

National Oceanic & Atmospheric Administration

Arctic and Alaska Plans



- Arctic Vision & Strategy
- 2011 Hydrographic Surveys
- Invasive Species in Alaska Harbors

2010 Alaska Regional Ports Conference
November 2010

Arctic Vision and Strategy



- Purpose: Define focus areas for NOAA in the Arctic
- Vision: ...an Arctic where:
 - Conservation, management, and use are based on sound science, and support healthy, productive, and resilient communities and ecosystems,
 - The global implications of Arctic change are better understood and predicted.

Arctic Vision and Strategy



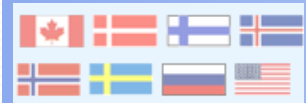
Forecast Sea Ice



Strengthen Foundational Science to Understand and Detect Arctic Climate and Ecosystem Changes



Improve Weather and Water Forecasts and Warnings



Enhance International and National Partnerships



Improve Stewardship and Management of Ocean and Coastal Resources in the Arctic



Advance Resilient and Healthy Arctic Communities and Economies

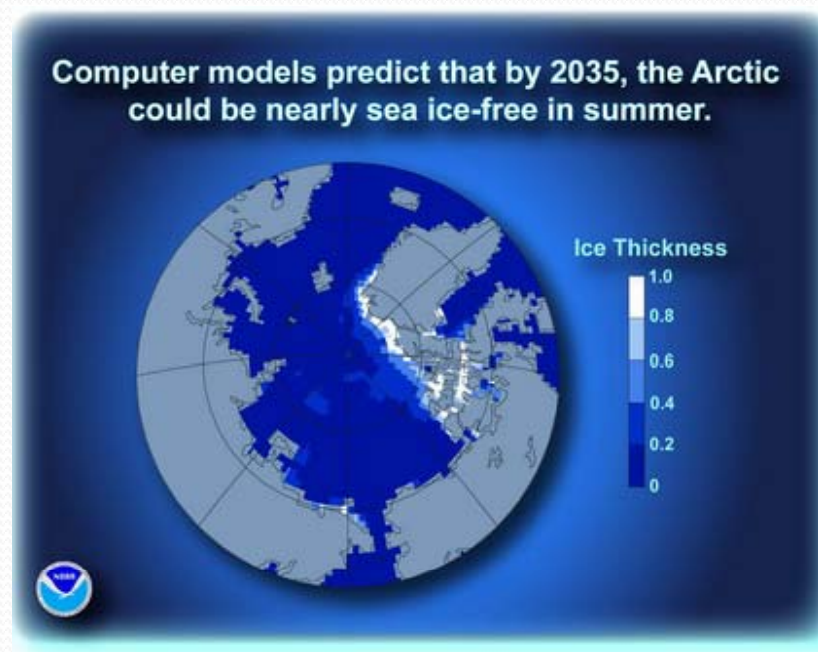


Goal 1: Forecast Sea Ice

Goal Statement – Accurate, quantitative, daily forecasts to decadal predictions of sea ice are provided to support safe operations and ecosystem stewardship.

Five-year Strategy

- Improve daily to weekly sea ice models and forecasts and new seasonal prediction services
- Multi-decadal sea ice projections
- Retrospective and prospective studies of the linkages between changes in Arctic sea ice and hemispheric weather and climate

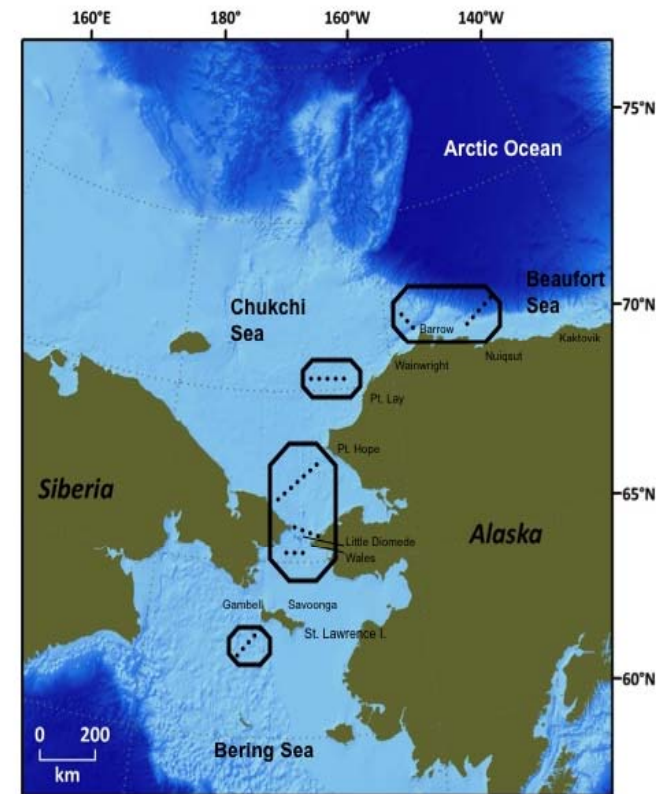


Goal 2: Strengthen Foundational Science to Understand and Detect Arctic Climate and Ecosystem Changes

Goal Statement – Improved baseline observations and understanding of Arctic climate and ecosystems reduces the uncertainty in assessing and predicting impacts caused by a changing Arctic.

Five-year Strategy

- Form the basis for a NOAA Arctic Change Detection System with
 - Enhanced and integrated set of environmental observations
 - Rapid organization, interpretation of this data in near realtime
 - Water level information and forecasts



Four possible regional locations of Distributed Biological Observatory transect lines and stations

Goal 3: Improve Weather and Water Forecasts and Warnings

Goal Statement - Advanced, accurate forecasts and warnings are provided to ensure society can prepare for and respond appropriately to weather-related routine and extreme events.

Five-year Strategy

- Improve Arctic marine weather, sea ice and storm forecast services.
- Protect northern and western Alaska coastal communities from storm surge, inundation, and erosion hazards.

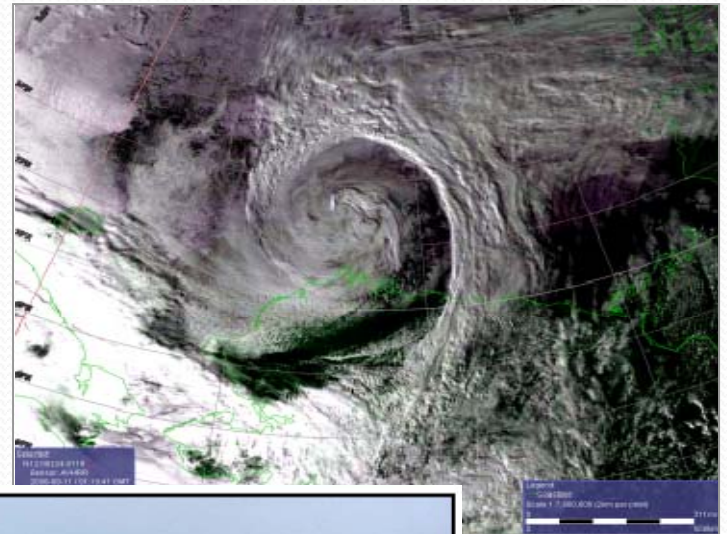


Photo 10: Shoreline erosion during coastal storm in Shismaref. (Credit: Tony Weyiouanna)

Goal 4: Enhance International and National Partnerships

Goal Statement: National and international partners are engaged to promote cooperation and sharing of data, observational platforms, and intellectual resources to enable more rapid and comprehensive attainment of NOAA's Arctic science and ecosystem-based management goals.

Five-year Strategy

- Encourage data sharing at multiple levels among providers and users
- Expand Arctic protection mechanisms
- Provide leadership and resources to support Arctic governance and science organizations
- Support development of effective SAON process



Launch of rosette during 2009 RUSALCA expedition



ARCTIC COUNCIL

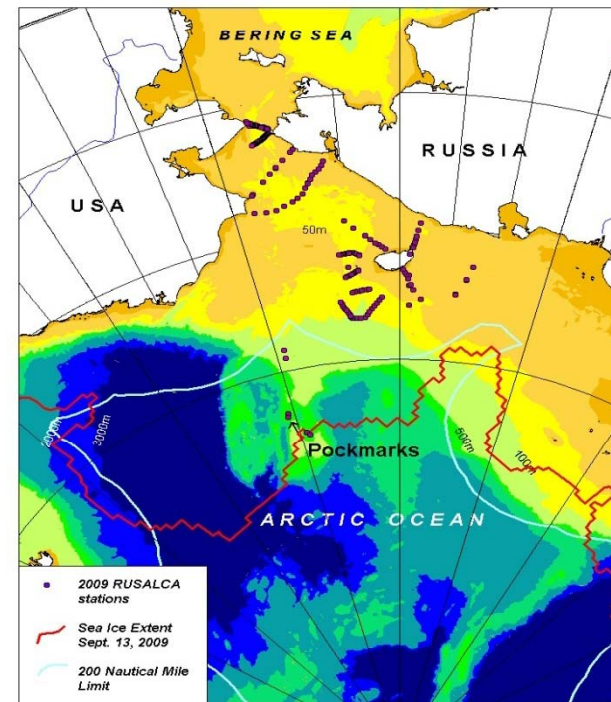


Goal 5: Improve Stewardship and Management of Ocean and Coastal Resources in the Arctic

Goal Statement - Conservation, stewardship, management, and use of ocean and coastal resources are based on sound science, and support healthy, productive, and resilient ecosystems and communities.

Five-year Strategy

- Continue ongoing assessment programs on marine mammals, fish, and shellfish
- Expand two existing programs
 - BASIS and RUSALCA
 - NOAA's ocean acidification program



RUSALCA 2009 stations, bathymetry in meters

K. Crane
NOAA

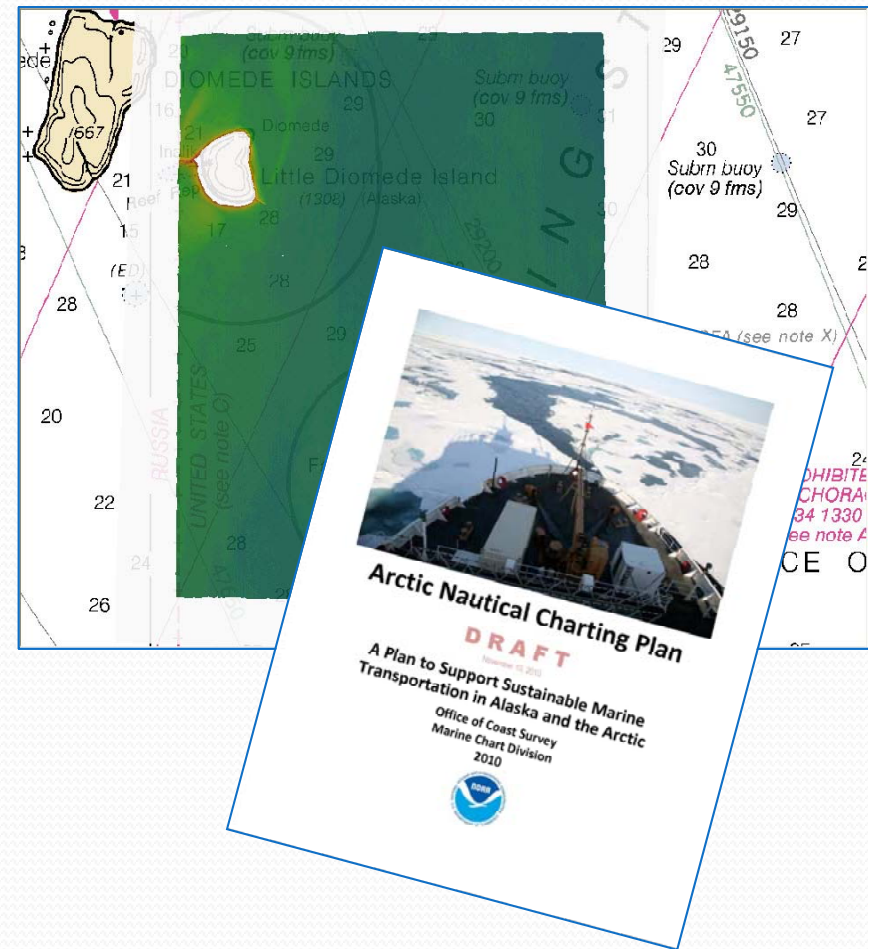
RUSALCA Ecosystem stations taken in 2009 from the Bering Strait north to 77°N on the Chukchi Plateau.

Goal 6: Advance Resilient and Healthy Arctic Communities and Economies

Goal Statement - Resilient and healthy Arctic communities and economies through improved geospatial infrastructure, safe navigation, oil spill response readiness, and climate change adaption strategies.

Five-year Strategy

- Overhaul the Arctic Geospatial Framework
- Deliver scientific support for Arctic pollution response
- Survey and map Arctic waters and shoreline
- Support coastal communities with adaptive strategies and planning tools



Relationship to the NOAA Strategic Plan

NOAA
Strategic Plan

Goal:
Resilient Coastal
Communities and
Economies

Objective:
*Safe, environmentally
sound Arctic access and
resource management*

- Over the next five years, evidence of progress toward safe, environmentally sound Arctic access and resource management will include:
 - Reduced risk and impact of maritime incidents on the Arctic environment;
 - Arctic communities and ecosystems prepared for climate change and weather events with adaptation strategies and plans;
 - A stronger foundational geospatial framework to better support economic and community resilience and inform policy options and coastal management responses to the unique challenges in the region; and
 - Increased international collaboration to strengthen NOAA and U.S. policy objectives in the region.

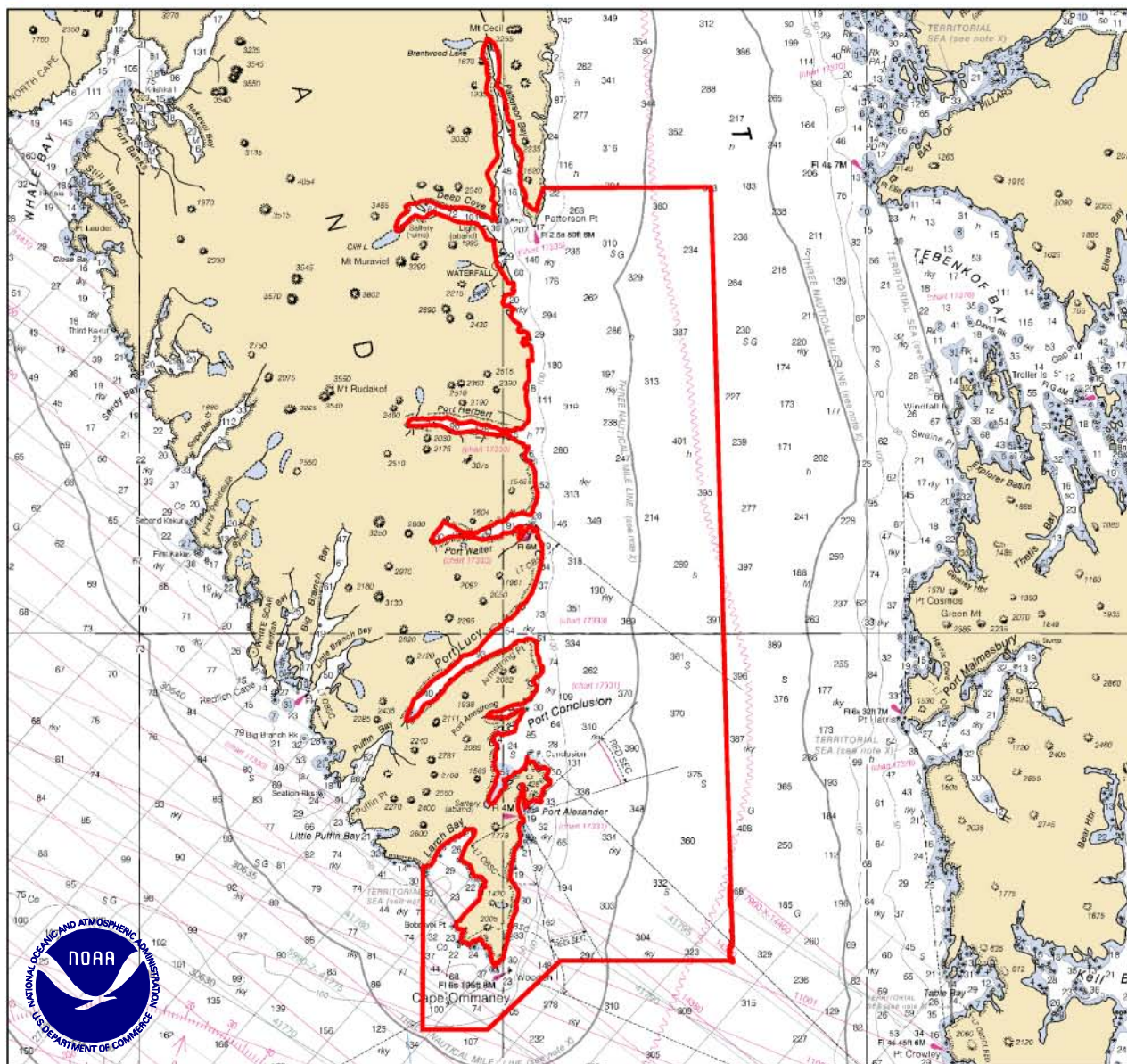
Arctic Vision & Strategy Supports:

- National
 - National Ocean Policy
 - National Climate Change Adaptation Strategy
- NOAA
 - Next Generation Strategic Plan
- Collaboration in Alaska



NOAA Ship Fairweather – October-November 2010

OPR-O322-FA-11 Chatham, Strait, AK



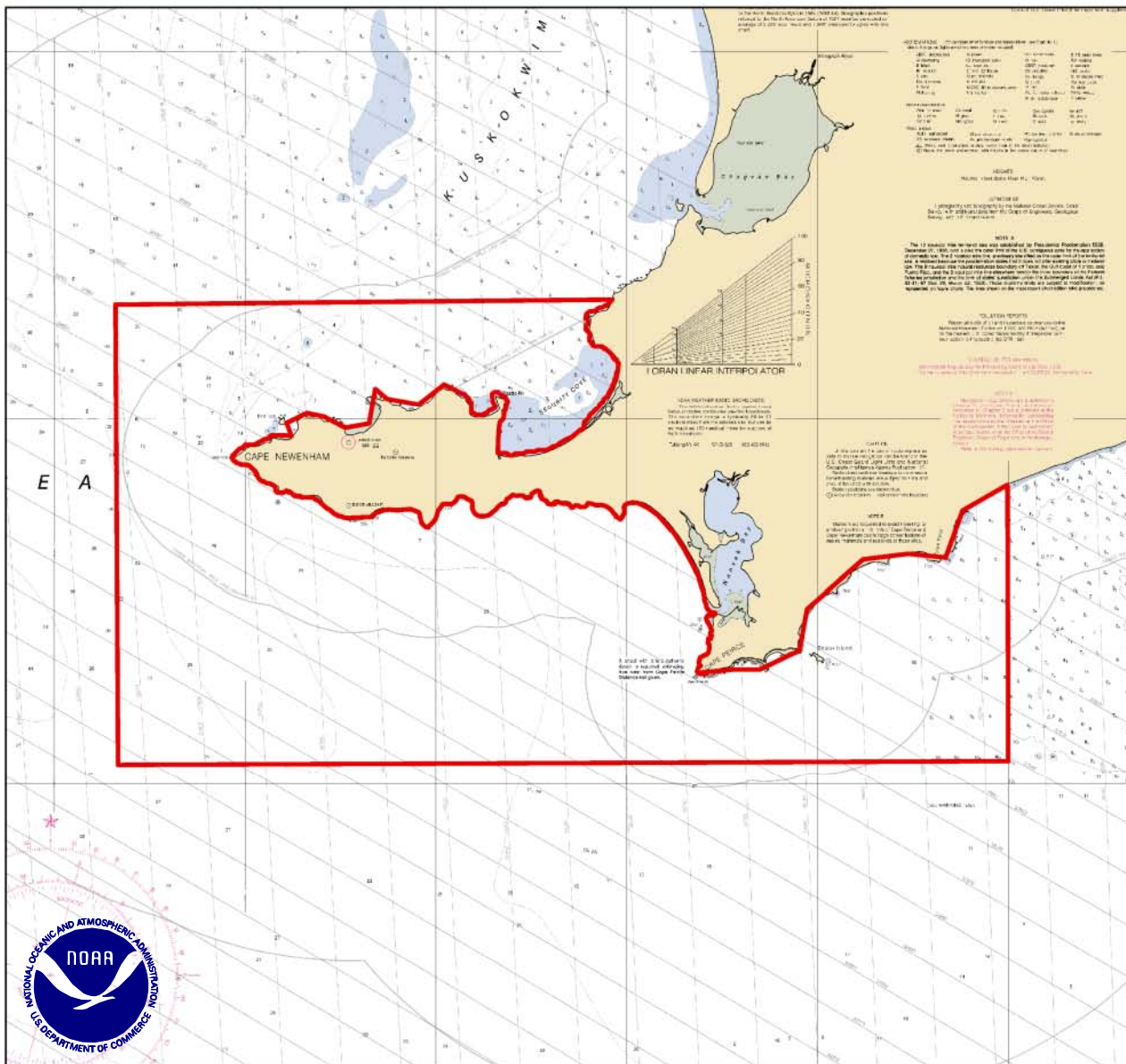
Chatham Strait, AK will be surveyed by NOAA Ship FAIRWEATHER during the 2011 Survey Season.

The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charts. This project lies in the critical survey area of the NOAA Hydrographic Survey Priorities (NHSP). This area is frequently transited by Cruise liners, ferries, USCG cutters, US Navy vessels, tugs and barges, fishing vessels and factory trawlers. Additionally, ships that are too big for Wrangell Narrows and Keku Strait, as well as vessels avoiding storms in the Gulf of Alaska transit through Chatham Strait. This project will cover approximately 166 square nautical miles of critical and priority one survey areas as designated in NOAA Hydrographic Survey Priorities, 2010 edition.



NOAA Ship Fairweather – August 2011

OPR-R381-FA-11 Cape Newenham, AK



Cape Newenham, AK will be surveyed by NOAA Ship FAIRWEATHER during the 2011 survey season.

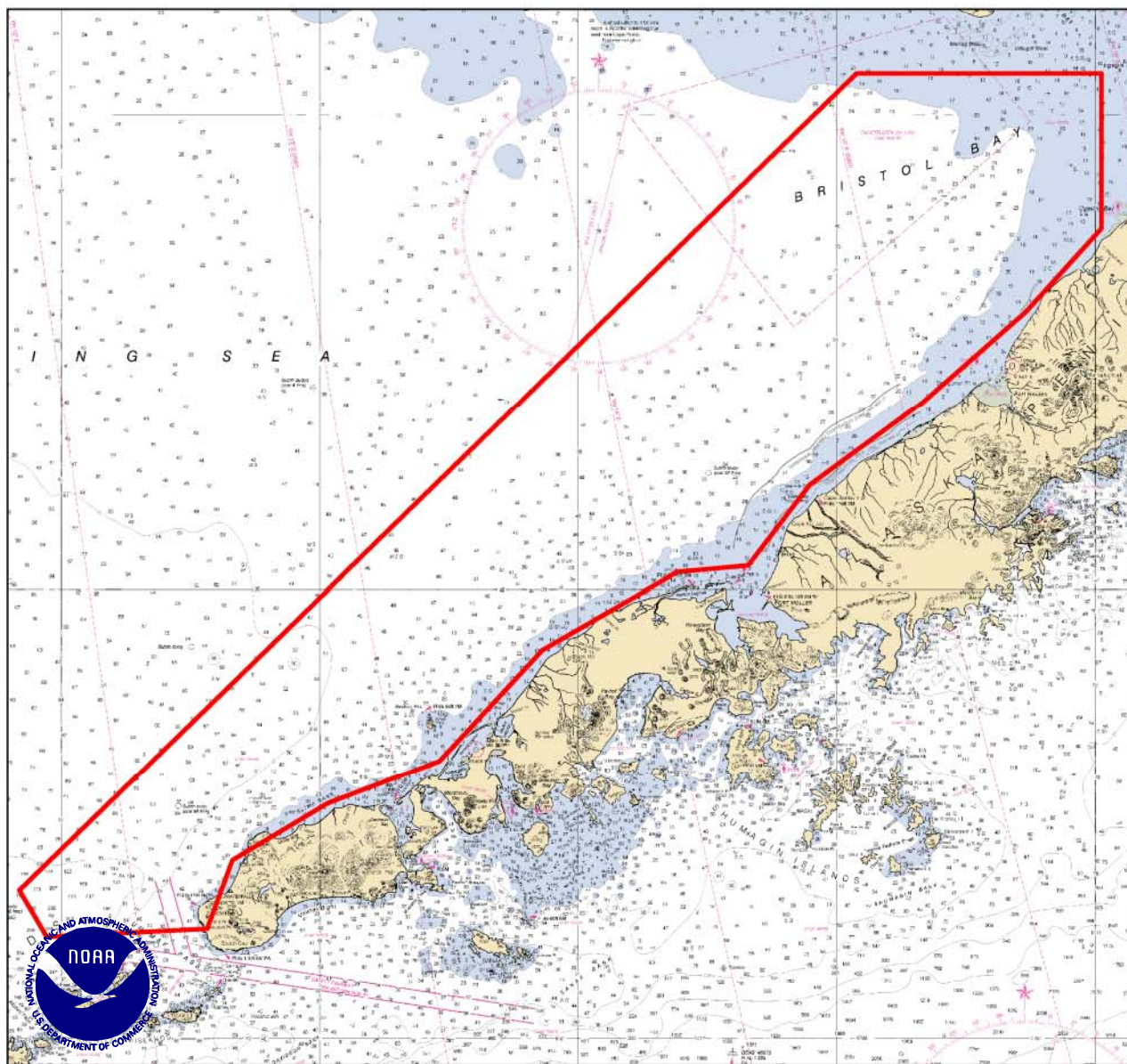
The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charts. This project will cover approximately 210 square nautical miles of navigationally significant areas as designated in NOAA Hydrographic Survey Priorities (NHSP), 2010 edition.

Three tide gauges will be installed to support this project, as well as other CO-OPS projects, including VDatum development.



NOAA Ship Fairweather – July 2011

M-R908-FA-11 Bristol Bay, AK



Bristol Bay, AK will be surveyed by NOAA Ship FAIRWEATHER during the 2011 survey season.

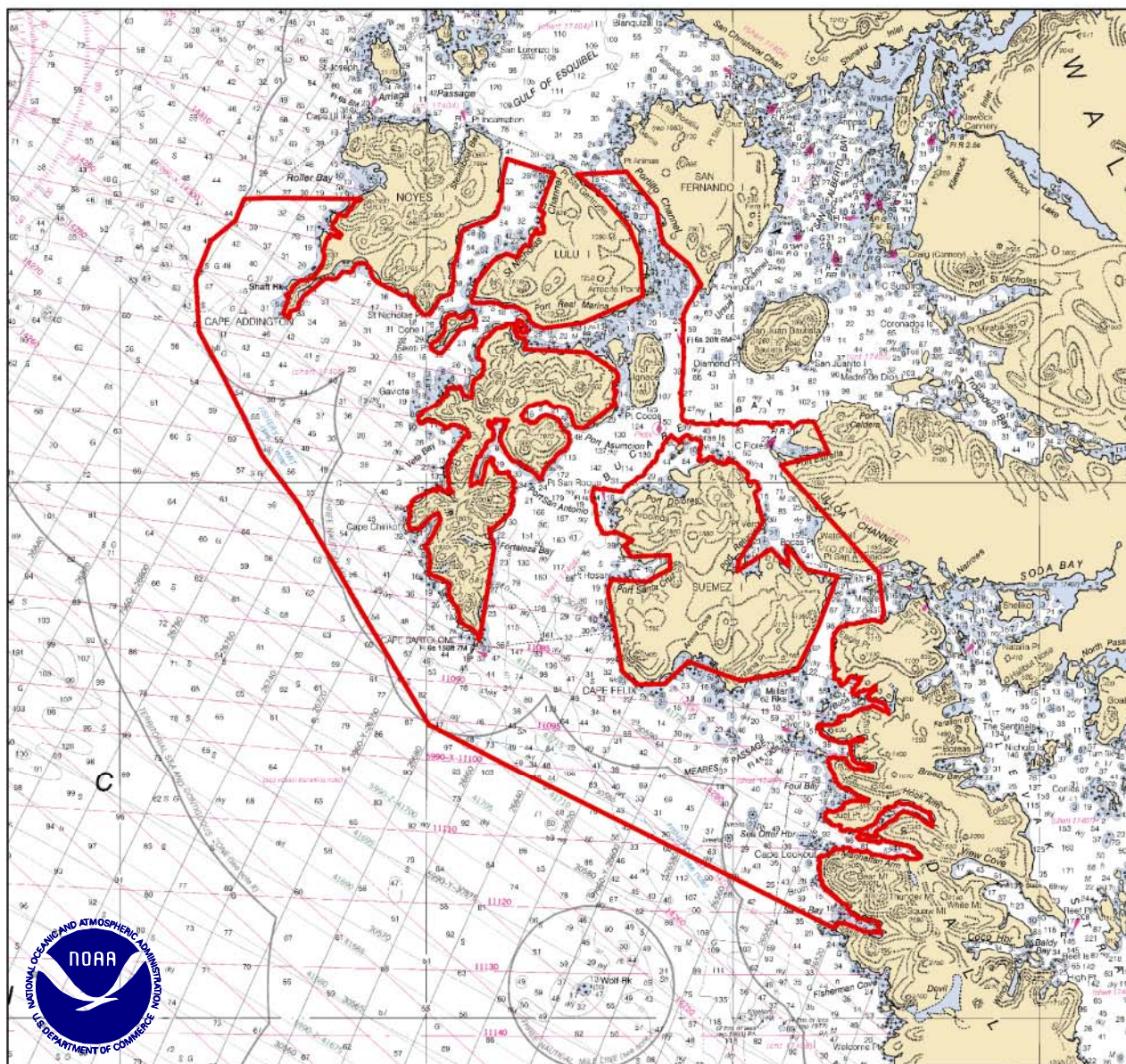
The purpose of this project is to acquire multibeam and backscatter centerline data, along a prescribed line plan, in support of National Marine Fisheries Service (NMFS) research. Data will also be used to update National Ocean Service (NOS) nautical charts.



Trackline survey conducted in conjunction with FishPAC

NOAA Ship Rainier – May-June 2011

OPR-O190-RA-11 West Prince of Wales Island, AK



West Prince of Wales Island, AK will be surveyed by NOAA Ship RAINIER during the 2011 Survey Season.

The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charts. This project lies in the critical survey area of the NOAA Hydrographic Survey Priorities (NHSP). This project will cover approximately 176 square nautical miles of critical and priority one survey areas as well as 121 square nautical miles of navigationally significant areas as designated in NOAA Hydrographic Survey Priorities, 2010 edition.

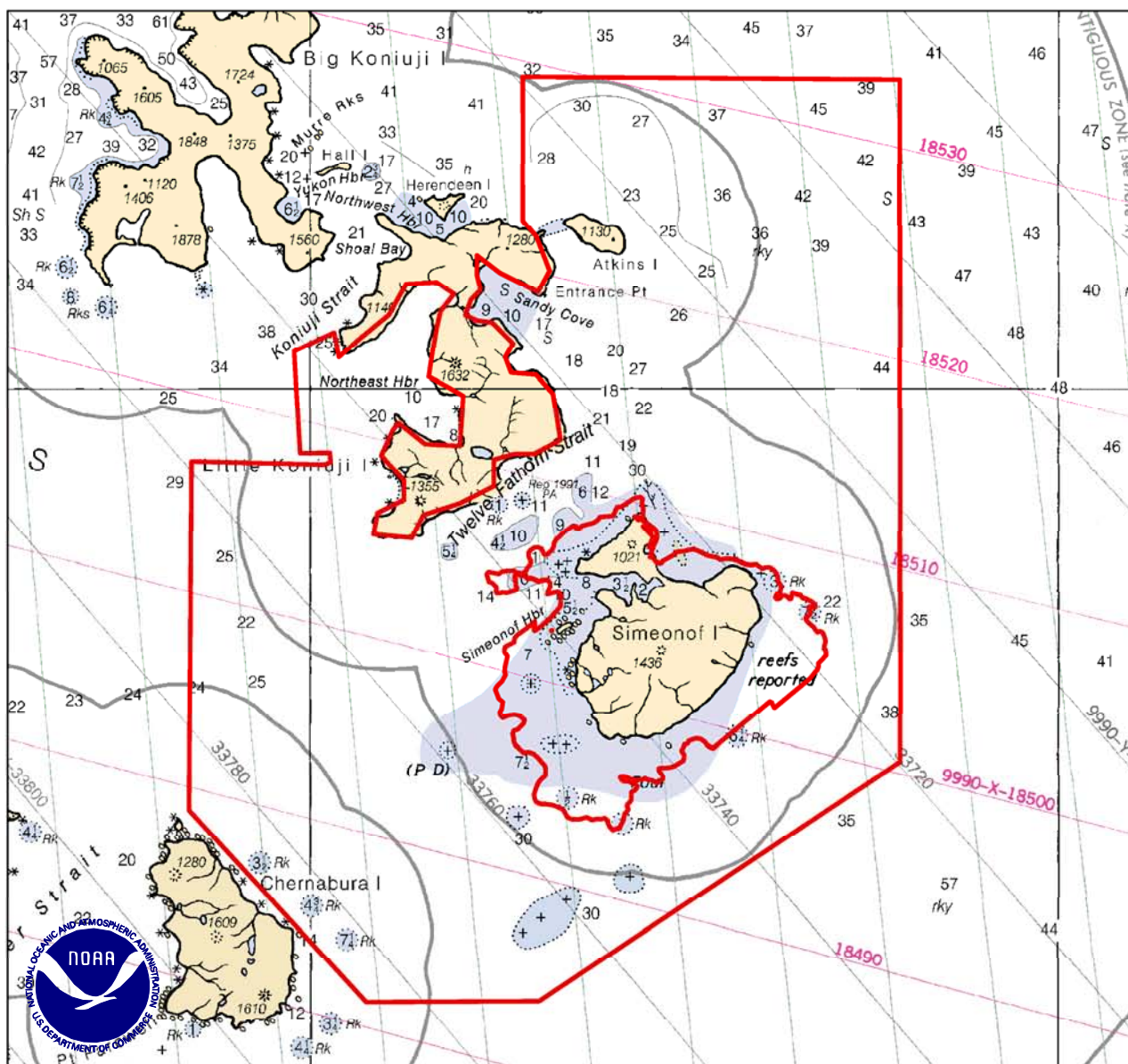
The data will also be used to support the Tsunami DEM program.

A tide gauge will be installed to support this project, as well as other CO-OPS projects, including VDatum development.



NOAA Ship Rainier – June-August 2011

OPR-P183-RA-11 Shumagin Islands, AK



Shumagin Islands, AK will be surveyed by NOAA Ship RAINIER during the 2011 survey season.

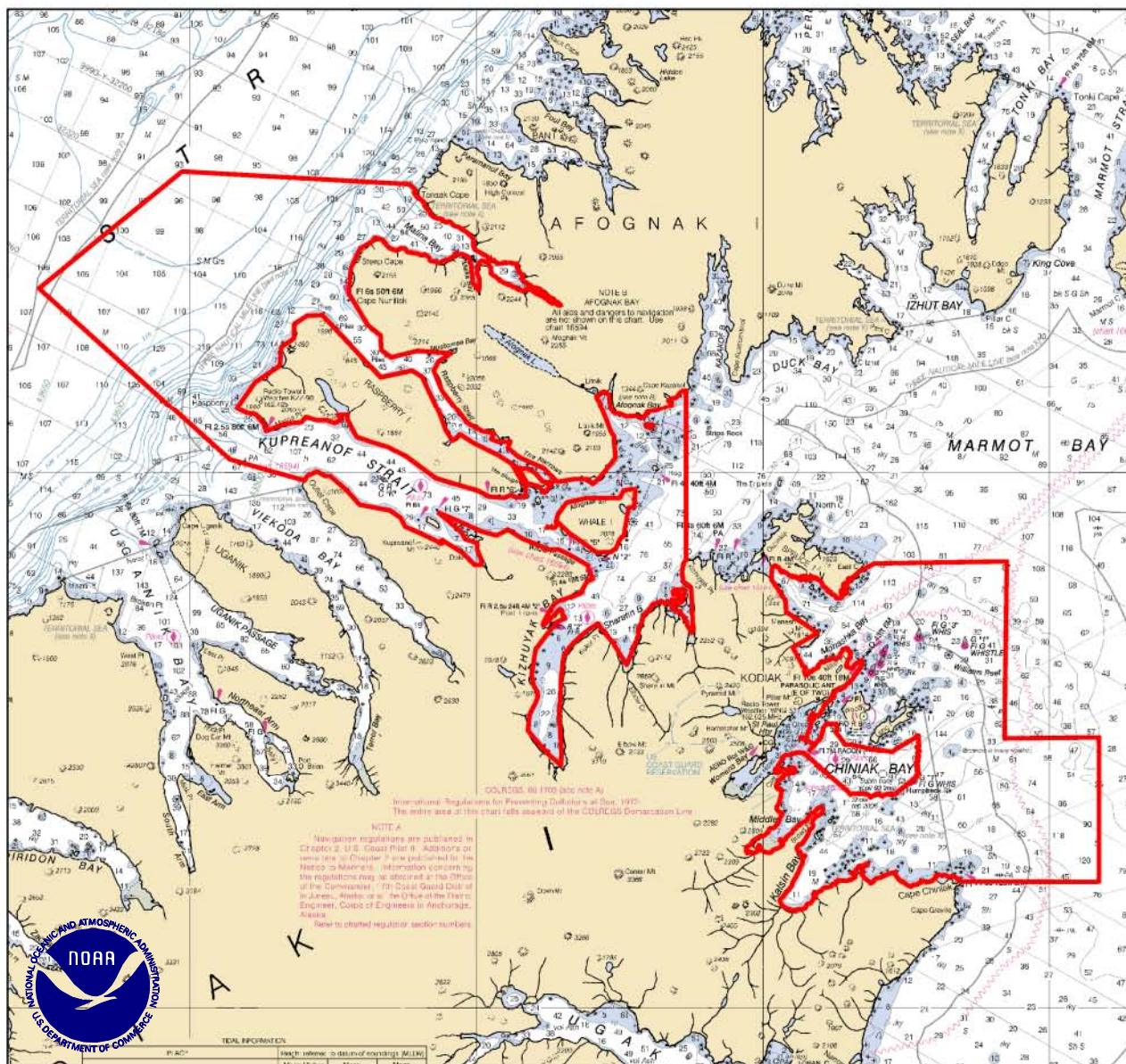
The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charts. This project lies in the critical survey area of the NOAA Hydrographic Survey Priorities (NHSP). This project will cover approximately 223 square nautical miles of critical survey areas as designated in NOAA Hydrographic Survey Priorities, 2010 edition.

The data will also create DTM maps in support of the efficiencies in longline and pot fisheries, while minimizing habitat disruption.



NOAA Ship Rainier – September 2011

OPR-P136-RA-11 North Coast of Kodiak Island, AK



The North Coast of Kodiak Island, AK will be surveyed by NOAA Ship RAINIER during the 2011 survey season.

The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charts. This area has been identified as seeing an increasing number of passenger and tour vessels, as well as a large fishing fleet. This project will cover approximately 556 square nautical miles of emerging crit and priority survey areas as designated in NOAA Hydrographic Survey Priorities (NHSP), 2010 edition.

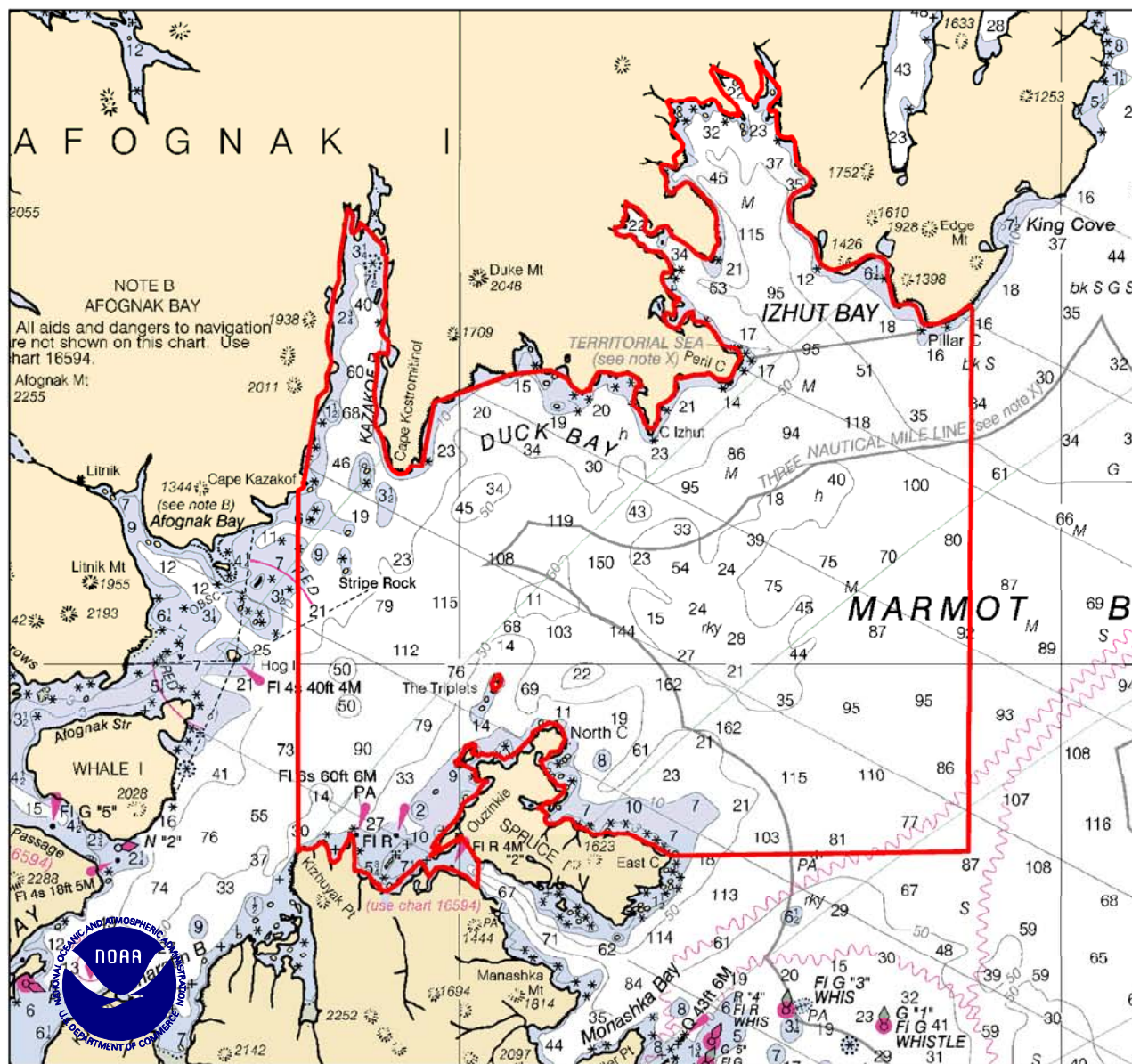
The data will also create DTM maps in support of the efficiencies in longline and pot fisheries, while minimizing habitat disruption and be used to support the Tsunami DEM program.

Three tide gauges will be installed to support this project, as well as other CO-OPS projects, including VDatum development.



NOAA Ship Fairweather – May-June 2011

OPR-P136-FA-11 North Coast of Kodiak Island, AK



The North Coast of Kodiak Island, AK will be surveyed by NOAA Ship FAIRWEATHER during the 2011 survey season.

The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charts. This area has been identified as seeing an increasing number of passenger and tour vessels, as well as a large fishing fleet. This project will cover approximately 249 square nautical miles of emerging crit and priority survey areas as designated in NOAA Hydrographic Survey Priorities (NHSP), 2010 edition.

One tide gauge will be installed to support this project, as well as other CO-OPS projects, including VDatum development.



Invasive Species in Alaska Harbors



- Violet Tunicate: Botrylloides violaceus, smothering native tunicate
 - Present since 2007 in Metlakatla, Ketchikan, Sitka, and Homer

These organisms foul boat hulls, pilings, docks, and aquaculture gear, compete with native species, and threaten fisheries. Inquire about opportunities to join monitoring efforts.

FOR MORE INFORMATION OR TO REPORT AN INFESTATION CALL:

1-877-INVASIV



Invasive Species in Alaska Harbors



- Golden Star Tunicate: *Botryllus schlosseri*, on mussel on boat hull
 - Present in Sitka since 2007

These organisms foul boat hulls, pilings, docks, and aquaculture gear, compete with native species, and threaten fisheries . Inquire about opportunities to join monitoring efforts.

FOR MORE INFORMATION OR TO REPORT AN INFESTATION CALL:

1-877-INVASIV



Invasive Species in Alaska Harbors



- Glove Leather/Marine Vomit Tunicate: *Didemnum vexillum* , on oyster cage
 - Detected in Whiting Harbor, Sitka 2010

These organisms foul boat hulls, pilings, docks, and aquaculture gear, compete with native species, and threaten fisheries . Inquire about opportunities to join monitoring efforts.

FOR MORE INFORMATION OR TO REPORT AN INFESTATION CALL:

1-877-INVASIV





Amy Holman
NOAA Alaska Regional Coordinator
222 West 7th Avenue, Suite 23
Anchorage, AK 99513
907-271-5334
amy.holman@noaa.gov

