



2021 Alaska Coastal & Ocean Mapping Summit

Welcome and Keynote

December 1st, 2021 | Virtual



Logistics

If you are having trouble with your connection, please email amber.butler@noaa.gov

Privacy: Portions of this seminar are being recorded. You may leave the summit if you do not give your permission to be recorded.

Time: We aim to stay to the agenda as much as possible to allow listeners to join in at specific times for sessions of interest, and to be respectful of our speakers' time.

You can find the full agenda in the attached documents in your GoToWebinar menu pane to the right.

Interaction: We encourage you to share input and feedback using the webinar and email:

Use the “Question Box” function for comments or questions. It can be found in the menu bar to the right. Press the small triangle next to “Questions” and it will expand your questions submission box.

You can also use the “raise hand” function during discussion periods and a moderator will unmute you when you are called on. The button looks like a small hand in the menu bar to the right. We will only be opening up questions after each talk, but please feel free to submit them during the presentations and the moderator and speakers will address them during discussion times.

Follow up: Written comments are always welcome, now and later, iwgocm.staff@noaa.gov





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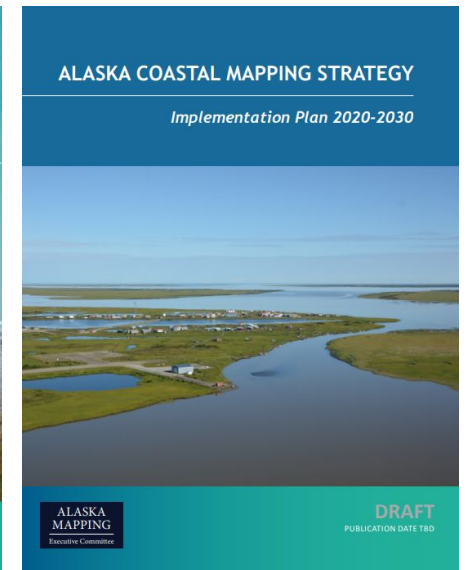
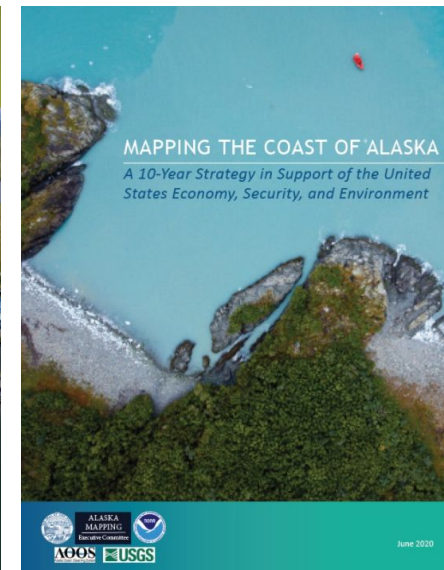
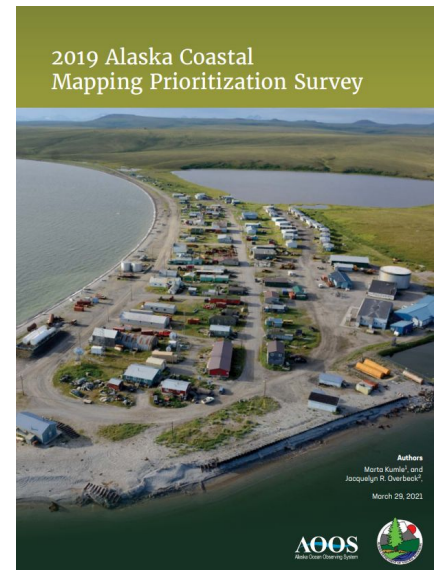
Keynote Address

Senator Lisa Murkowski



The Road to Mapping Alaska's Coast

- 2016 Alaska Coastal Mapping Summit
- 2018 Alaska Coastal Mapping Summit
- 2018 Summit Summary
- 2019 Coastal Mapping Prioritization Survey
- 2019 Presidential Memo on Mapping the Shoreline and Nearshore Alaska
- 2020 Alaska Mapping Executive Committee Coastal Subcommittee
- 2020 Mapping Strategy
- 2020 Alaska Coastal Mapping Summit
- 2021 Alaska Geospatial Council Coastal & Ocean Technical Working Group
- 2021 Implementation Plan
- 2021 Alaska Coastal Mapping Summit



<https://agc-coastal-soa-dnr.hub.arcgis.com/>

Progress on Mapping

- Top 15% of original 2019 survey priorities have been collected or are planned for 2022.
- 2021 Prioritization Survey as an update closing December 10.



<https://alaska-coastal-mapping-strategy-dewberry.hub.arcgis.com/pages/dashboard>



Agenda

Day 1

Up Next: Overviews of State and Federal Initiatives

10:00-11:30 Agency Updates on Coastal Mapping

12:00-1:30 Technology Lightning Talks—Remote Sensing

1:30-3:00 The Path Forward

Day 2

9:00-9:30 Welcome and Keynote addresses on Ocean Mapping

9:30-10:35 Why is Ocean Mapping Important?

10:45-12:00 How Could We Fill the Data Gaps?

12:30-1:45 What Are We Doing?

1:55-2:55 Breakout Session: Collaboration



A wide landscape photograph showing a sunset over a body of water. The sun is low on the horizon, casting a golden glow across the sky and reflecting on the water. In the background, there are dark, silhouetted mountains under a sky filled with scattered clouds.

Alaska Mapping Executive Committee Welcome



Juliana Blackwell
Director, NOAA's National Geodetic Survey





Modernizing the National Spatial Reference System

Juliana Blackwell, Director
National Geodetic Survey

Alaska Coastal & Ocean Mapping Summit
December 1, 2021

NOAA's **National Geodetic Survey** defines, maintains, and provides access to

The National Spatial Reference System

The NSRS is a **consistent** geospatial framework that serves the primary positioning accuracy and alignment needs of all geospatial data

Foundational elements include:

Latitude • Longitude • Elevation • Gravity • Shoreline Position
+ changes over time



NSRS Modernization delivers improved accuracy and accessibility

Modernization of the NSRS


Why Modernize?

- **Current datums** were built using old (pre-GPS) technology and data.
- NAD 83 is **not truly aligned** with the center of the earth as we know it (off by ~2.2 m).
- NAVD 88 **relies on survey marks** in the ground, which are difficult to maintain.

Modernization will:

- Improve **accuracy, access, and alignment** of our positioning systems.
- Rely primarily on GPS-derived coordinates and **GPS-derived heights** to access the NSRS.

National Geodetic Survey Positioning America for the Future geodesy.noaa.gov



New Datums Are Coming!

New Datums

NOAA is Replacing NAD 83 and NAVD 88. NOAA's National Geodetic Survey (NGS) will be replacing the datums of the National Spatial Reference System (NSRS), including the **North American Datum of 1983 (NAD 83)** and the **North American Vertical Datum of 1988 (NAVD 88)**. NGS will provide the tools to easily transform between the new and old datums. Read the NGS Ten-Year Plan and visit the **New Datums Web page** on our site to learn more.

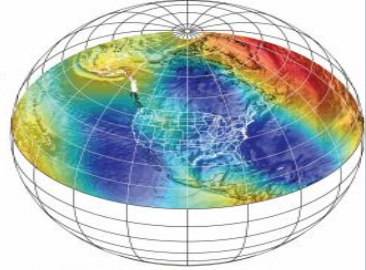
Benefits
The new reference frames (geometric and geopotential) will rely primarily on **Global Navigation Satellite Systems (GNSS)**, such as the Global Positioning System (GPS), as well as on a gravimetric geoid model resulting from NGS' **Gravity for the Redefinition of the American Vertical Datum (GRAV-D)** Project.

The target accuracy of differential orthometric heights (heights relative to sea level) in the geopotential reference frame will be 2 centimeters over any distance, where possible.

What You Can Expect
The magnitude of change with the new datums will vary depending on the datum you are using and your geographic location. The new geometric datum will change latitude, longitude, and ellipsoid height between 1 and 2 meters. In the conterminous United States (CONUS), the new vertical datum will change heights on average 50 centimeters, with approximately a 1-meter tilt towards the Pacific Northwest.

How You Can Prepare

- Learn if **legislation** or other formal documents referencing NAD 83 and NAVD 88 need to be changed in your state.
- **Transform existing data** to the latest NSRS datums and realizations; i.e. NAD 83 (2011), GEOID12B, and NAVD 88.
- **Obtain precise ellipsoidal heights** on NAVD 88 bench marks, and visit the GPS on Bench Marks Web page to learn more.
- Require and provide **complete metadata** on all mapping contracts. See our website for more details.



The new datums will extend across CONUS and U.S. territories. The geometric datum replacing NAD 83 will be consistent with geocentric global reference frames defining latitude and longitude. The geopotential datum replacing NAVD 88 will be based on a gravimetric geoid model, enhanced by data from NGS' Gravity for the Redefinition of the American Vertical Datum (GRAV-D) Project.

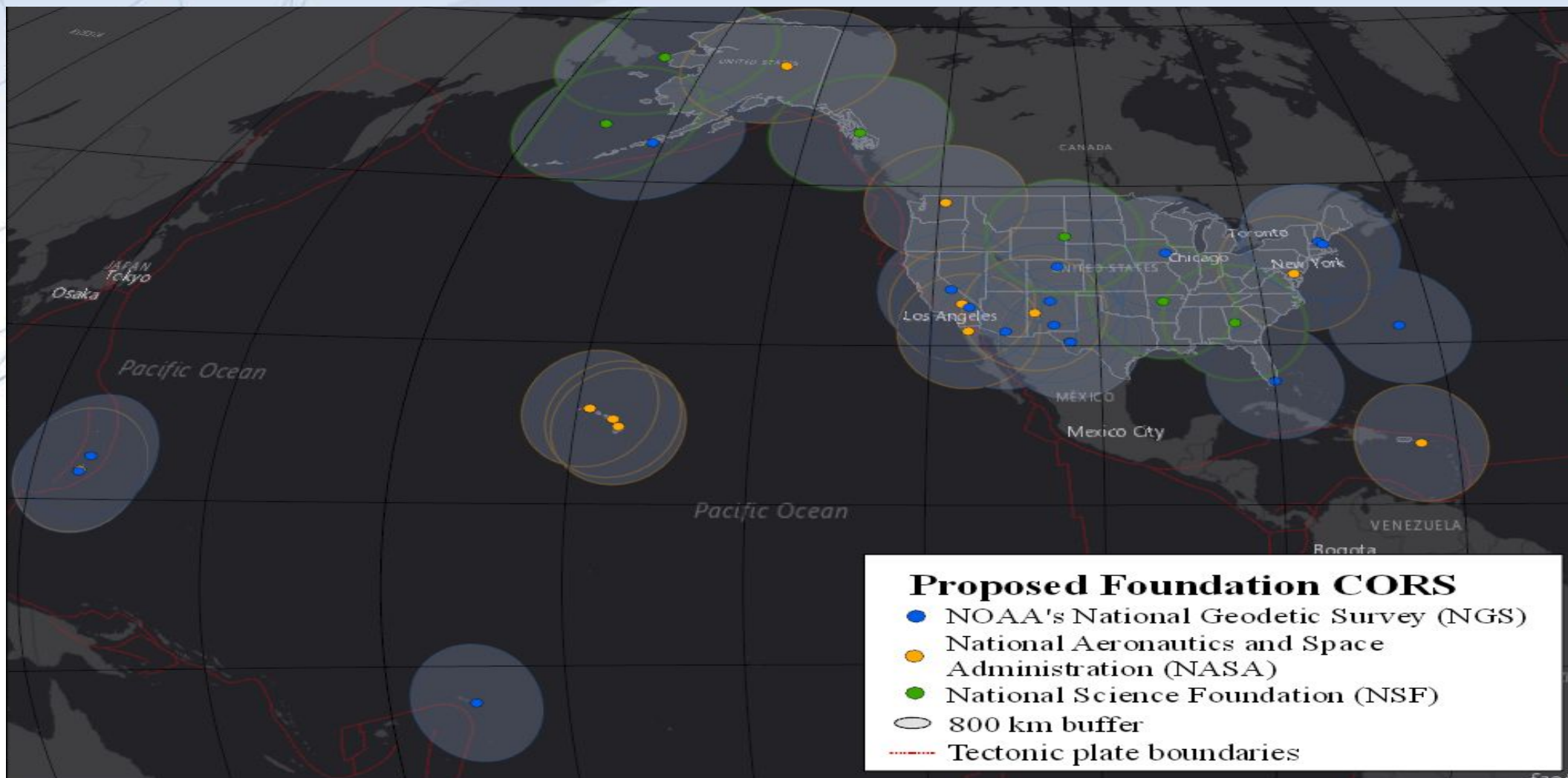
National Oceanic and Atmospheric Administration • National Geodetic Survey

“Modernizing the NSRS” means:

- Replacing the current horizontal datums (NAD 83)
- Replacing the current vertical datums (NAVD 88)
- Improving data submission and data access
- Improving online tools
- Updating survey methodologies

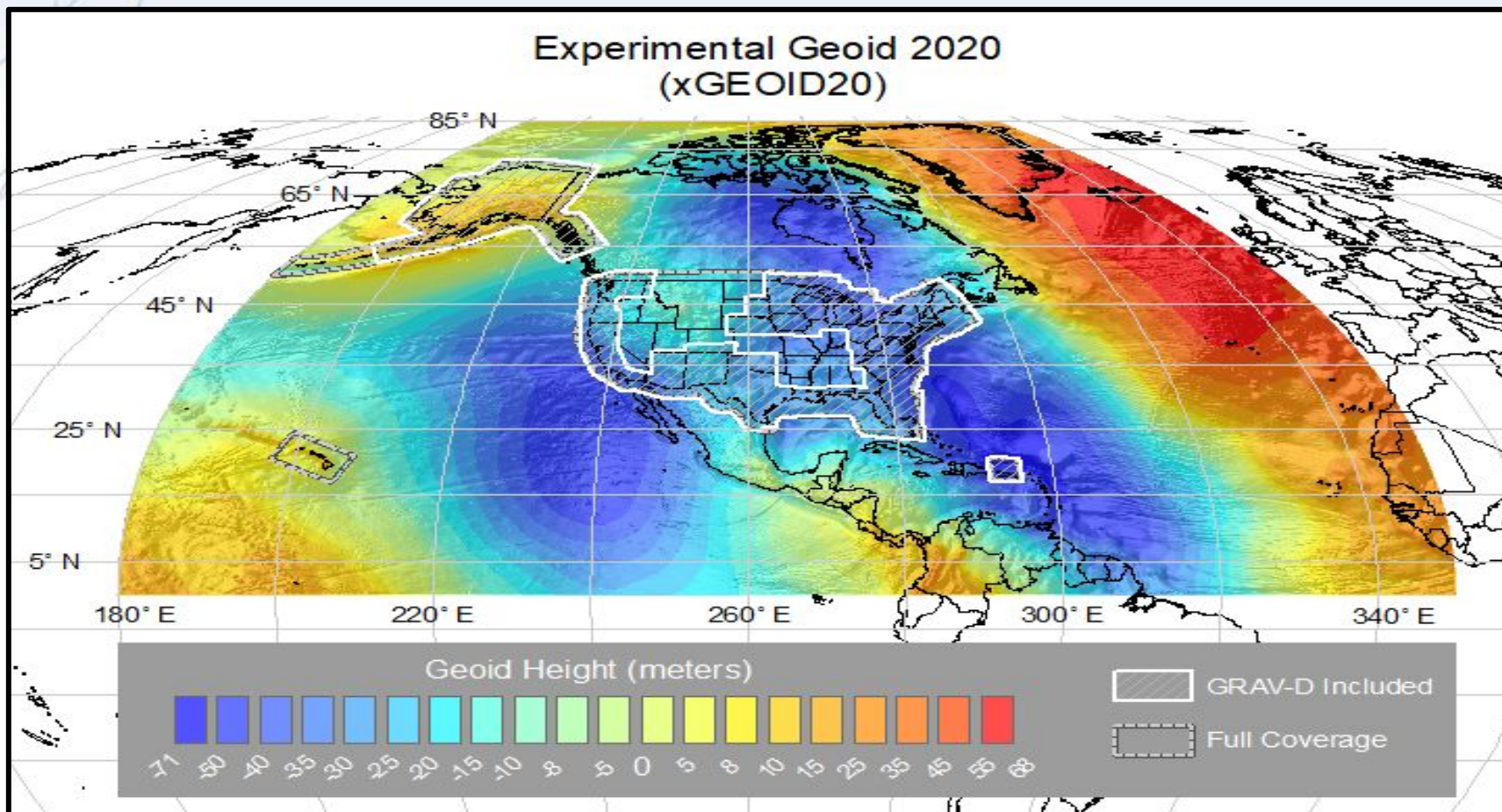
Foundation CORS

A set of at least 36 federally owned and operated, high quality, highly-reliable stations to guarantee support for the NSRS and ITRF

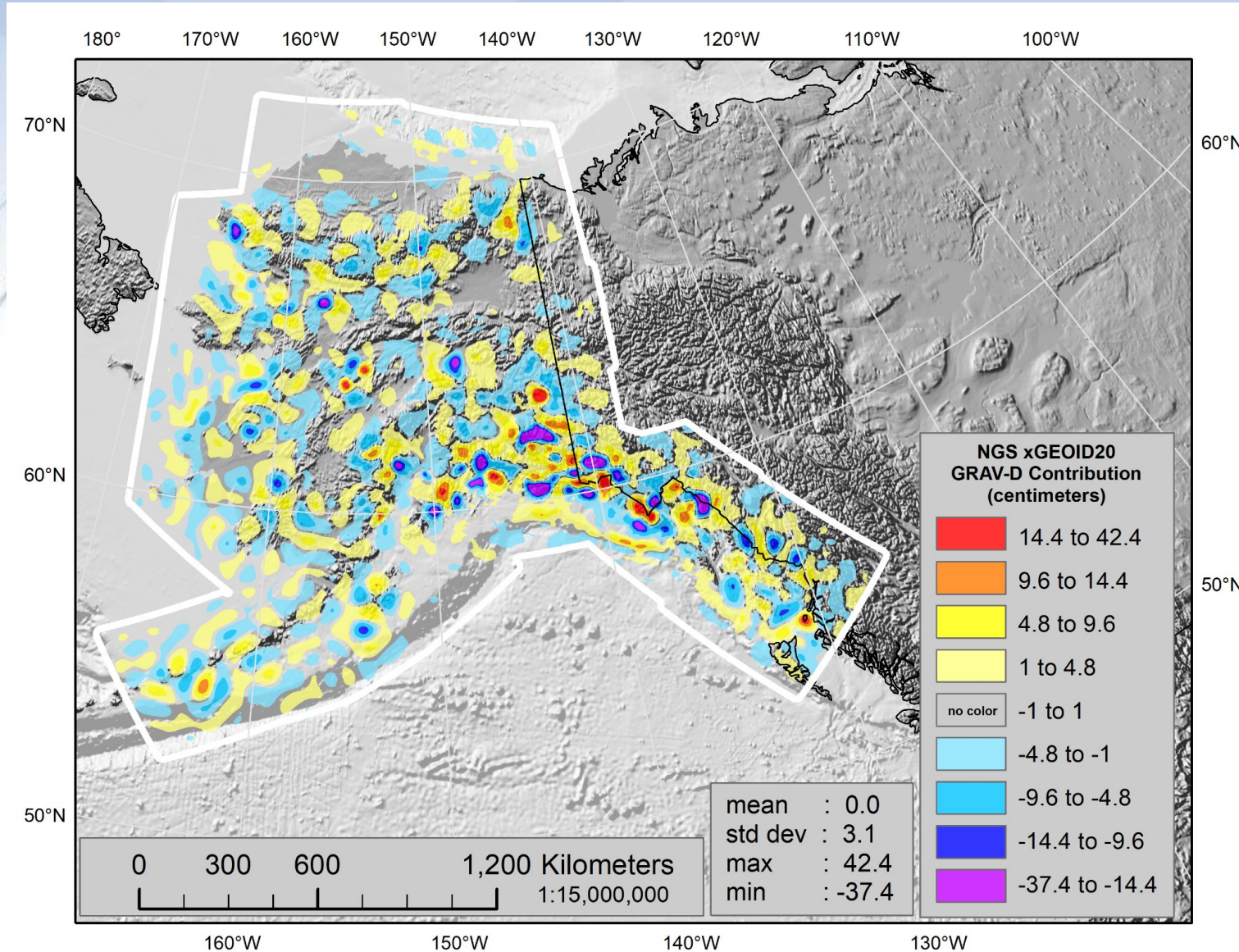


Gravity for the Redefinition of the American Vertical Datum (GRAV-D)

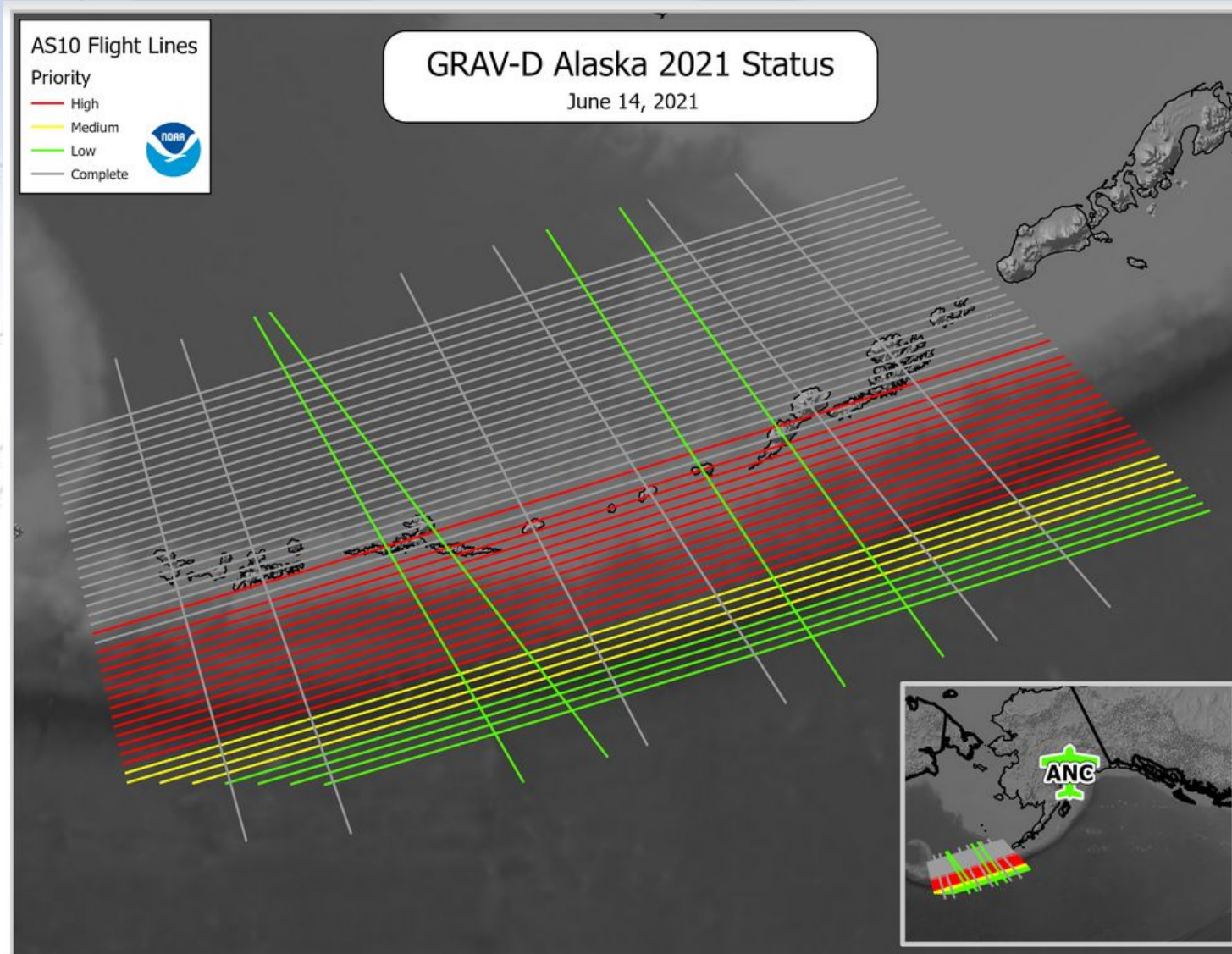
Project goal is a refined gravimetric geoid model that enables GPS-derived elevations accurate to 2 cm in the NSRS update of 2022



Improved Alaska Geoid Model



GRAV-D 2021 Progress Update



NGS collected 52% of Aleutian airborne gravity data in Spring 2021



NOAA WP-3D Orion

Information on “New Datums” and NSRS Modernization

geodesy.noaa.gov/datums/newdatums/

- What to expect
- How to prepare
- Track our progress
- Related projects
- Educational videos
- Learn more
- FAQs
- Contact us
- Sign up for updates

The screenshot shows the National Geodetic Survey (NGS) website page for 'New Datums'. The page features the NGS logo and the tagline 'Positioning America for the Future'. A navigation bar includes links for 'NGS Home', 'About NGS', 'Data & Imagery', 'Tools', 'Surveys', and 'Science & Education'. A search bar is located on the right side of the navigation bar. The main content area is divided into several sections:

- New Datums Home**: A list of links including 'Delayed Release Message', 'Background', 'What to Expect', 'Get Prepared', 'Blueprint Documents', 'Track our Progress', 'Naming Convention', 'Watch Video', 'Related Projects', and 'New Datum PAD'. There is also a 'Subscribe for email notifications' button.
- Events**: A list of summits from 2021 to 2010.
- New Datums: Replacing NAVD 83 and NAD 83**: A main article section with a 'Delayed Release Message' button and a list of links: 'Background', 'What to Expect', 'Get Prepared', 'Blueprint Documents', 'Track our Progress', 'Naming Convention', 'FAQs', 'Watch Videos', and 'Related Projects'.
- FAQs**: A section titled 'FAQs' with the subtitle 'Frequently asked questions'.
- New Datum Announcing**: A section with a globe icon and the text 'New Datum Announcing'.

The footer of the page contains links for 'NGS Home', 'NGS Employees', 'Privacy Policy', 'Disclaimer', 'USA.gov', 'Noaa.gov', 'Site Map', and 'Contact Webmaster'.

Thank you!

geodesy.noaa.gov

A wide landscape photograph showing a sunset over a body of water. The sun is low on the horizon, casting a golden glow across the sky and reflecting on the water. In the background, there are dark, silhouetted mountains under a sky filled with soft, golden clouds.

Alaska Coastal Mapping Strategy Implementation Plan



Ashley Chappell
NOAA Integrated Ocean and Coastal Mapping





Alaska Coastal Mapping Strategy Implementation Plan

Ashley Chappell

December 1st, 2021 | Virtual

Setting the Stage: National Mapping Plans

National Ocean Mapping, Exploring, and Characterization of the U.S. EEZ (NOMECE)

Alaska Coastal Mapping Strategy (ACMS)



ACMS Coordination Structure Through AMEC

Alaska Mapping Executive Committee

(designated to fulfill ACMS strategy)

Co-Chairs: USGS, NOAA

Members: USGS, BIA, BLM, BOEM, NPS,
USFWS, NGA, NRO, USACE, FAA, EPA,
FEMA, OMB, NCRS, USFS, State of Alaska

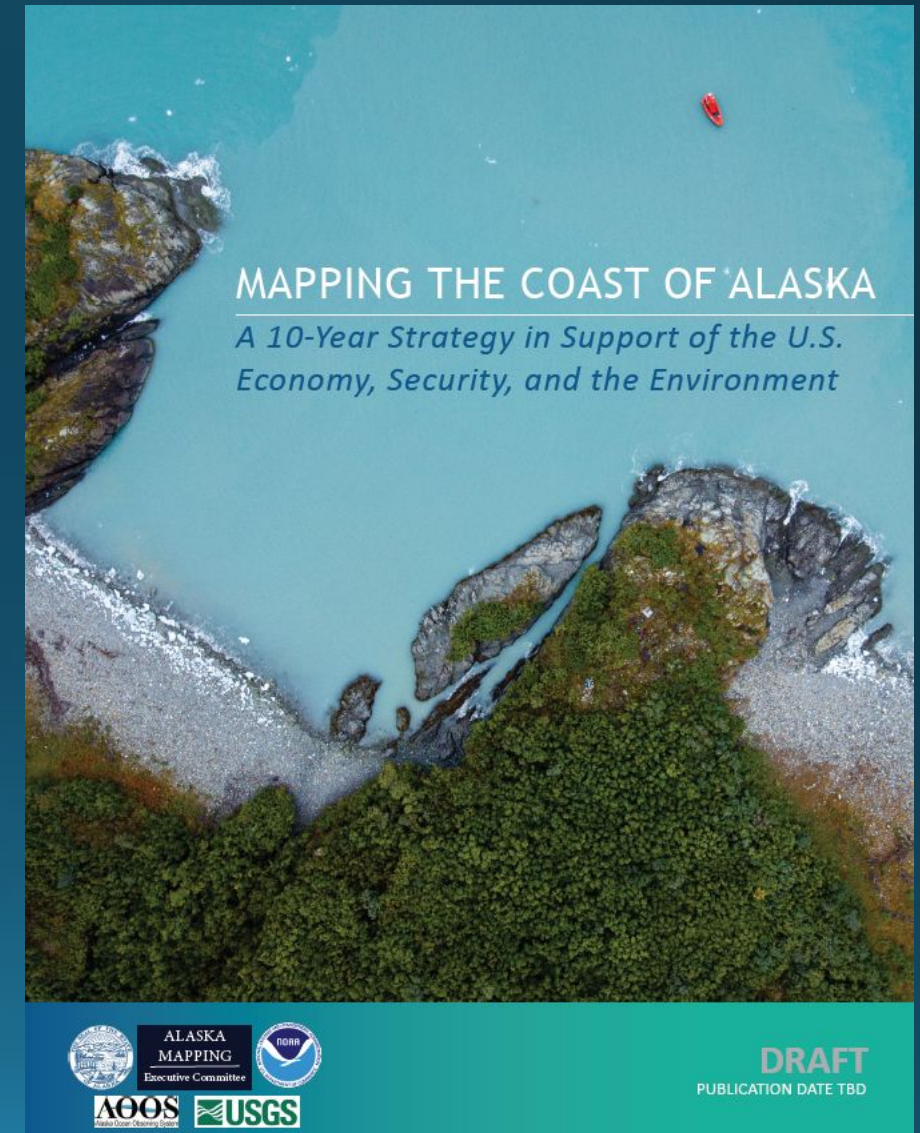
AMEC Coastal Subcommittee *(new)*

Co-Chairs: NOAA, State of Alaska

Members: USGS, BOEM, BLM, NPS, FWS,
USFS, NRCS, USACE, FEMA, USCG, AOOS

Alaska Coastal Mapping Strategy (ACMS) Goals

1. Build on existing mapping partnerships to meet Alaska's coastal mapping needs
2. Expand coastal data collection to deliver the priority geospatial products stakeholders require
3. Leverage innovation in mapping technology development
4. Conduct strategic communications to promote widespread stakeholder engagement



Goal 1: Build on Existing Mapping Partnerships to Meet Alaska's Coastal Mapping Needs

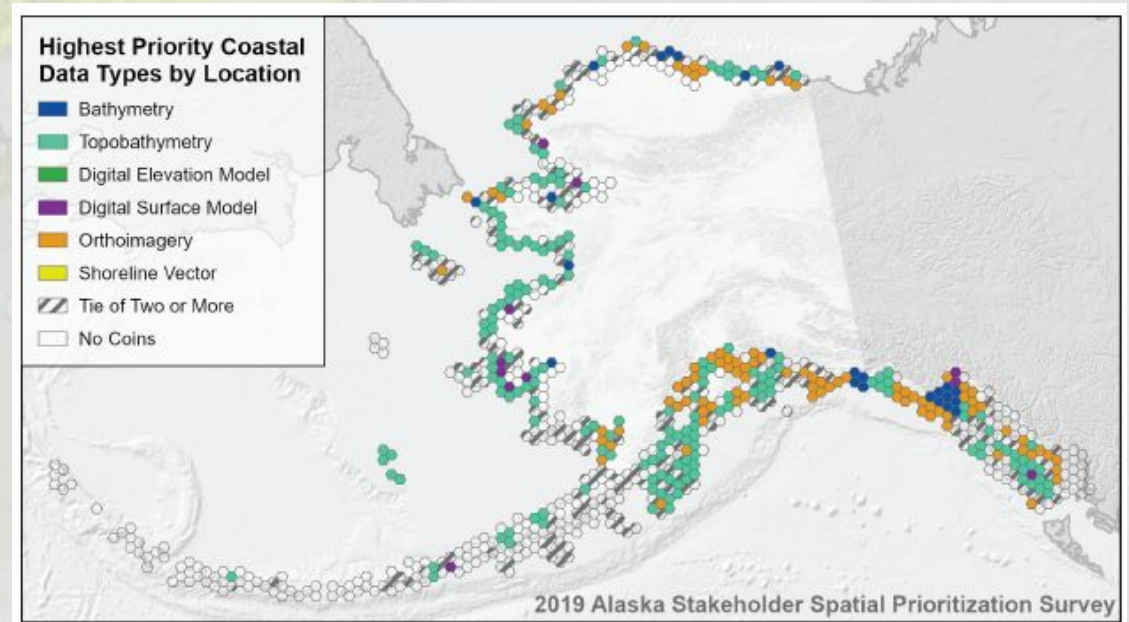
Objectives:

1.1: Establish a Team for Alaska Coastal Mapping Implementation

1.2: Refine Stakeholder Mapping Priorities, Costs, and Data Standards

1.3: Resource the Alaska Coastal Mapping Implementation Plan

1.4: Integration with Complementary AMEC Priority Mapping Themes



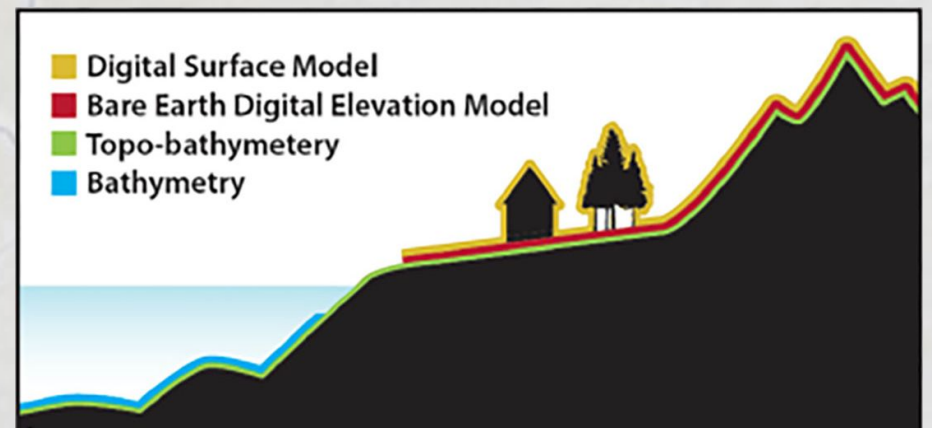
Goal 2: Expand Coastal Data Collection to Deliver the Priority Geospatial Products Stakeholders Require

Objectives:

2.1: Execute a Flexible Alaska Coastal Mapping Campaign

2.2: Upgrade Alaska National Spatial Reference System Components to Support Mapping Data Acquisition

2.3: Produce and Disseminate Key Datasets and Products from Alaska Coastal Mapping Data

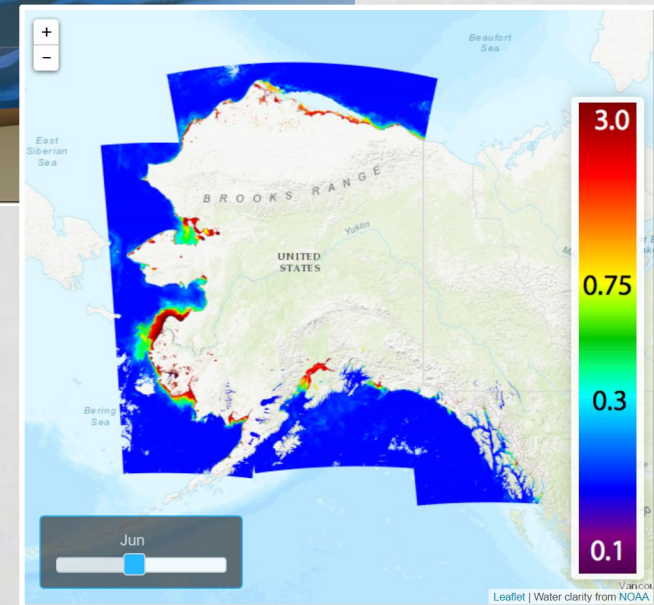
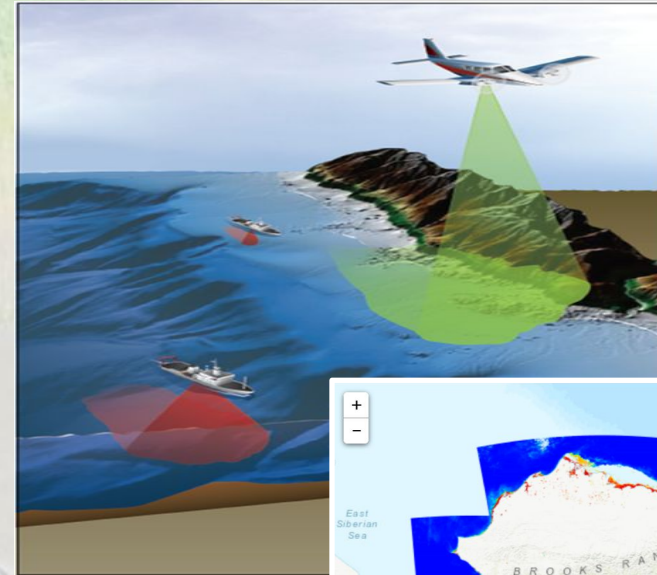


Goal 3: Leverage Innovation in Mapping Technology Development

Objectives:

3.1: Upgrade Alaska Climatology Tool for Smart Application of Satellite and Airborne Lidar Bathymetry

3.2: Monitor and Test New Technologies for Acquisition Efficiencies



Goal 4: Conduct Strategic Communication to Promote Widespread Stakeholder Engagement

Objectives:

4.1: Strengthen Stakeholder Communications to Grow Participation in the Alaska Coastal Mapping Campaign

4.2: Use Online Tools and Technologies to Communicate Plans and Performance

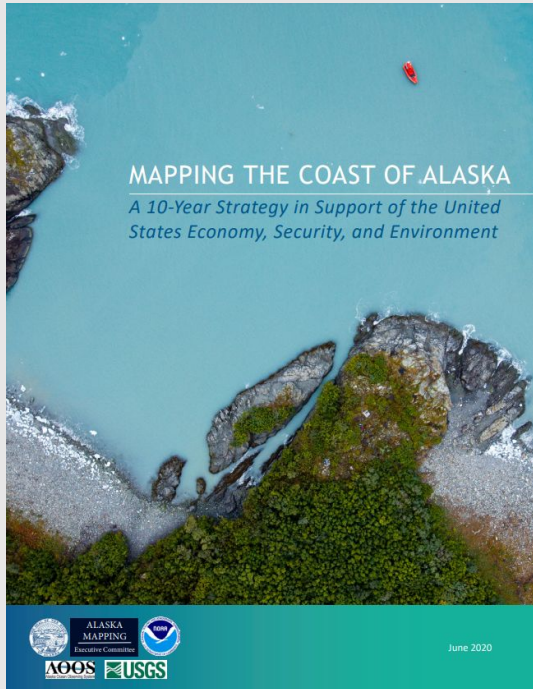


Alaska Coastal Mapping

STRATEGY

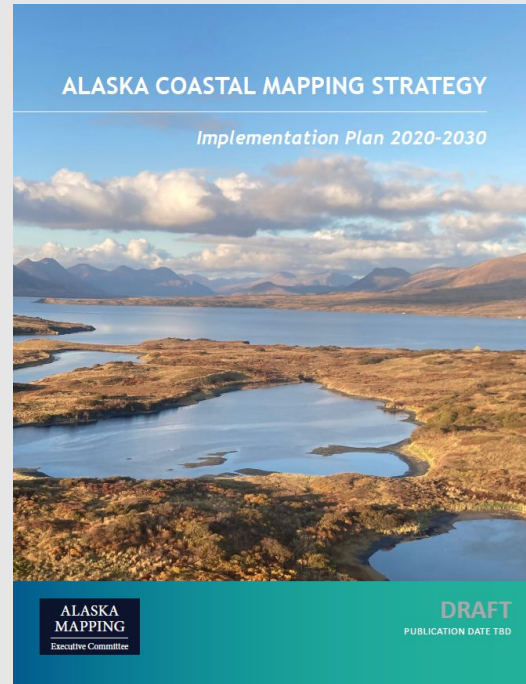


IMPLEMENTATION PLAN



- Goal 1** - Build on existing partnerships
- Goal 2** - Expand data collection to deliver priority products stakeholders require
- Goal 3** - Leverage innovation in mapping technology
- Goal 4** - Conduct strategic communication to promote widespread engagement

Published June 2020



**Open for Public Comment
thru January 31, 2022!**

- Actionable milestones for achieving the Alaska Coastal Mapping Strategy Goals
- AMEC-CS has smaller focus groups:

Mapping Priorities Team
Cost Estimation Team
Data Standards & Protocols Team
Resourcing Team
Operations Team
NSRS Team
Product Development Team
Technology Team
Communications Team

<https://www.federalregister.gov/documents/2021/11/02/2021-23878/request-for-public-comment-on-the-alaska-coastal-mapping-strategy-implementation-plan>



Thank you!

Ashley.Chappell@noaa.gov





Alaska Geospatial Council Update

Dr. Leslie Jones

December 1st, 2021 | Virtual



Alaska Geospatial Office

Dr. Leslie Jones
Geospatial Information Officer
leslie.jones2@alaska.gov

Alaska Geospatial Office

Building a Spatial Data Infrastructure for Alaska

- Foundational Data - statewide
- Geospatial Initiatives
- Geospatial Technologies

1

Provide statewide coordination for geospatial community

2

Improve access to geospatial data and technologies

3

Advise geospatial data governance, standards, and policy

4







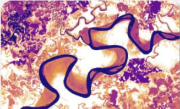



Communicate geospatial priorities for Alaska



Alaska Geospatial Council

Explore AGC Technical Working Groups

The AGC Technical Working Groups are the **backbone of the Council**. These groups work to identify gaps in statewide data and coordinate amongst stakeholders to address mapping deficiencies.

 <p>Transportation Technical Working Group</p> <p>Learn More</p>	 <p>Coastal and Ocean Technical Working Group</p> <p>Learn More</p>	 <p>Geodetic Technical Working Group</p> <p>Learn More</p>	 <p>Wetlands Technical Working Group</p> <p>Learn More</p>
 <p>Enterprise Technical Working Group</p> <p>Learn More</p>	 <p>Vegetation Technical Working Group</p> <p>Learn More</p>	 <p>Elevation Technical Working Group</p> <p>Website Coming Soon!</p>	 <p>Imagery Technical Working Group</p> <p>Website Coming Soon!</p>
 <p>Hydrography Technical Working Group</p> <p>Website Coming Soon!</p>	 <p>Cadastre Technical Working Group</p> <p>Website Coming Soon!</p>		

COORDINATION	DATA SHARING	GOVERNANCE	ANALYTICS	CULTURE
				
<p>1 Build Collaborative Relationships</p> <p>Evaluate needs, priorities, reduce duplication of efforts, leverage funding, share data.</p>	<p>2 Shared Geospatial Framework</p> <p>Authoritative data management, streamline data access and inter-agency sharing.</p>	<p>3 Establish Governance</p> <p>Establish and adopt horizontal (inter-agency) and vertical (within agency) governance.</p>	<p>4 Provide Access to Self-service Tools</p> <p>Provide appropriate access to geospatial data, maps and applications to Alaskans.</p>	<p>5 Enhance Capabilities and Literacy</p> <p>Provide access to training, promote innovation and enhance data literacy.</p>

- Administered by the Alaska Geospatial Office
- New branding and website - agc.dnr.alaska.gov
- Overview of current geospatial initiatives

State support for Coastal Mapping Implementation Plan

ACMS GOAL 4. Conduct Strategic Communication to Promote Widespread Stakeholder Engagement

- Active partner in developing the 2020 Alaska Coastal Mapping Strategy and 2021 Implementation Plan

	Milestone	Lead	Support	Performance Indicator	Year/Goal
4.1.1	Leverage agency and AGC websites to inform stakeholders on current status and acquisition accomplishments	CS, AGC	IWG-OCM	AGC and websites such as fedmap.seasketch.org utilized to share status updates and opportunities for engagement	June 2021, ongoing
4.1.2	Provide updates to AMEC at biannual meetings	CS		AMEC executives informed on ACMS progress	April 2021, ongoing
4.1.3	Host annual Alaska Coastal Mapping Summits	CS	AOOS	Summits held as a forum to exchange information on mapping plans, technology, successes, lessons learned	Dec 2020 (completed), annually
4.1.4	Seek opportunities to increase awareness within the State of ACMS activities through conferences, workshops and meetings	CS agencies, AGC		Increased participation in conference sessions, panels, workshops, and meetings on topics related to ACMS to raise awareness and support data visibility, discovery, and access	Jan 2021, ongoing

AGC Coastal & Ocean Working Group

Coastal & Ocean Mapping Initiatives Currently Operating in Alaska

- Alaska Coastal Mapping Initiative (AMEC)
- Seascape Alaska (NOMEAC)
- USACE Shoreline Assessment
- SOA Coastal Resilience Assessment



AGC Coastal & Ocean TWG Initiatives Resources Alaska Geospatial Council Geoportal Members Summit

Photo credit: Susan Sommer

Coastal & Ocean Technical Working Group

Aligning coastal and ocean mapping missions with Alaska's people and programs

Alaska Geospatial Council

The Alaska Geospatial Council provides inter-agency coordination between local, state, federal, tribal, academic and private organizations on geospatial initiatives. Through effective collaboration the council aims to improve the availability and quality of geospatial information and ensure it is publicly available to support data driven decisions.

Building an Alaska-based community to support state and federal initiatives aimed at completing statewide coastal, shoreline and ocean mapping



AGC Imagery and Elevation TWGs

- Targeted LiDAR and Imagery
- Prioritize and coordinate areas of acquisition
- Ensure data is made publicly available thru State Geoportals

The Future: State Imagery Program

New State Imagery Portal

- Statewide Imagery products and services
- Providing inter-agency coordination for service of project level data

Visit the *State Open Data Geoportal* @
gis.data.alaska.gov

The screenshot displays the State of Alaska Open Data Geoportal website. The header includes the state seal and navigation links: Home, Imagery Program, Organizations, Alaska Geospatial Council, Get Involved, and Terms. The main content is divided into two sections: Alaska High Resolution Imagery (.5m) and SPOT5 Orthomosaic (2.5m). Each section contains a descriptive paragraph, a row of three service cards with imagery thumbnails, and a row of four service cards with map thumbnails. The Alaska High Resolution Imagery section includes RGB, CIR, and Tile and Scene Info services. The SPOT5 Orthomosaic section includes RGB, CIR, PAN, and Tile and Scene Info services.

State of Alaska
Open Data Geoportal

Home Imagery Program Organizations Alaska Geospatial Council Get Involved Terms

Alaska High Resolution Imagery (.5m)

The following service endpoints provide access to Alaska High Resolution Imagery (50cm). The Alaska High Resolution Imagery (50cm) Web Mapping Services (WMS) and Web Mapping Tile Services (WMTS) are licensed for Federal, State, Local, Tribal, and non-commercial use. End User License Agreement

- Alaska High Resolution Imagery RGB (Map Services)
- Alaska High Resolution Imagery CIR (Map Services)
- Alaska High Resolution Imagery Tile and Scene Info (Map Service)

SPOT5 Orthomosaic (2.5m)

The following service endpoints provide access to the SPOT5 orthomosaic (2.5m). Web Mapping Services (WMS) and Web Mapping Tile Services (WMTS) are licensed for Federal, State, Local, Tribal, and non-commercial use. End User License Agreement

- SPOT5 RGB (Map Services)
- SPOT5 CIR (Map Services)
- SPOT5 PAN (Web Services)
- SPOT5 Tile and Scene Info (Web Service)



Thank You!

Dr. Leslie Jones
Geospatial Information Officer
leslie.jones2@alaska.gov



Poll Question:

Would you be interested in joining the AGC Coastal & Ocean group?





5 minute break

We will resume shortly

