interior
DOJ	Department of Justice
DOS	Department of State
DOT	Department of Transportation
EPA	Environmental Protection Agency
ESTCP	Environmental Security and Technology Certification Program
EUCOM	United States European Command, Department of Defense
EXIM	Export-Import Bank of the United States
FAA	Federal Aviation Administration
FCC	Federal Communications Commission



FEMA	Federal Emergency Management Agency
FWS	United States Fish and Wildlife Service, Department of the Interior
FY	Fiscal Year
HHS	Department of Health and Human Services
HUD	Department of Housing and Urban Development
IARPC	Interagency Arctic Research and Policy Committee
INDOPACOM	United States Indopacific Command, Department of Defense
IRA	Inflation Reduction Act
MARAD	Maritime Administration, Department of Transportation
NASA	National Aeronautics and Space Administration
NATO	North Atlantic Treaty Organization
NCA5	Fifth National Climate Assessment
NOAA	National Oceanic and Atmospheric Administration, Department of Commerce
NORTHCOM	United States Northern Command, Department of Defense
NPS	National Park Service, Department of the Interior
NRCS	Natural Resources Conservation Service, Department of Agriculture
NSF	National Science Foundation
NTIA	National Telecommunications and Information Administration, Department of Commerce
ODNI	Office of the Director of National Intelligence
PHMSA	Pipeline and Hazardous Materials Safety Administration, Department of Transportation
SPACECOM	United States Space Command, Department of Defense
SOF	Special Operations Forces
SPEC	Special Envoy for Climate
TSA	Transportation Security Administration, Department of Homeland Security
USACE	United States Army Corps of Engineers
USARC	United States Arctic Research Commission
USAID	United States Agency for International Development
USCG	United States Coast Guard, Department of Homeland Security



USDA	United States Department of Agriculture
USGS	United States Geological Survey, Department of the Interior
USSOCOM	United States Special Operations Command
USTDA	United States Trade and Development Agency
USTR	Office of the United States Trade Representative



EXECUTIVE SUMMARY

A rapidly changing climate and rising geopolitical tensions are combining to present significant challenges for the United States in the Arctic Region. In recognition of these challenges, the Biden-Harris Administration developed and issued an updated [National Strategy for the Arctic Region](#) in 2022 and produced an [Implementation Plan](#) for the Strategy in 2023. Together, these documents provide a roadmap for U.S. policy in the Arctic for the coming decade.

The United States has made good progress in implementing NSAR 2022 since its release two years ago, and particularly since the issuance of the Implementation Plan in 2023. As detailed in this report, quite a few of the “next steps” identified in the NSAR 2022 Implementation Plan have been completed or have been advanced in significant ways, and many more remain ongoing. Some highlights follow.

Pillar 1—Security: Develop Capabilities for Expanded Arctic Activity

We will deter threats to the U.S. homeland and our Allies by enhancing the capabilities required to defend our interests in the Arctic, while coordinating shared approaches with Allies and partners and mitigating risks of unintended escalation. We will exercise U.S. government presence in the Arctic region as required to protect the American people and defend our sovereign territory.

In June 2024, DOD issued its 2024 [Arctic Strategy](#) to guide its efforts to ensure that the Arctic Region remains stable and secure. A key part of this Strategy sets forth steps to improving our understanding of the Arctic operating environment, including through better domain awareness and Arctic communications.

Following Russia’s full-scale invasion of Ukraine in 2022, Finland and Sweden joined the NATO Alliance, which has enabled the United States to improve collective deterrence in the Arctic and has enhanced Allies’ ability to respond to activity in the region. The United States has strengthened our readiness through increased training with Allies and partners. The United States has also sought to reduce risks of conflict in the Arctic and to prevent unintended escalation or miscalculation and has improved the security of the U.S. Arctic homeland.

In addition to the U.S.-Norway Supplemental Defense Cooperation Agreement, signed in 2022, the United States concluded bilateral Defense Cooperation Agreements with the Kingdom of Denmark, Finland, and Sweden in December 2023. These agreements enable the presence and activities of U.S. forces in these Arctic nations, including access to specific sites in support of defense cooperation activities.

The United States, Canada, and Finland signed a Memorandum of Understanding creating the Icebreaker Collaboration Effort, or ICE Pact, in November 2024. ICE Pact is a trilateral arrangement to collaborate on the production of polar icebreakers and other capabilities. The collaboration is intended to facilitate improved information exchange and mutual workforce



development focused on building and sustaining polar icebreakers and associated polar capabilities to ultimately deliver a recapitalized icebreaking fleet to the USCG.

The USCG acquired a commercially available icebreaker, which will expand the USCG's medium icebreaking capability in the near term to provide surface presence in the polar regions. This is in addition to the necessary USCG fleet of eight-to-nine polar icebreakers required to protect national security and economic interests, project sovereignty, and meet international commitments in the polar regions.

The USCG engaged extensively with Arctic Allies and partners through its participation in the Arctic Coast Guard Forum and other bilateral and multilateral events. In addition to government-led exercises, the USCG attended an industry-led search and rescue exercise and accepted an invitation from France to observe another search and rescue exercise and ice operations aboard a French Navy ship.

The United States collaborated bilaterally with Canada through various venues, including the binational North American Aerospace Defense Command, the Arctic Security Forces Roundtable, the Arctic Coast Guard Forum, and the Canada-United States Arctic Dialogue. The Arctic Dialogue was launched as part of the Roadmap for a Renewed U.S.-Canada partnership established by President Biden and Prime Minister Trudeau in 2021. Additional collaboration with Canada included multilateral engagements such as Arctic Security Forces Roundtable (ASFR), the Arctic Chiefs of Defense (ACHOD), the Northern Defence Dialogue, and the Arctic Security Policy Roundtable (ASPR).

Pillar 2—Climate Change and Environmental Protection: Build Resilience and Advance Adaptation, While Mitigating Emissions

The U.S. government will partner with Alaskan communities and the State of Alaska to build resilience to the impacts of climate change, while working to reduce emissions from the Arctic as part of broader global mitigation efforts, to improve scientific understanding, and to conserve Arctic ecosystems.

In November 2023, the United States released its [Fifth National Climate Assessment](#) (NCA5). With respect to [Alaska](#), NCA5 reported that Alaska is warming at a rate two to three times the global average. By some measures, the Arctic as a whole is warming at four times the global average. As NCA5 details, Arctic climate change is already having profound consequences for Arctic communities and ecosystems, with impacts on lower latitudes as well.

The U.S. government provided significant assistance to Alaska Native communities that are facing confounding decisions on whether to relocate entirely, to engage in “managed retreat,” or to protect in place. Examples include:

- DOI provided \$18.4 million to Alaskan Tribes and Tribal organizations for 2022 under its Tribal Climate Resilience Annual Awards program. DOI also made available \$120



million for related purposes in FY 23 and FY 24, primarily through funding appropriated pursuant to the Bipartisan Infrastructure Law (BIL) and the Inflation Reduction Act (IRA).

- USDA funded 17 watershed and flood prevention projects in Alaska that are focused on community-driven relocation, managed retreat, or protect-in-place.
- HUD provided to the State of Alaska more than \$38 million in Community Development Block Grant–Disaster Recovery/Mitigation funding. HUD also awarded the communities of Golovin and Newtok \$900,000 each in Community Development Block Grant–Imminent Threat funding. In 2024, the community of Newtok largely completed its relocation to Mertarvik.
- In December 2024, the U.S. government released a report on [Opportunities for Federal Support of Community-Driven Relocation](#), as well as the complementary [Community-Driven Relocation: Guide for Communities to Federal Programs and Resources](#).

The United States coordinated efforts within the International Maritime Organization (IMO) on new guidelines for reducing the impact on the Arctic of black carbon emissions from international shipping and new guidelines on recommended black carbon emission data collection, monitoring, and reporting. Once finalized, these guidelines will provide the experience and data to form the basis for mandatory measures for consideration by the IMO.

In December 2021, the United States issued a new [Arctic Research Plan](#) covering the years 2022 to 2026. The plan addresses the most pressing Arctic research needs that require a collaborative approach and can advance understanding of the Arctic and climate change, inform policy and planning decisions, and promote the well-being of Arctic and global communities.

In February 2023, USARC released its [Report on the Goals and Objectives for Arctic Research 2023–2024](#), mandated by the Arctic Research and Policy Act of 1984. Goal 1 of the Report concerns research on environmental risks and hazards.

NSF funded extensive ecosystem research in the Arctic by supporting long-term observations and mechanistic studies of terrestrial and freshwater ecosystems. In addition, the NSF-funded National Ecological Observatory Network continued to produce long-term environmental observations across 81 freshwater and terrestrial field sites in the United States and its territories, including eight sites in Alaska.

NOAA continued efforts to observe and monitor marine ecosystems, expand modeling of environmental conditions, such as sea ice, and improve forecasts and assessments of climate impacts in Alaska. These efforts resulted in new and expanded hazard mitigation and monitoring tools and services for impacts such as river-ice breakup, flooding, and drought.

EPA, in cooperation with DOD and DOI, as well as state, Tribal, and other partners, made significant progress on a [long-term effort](#) to clean up legacy contamination on Alaska Native



lands conveyed pursuant to the Alaska Native Claims Settlement Act (ANCSA). As part of this effort, EPA created a [dashboard](#) of contaminated sites, which went live in September 2023. EPA also launched a new grant program and issued several Cooperative Agreements to advance cleanup of these lands.

In October 2024, the Task Force on the Northern Bering Sea Climate Resilience Area partnered with the Bering Intergovernmental Tribal Advisory Council to develop and sign a [Joint Vision Statement](#) to address the crisis resulting from historically low returns of salmon to the Norton Sound and to the Yukon and Kuskokwim Rivers.

Pillar 3—Sustainable Economic Development: Improve Livelihoods and Expand Economic Opportunity

We will pursue sustainable development and improve livelihoods in Alaska, including for Alaska Native communities, by investing in infrastructure, improving access to services, and supporting growing economic sectors. We will also work with Allies and partners to expand high-standard investment and sustainable development across the Arctic region.

As of October 2024, the U.S. government had allocated \$7.6 billion in funding made available under the BIL [for use in Alaska](#), with more than 1,863 specific projects identified for funding. Projects involved the transportation sector (e.g., funding for roads, bridges, public transit, ports, and airports), clean water and water infrastructure, and broadband expansion, among other things.

The United States made considerable progress in extending broadband services throughout Alaska, including to rural areas, through programs administered by FCC, NTIA, and USDA.

USACE, in partnership with the City of Nome, began designing modifications to the Port of Nome to provide larger vessels improved access to Nome’s existing harbor by enlarging the outer basin and creating a new deep-water basin with a depth of 40 feet. Congress appropriated an initial \$250 million for this project.

In 2023 and 2024, USGS’s Earth Mapping Resources Initiative provided more than \$11 million in funding to the Alaska Division of Geological and Geophysical Surveys to support airborne geophysical data collection and geologic mapping focused in regions with prospects for hosting critical mineral resources. USGS also produced the first merged grid of modern, high-quality airborne magnetic data across the Yukon-Tanana upland that is aiding mapping and modeling the bedrock geology and associated mineral resources in a priority region of the State.

In 2024, DOE funded grid modernization efforts in Alaska at five project sites and, with the Denali Commission, established the Arctic Ambassador program to fund local representatives to raise awareness of DOE programs and community energy needs.



HUD and the Denali Commission worked with the Kuskokwim Corporation and the State of Alaska on a \$13 million project for innovating housing aimed at ensuring that more energy efficient and climate resilient building standards are deployed in the Arctic.

Under the [Minerals Security Partnership](#), the United States is leading a Working Group to assess a graphite project in Greenland. In April 2023, DOS and DOI convened a meeting in Iqaluit, Nunavut among officials and Indigenous representatives from Greenland, Alaska, and Canada to share knowledge and challenges in securing the quality investment needed to explore and develop critical mineral resource potential in the North American Arctic.

Pillar 4—International Cooperation and Governance: Sustain Arctic Institutions and Uphold International Law

Despite the challenges to Arctic cooperation resulting from Russia’s aggression in Ukraine, the United States will work to sustain institutions for Arctic cooperation, including the Arctic Council, and position these institutions to manage the impacts of increasing activity in the region. We also seek to uphold international law, rules, norms, and standards in the Arctic.

In 2022, President Biden nominated the United States’ first Ambassador-at-Large for Arctic Affairs, who was sworn in on October 1, 2024. DOS also enhanced U.S. diplomatic presence in the Arctic by opening an American Presence Post in Tromsø, Norway, in 2023.

The United States actively supported the Norwegian Chairship of the Arctic Council. In support of the Council’s efforts, DOS also completed interagency agreements and transmitted funds to three federal agencies to help fund Arctic Council working group activities.

The United States played a leadership role in implementation of the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean. The parties to this agreement adopted Rules of Procedure for the Scientific Coordinating Group and established a Joint Program of Scientific Research and Monitoring, including a data-sharing protocol. The parties also adopted an interim measure for exploratory fishing.

In December 2023, DOS published the geographic coordinates of the outer limits of the United States Extended Continental Shelf, which includes portions of the Arctic Ocean and the Bering Sea. DOS also issued a [media note](#) and a [fact sheet](#) with additional information about this historic announcement. The announcement followed two decades of the largest-ever offshore mapping effort by NOAA and USGS to collect data on the seabed and subsoil in many areas off the coasts of the United States, including in the Arctic.



Pillar 1—Security: Develop Capabilities for Expanded Arctic Activity

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Russia’s unprovoked and unlawful full-scale invasion of Ukraine in 2022 significantly altered the geopolitical landscape of the Arctic. By waging war on a neighboring country in blatant violation of international norms, Russia largely separated itself from the community of Arctic nations and rendered cooperation with Russia on most topics in the Arctic difficult if not impossible. NSAR 2022 sought to balance the imperative to respond effectively to Russia’s full-scale invasion of Ukraine with the overarching vision of an Arctic that is “peaceful, stable, prosperous, and cooperative.” The material below provides examples of efforts to enhance our nation’s security in the Arctic, as broadly defined in Pillar 1 of NSAR 2022, in light of this overarching vision.

Strategic Objective 1.1: Improve Our Understanding of the Arctic Operating Environment

In June 2024, DOD issued a new [Arctic Strategy](#) to guide its efforts to ensure that the Arctic Region remains stable and secure. A key part of that Strategy sets forth steps to improve our understanding of the Arctic operating environment, including through better domain awareness and improving Arctic communications.

EUCOM worked closely with Arctic Allies in a variety of venues to advance interoperability, information sharing, modernization, defense planning, and access, basing, and overflight. Examples include bilateral staff talks between EUCOM and the Nordic nations’ joint force headquarters, the Joint Committee with the Iceland Ministry of Foreign Affairs, and the Trilateral Coordination Cell with Finnish and Swedish Defense Forces’ staffs. More broadly, DOD participated in multilateral forums such as the ACHODS, ASFR, ASPR, and as guests during meetings of the Nordic Air Chiefs.

The Department of the Navy supported applied research to develop, mature, and test new technologies and capabilities for future Arctic naval operations, including the development of autonomous systems capable of operating in the Arctic environment. Projects included development of under-ice geolocation capabilities, improved sensing and assimilation into Arctic prediction systems, and improvement in understanding of the impact of the Arctic environment on operational systems through annual field tests and experimentation in the Arctic with international partners.



The U.S. Space Command (USSPACECOM) identified requirements for real-time sensing to provide domain awareness over the Arctic, allowing for decision-making in the space domain. USSPACECOM conducted annual security cooperation events to strengthen and expand international partnerships by enabling experimentation supporting space domain awareness, space situational awareness, spaceflight safety, and data integration to improve interoperability and readiness with U.S. joint and Allied forces. The 2024 event included, for the first time, Canada, the Kingdom of Denmark, Finland, Norway, and Sweden as full participants. The U.S. Space Force signed a Memorandum of Agreement with the Government of Norway to host a U.S. payload on a Norwegian satellite.

In response to the 2024 DOD Arctic Strategy, U.S. Special Operations Command began developing a Special Operations Forces (SOF) Concept for Arctic Special Operations (SC-ASO). The SC-ASO is a foundational SOF concept that describes the Arctic operating environment, assesses the military challenges presented by adversary presence and activities therein, and posits ends, ways, and means to pursue our interests and counter those of our adversaries through SOF.

In February 2024, DOD convened a workshop to identify Arctic communications capability gaps and prioritize potential solutions for future investment. The qualitative data gathered at this workshop informed ongoing budget and investment processes.

DOD participated actively in the [International Cooperative Engagement Program for Polar Research](#), a seven-nation initiative for advancing polar capabilities.

The Department of the Air Force completed a study on current versus required capabilities in the Arctic Region and created an Arctic communications roadmap.

The Department of the Air Force also conducted a study highlighting satellite communication, high-frequency, terrestrial-based fiber networks, 5G technology, expeditionary communications, tactical datalinks, and opportunities to implement new and emerging technologies to improve Arctic communications.

DOD launched the [Ted Stevens Center for Arctic Security Studies](#) in 2021. Since its creation, the Center has provided a wide range of educational and training opportunities for U.S. and international personnel, and convened the first [Anchorage Security and Defense Conference](#) in November 2024.

In FY 23, NOAA installed two new U.S. Climate Network stations in the Innoko and Koyukuk National Wildlife Refuges.

NOAA worked with USGS to develop flood modeling products accounting for sea level rise and changing storm climatology. NOAA also made additional drought-related resources available on [drought.gov](#). Antecedent precipitation information is now available for Alaska.

In October to November 2024, NOAA's Office of Coast Survey, the University of New Hampshire, the NSF, and the USCG conducted a coordinated mapping mission along Alaska's



north slope aboard the USCG Cutter *Healy*. The mission not only made an exciting discovery of a volcano-like feature rising 500 meters from the seabed, but also advanced the 2020 National Strategy on Ocean Mapping by acquiring depth data in uncharted waters, providing training for junior scientists, and supporting Seascope Alaska, a regional mapping campaign.

In FY 23, the NOAA Arctic Testbed and Proving Ground held a kickoff workshop for a freezing spray project in collaboration with the Alaska Ocean Observing System and other partners. In FY 24, Skippers Science and the Alaska Marine Exchange deployed an app to collect freezing spray observations and, in Spring 2024, several dozen observations were collected and reported through the app.

CBP partnered with DOD and the Government of Canada toward the placement of satellite and over-the-air communications equipment along the U.S.-Canada border.

The U.S. government engaged in numerous ways with Alaska Native communities and organizations in connection with many of the activities described above. For example, ALCOM maintained a Native Affairs Liaison position that coordinated with Alaska Native communities in connection with military exercises. DOD representatives also travelled to Alaska to meet with multiple Alaska Native and Tribal organizations to discuss its 2024 Arctic Strategy and DOD's approach to Alaska more generally.

Similarly, the USCG maintained robust engagement with Alaska Native Tribes and communities. For example, the USCG worked with the Alaska Eskimo Whaling Commission to coordinate foreign research vessel operations during whaling season. The USCG Academy collaborated with the Aleut Community of Saint Paul Island on a proposal for "Sustainable Development of the Arctic." The USCG also supported the DHS [Arctic Domain Awareness Center](#), which engages Alaska Natives in its research and incorporates Indigenous Knowledge.

NASA has developed a near-real-time sea ice thickness product from ICESat-2 data, which is now available via the National Snow and Ice Data Center. The generation of this product is an outcome of the interagency Satellite Needs Working Group and will allow sea ice forecast models to incorporate sea ice thickness data in their predictions.

NASA conducted an airborne campaign (Arctic Radiation-Cloud-Aerosol-Surface Interaction Experiment–ARCSIX), which collected measurements in May and August 2024 to better understand the cloud-sea ice feedbacks and how clouds and aerosols affect the sea ice evolution during the summer months. These campaigns consisted of multiple aircraft flying simultaneously above and below the clouds and commenced out of Pituffik Space Base in Greenland.

Strategic Objective 1.2: Exercise Presence to Support Priority Goals

The USCG participated annually in Operation Nanook exercises, as well as in Arctic Coast Guard Forum exercises that involved multiple Arctic Allies.



USNORTHCOM led multiple ARCTIC EDGE exercises to test and improve military capabilities in extreme cold weather.

EUCOM delivered critical support to exercise NORDIC RESPONSE 2024 in northern Norway, Finland, and Sweden, which was part of STEADFAST DEFENDER 2024, one of NATO's largest exercises in decades. NORDIC RESPONSE occurred above the Arctic Circle and involved 13 Allied nations, more than 110 aircraft, 20,000 soldiers, sailors, airmen, and marines, and more than 50 ships, submarines, and aircraft carriers.

In conjunction with EUCOM, NORTHCOM, and INDOPACOM, SOF participated in multiple Arctic-focused exercises with Allies and partners, including ARCTIC EDGE (March 2024), NORDIC RESPONSE (April 2024), POLAR DAGGER (FY 22 to FY 25, Q3/Q4), and the upcoming exercise NORTHERN EDGE (August 2025). In addition, SOF have integrated into exercises led by our Nordic Allies and partners, such as ADAMANT SERPENT (Sweden), COLD RESPONSE (Norway), and NORTHERN GRIFFIN (Finland). In totality, these exercises ensure SOF continues to refine tactics specific to the Arctic operating environment, identify equipment and policy challenges (e.g., intelligence sharing, communications, and targeting), and pursue capability development to address operating and environmental conditions.

The Department of the Air Force completed a study on airlift and refueling requirements in the Arctic, regularly responded to airspace incursions, and conducted search and rescue operations, ensuring sovereignty and safety in the Arctic.

The National Guard conducted and participated in numerous training events and exercises focused on cold-weather and Arctic operations. These included the Alaska National Guard (AKNG) ARCTIC EAGLE-PATRIOT Exercise, AKNG VIGILANT GUARD Exercise, Air National Guard participation in the ARCTIC CHALLENGE Exercise in the European Arctic, and Vermont National Guard participation in the Canadian-run annual exercise GUERRIER NORDIQUE.

The USCG Intelligence Coordination Center produced multiple intelligence assessments on Arctic shipping, maritime safety, Arctic security, and foreign threats to Alaska, working closely with other DHS components and foreign partners.

Strategic Objective 1.3: Maximize Unity of Effort with Allies and Partners

Following Russia's full-scale invasion of Ukraine in 2022, Finland and Sweden became NATO members, which has allowed the United States to improve collective deterrence in the Arctic and has enhanced our ability to respond to contingencies in the region. The United States has strengthened our readiness through increased training with Allies and partners, examples of which are highlighted below. The United States has also sought to reduce risks of conflict in the Arctic and to prevent unintended escalation or miscalculation and has improved the security of the U.S. Arctic homeland.



The National Guard Bureau, in coordination with the Minnesota National Guard, concluded a State Partnership Program (SPP) Agreement with Norway and, in 2024, the National Guard Bureau, in coordination with the Virginia National Guard and the New York National Guard, concluded SPP Agreements with Finland and Sweden, respectively.

In addition to the U.S.-Norway Supplemental Defense Cooperation Agreement, signed in 2022, the United States concluded bilateral Defense Cooperation Agreements with the Kingdom of Denmark, Finland, and Sweden in December 2023. These agreements enable the presence and activities of U.S. forces in these Arctic nations, including access to specific sites in support of defense cooperation activities.

USSOCOM, Norwegian Special Operations Command, and the Norwegian Defense Research Establishment will co-sponsor Technical Experimentation 25-1 in Norway in January 2025. The intent is to highlight technology developed for high-latitude regions, cold weather operations, long periods of darkness, and cross-over conditions affecting SOF in Arctic environments. This event will be open to Five Eyes partners, the Kingdom of Denmark, Finland, Norway, and Sweden.

The United States collaborated bilaterally with Canada through various venues, including the NORAD bi-national command, the Arctic Security Forces Roundtable, the Arctic Coast Guard Forum, and the Canada-United States Arctic Dialogue. The Arctic Dialogue was launched as part of the Roadmap for a Renewed U.S.-Canada partnership established by President Biden and Prime Minister Trudeau in 2021. The first iteration occurred in December 2021, and the most recent session occurred in February 2024, where discussion centered on NORAD modernization, Arctic strategy, Arctic defense and security, the environment, and sustainable development. In June 2024, the Under Secretary of Defense for Research and Engineering welcomed Canada's Assistant Deputy Minister for Defence Research and Development for the second annual Defense Science and Technology Executives Working Group (DSTX) meeting, which featured a bilateral strategic dialogue on defense science and technology efforts, including Arctic security.

Additionally, the United States collaborated with Canada as part of multilateral forums, including the ACHOD, the Northern Defence Dialogue, and the ASPR. DOD created the ASPR to bring together policy leaders from Arctic Allies to deepen cooperation and collaboration on a broad range of security and defense issues. The ASPR complements the already existing ASFR, which focuses on military-to-military engagement. In March 2024, EUCOM and NORTHCOM, the U.S. leads for ASFR, participated in a session in Kiruna, Sweden. The event included an Arctic-focused tabletop exercise involving response to Russian aggression. The ASFR also adopted a charter titled the "Holistic Approach" and a Terms of Reference in October 2024.

EUCOM led a robust joint exercise program with Allies and partners, including several exercises that occurred in the Arctic, such as ARCTIC CHALLENGE 2023. Other examples of such exercises that took place in 2024, include BALTOPS that focused on Baltic Sea maritime security operations, and EXERCISE NORTHERN VIKING that focused on the defense of the GIUK Gap.



The United States, Canada, and Finland signed a Memorandum of Understanding creating the Icebreaker Collaboration Effort, or ICE Pact, in November 2024. ICE Pact is a trilateral arrangement to collaborate on the production of polar icebreakers and other capabilities. The collaboration is intended to facilitate improved information exchange and mutual workforce-development focused on building and sustaining polar icebreakers and associated polar capabilities to ultimately deliver a recapitalized icebreaking fleet to the USCG.

The USCG awarded a contract to acquire a commercially available icebreaker, which will expand the USCG’s medium icebreaking capability in the near term to provide surface presence in the polar regions. This is in addition to the necessary USCG fleet of eight-to-nine polar icebreakers required to protect national security and economic interests, project sovereignty, and meet international commitments in the polar regions.

The USCG engaged extensively with Arctic Allies and partners through its participation in the Arctic Coast Guard Forum and other bilateral and multilateral events. In addition to government-led exercises, the USCG attended an industry-led search and rescue exercise and accepted an invitation from France to observe another search and rescue exercise and ice operations aboard a French Navy ship.

Pillar 2—Climate Change and Environmental Protection: Build Resilience and Advance Adaptation, While Mitigating Emissions

The U.S. government will partner with Alaskan communities and the State of Alaska to build resilience to the impacts of climate change, while working to reduce emissions from the Arctic as part of broader global mitigation efforts, to improve scientific understanding, and to conserve Arctic ecosystems.

In November 2023, the United States released its [Fifth National Climate Assessment](#) (NCA5). With respect to [Alaska](#), NCA5 reported that Alaska is warming at a rate two to three times the global average. By some measures, the Arctic as a whole is warming at four times the global average. Arctic climate change is already having profound consequences for Arctic communities and ecosystems and impacts in lower latitudes as well. In implementation of Pillar 2 of NSAR 2022, the United States responded to the climate crisis in the Arctic—and to other environmental challenges—in a wide variety of ways, as examples below indicate.



Strategic Objective 2.1: Advance Community Adaptation and Climate Resilience

As noted above, one of the cross-cutting principles underlying NSAR 2022 is to “consult, coordinate, and co-manage with Alaska Native Tribes and communities.” In furtherance of that principle, the White House issued [guidance](#) to federal departments and agencies in 2022 to assist them in considering, including, and applying Indigenous Knowledge in federal research, policies, and decision-making.

A number of climate-related phenomena—including coastal erosion, permafrost thaw, and flooding—are combining to threaten many Alaskan communities. Communities are facing confounding decisions on whether to relocate entirely, to engage in “managed retreat,” or to protect in place. Federal assistance to such communities (in Alaska and elsewhere in the United States) has been overseen by the Subcommittee on Community-Driven Relocation of the National Climate Task Force, co-led by FEMA and DOI. Below are examples of federal efforts to address these serious problems.

DOI provided \$18.4 million to Alaskan Tribes and Tribal organizations for 2022 under its Tribal Climate Resilience Annual Awards program. DOI also made available \$120 million for related purposes in FY 23 and FY 24, primarily through funding appropriated pursuant to the BIL and the IRA. This funding supported project development and advancement in multiple Alaska communities, including: helping Newtok to relocate, Chignik Bay’s new bridge and landfill, Nunapitchuk safety infrastructure, Cheforak electrical distribution, Fort Yukon road improvements, Chilkat erosion mitigation, and Napakiak retreat management. Each of these projects enabled Indigenous communities to enhance their efforts in mitigating and adapting to environmental changes.

EPA provided [\\$250 million to State and Tribal entities in Alaska](#) to support transportation, renewable and resilient power infrastructure, contaminated sites remediation, and community health during FY 22 to FY 24, primarily through funding appropriated under the BIL and IRA.

USDA funded 17 watershed and flood prevention projects in Alaska focused on community-driven relocation, managed retreat, or protect-in-place. USDA also completed two emergency watershed projects in Alaska and funded five other such projects.

HUD provided to the State of Alaska more than \$38 million in Community Development Block Grant–Disaster Recovery/Mitigation funding. HUD also awarded the communities of Golovin and Newtok \$900,000 each in Community Development Block Grant–Imminent Threat funding. In 2024, the community of Newtok largely completed its relocation to Mertarvik.

In December 2024, the U.S. government released a report on [Opportunities for Federal Support of Community-Driven Relocation](#), as well as the complementary [Community-Driven Relocation: Guide for Communities to Federal Programs and Resources](#).



In November 2024, NOAA announced plans to support seven multi-year projects supporting climate resilience in remote Alaskan communities through the Alaska Fisheries Science Center Indigenous Engagement Program.

In November 2023, FEMA provided information on funding opportunities related to its Building Resilient Infrastructure and Communities (BRIC) and its Hazard Mitigation Grant Program at the annual Bureau of Indian Affairs Tribal Providers Conference. FEMA also conducted several technical assistance visits to Alaska to help develop mitigation project proposals.

In 2023, FEMA also supported five Alaska Native Villages with direct technical assistance via the BRIC program. This assistance helped communities in the development of resiliency goals and in creating and submitting sub-applications for the BRIC program to achieve these goals through grants. In 2023, FEMA reviewed 24 Alaskan local and Tribal mitigation plans and developed and delivered a Tribal-specific hazard mitigation plan training in partnership with the Alaska Native Tribal Health Consortium.

FEMA obligated approximately \$1.5 million to restore infrastructure damaged as a result of declared disaster incidents in the Alaskan Arctic.

The USCG, through Operation Arctic Shield, deployed to remote communities in Western Alaska and along the North Slope of Alaska to provide services and build resilience in communities by conducting commercial fishing vessel exams, uninspected passenger vessel exams, vessel inspections, casualty investigations, bulk oil facility inspections, port state control exams, boating safety training, and oil spill geographic response strategy validations. In 2023, the USCG completed 518 commercial fishing vessel exams and inspected 219 bulk oil facilities in 91 remote communities. These efforts promoted resilience in these communities and facilitated safe maritime commerce.

The Alaska Native Tribal Health Consortium (ANTHC) released a report on the [Unmet Needs of Alaska Environmentally Threatened Native Villages](#). The report outlined the environmental challenges faced by several communities in Alaska and quantified the funding gap that each community, as well as the entire State of Alaska, is experiencing. Addressing the recommendations, ANTHC led a Tribal Climate Initiatives Gathering that brought together over 100 participants from 10 regions across Alaska, along with federal and state representatives, to discuss building a whole-of-government implementation framework to support Alaska Native communities facing environmental threats such as erosion, flooding, and permafrost degradation.

DOD's Environmental Security and Technology Certification Program (ESTCP) initiated the Alaska Innovation Landscape Network in June 2023 to accelerate technology transfer of innovative climate adaptation tools and technologies between research, installation management communities, and partners. This network brings together federal agencies and partners to scale technologies and integrate related Arctic research projects.

The Department of the Air Force partnered with Defense Logistics Agency Energy Office in the development of a micro-reactor to deliver electricity and steam to Eielson Air Force Base in



exchange for long-term purchase of energy generated by the micro-reactor. The timeline for completion of this pilot project is 2027, although a bid protest has temporarily paused procurement.

Strategic Objective 2.2: Pursue International Initiatives to Mitigate Emissions in the Arctic

Greenhouse gas emissions from human activities outside the Arctic are the predominant cause of rapid environmental and climatic change inside the Arctic, which in turn is driving emissions from thawing permafrost and wildland fire and increasing the risks of potentially devastating effects outside the region. The Office of the Special Presidential Envoy for Climate worked to raise global ambition to reduce emissions in line with the temperature goal of the Paris Agreement. This work includes negotiations under the Paris Agreement itself (e.g., at the 29th UN Climate Change Conference in Baku, Azerbaijan), through formal initiatives (e.g., at the IMO and the International Energy Agency), and through less formal initiatives (e.g., the Global Methane Pledge and the Green Shipping Challenge).

In May 2024, DOS and EPA led the development of our Biennial National Report to the Arctic Council Expert Group on Black Carbon and Methane (EGBCM), which included the latest information on U.S. black carbon and methane emissions, examples of successful implementation of policies, and recommendations for where further action is needed. The U.S. delegation to the EGBCM is now working with other Arctic Council members on a summary report covering the national reports from each member; both the summary report and the national reports will be released in 2025. Based on these reports, experts from DOS and EPA participated in a technical group under the EGBCM, to assess progress to the collective, aspirational black carbon reduction goal of reducing emissions by 25 to 33 percent below 2013 levels by 2025. Based on the EGBCM reports and the assessment of progress towards the black carbon emissions goal, the EGBCM is preparing a recommendation for Senior Arctic Officials on a new black carbon goal.

In the Canada-U.S. Arctic Dialogue of February 2024, both sides supported collaborative efforts to better understand permafrost emissions dynamics and projections. In June 2024, the U.S. Arctic Research Commission and Polar Knowledge Canada agreed on a number of priority research areas, including advancing scientific understanding of emissions from permafrost thaw and related feedbacks.

Following the design of an Arctic Council project co-led by the United States, the Arctic Council Arctic Contaminants Action Program launched a community-based pilot project to monitor black carbon in the remote Canadian Arctic. EPA participated in this project, which will identify local sources of pollution, assess possible public health impacts, and develop options for preventing and mitigating emissions to protect public health.

EPA also worked with other like-minded Arctic Council members and permanent participants to develop a wildland fire project to reduce the public health impacts of wildland fire smoke on remote Indigenous communities in the Arctic.



A number of agencies worked with the Arctic Council Working Group on the Protection of the Arctic Marine Environment on an Arctic Shipping Status Report that will compare black carbon emissions from shipping in the Arctic from 2013 to 2022.

The United States coordinated efforts within the IMO on new guidelines for reducing the impact on the Arctic of black carbon emissions from international shipping and new guidelines on recommended black carbon emission data collection, monitoring, and reporting. Once finalized, these guidelines will provide the experience and data to form the basis for mandatory measures for consideration by the IMO.

The United States supported proposals by Canada and Norway for the IMO to designate Canadian Arctic waters and the Norwegian Sea as emission control areas for nitrogen oxides, sulfur oxides, and particulate matter. The IMO finalized action on the proposals in October 2024, with the emission control measures to take effect on March 1, 2026. The United States is evaluating the steps necessary to consider whether to propose that the IMO establish a similar emission control area for U.S. Arctic waters.

Strategic Objective 2.3: Expand Research to Better Understand Climate Change and Inform Policy Decisions

In December 2021, the United States issued a new [Arctic Research Plan](#) covering the years 2022 to 2026. The plan addresses the most pressing Arctic research needs that require a collaborative approach and can advance understanding of the Arctic and climate change, inform policy and planning decisions, and promote the well-being of Arctic and global communities.

In February 2023, USARC released its [Report on the Goals and Objectives for Arctic Research 2023–2024](#), mandated by the Arctic Research and Policy Act of 1984. Goal 1 of the Report concerns research on environmental risks and hazards.

In June 2024, USARC and other U.S. government officials met Canadian counterparts in Cambridge Bay, Nunavut, to advance topics of mutual interest with the goal of further aligning key bilateral priorities and future collaboration opportunities, including on climate-related research and on how to fully involve Northern and Indigenous Peoples in the direction and conduct of Arctic research. A [Joint Statement](#) was issued in connection with this meeting.

NSF funded extensive ecosystem research in the Arctic by supporting long-term observations and mechanistic studies of terrestrial and freshwater ecosystems. In addition, the NSF-funded National Ecological Observatory Network continued to produce long-term environmental observations across 81 freshwater and terrestrial field sites in the United States and its territories, including eight sites in Alaska.

In 2023 and 2024, NSF supported joint research aboard the Canadian vessel Louis S. St-Laurent as part of the U.S.-Canada Joint Ocean Ice Study/Beaufort Gyre Exploration Project. NSF supported the Nansen and Amundsen Basin Observing System project's recovery and



redeployment of moorings along the East Siberian Margin in 2023 as part of a cooperative mission on USCG Cutter *Healy*. NSF funded five U.S. participants onboard the Swedish icebreaker *Oden* in 2023 as part of the ARTofMELT expedition to the Arctic Ocean north of the Fram Strait. NSF supported U.S. participation in a Distributed Biological Observatory cruise in 2023 on the CCGS *Sir Wilfred Laurier* in 2023. NSF also supported research expeditions focused on monitoring changing oceanographic conditions and ecosystem functioning in the Bering Strait and in the Chukchi and Beaufort Seas in 2023 and 2024.

NSF advanced a project to recapitalize Summit Station Greenland, with a target completion date of approximately 2032, pending the availability of appropriated funding. Summit Station remains the only high altitude, high latitude, inland, year-round observing station in the Arctic.

DOD's Strategic Environmental Research and Development Program and ESTCP increased investment in Arctic research by 18 percent from \$28 million to \$33 million from June 2023 to August 2024. The Arctic research portfolio covers engineering solutions, ecosystem transformation, and built infrastructure.

The USCG made the USCG Cutter *Healy* available to the science community for Arctic research. The USCG has implemented a new process to help capture and streamline all Arctic research requests on USCG platforms, including USCG Cutter *Healy*.

In 2022, the USCG Research and Development Center completed a project that provided the first scientific examination of the impacts of ice forming on large commercial crab pots. The experiments captured valuable information to challenge the current standards for ice accumulation that exist for commercial crabbing vessels.

USGS partnered with the Indigenous Observation Network to monitor streamflow and water quality in the Yukon River Basin. USGS also conducted the Arctic River Project, which has deployed stream temperature and conductivity sensors in 11 communities during each ice-free season since 2021, with the assistance of the Yukon River Inter-Tribal Watershed Council and Tribal staff.

In 2022, USGS released a fact sheet on the [Benchmark Glacier Project](#), which studies the process and impacts of glacier change, including sea level rise, water resources, environmental hazards and ecosystem links.

USGS researchers continued to work in coastal communities of Alaska to improve both near-term and long-term flood hazard forecasting. Field work continued on the installation of flood staffs and CoastCams, the collection of nearshore bathymetry, and the engagement of community members in at least six communities.

DOI and USDA collaborated to acquire updated 30cm resolution satellite imagery statewide for Alaska. DOI partnered with local government and USDA to contract lidar acquisition in FY 24 for 4,373 square miles of critical habitat on the Kenai Peninsula and Copper River basin and began quality assurance on lidar contracted in FY 23. DOI contracted hydrography mapping



updates for 14 percent of the State of Alaska in FY 24; mapping for 62 percent of the State of Alaska is now available or in progress.

In 2023, NOAA evaluated the effectiveness of its River Watch messages to understand which communication channels worked best for meeting stakeholder needs at the State and community levels. NOAA completed the first phase of a project on river-ice breakup and presented its summary findings to the Alaska-Pacific River Forecast Center in 2024.

NOAA held an Alaska NextGen Satellite Workshop in September 2024, highlighting Alaska-specific needs from the satellite science community, including satellite data in hazards such as weather and flooding, and for marine, aviation, and climate applications.

NOAA conducted several marine mammal field research programs in summer 2024, including on ice-associated seals in the northern Bering Sea, on Steller sea lions and northern fur seals in the Aleutian Islands and Pribilof Islands, on endangered whales in the Bering and Chukchi Seas, and on beluga whales in the eastern Bering Sea. NOAA also engaged its Alaska Native co-management partners with respect to the Alaska Beluga Whale Committee, Alaska Eskimo Whaling Commission, Ice Seal Committee, and Indigenous Peoples Council for Marine Mammals.

NOAA continued to identify, quantify, analyze, and disseminate indices of ecosystem function in Alaska. It developed Ecosystem Status Reports and Ecosystem Socio-economic Profiles for the Gulf of Alaska, Aleutian Islands, and Bering Sea.

NOAA improved its capacity for monitoring harmful algal blooms. It provided training for regional toxin detection laboratories, expanded Tribal monitoring to include diarrhetic shellfish poisoning, and supported the [Alaska HAB Network](#).

NOAA implemented an operational automated archival process for Ice Tethered Profilers from the Woods Hole Oceanographic Institution. The Ice Tethered Profilers data are critical for understanding Arctic upper ocean variability. NOAA is integrating the data in an interoperable format in NOAA's [World Ocean Database](#), the world's largest quality-controlled ocean profile database.

DOI continued to improve National Wetlands Inventory data across Alaska to enhance understanding of Arctic wetlands and inform infrastructure planning, overland navigation, and compliance with regulatory requirements. Wetlands mapping coverage of Alaska that is funded and contracted by DOI is nearing 100 percent availability.

DOI cooperated with the Alaska Department of Fish and Game on annual musk ox population surveys and in the administration of annual subsistence hunts. DOI supported the monitoring of caribou and fish health in the National Petroleum Reserve in Alaska and partnered with the Alaska Department of Fish and Game in support of fish monitoring weirs in multiple locations throughout Alaska.



In 2024, FEMA released a floodplain study for the Fairbanks North Star Borough.

NASA launched two new missions in 2024 relevant to Arctic research. The Polar Radiant Energy in the Far-InfraRed Experiment consists of two CubeSats launched separately in May and June 2024. This mission will improve understanding of the radiation balance at both poles to understand how the varying characteristics of the ice, ocean, and land surfaces affect the radiation balance and also understand the general amplification in polar warming. The Plankton, Aerosol, Cloud, and Ocean Ecosystem mission, launched in February 2024, observes plankton species variation and distribution to deepen our understanding of ocean ecology; it also helps identify harmful algal blooms that can adversely affect fisheries and coastal communities.

Strategic Objective 2.4: Conserve and Protect Arctic Ecosystems, including through Indigenous Co-Production and Co-Management

In October 2024, the Task Force on the Northern Bering Sea Climate Resilience Area, co-chaired by DOI, NOAA, and the USCG, partnered with the Bering Intergovernmental Tribal Advisory Council to develop and sign a [Joint Vision Statement](#) to address the crisis resulting from historically low returns of salmon to the Norton Sound and to the Yukon and Kuskokwim Rivers.

In October 2024, DOI signed three landmark agreements with Alaska Native Tribes and Corporations to advance co-stewardship on public lands and waters. Two of these agreements will advance efforts to safeguard salmon within the Yukon, Kuskokwim, and Norton Sound regions through DOI's Gravel to Gravel Initiative. The third agreement will improve management of easements that provide access to public lands and waters across privately owned Ahtna lands.

The Office of Naval Research and NASA are administering the third iteration of the [Arctic Marine Biodiversity Observation Network](#) (AMBON), which was established in 2015 with funding from the National Ocean Partnership Program, including contributions from NOAA, BOEM, NSF and the Shell Exploration and Production Company. AMBON is part of the U.S. Marine Biodiversity Observing Network, which aims to develop a sustainable model of continuous biodiversity observation including all levels of diversity from genetic to organismal to ecosystem.

EPA, in cooperation with DOD and DOI, as well as State, Tribal, and other partners, made significant progress on a [long-term effort](#) to clean up contaminated sites on Alaska Native lands conveyed pursuant to ANCSA. As part of this effort, EPA created an [inventory-dashboard](#) of all the known contaminated ANCSA lands and published an online [storymap](#) of the efforts to accelerate the cleanup, which went live in September 2023.

EPA issued two Notice of Funding Opportunities under this new program since May 2023, and awarded five cooperative agreements since September 2023 to the following: the Yukon River Inter-Tribal Watershed Council, the Aleut Corporation, the Ounalashka Corporation, the Tyonek Native Corporation, and the Ukpeagvik Iñupiat Corporation. Additional congressionally directed



awards were made to the Alaska Native Tribal Health Consortium, the Alaska Native Village Corporation Association, and the Alaska Department of Environmental Conservation for support in verification of sites, outreach, and coordination.

USDA elevated trails, maintained site drainage in and around Alaskan villages, and minimized snow drift formation from houses and structures to help allow native vegetation to reestablish, minimize permafrost thaw during the summer months, and maximize refreeze during the winter months.

USDA conducted more than a dozen outreach activities seeking to expand use of the [Regional Conservation Partnership Program](#) in Alaska. There are currently four active Regional Conservation Partnership Program projects in Alaska.

[The Backyard Buoys](#) program expanded efforts to improve monitoring in waters off Alaska. In 2023 and 2024, the Alaska Eskimo Whaling Commission deployed 38 buoys in the Arctic so that hunters and other boaters can effectively use the data to inform safe navigation on the water.

NOAA and the USCG participated actively in the Arctic Council Working Group on Emergency Preparedness Prevention and Response to advance collective action in addressing oil spills in the Arctic.

In March 2023, FEMA published an after-action report for the Typhoon Merbok disaster declaration, incorporating federal, state, and Tribal perspectives into its analysis. FEMA completed work on all but one of the recommended corrective actions. FEMA continued to work with affected Tribes to address the need for Indigenous language translations and interpretation in the delivery of recovery programs.

The USCG continued to uphold the requirements under the [National Oil and Hazardous Substances Pollution Contingency Plan](#) in the Alaska region. It continued to support and strengthen the Arctic and Western Alaska Area committee, as well as the Alaska Regional Response Team. The USCG also continuously supported oil spill research and development initiatives as the executive director of the Interagency Coordinating Committee on Oil Pollution Research.

Pillar 3—Sustainable Economic Development: Improve Livelihoods and Expand Economic Opportunity

We will pursue sustainable development and improve livelihoods in Alaska, including for Alaska Native communities, by investing in infrastructure, improving access to services, and supporting



growing economic sectors. We will also work with Allies and partners to expand high-standard investment and sustainable development across the Arctic region.

Pillar 3 of NSAR 2022 commits the United States to foster economic development in Alaska and in the Arctic region more broadly. The passage of the BIL in 2021, along with other key pieces of federal legislation, provided a once-in-a-generation impetus and funding for initiatives in this respect. The material below provides notable examples of efforts to improve livelihoods and expand economic opportunity on a sustainable basis in the Arctic.

Strategic Objective 3.1: Invest in Infrastructure

As of October 2024, the U.S. government had allocated \$7.6 billion in BIL funding for use in Alaska, with more than 1,863 specific projects identified for funding. Projects involved the transportation sector (e.g., funding for roads, bridges, public transit, ports, and airports), clean water and water infrastructure, and broadband expansion, among other things. Several examples of infrastructure investment in Alaska are detailed below; for further information, see [here](#).

The United States made considerable progress in funding the extension of broadband services throughout Alaska, including to rural areas. USDA's ReConnect Program, which provides loans and grants to support construction, improvement, or acquisition of facilities and equipment, facilitated telecommunications infrastructure in more than 20 communities in the Alaskan Arctic. In October 2024, USDA announced a \$16.5 million award to Copper Valley Telephone Cooperative to deploy a fiber-to-the premises network to provide high-speed Internet service to benefit 140 people in the Chugach Census Area and the Tatitlek Alaska Native Village Statistical Area.

As of November 2024, NTIA [allocated to Alaska](#) approximately \$1.11 billion to fund high-speed Internet infrastructure deployment, middle mile infrastructure expansion, digital equity, and connecting minority communities. In addition, to date, 36 Alaska Tribal entities received a total of \$448 million under NTIA's Tribal Broadband Connectivity Program. Similarly, upon the close of its Affordable Connectivity program in June 2024, the FCC had allocated approximately \$111 million to eligible Alaska households to support access to the Internet and the purchase of a laptop, desktop computer, or tablet.

USACE, in partnership with the City of Nome, began designing modifications to the Port of Nome to provide larger vessels improved access to Nome's existing harbor by enlarging the outer basin and creating a new deep-water basin with a depth of 40 feet. Congress appropriated an initial \$250 million for this project. In October 2024, progress on implementation of the project was delayed when USACE canceled a bid request for the project's first phase of construction after proposed pricing came in well above statutory cost limitations and exceeded allocated funds. USACE and a non-federal sponsor are developing a plan to re-advertise Phase 1 in FY 25.

In June 2024, DOS and Treasury organized the U.S.-Nordic Investment Screening Conference to share best practices and facilitate technical exchanges on investment screening regimes. U.S.



government officials continue to consult with Sweden, the Kingdom of Denmark, Sweden and Norway in support of these efforts.

Strategic Objective 3.2: Improve Access to Services and Protect Subsistence Lifestyles and Cultural Traditions

During FY 22 to FY 24, HHS's Indian Health Service funded 14 projects to provide water and sanitation services to 1,100 homes in remote Alaskan villages, mostly using funds available to the Service pursuant to the BIL. EPA co-funded 10 of these projects. The remaining 19 unserved or underserved communities (1,100 homes) are eligible for funding in FY 25 to FY 26, although available funding is insufficient to cover all estimated capital costs for these 19 communities.

In 2024, DOE funded grid modernization efforts in Alaska at five project sites. DOE established the Arctic Ambassador program with the Denali Commission to fund local representatives to raise awareness of DOE programs and community energy needs. In addition, DOE sponsored carbon management forums in 2023 and 2024, which included consideration of sequestration options in Alaska.

In March 2024, DOI and DOJ [responded](#) to recommendations from the Not Invisible Act Commission concerning how the federal government can further prioritize the resolution of the missing or murdered Indigenous people and human trafficking crisis that disproportionately impacts Tribal Nations, including in Alaska. In October 2023, DOJ also launched a [pilot program in Alaska](#) under the Violence Against Women Reauthorization Act of 2022.

Strategic Objective 3.3: Develop Emerging Economic Sectors in Alaska

In 2023 and 2024, the USGS Earth Mapping Resources Initiative provided more than \$11 million in funding to the Alaska Division of Geological and Geophysical Surveys to support airborne geophysical data collection and geologic mapping focused in regions prospective for hosting critical mineral resources. Through this funding, major data collection efforts were completed in the Seward Peninsula and Yukon-Tanana upland regions. This work continued in 2024 on the Seward Peninsula and the Kuskokwim River region.

DOI produced the first merged grid of modern, high-quality airborne magnetic data across the Yukon-Tanana upland (~85,000 km²) that is aiding mapping and modeling the bedrock geology and associated mineral resources in a priority region of the state.

DOE held an Alaska Critical Mineral workshop in Alaska during 2024 focusing on actionable steps to facilitate critical mineral extraction and processing in the state.

HUD and the Denali Commission worked with the Kuskokwim Corporation and the State of Alaska on a \$13 million project for innovating housing aimed at ensuring that more energy efficient and climate resilient building standards are deployed in the Arctic.



From May through September 2023, NOAA and a number of partners conducted ocean exploration expeditions on the NOAA Ship Okeanos Explorer to improve knowledge about unexplored and poorly understood deep-water areas offshore Alaska, with a particular focus on the Aleutian Islands, Gulf of Alaska, and Aleutian Trench.

Strategic Objective 3.4: Work with Allies and Partners to Increase Responsible Arctic Investment, including in Critical Minerals

DOS undertook diplomatic engagement on critical mineral resource governance and supply issues with like-minded Arctic countries in 2023. DOS also continued to support and manage a wide range of technical capacity building and advisory support on geoscience, policy, regulatory, governance, and sustainability issues related to Greenland’s mineral resources sector. This included multiple study tours and bilateral engagements in Alaska, as well as DOS-supported travel to third countries.

Under the [Minerals Security Partnership](#), the United States is leading a Working Group to assess a graphite project in Greenland. In April 2023, DOS and DOI convened a meeting in Iqaluit, Nunavut, among officials and Indigenous representatives from Alaska, Canada, and Greenland to share knowledge and challenges in securing the quality investment needed to explore and develop critical mineral resource potential in the North American Arctic.

Pillar 4—International Cooperation and Governance: Sustain Arctic Institutions and Uphold International Law

Despite the challenges to Arctic cooperation resulting from Russia’s aggression in Ukraine, the United States will work to sustain institutions for Arctic cooperation, including the Arctic Council, and position these institutions to manage the impacts of increasing activity in the region. We also seek to uphold international law, rules, norms, and standards in the Arctic.

As noted above, NSAR 2022 sought to balance the imperative of responding effectively to Russia’s full-scale invasion of Ukraine with a vision of an Arctic that is peaceful, stable, prosperous, and cooperative. In the diplomatic arena, the United States expanded its presence and reach in the Arctic and maintained its steadfast support for Arctic institutions and the rule of law, as examples below illustrate.

Strategic Objective 4.1: Sustain the Arctic Council and Other Arctic Institutions and Agreements



The United States actively supported the Norwegian Chairship of the Arctic Council. Several specific accomplishments achieved through the Arctic Council are described above. In support of those efforts, in FY 22 to FY 23 DOS completed interagency agreements and transmitted more than \$2 million to three federal agencies to help fund Arctic Council working group activities, and provided \$500,000 to facilitate the participation of Alaska-based Indigenous Permanent Participants in the work of the Arctic Council.

The United States played a leadership role in implementation of the Agreement to Prevent Unregulated High Seas Fisheries in the Central Arctic Ocean. The parties to this agreement adopted Rules of Procedure for the Scientific Coordinating Group and established a Joint Program of Scientific Research and Monitoring, including a data-sharing protocol. The parties also adopted an interim measure for exploratory fishing.

In 2022, President Biden nominated the United States' first Ambassador-at-Large for Arctic Affairs. The Senate voted to confirm that Ambassador in September 2024, who was sworn in on October 1, 2024. DOS also enhanced U.S. diplomatic presence in the Arctic by opening an American Presence Post in Tromsø, Norway, in 2023.

The USCG, as chair of the Combined Operations Working Group of the Arctic Coast Guard Forum, facilitated the development and execution of tabletop and live exercises, organized virtual meetings, and created robust agendas for in-person events, which encouraged collaboration and ensured active partner nation participation in upcoming exercises.

The USCG participated in two in-person meetings at the Arctic Coast Guard Forum at the Secretariat level and one meeting at the Principals level since Norway took over the chairmanship in May 2023.

The United States continued to address gaps and challenges related to the Polar Shipping Code through its participation in the IMO. These efforts included development and approval of guidelines for safety measures for fishing vessels of 24 meters in length and over operating in polar waters and guidelines for pleasure yachts of 300 gross tonnage and above not engaged in trade operating in polar waters. The guidelines were approved by the IMO's Maritime Safety Committee in May 2021.

The United States began preparations for the next International Polar Year (2032 to 2033). As part of this effort, an NSF-funded project convened community workshops to address the status and prospects of geospace sciences in the polar regions and prepare the community to participate in the next International Polar Year. The workshops identified high-level research objectives; addressed international scientific coordination, collaboration, and logistics; and developed international research programs for each polar region.

The international Arctic Science Funders Forum was formally established in 2023, with initial leadership by Norway (the Chair) and Iceland and Japan (as Vice Chairs).



Strategic Objective 4.2: Protect Freedom of Navigation and Continental Shelf Limits

As noted above, DOD and the USCG continued to conduct operations and exercises in the Arctic alongside U.S. Allies and partners to ensure a free and open Arctic region. These operations included multiple safe and professional transits of the IMO-approved shipping lane on the western side of the Bering Strait. Additionally, the USCG Cutter *Healy* planned a three-phase, pan-Arctic deployment in 2024 to support oceanographic science, complete exercises and engagements, and conduct port calls with Arctic Allies, partners, and stakeholders across the North American, European, and Central Arctic. The USCG had to amend the second and third phases following a propulsion casualty in the Canadian Arctic, restricting subsequent operations to the U.S. Arctic only.

In December 2023, DOS published in the Federal Register the geographic coordinates of the outer limits of the United States Extended Continental Shelf, which includes portions of the Arctic Ocean and the Bering Sea. DOS also issued a [media note](#) and a [fact sheet](#) with additional information about this historic announcement. The announcement followed two decades of the largest-ever offshore mapping effort by NOAA and USGS to collect data on the seabed and subsoil in many areas off the coasts of the United States, including in the Arctic.

In September 2024, the United States and Canada [announced](#) the creation of a joint task force to undertake negotiations on the maritime boundary in the Beaufort Sea, including resolving the overlap of continental shelf in the Arctic Ocean. The task force, which began negotiations in November 2024, reflects the commitment of the United States and Canada to further define their shared northern boundary through cooperative bilateral negotiation and meaningful engagement with State, Territorial, and Indigenous partners.