

Arctic Maritime Safety

State of Alaska Senate

Managing the Arctic Maritime Domain Through Application of Available Technology

Captain Ed Page, USCG (Ret)
Executive Director

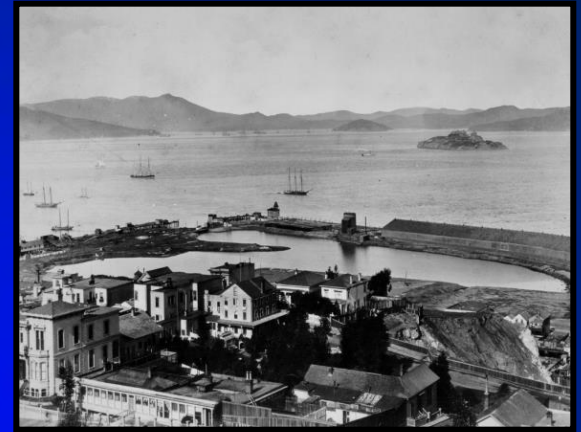


Marine Exchange of Alaska

A non-profit maritime organization established to provide the Alaska maritime community information, communications and services to ensure safe, secure, efficient and environmentally responsible maritime operations.



Marine Exchanges



Telegraph Hill San Francisco
1850

Marine Exchanges Date Back to 1800's

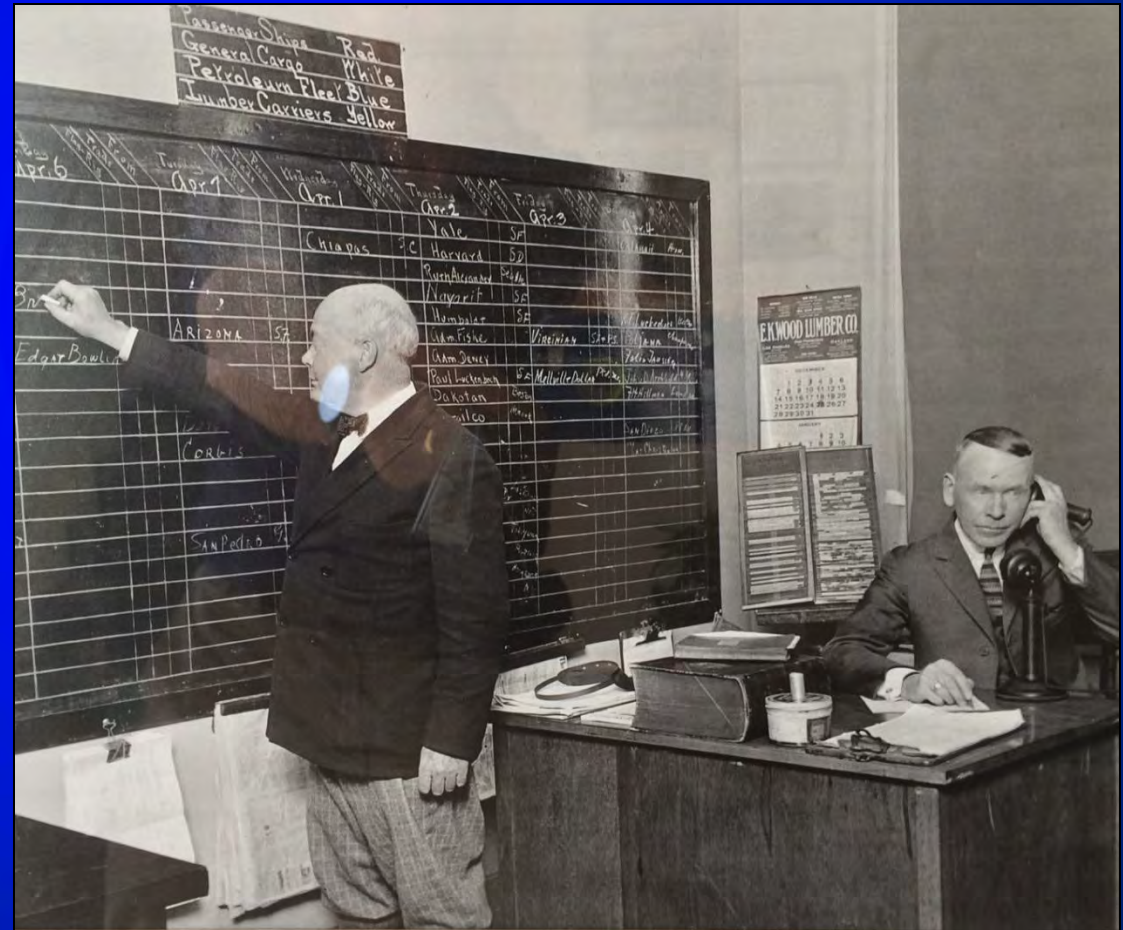
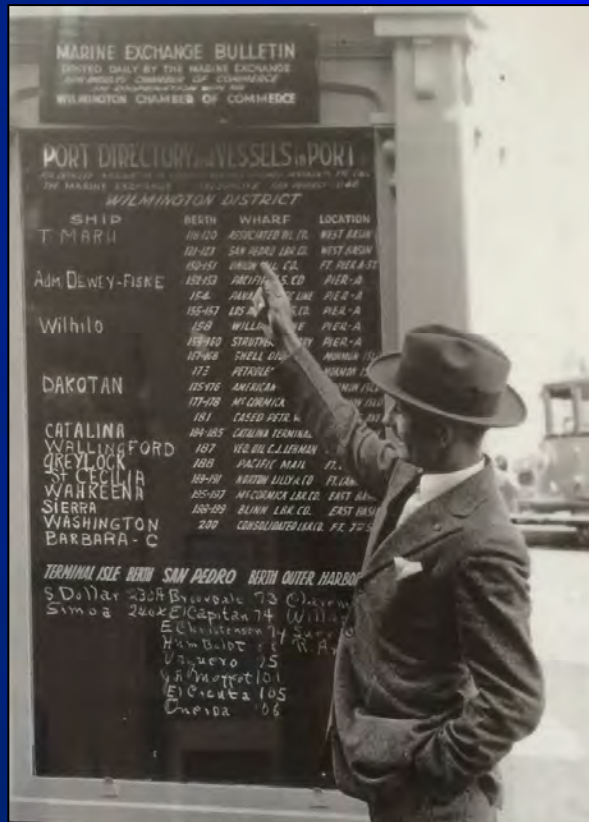
- Honest Brokers of Maritime Information
- Initially telescopes and semaphore
- Today radars, radios, AIS, e-mail, web, and satellites.



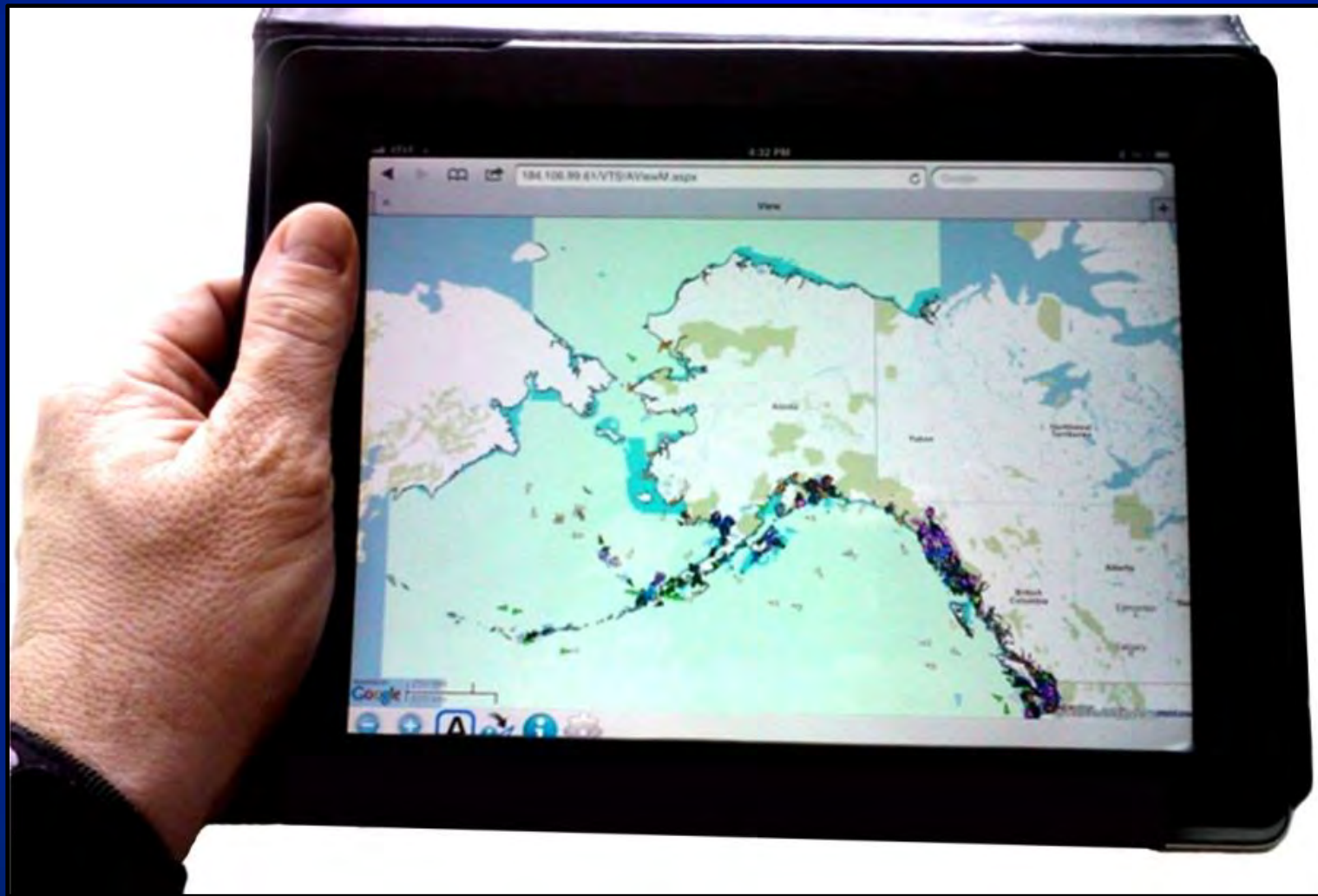
San Francisco Exchange 1857

Marine Exchange circa 1900

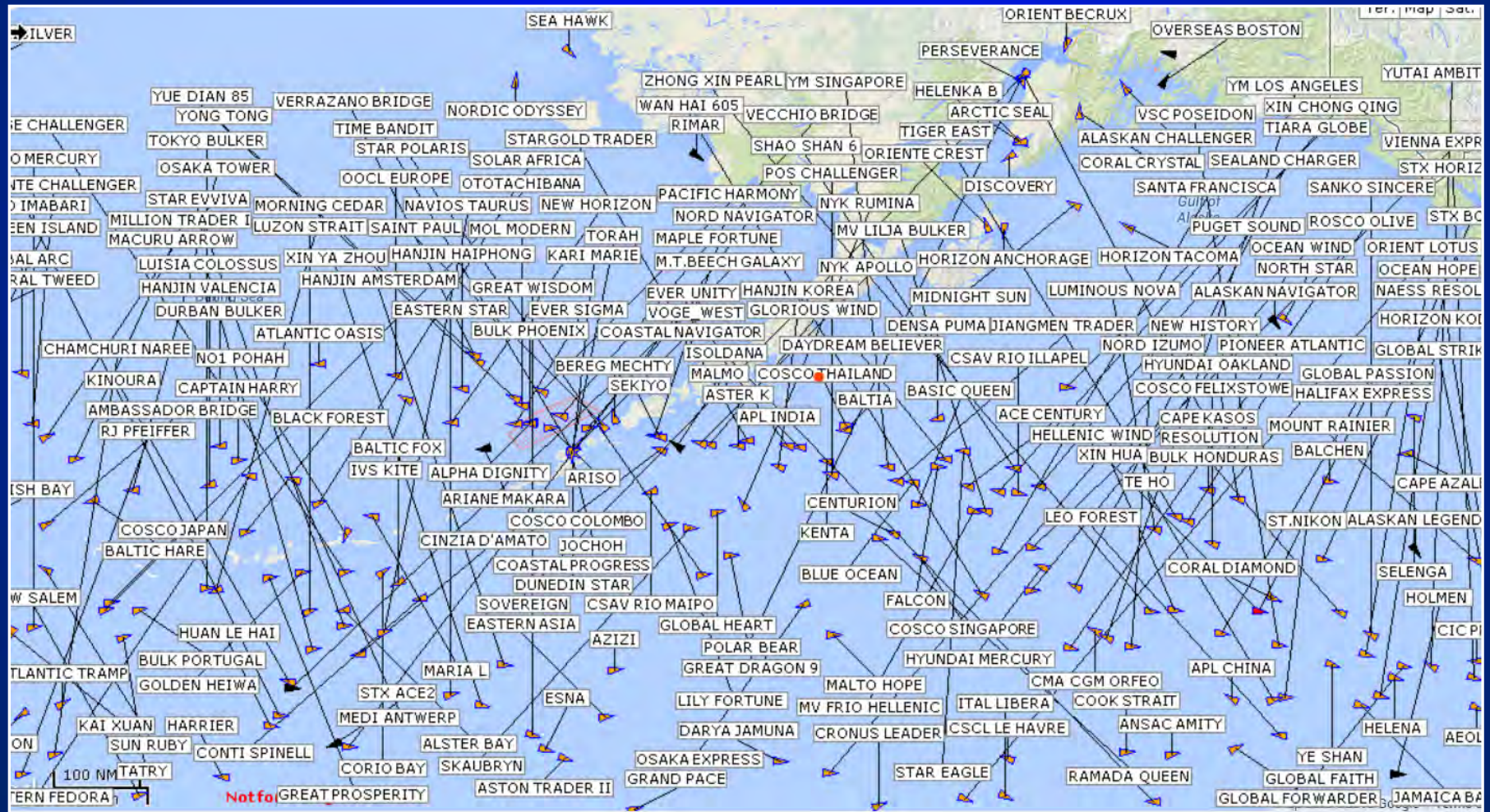
“Exchanging” information to aid commercial shipping operations

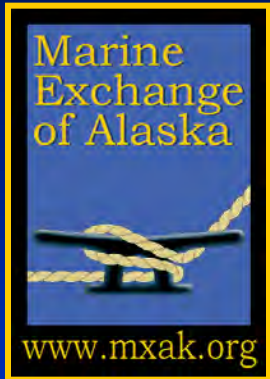


Today....Information Disseminated by
Internet, Smart Phones, PDAs, etc.



Alaska Vessel Traffic





Why Track Vessels?

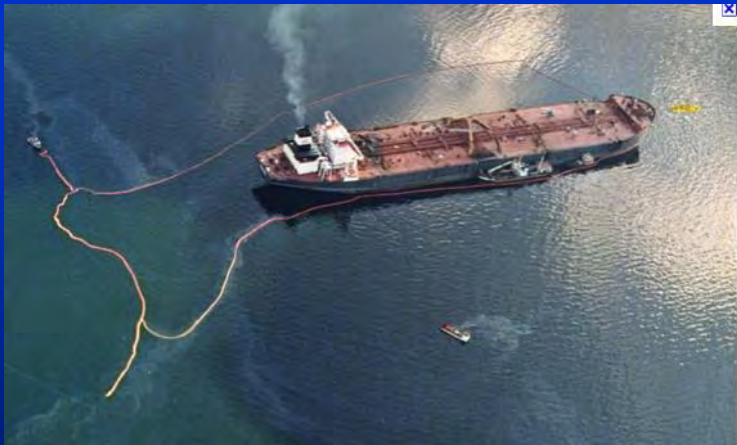
- Safety Net
- Risk Assessments
- Environmental Protection
- Validate Compliance
- Emergency Response
- Improve Efficiency
- Maritime Security

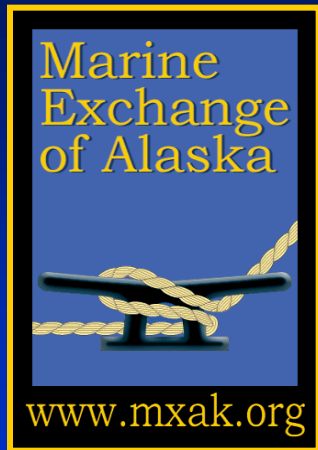


Safe, Secure, Efficient and Environmentally Sound Maritime Operations

99.99% Success

Public Outrage





Shared Marine Industry, Coast Guard and State of Alaska Commitment



Safe, Secure, Efficient and Environmentally Sound Maritime Operations



State Application of Vessel Tracking System

- ADFG: Fisheries management, environmental studies
- DOT: Alaska Marine Highway System, Strategic Planning
- DMVA-ADES: Emergency Response
- DCCED: Marine Pilotage Oversight
- ADEC: Shellfish farming, Environmental Compliance, Emergency Response, Cruise Ship Monitoring



Common Challenges

U.S. CAN

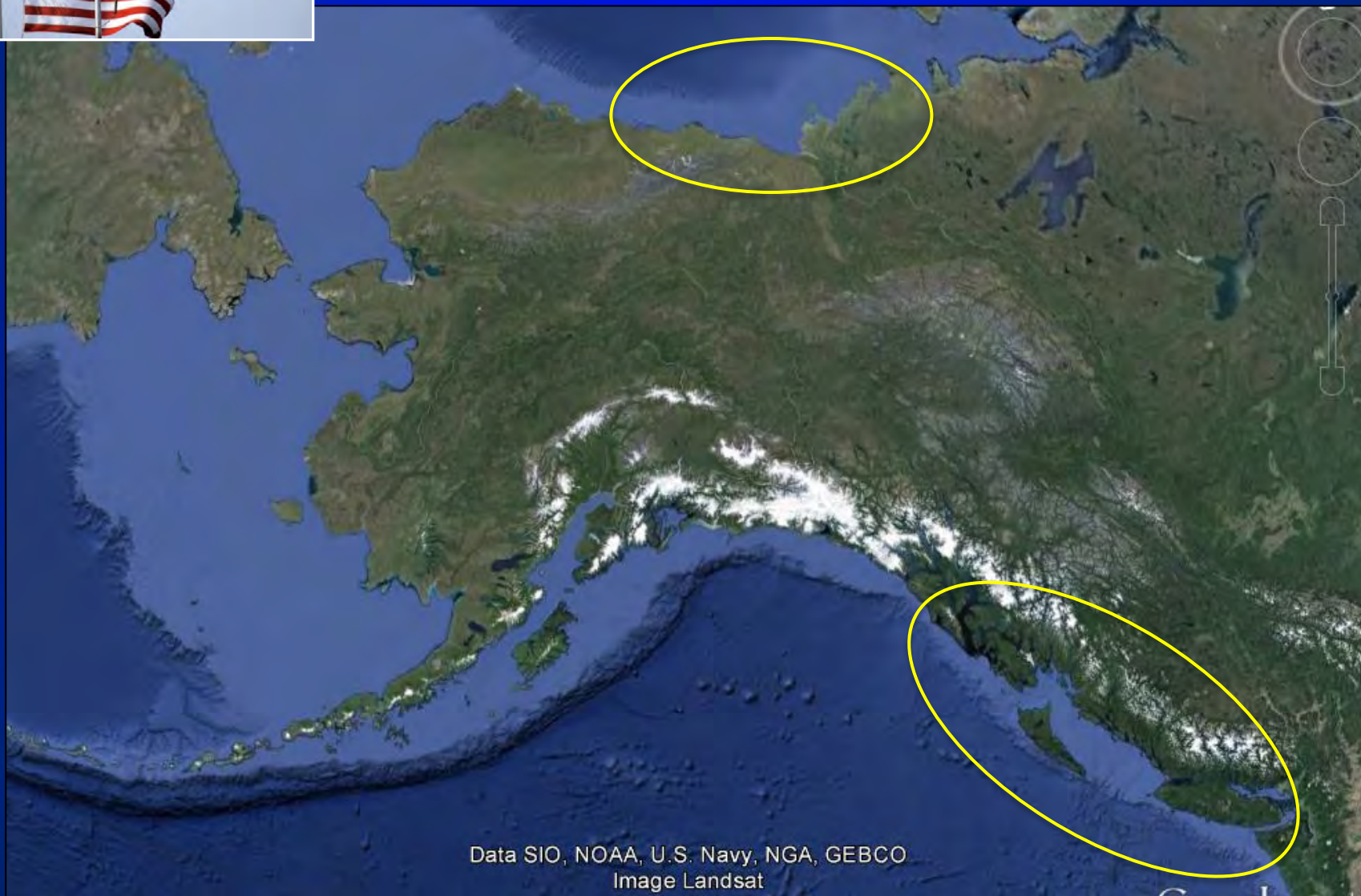
X	X
X	X
X	X
X	X
X	X
X	X
X	X
X	X

PNR – MOVING TO FOCUS AREAS

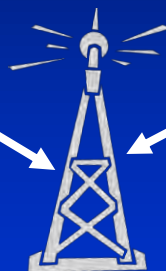
- Anticipate operational pressures in the northern transportation system, based on our mandate and changing environment:
 - Climate change and changing ice conditions
 - New and expanded resource development
 - Community resupply
 - Tourism; smaller vessels and cruise ships
 - Increased marine traffic
 - Limited search and rescue capacity
 - Limited infrastructure, cost of building and maintaining infrastructure
 - International interests



Common Areas of Concern

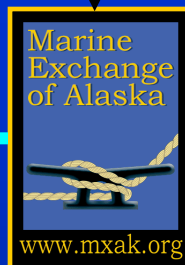


Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat



AIS Technology
(land based)

120+ Marine Safety Sites
in Alaska

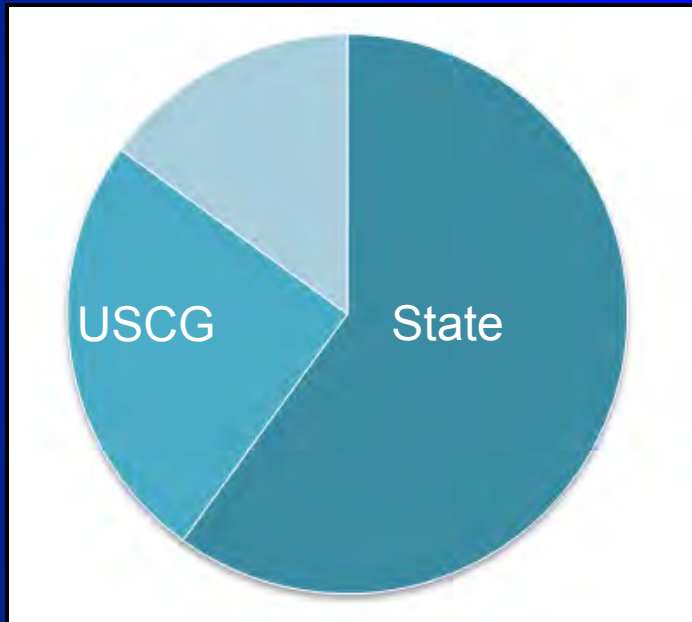


Marine Industry and Others
Ports, Vessel Operators, NGO's



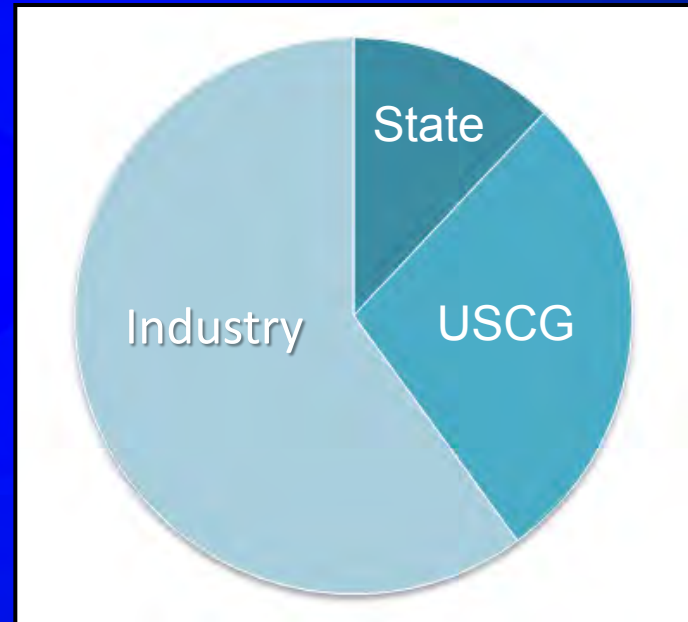
State Capital Grant Funding

2009



60%

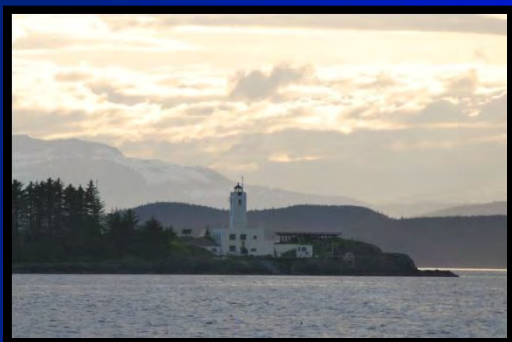
2014



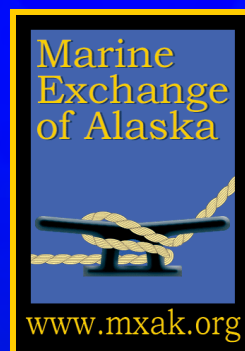
12%

Vessel Tracking Support

Alaska Maritime Community Support of AIS Network



- Lighthouse Associations
- Pilot Stations
- Harbor Offices
- Fish Hatcheries
- Tug Offices
- Shipping Companies
- Fish Processing Plants
- Tribal Offices
- Oil Facilities
- Science Centers
- Oil Spill Response Organizations

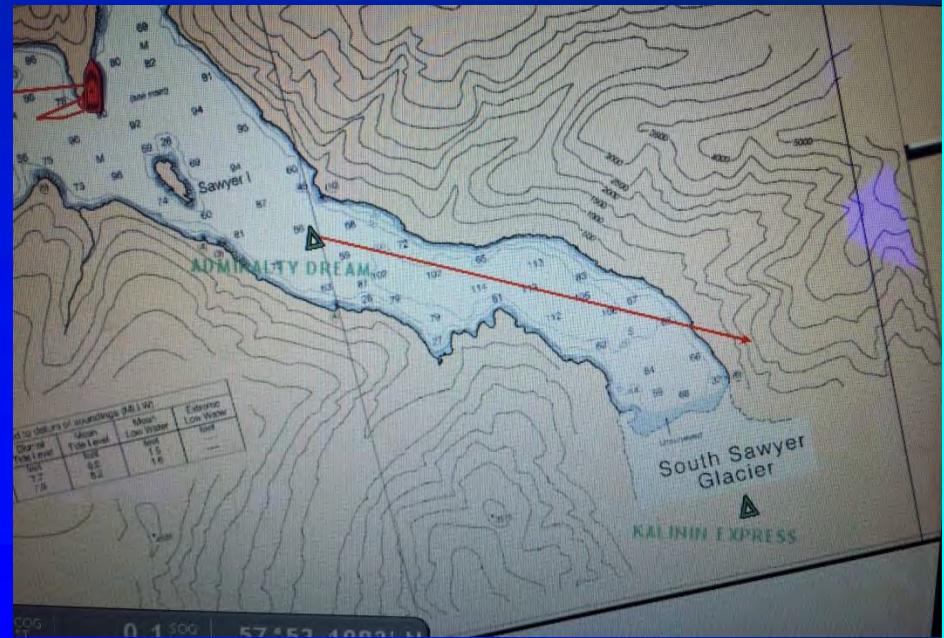




Remote – Self Supported AIS Sites



Southeast Alaska Ops





Loading AIS unit onto vessel in Dutch Harbor for delivery to Umnak Island.



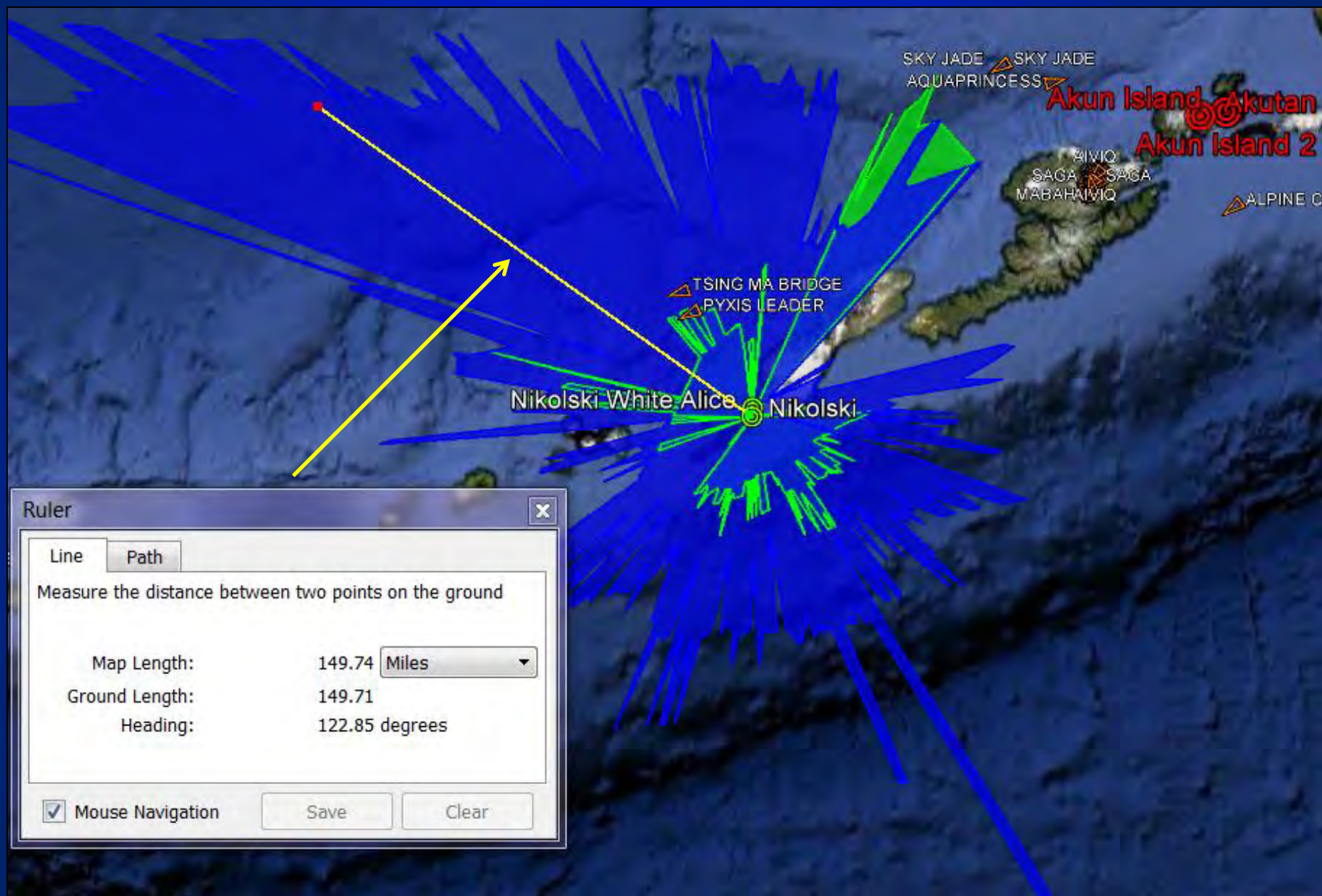


Nikolski





Nikolski



Domain Awareness & SAR





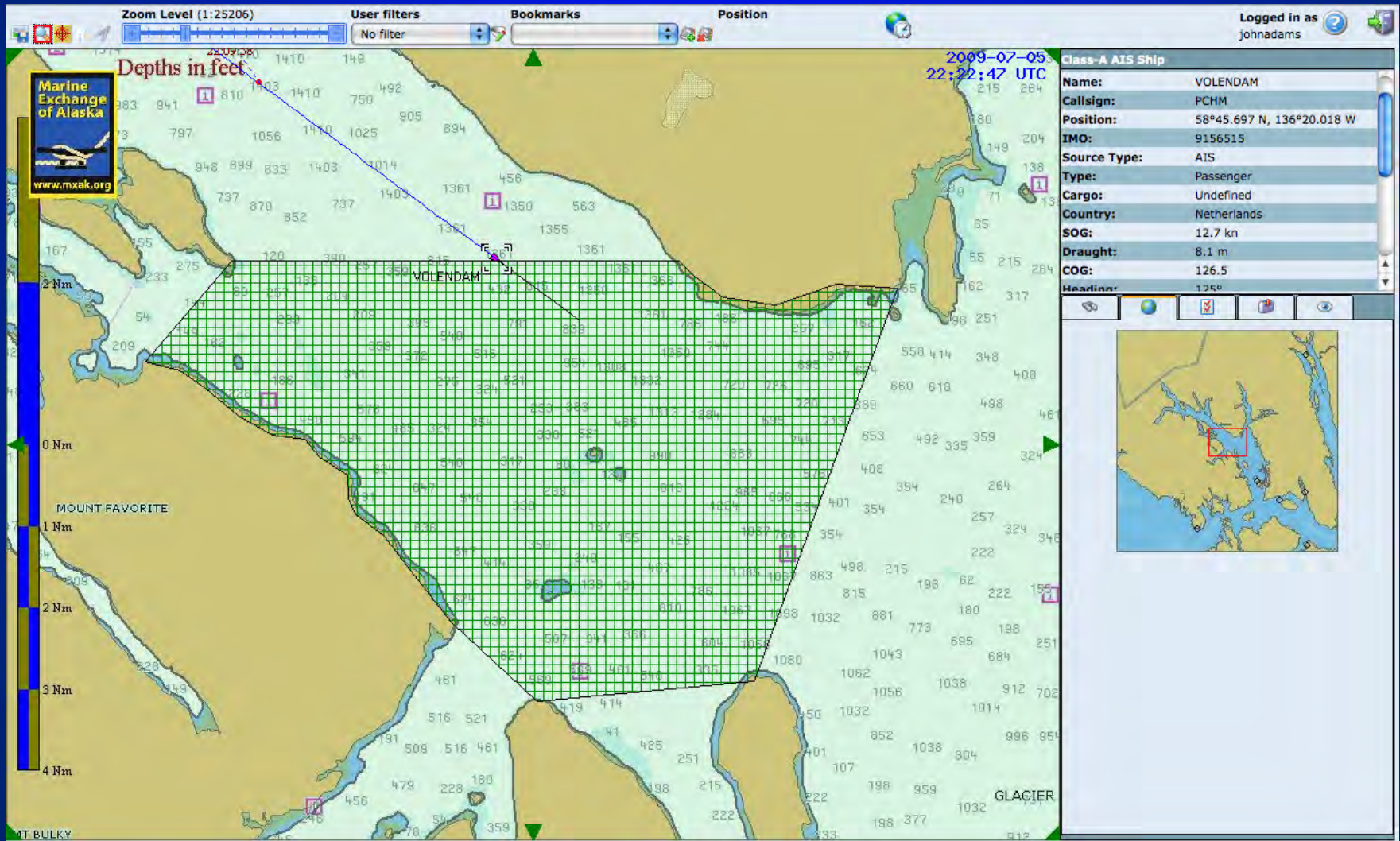
Detected Disabled Vessels

Failure to Notify of Marine Casualty

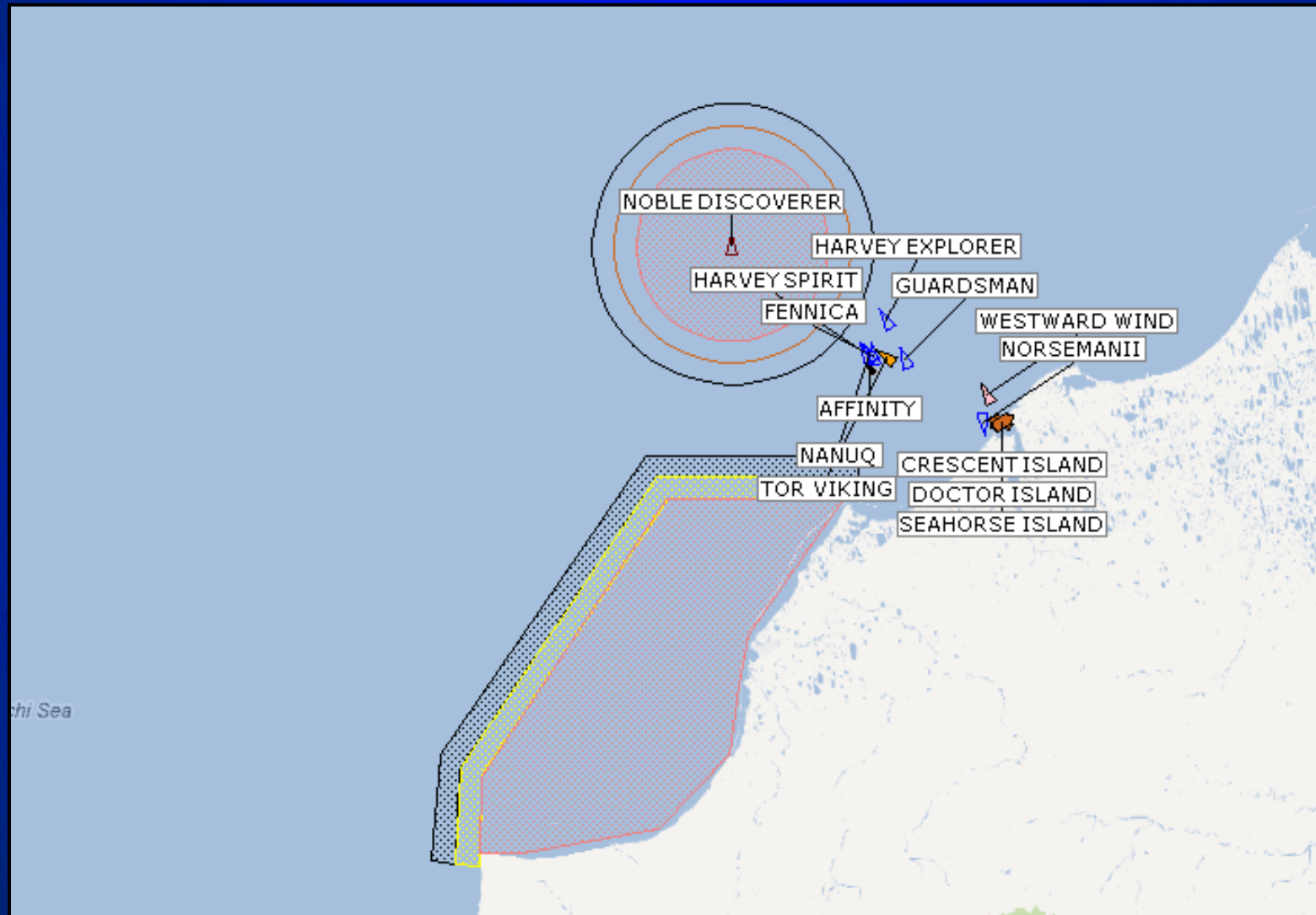


Cruise ships Transiting Whale Waters

Automatic generation of e-mail and text msg alerts



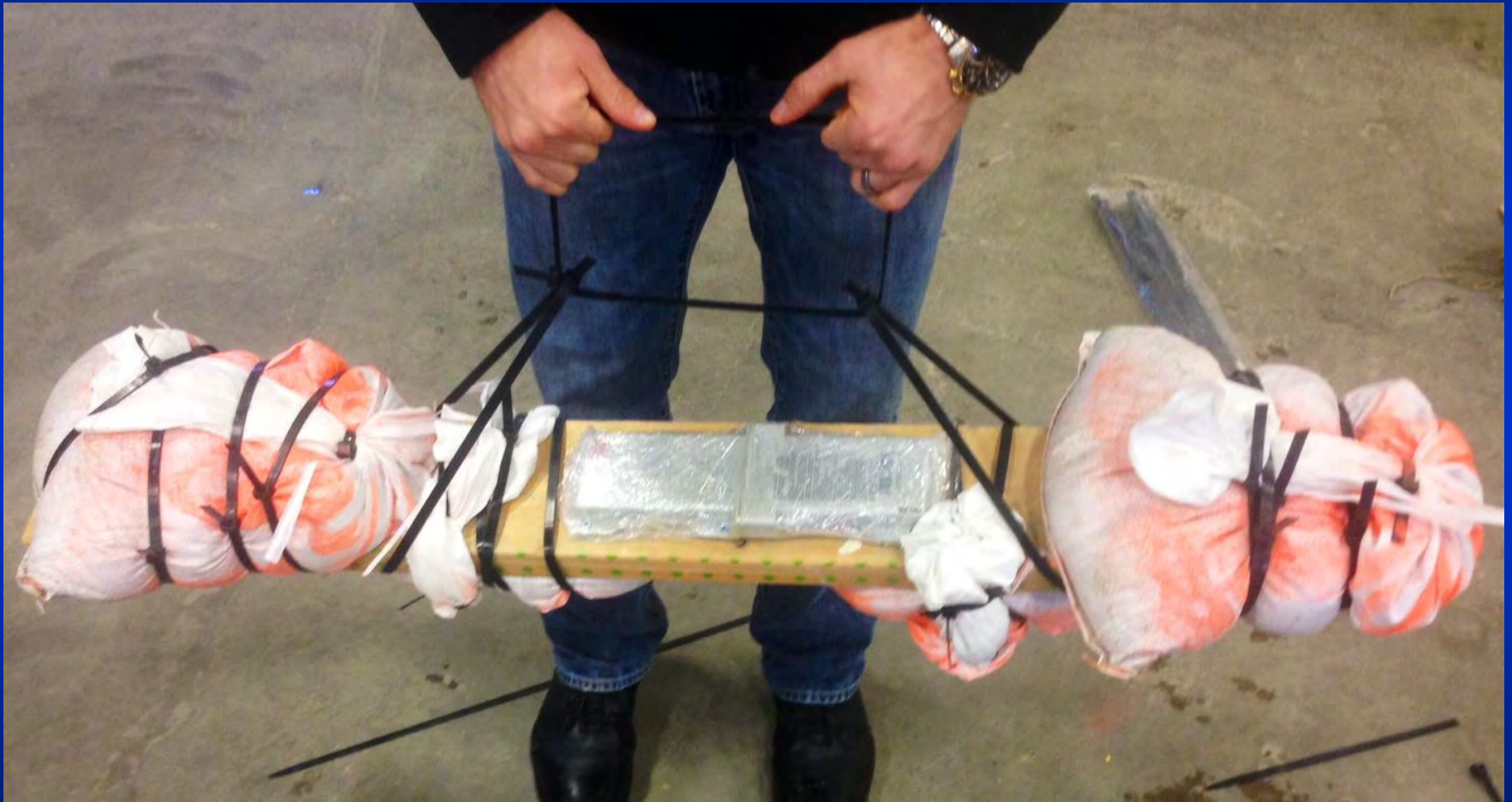
Shell Exploration Fleet Monitoring



Canadian Barge Adrift in U.S. Arctic



Transponder Deployment



Barge – 20 Miles Off Russia

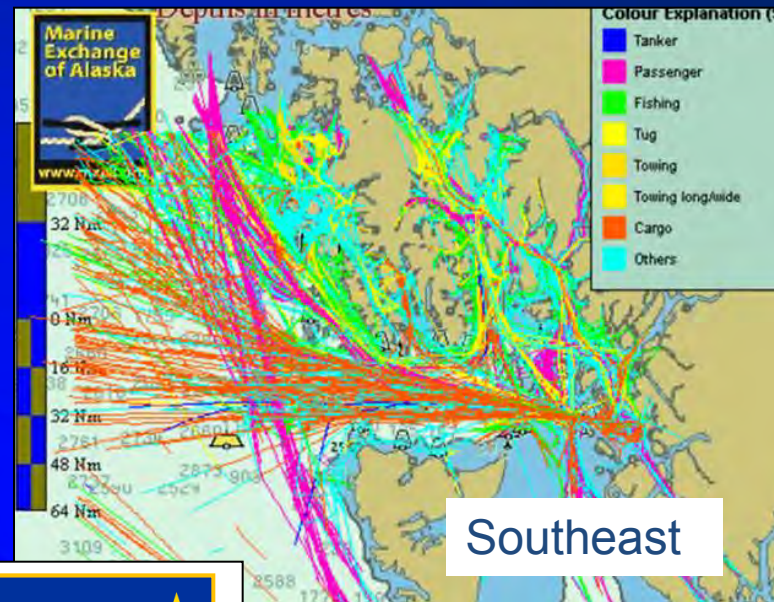
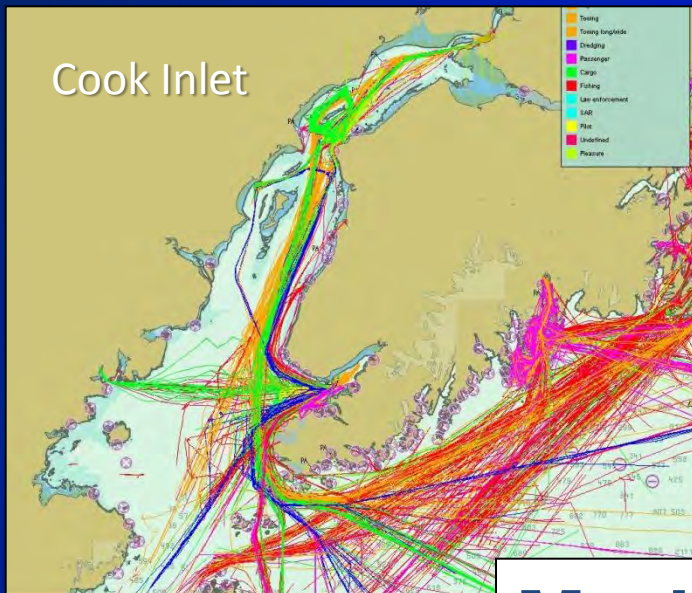




Arctic Safety Net Project

Sponsors: Pew, IUCN, Oak Foundation and Arctic Council

Cook Inlet

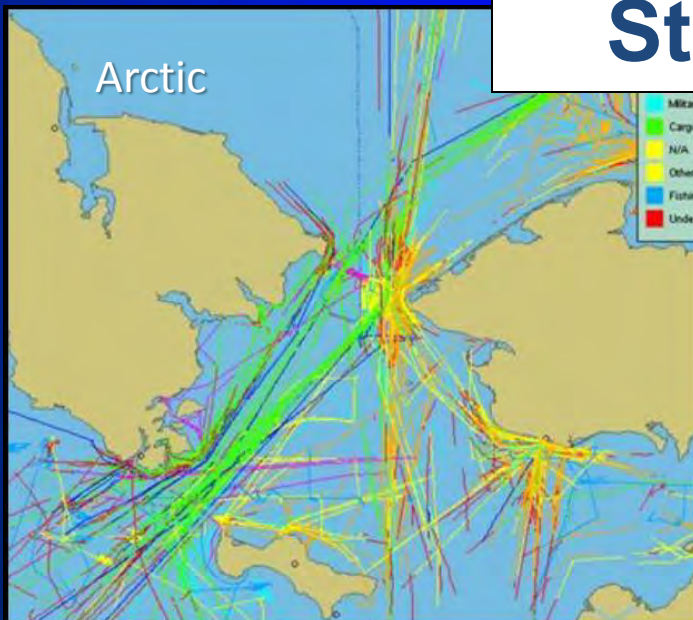


Southeast

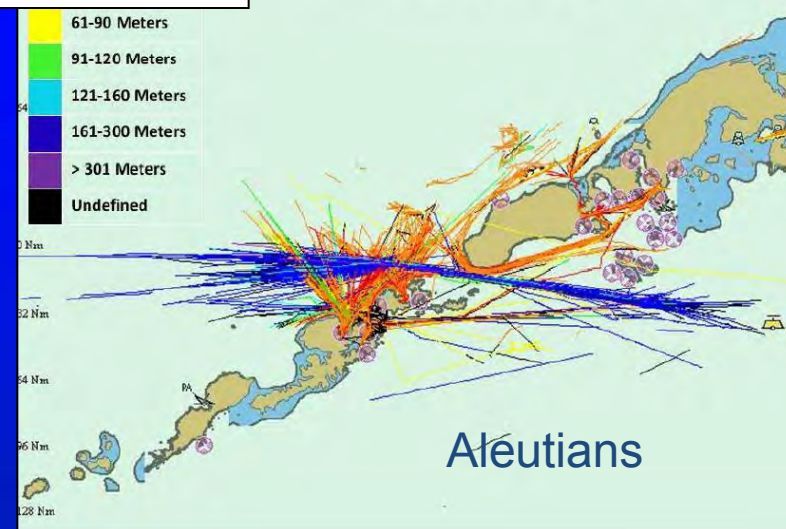
Maritime State



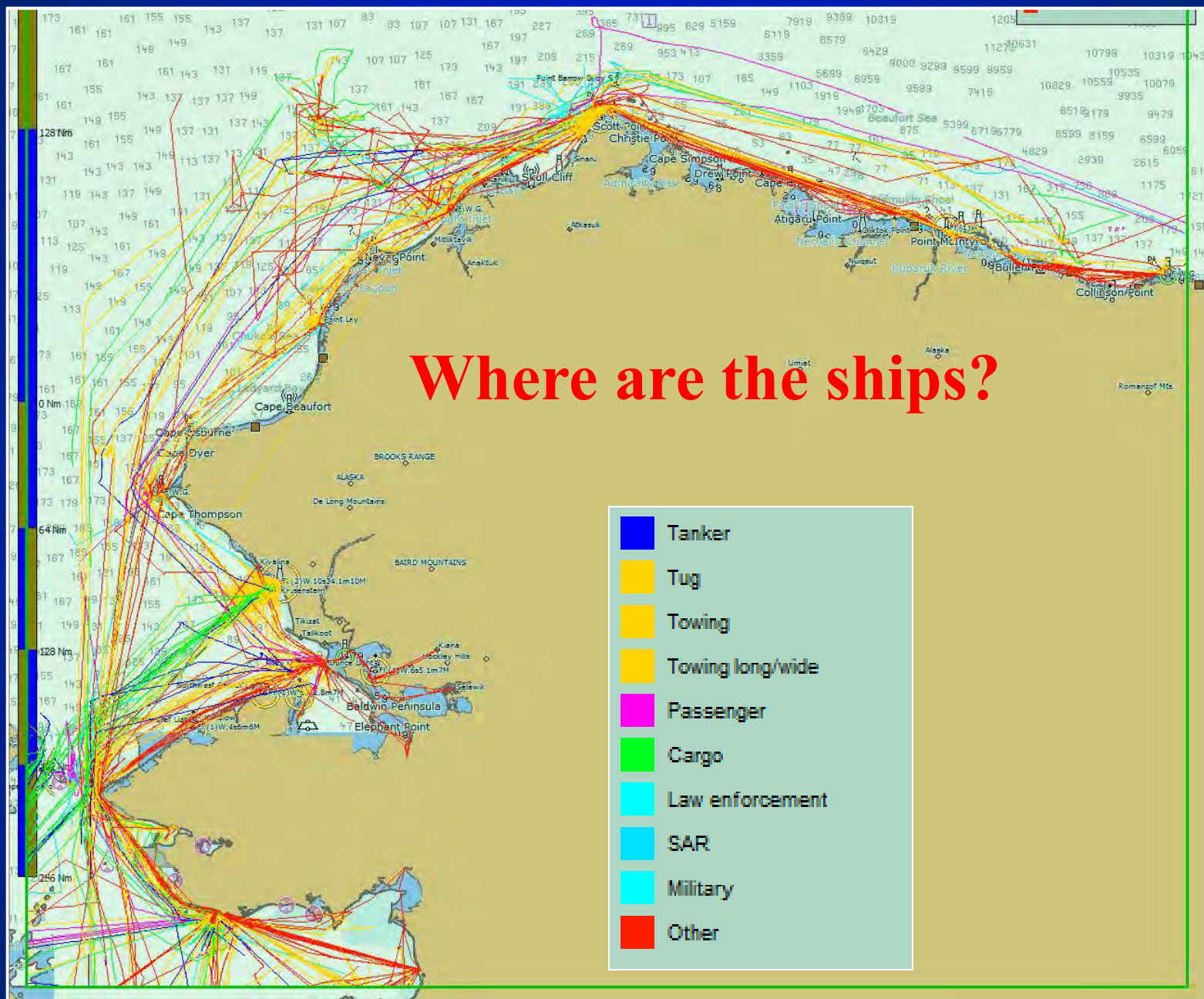
Arctic



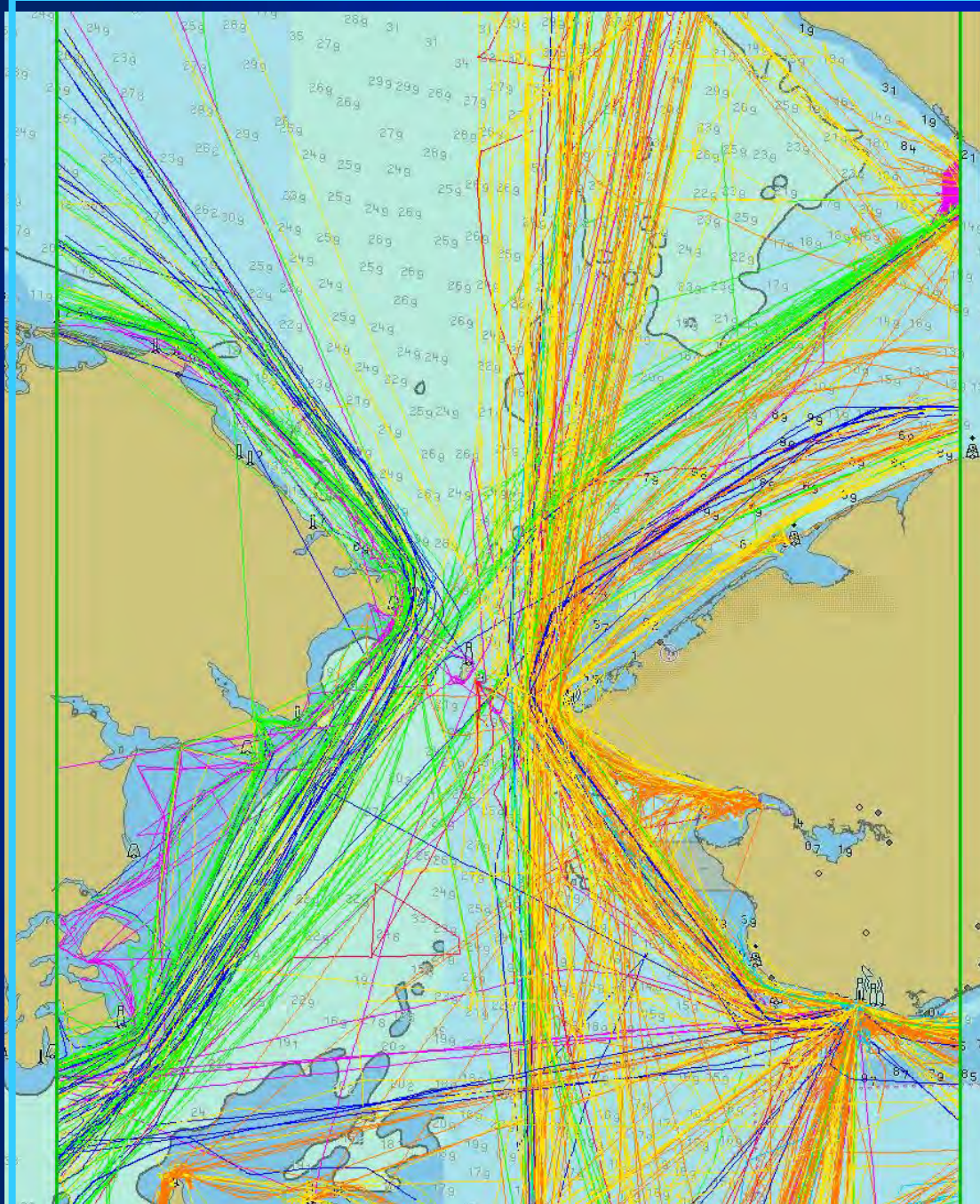
East Aleutian Traffic Analysis 24Jun-09Jul 2007
Filtered by Vessel Length



Aleutians



Oct 2012-Oct 2013



Colour Explanation (SHIP_TYPE)

- Tanker
- Cargo
- Tug
- Towing
- Towing long/wide
- Passenger
- Fishing
- SAR
- Military
- Law enforcement
- Others

YEAR	NORTHBOUND TRANSITS	SOUTHBOUND TRANSITS
2009	136	126
2010	128	114
2011	124	115
2012	154	162
2013	171	173
2014	128*	112*



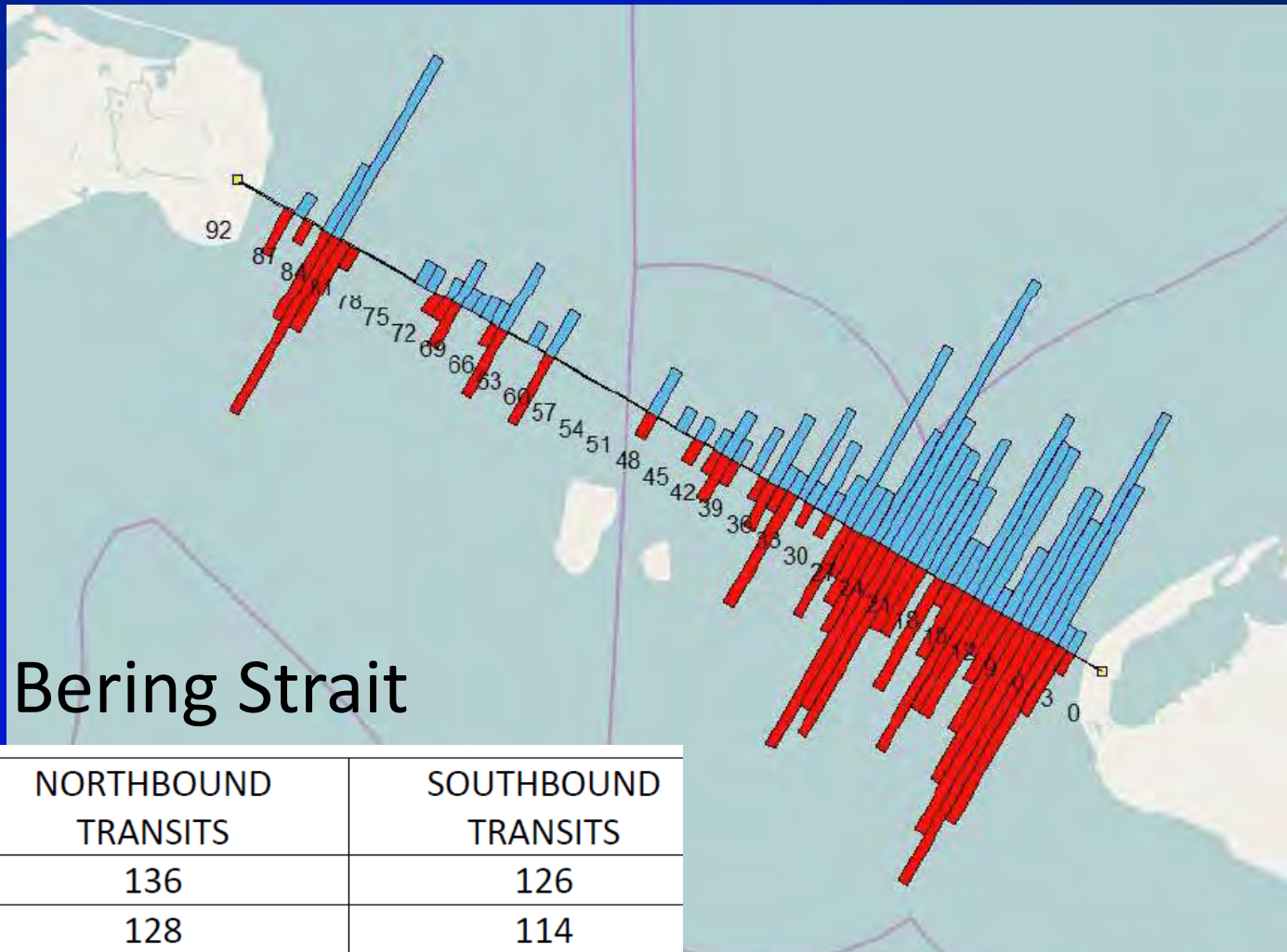
Evaluation of Maritime Activity

[illegible]

Time	Name	Dft	Length	Ship Type	Direction	Destination	Cargo Type	Country
01 Aug	ARAON	7.2	102	Other	North	NOME	Icebreaker	kr
01 Aug	FEDERAL BAFFIN	10.7	190	Cargo	South	ONSAN/KOREA	Undefined	pa
08 Aug	SELANDIA	8.9	228	Cargo	North	RED DOG	Undefined	ag
09 Aug	WINDSOR ADVENTURE	6.6	190	Cargo	North	RED DOG,ALASKA	Undefined	pa
10 Aug	DELMAR	14.3	229	Cargo	South	VANCOUVER,CAI	Undefined	mh
12 Aug	SAMOS LEGEND	12.6	225	Cargo	South	BALBOA	Undefined	lr
14 Aug	ANEMOS	6.6	196	Cargo	North	RED DOG-ALASKA	Undefined	
16 Aug	MISHIMA	8.5	224	Cargo	North	US.RDB	Undefined	pa
17 Aug	SELANDIA	13.9	228	Cargo	South	VICTORIA PS	Undefined	ag
19 Aug	WINDSOR ADVENTURE	12.8	190	Cargo	South	LIANYUNGANG,C	Undefined	pa
23 Aug	F.D.GENNARO AURILIA	7.4	225	Cargo	North	RED DOG,ALASKA	Undefined	it
23 Aug	MISHIMA	12.1	224	Cargo	South	PA BLB	Undefined	pa
23 Aug	OCEAN BREEZE	5.6	183	Cargo	North	RED_DOG ALASKA	Undefined	hk
25 Aug	ANEMOS	11	196	Cargo	South	HIKOSHIMA,JAP	Undefined	
28 Aug	OCEAN BREEZE	12.2	183	Cargo	South	HACHINOHE JAP	Undefined	hk
30 Aug	FEDERAL BAFFIN	6.1	190	Cargo	North	RED DOG/USA	Undefined	pa
30 Aug	F.D.GENNARO AURILIA	14.1	225	Cargo	South	VANCOUVER BC	Undefined	it
02 Aug	LEADER	7.6	106	Cargo	North	VANKAREM	Undefined	ru
03 Aug	ALDAN	7.2	132	Cargo	North	PEVEK	Undefined	ru
10 Aug	TAGANROGA	7.4	113	Tanker	North	TIKSI	Undefined	ru
10 Aug	BAY	7.5	107	Cargo	North	SHMIDT	Undefined	ru
16 Aug	IGRIM	8.1	160	Tanker	South	PROVIDENIYA	Undefined	ru
18 Aug	AION	7.8	150	Cargo	North	UELEN	Undefined	ru
19 Aug	KAPITAN KREMS	6.2	130	Cargo	North	PEVEK	Undefined	ru
19 Aug	IGARKA	8.9	176	Cargo	North	PEVEK	Undefined	ru
28 Aug	RAINFROST	9.2	153	Cargo	North	ST.PETERSBURG	Undefined	pa
02 Aug	TRIUMPH	3.5	24	Towing Ic	South	KOTZEBUE	Undefined	us
02 Aug	ISLAND SPIRIT	4	0	Tug	North	CHIFORNICK	Undefined	us
02 Aug	TUVLI	0	23	N/A	North		Undefined	us
03 Aug	SAM M TAALAK	1.5	44	Other	North		Undefined	us
03 Aug	CG SPAR	0	0	N/A	North		Undefined	us
04 Aug	FAIRWEATHER	5.5	72	Other	North	KOTZEBUE SOUN	Undefined	us
05 Aug	DUKE	6.7	67	Other	North	CHUKCHI SEA	Undefined	bs
05 Aug	SAM M TAALAK	1.5	44	Other	South		Undefined	us
07 Aug	HUNTER	5.8	42	Towing Ic	North	PRDHOE BAY	Undefined	us
07 Aug	PROFESSOR KHROMOV	0.5	72	Passenge	North	CHUKCHI_SEA	Undefined	ru
07 Aug	PROFESSOR KHROMOV	0.5	72	Passenge	South	CHUKCHI_SEA	Undefined	ru
07 Aug	PROFESSOR KHROMOV	0.5	72	Passenge	South	CHUKCHI_SEA	Undefined	ru
07 Aug	SAM M TAALAK	1.5	44	Other	North		Undefined	us
08 Aug	GUARDSMAN	5.8	45	Tug	North	DUTCH HARBOU	Undefined	us
08 Aug	WARRIOR	5	40	Tug	North	PRUDHOE BAY	Undefined	us
08 Aug	TRIUMPH	3.5	24	Towing Ic	North	NOMEN	Undefined	us
09 Aug	SAM M TAALAK	1.5	44	Other	South		Undefined	us
10 Aug	ISLAND SPIRIT	4	0	Tug	South	CHIFORNICK	Undefined	us
10 Aug	CG SPAR	0	0	N/A	South		Undefined	us
11 Aug	ALASKA MARINER	0	37	Towing Ic	North		Undefined	

Red Dog Cargo Ships

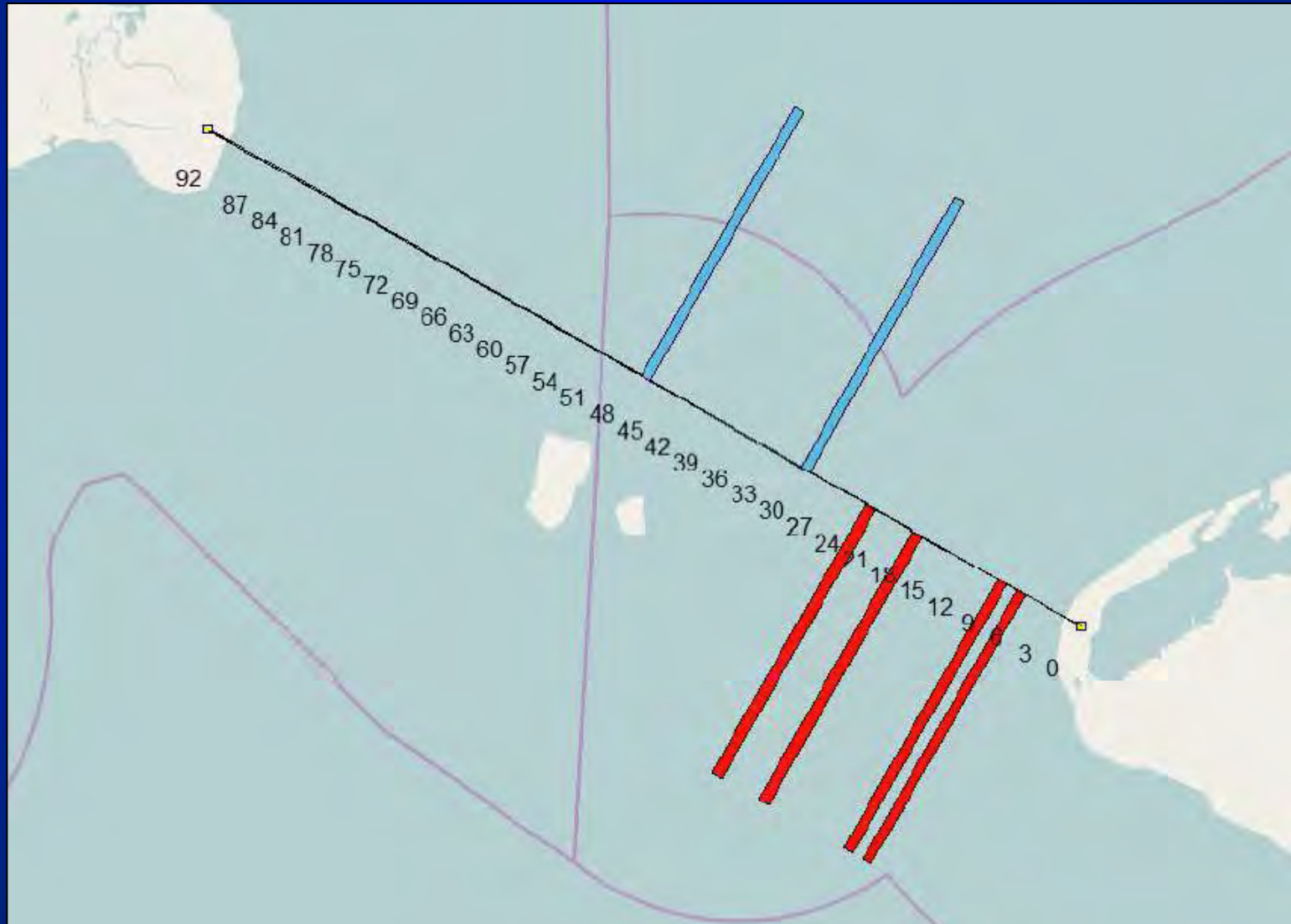
Russian Northern Sea Route Traffic



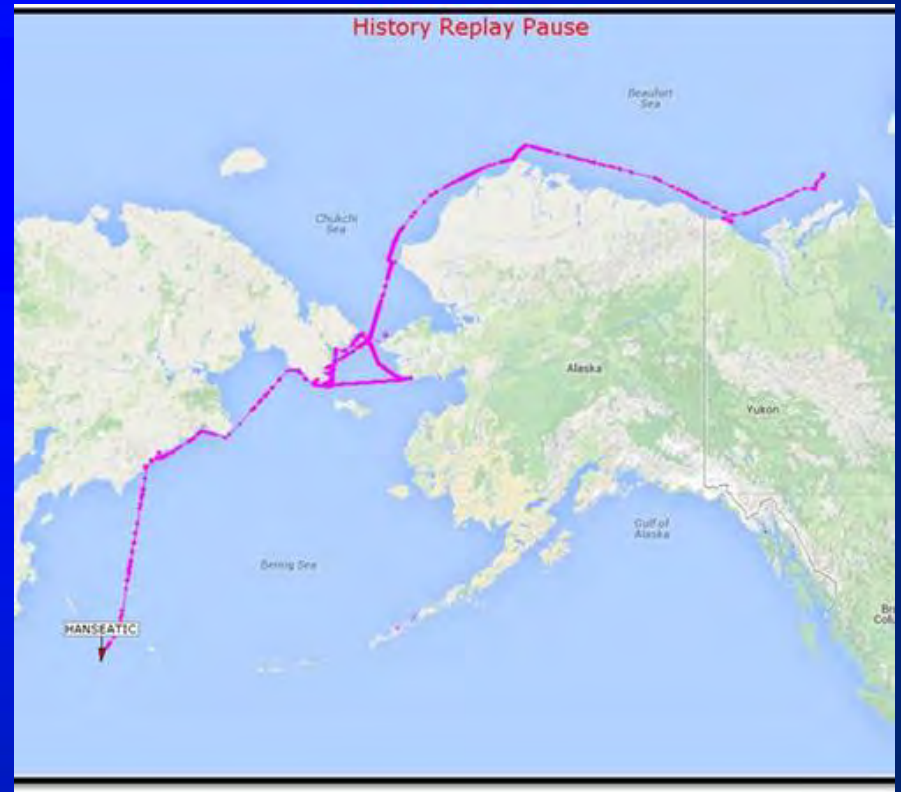
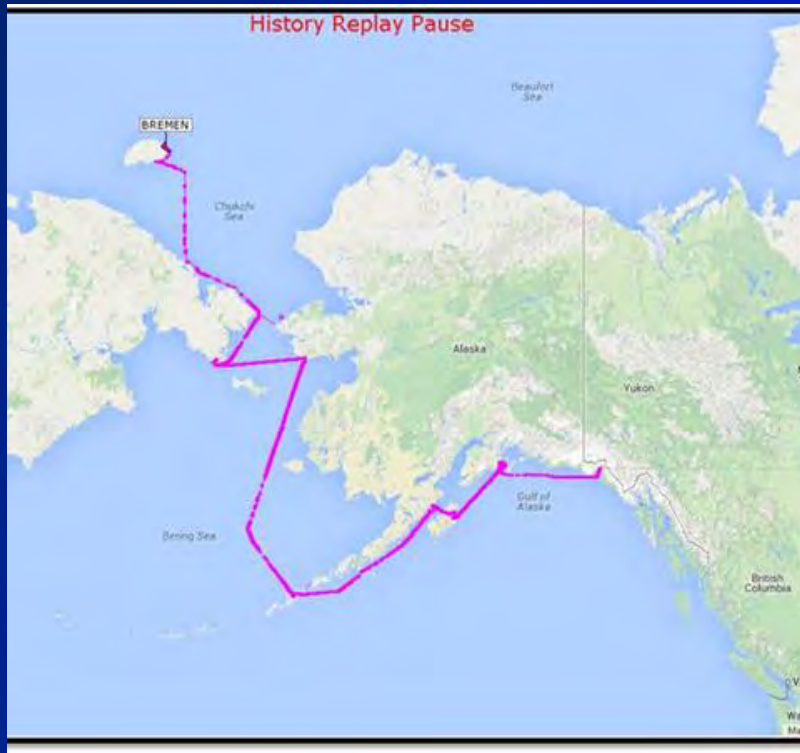
Bering Strait

YEAR	NORTHBOUND TRANSITS	SOUTHBOUND TRANSITS
2009	136	126
2010	128	114
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2013	171	173
2014	128*	112*

Heaviest Traffic Day – July 25th, 2014



Passenger Vessels





Fishing: 14

Research: 11





Cargo Vessels: 60



Military Vessels: 7

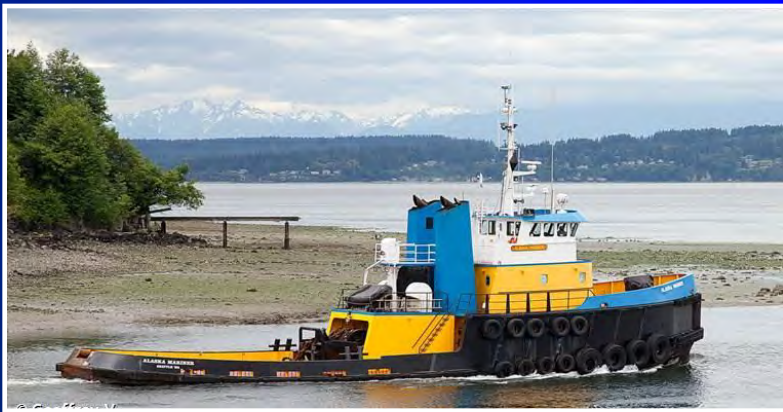


Tankers: 30





Yachts: 6



Tugs: 53



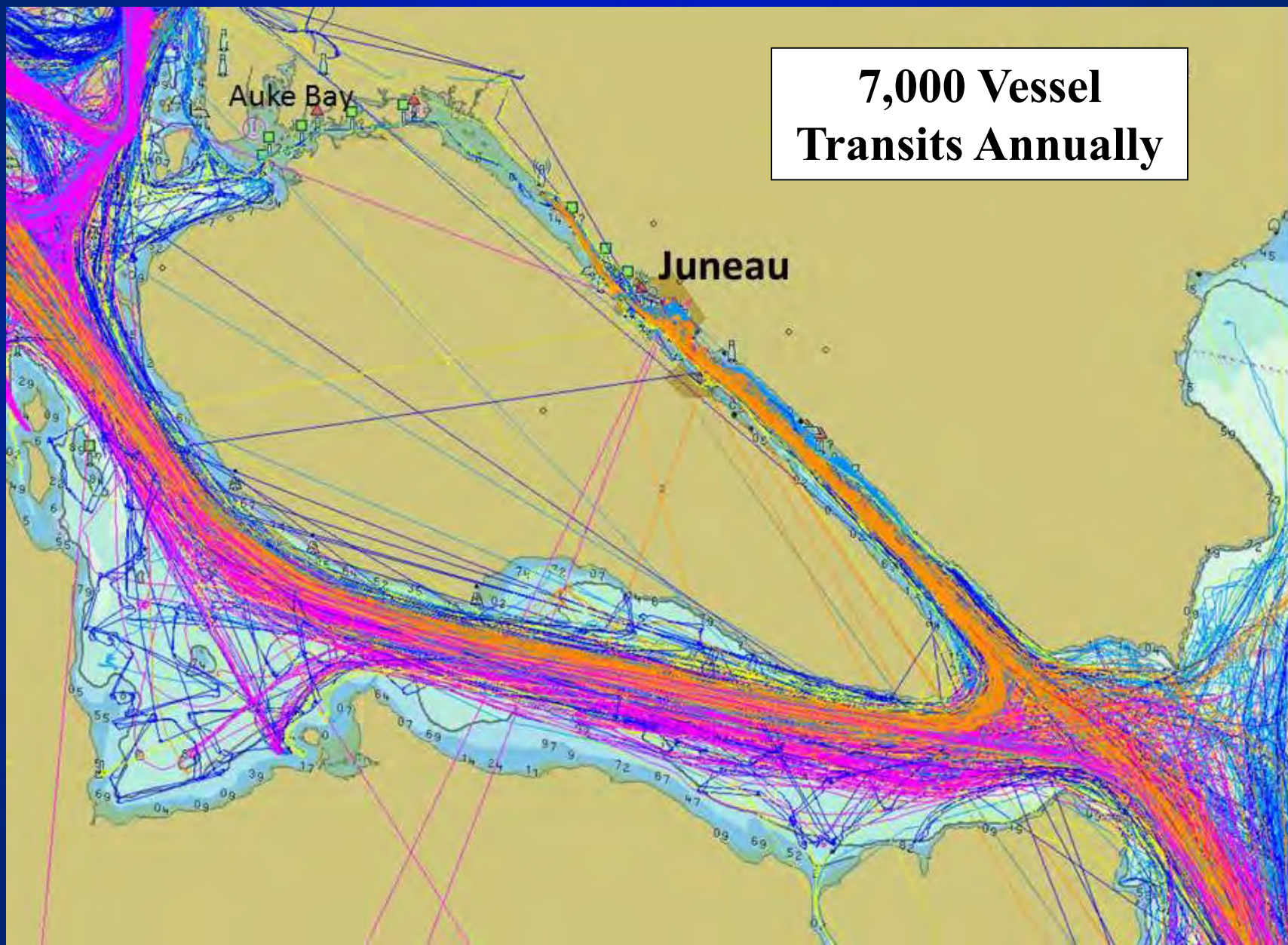
OSVs: 7



Passenger Vessels : 5



**7,000 Vessel
Transits Annually**





Auke Bay

Domain Awareness



Selendang Ayu

No Maritime Domain Awareness or Management



Maritime Domain Awareness No Maritime Domain Management



Bulk Cargo Vessel

High Risk Transit





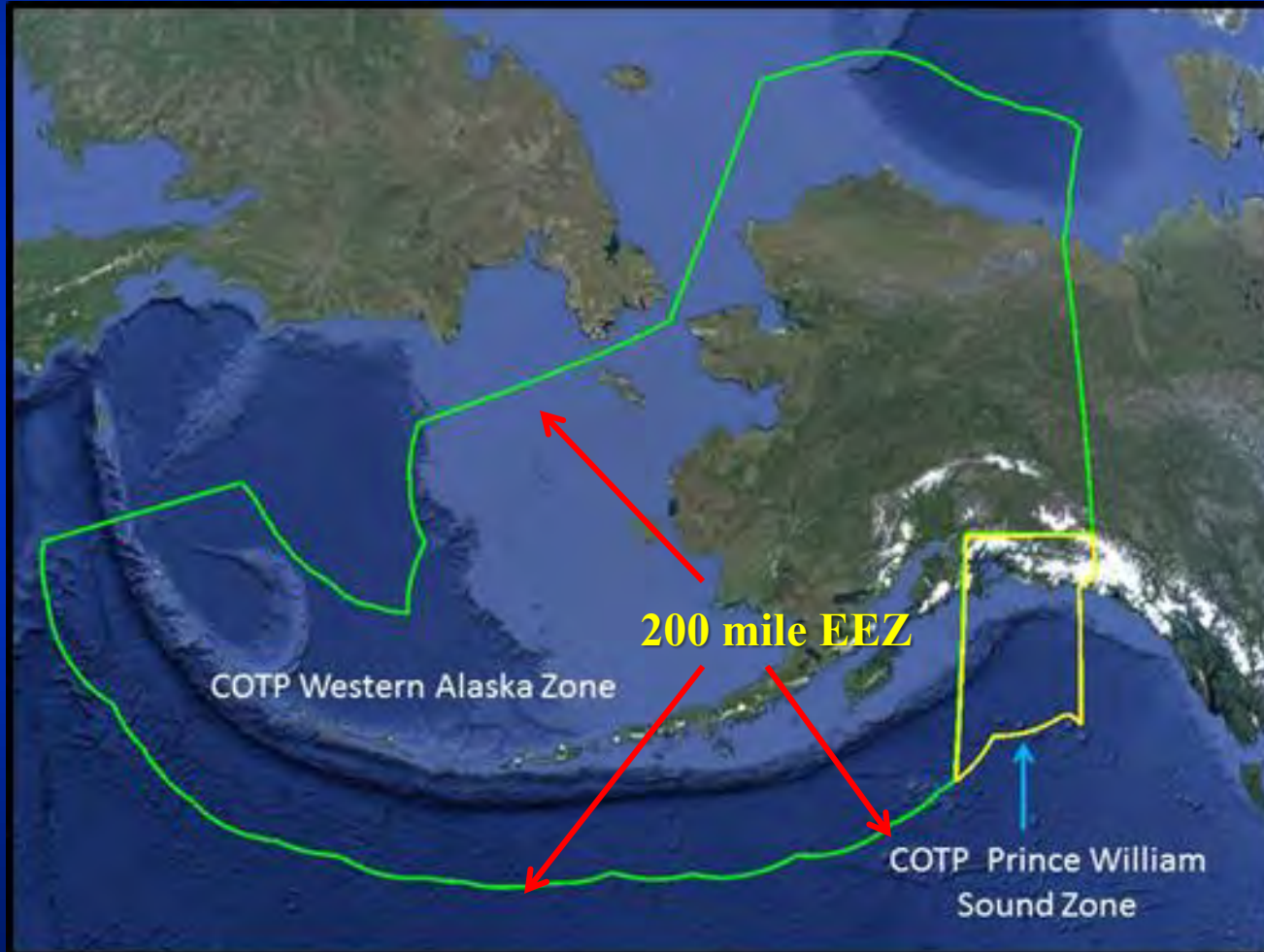
ALASKA MARITIME
PREVENTION & RESPONSE
NETWORK

Network Tanker and Nontank Vessel Alternative Planning Criteria (APC's) for Alaska



The Alaska Maritime Prevention and Response Network is a non-profit organization established to implement alternative spill response and prevention measures that most cost effectively meet the environmental protection objectives of state and federal regulations.

Coast Guard Pollution Prevention Regulations apply to tankers and nontank vessels operating in Alaska waters or transiting to and from U.S. ports

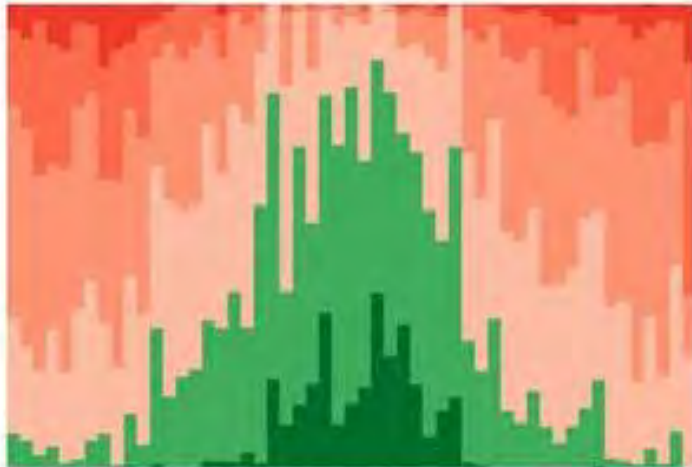


Fulfilling Oil Spill Recovery Requirements in Coast Guard Regulations would be equal to the entire U.S. spill response capabilities



Extreme Weather Conditions

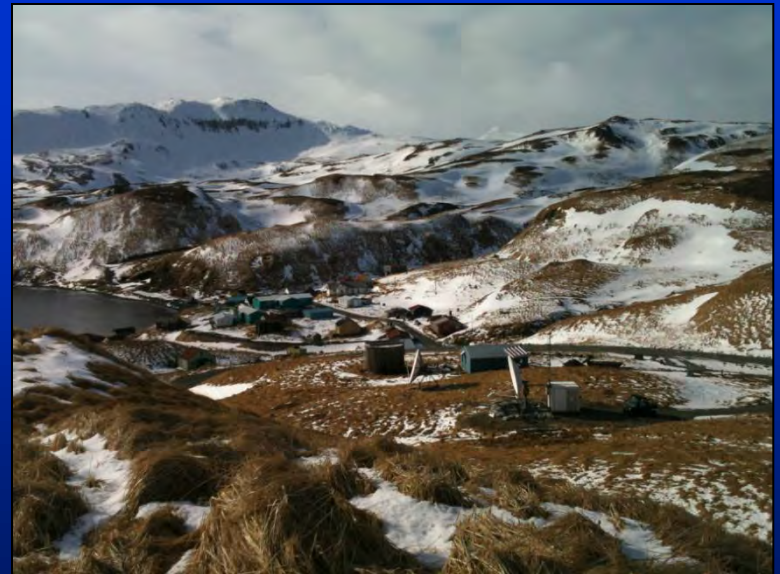
Ability to deploy and effectively use spill response challenged by harsh environment



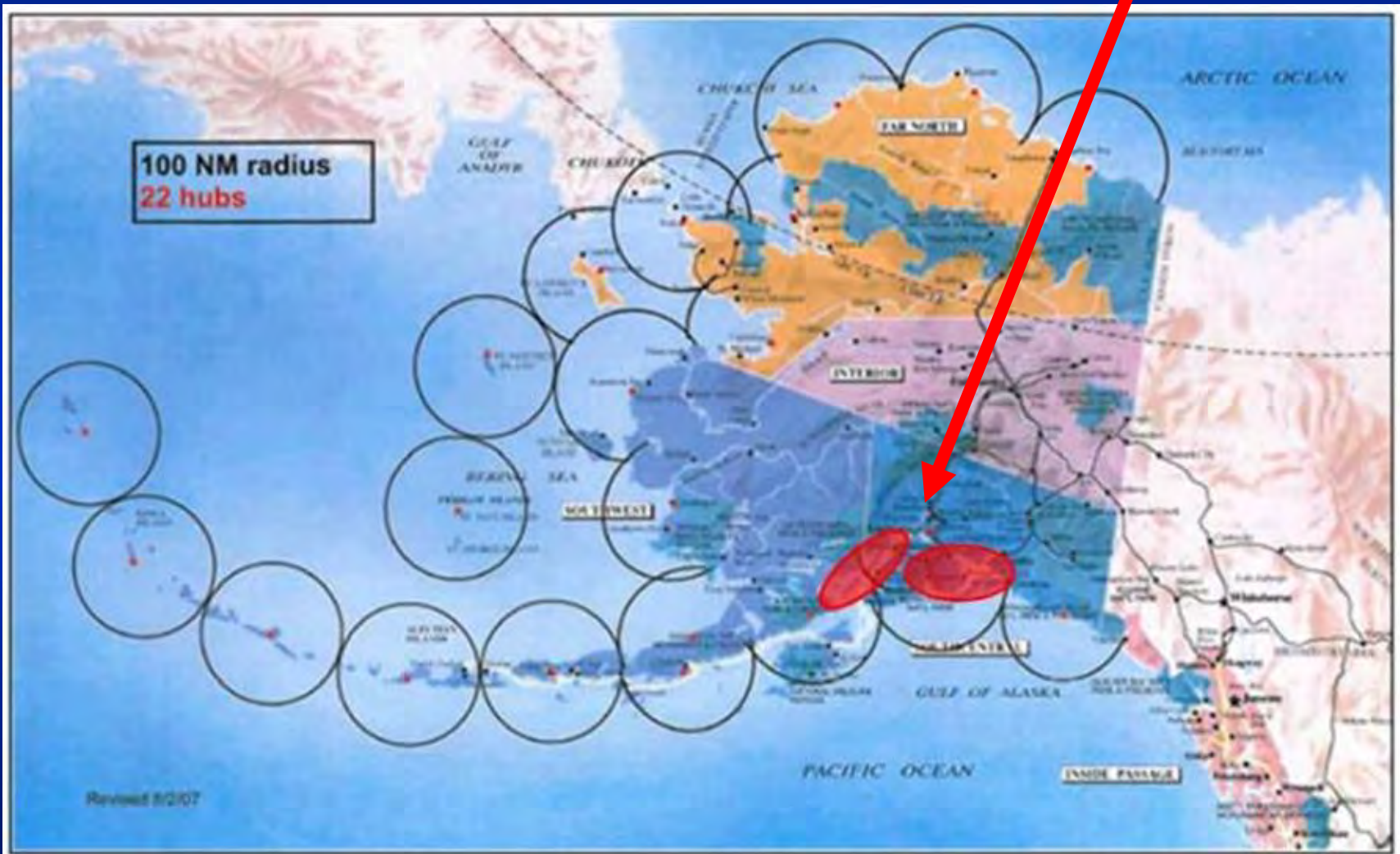
Mechanical Recovery - 21%



Limited Infrastructure



Where Oil Spill Response Equipment Requirements Can be Met



**Coast Guard Chief of Marine Safety
Rear Admiral North
Testimony to Congress re OPA 90**



"Once the oil is spilled, the environment will be affected no matter how well the response is orchestrated. Simply put, prevention is still the best response"

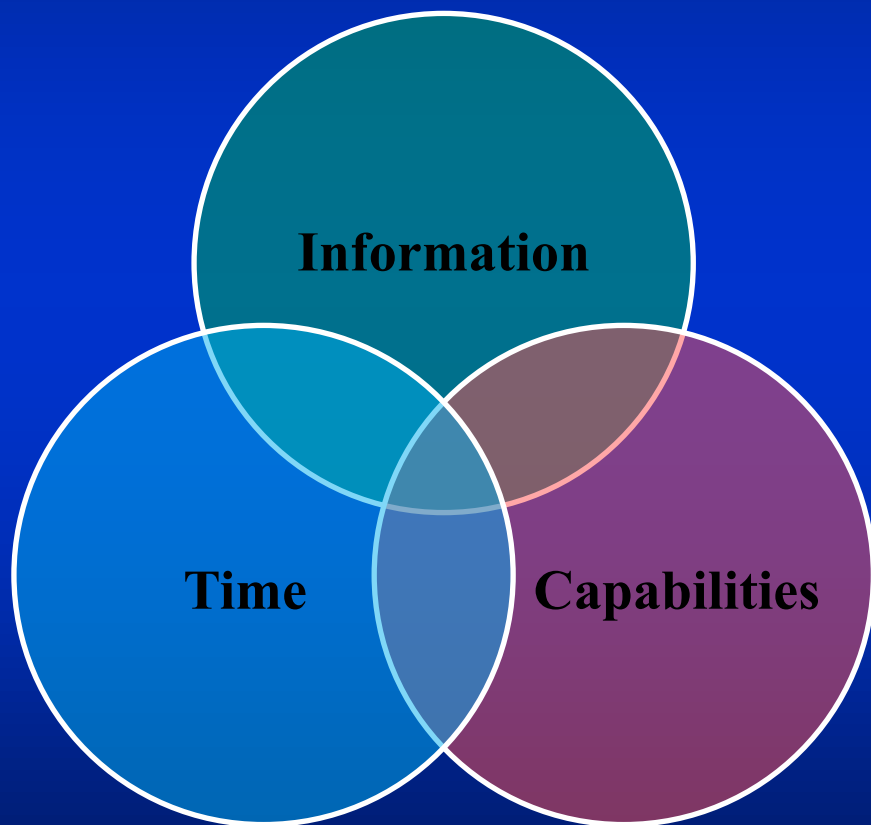
• **Alternative Planning Criteria**

“In remote areas, where response resources are not available, or the available commercial resources do not meet the national planning criteria, the owner or operator may request acceptance of alternative planning criteria by the Coast Guard.”





ALASKA MARITIME PREVENTION & RESPONSE **NETWORK**



INFORMATION

Notice of Incident, Location of vessels in distress, Location of assist vessels.

TIME

Distance offshore provides time for assist vessels to arrive
Early detection and immediate location of assist resource buys more time

CAPABILITIES

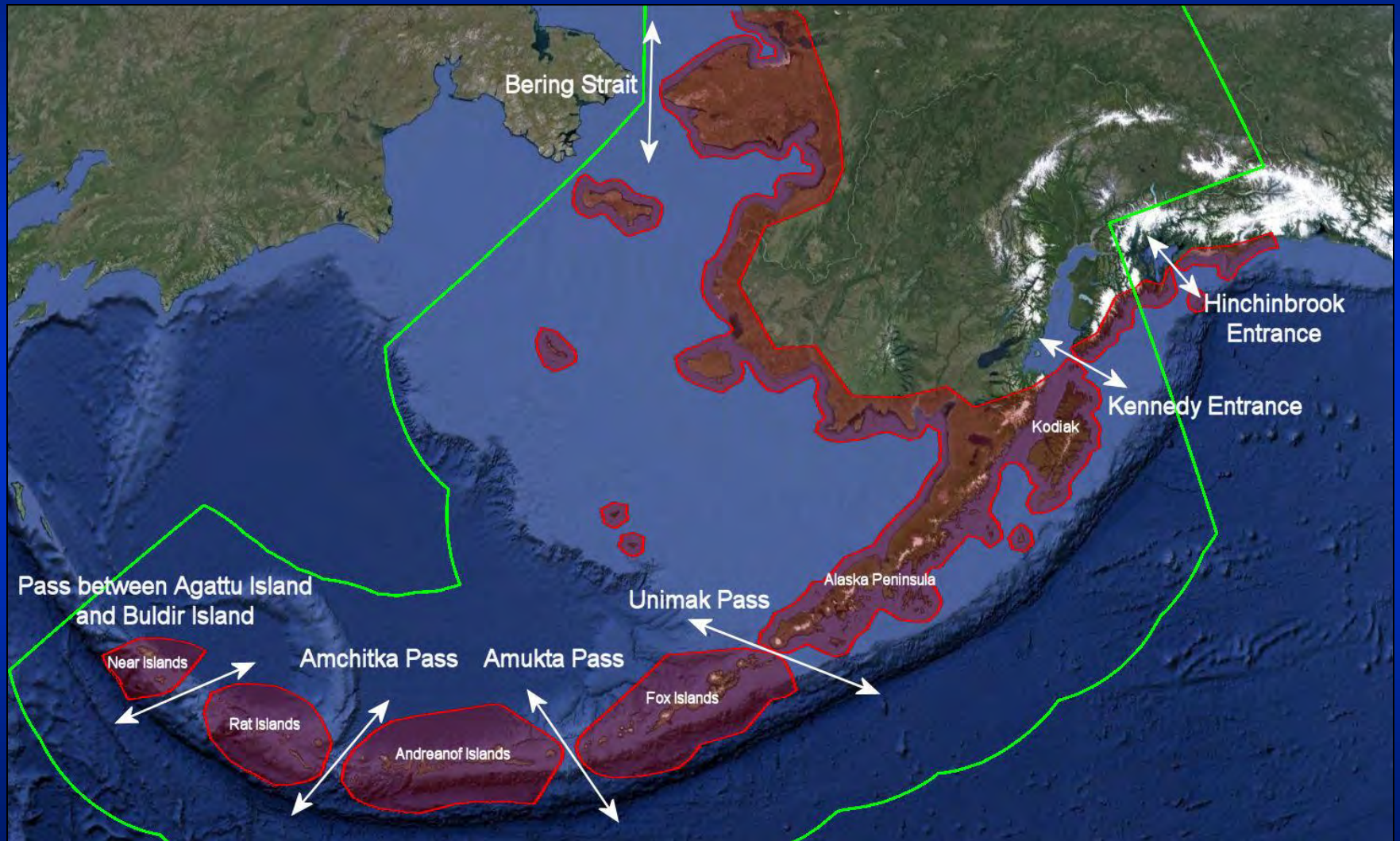
Monitoring locations of Assist vessels, Emergency Towing Systems, Vessels of Opportunity, Oil Spill Response Resources



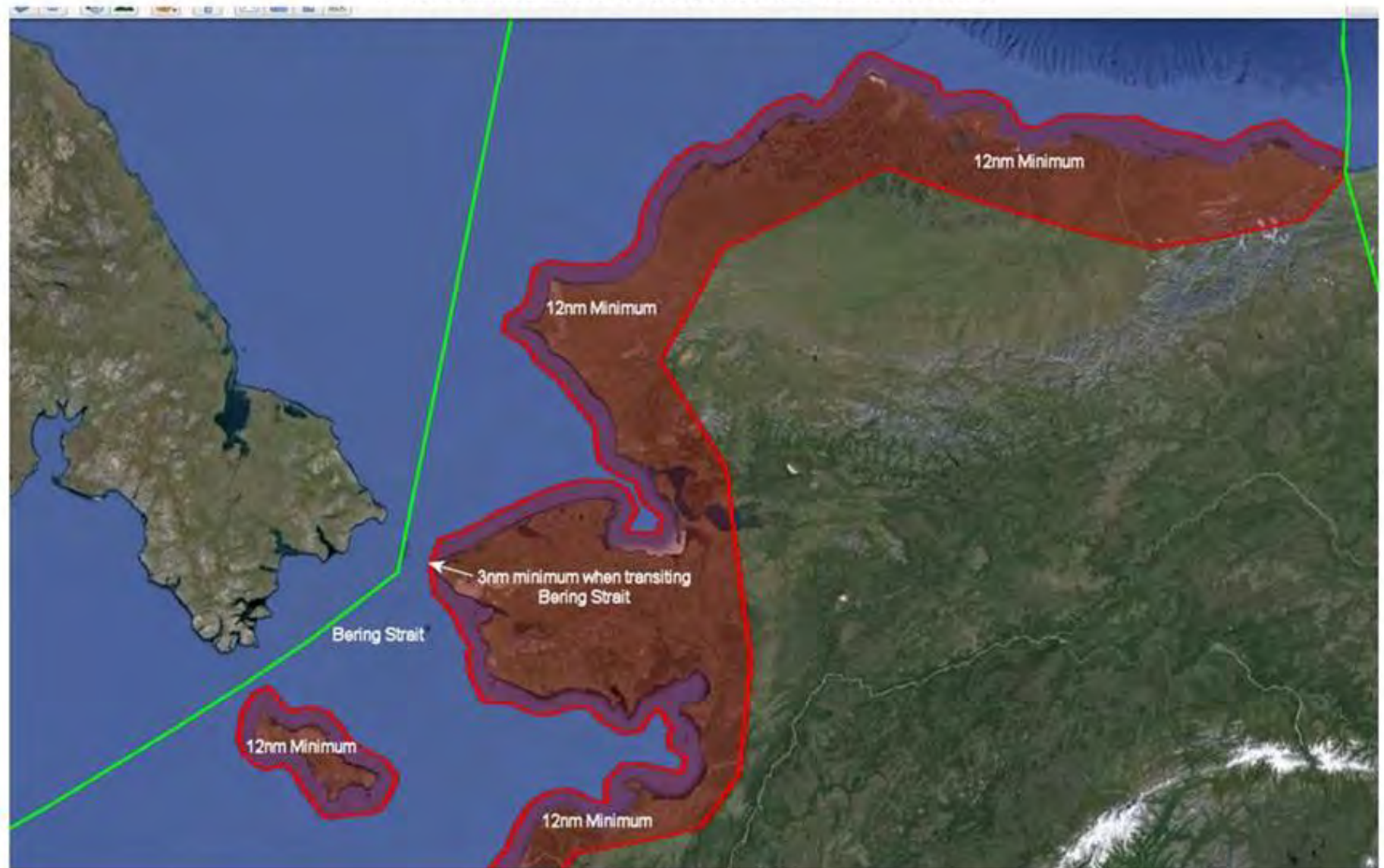
Prevention & Response Enhancements

- Initiated and Maintained 7x24 APC Watch
 - Active Vessel Monitoring watch Averted High Risk Transits
 - Investigated vessels “Not Under Command”
 - Notified USCG of disabled vessels
- Built and Operated strategic AIS Station in Aleutians
- Incorporated satellite AIS feeds into “Vessel Compliance Monitoring and Response System”
- Affixed satellite transponders on 10 tugs operating in Western Alaska potentially available to assist disabled vessels
- Procured \$900k in additional oil spill recovery equipment

Risk Mitigating Routes Through Passes



Offshore Risk Mitigating Routes Northwest Alaska and Arctic

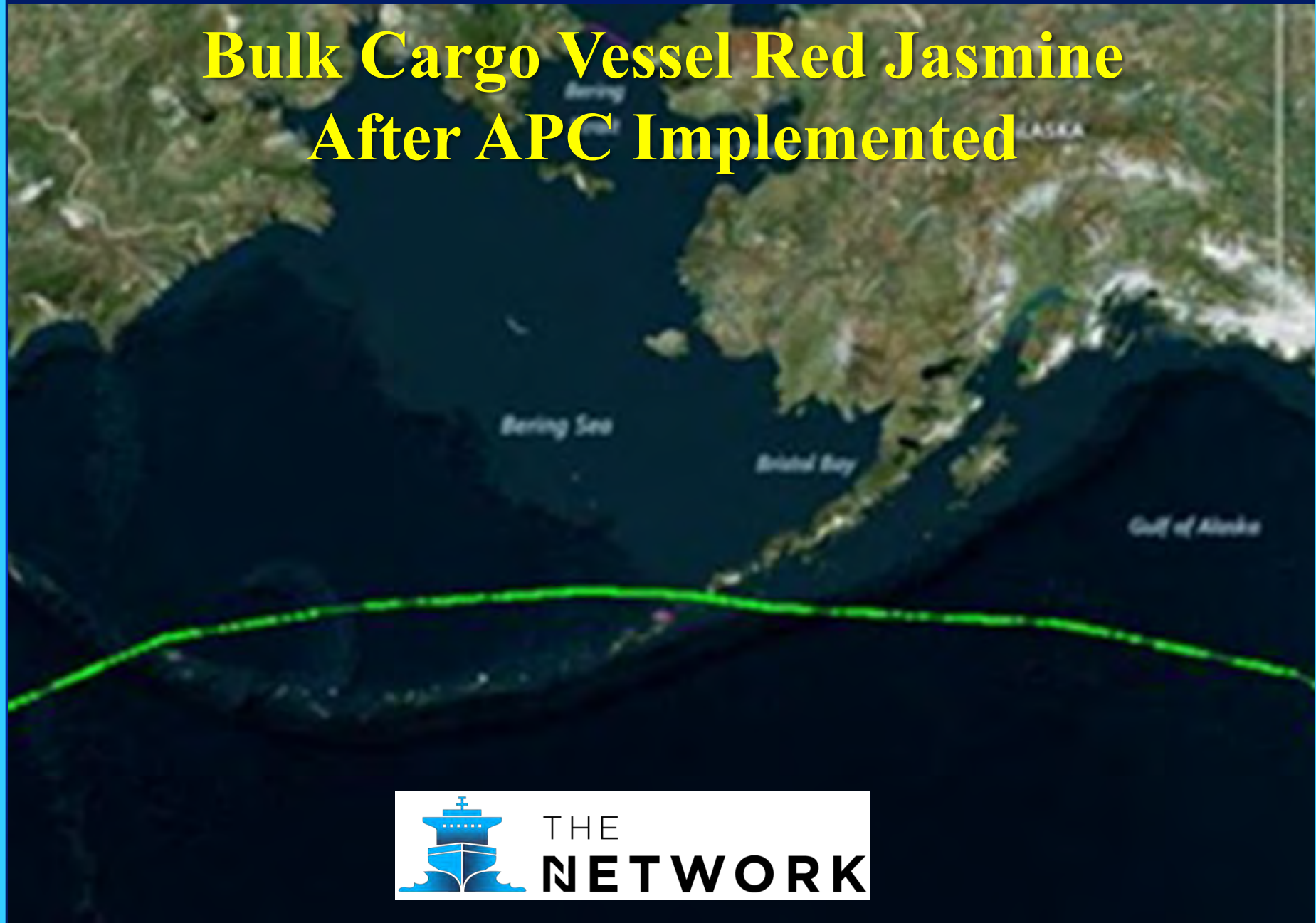


Bulk Cargo Vessel Red Jasmine

High Risk Transit

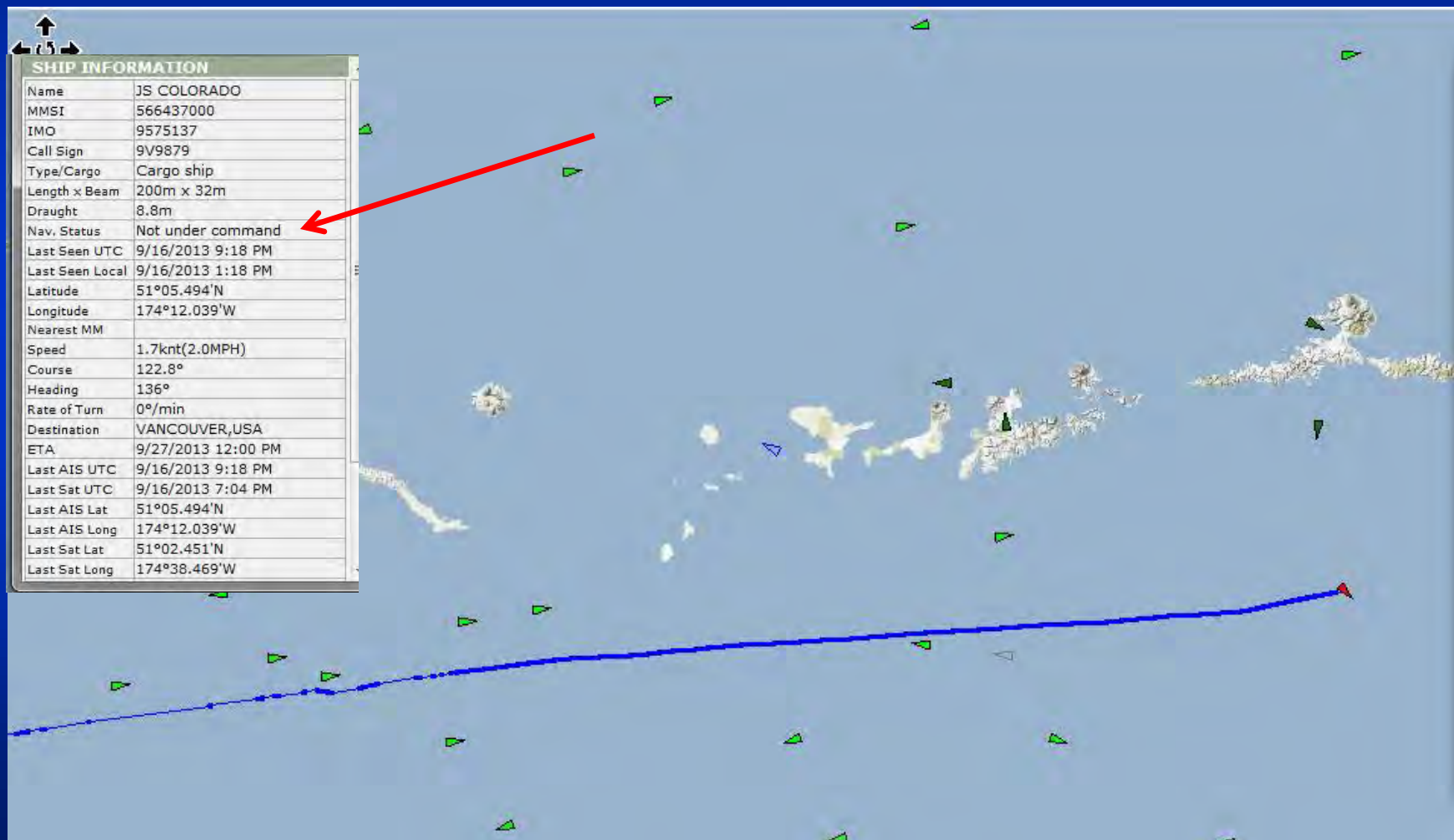


Bulk Cargo Vessel Red Jasmine After APC Implemented



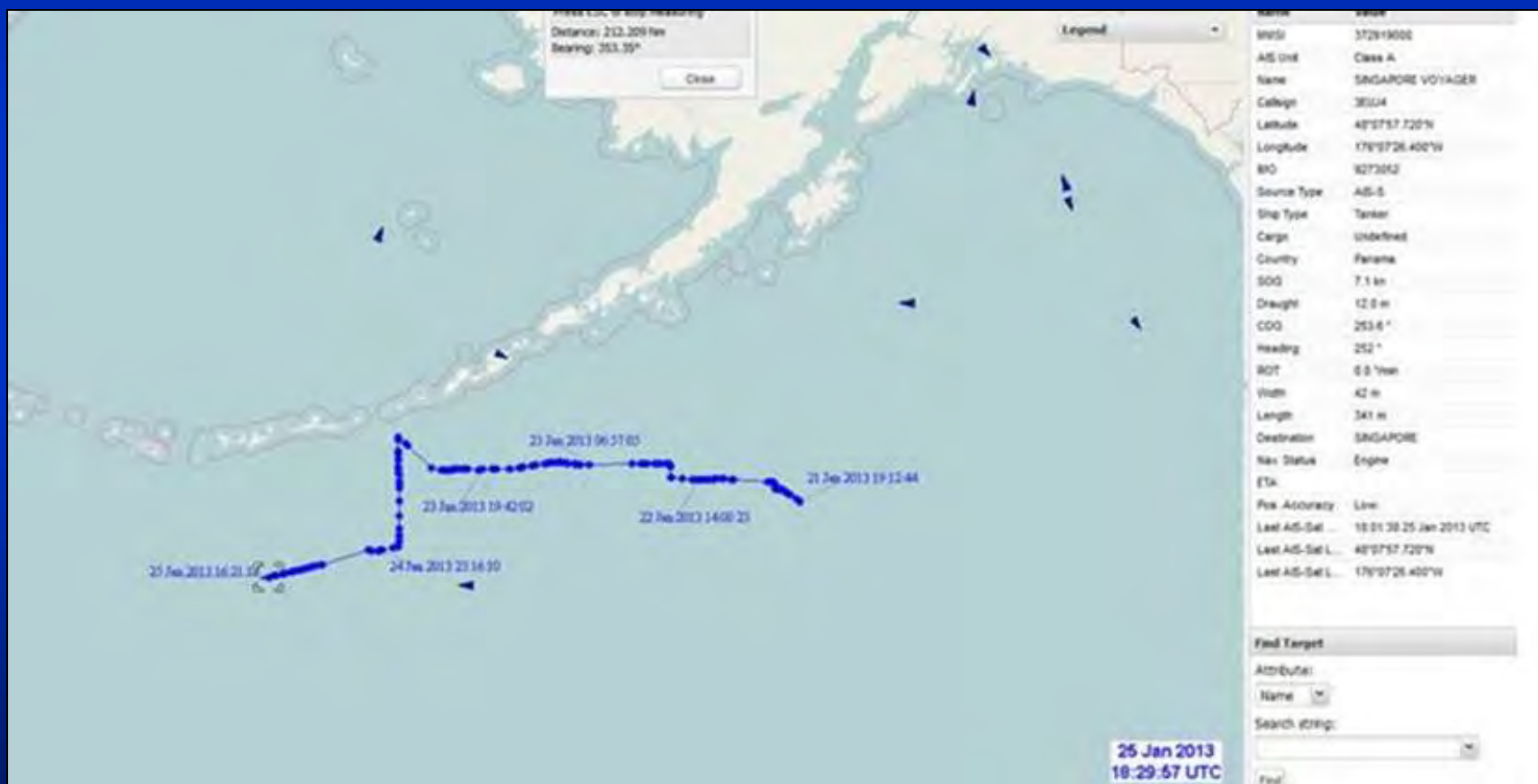


APC Detection of Vessel Not Under Command



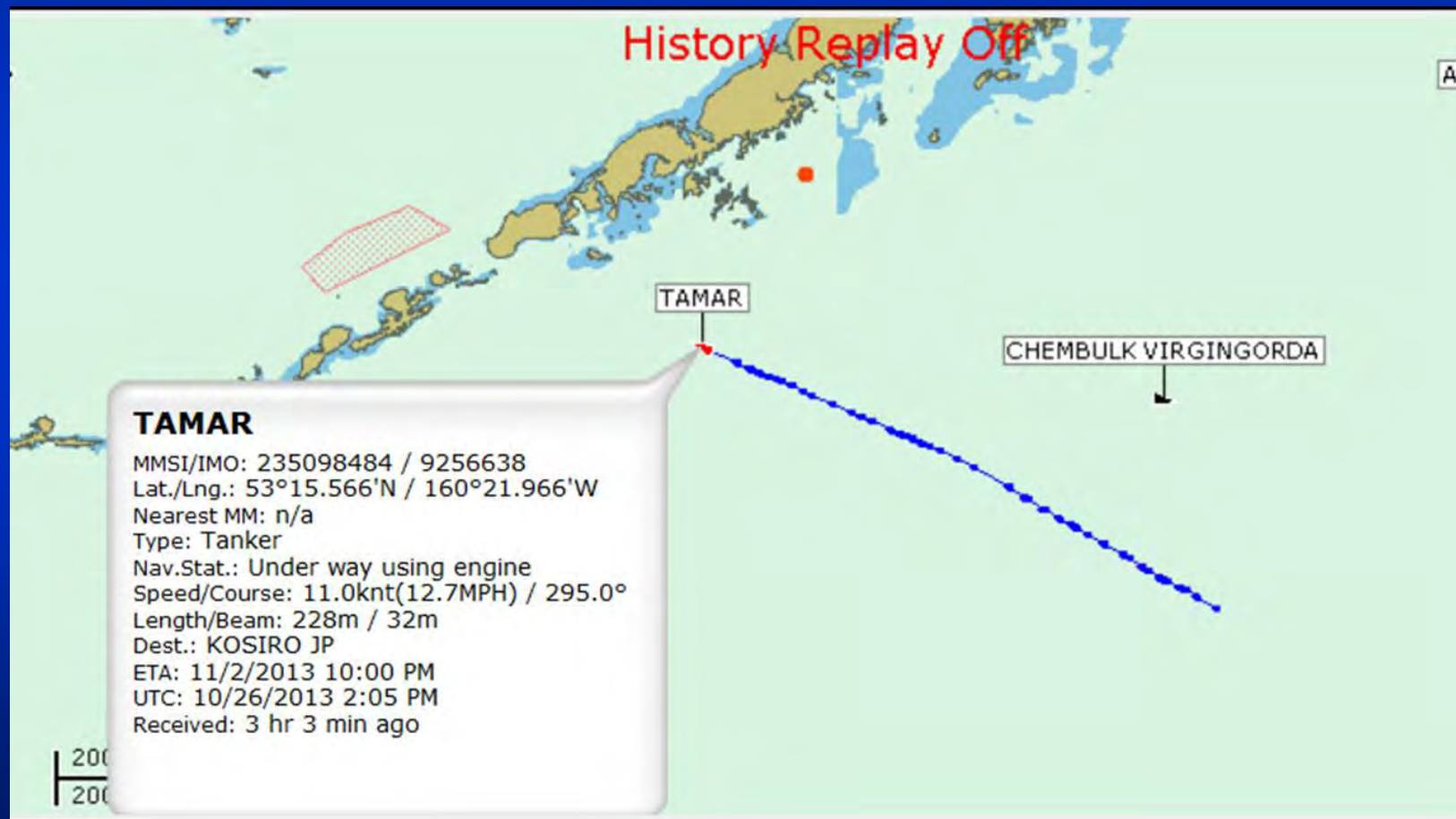


Non OPA-90 Compliant Tanker Detected by Network Entering Western Alaska Waters





Network Detected Vessel Not in Compliance with OPA-90





APC Detected Vessel Transiting High Risk Pass

164.106.99.0173 13/3/2014 10:00:00 AM

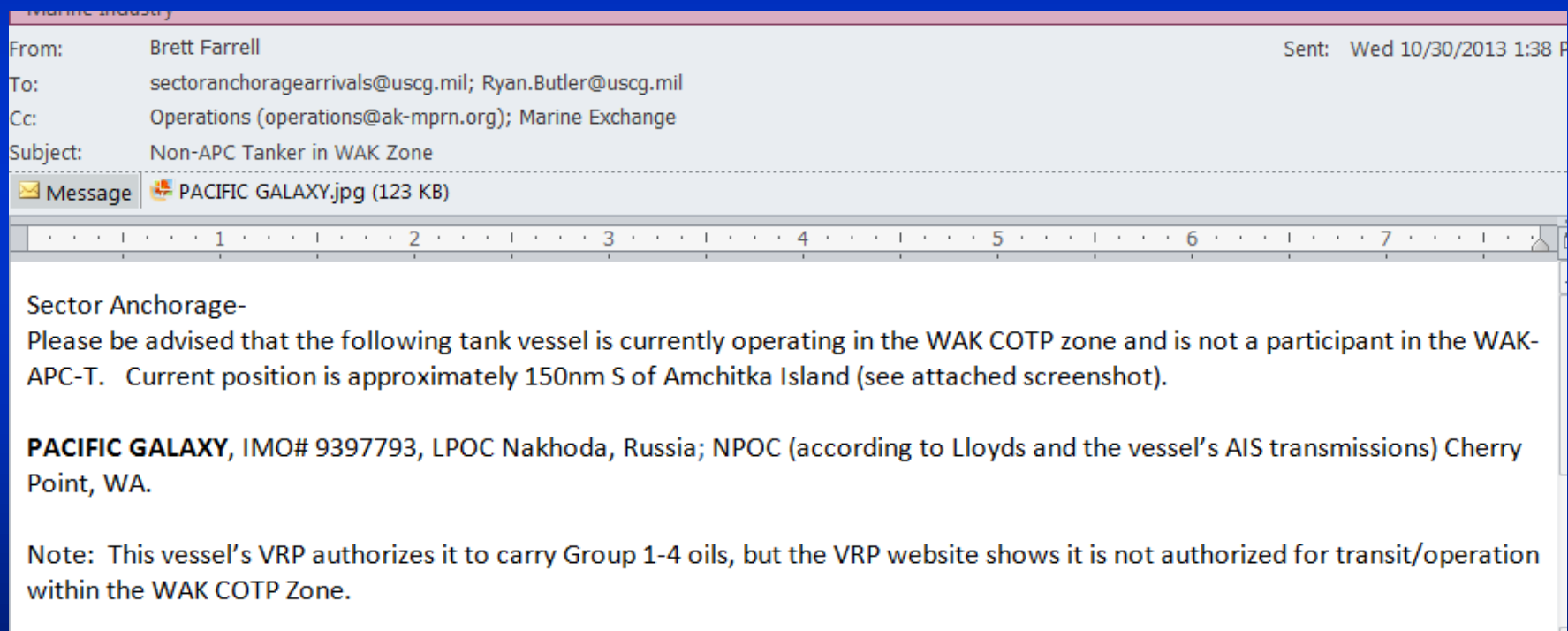
SHIP INFORMATION

Name	WUHU
MMSI	563992000
IMO	9657868
Call Sign	9VCM9
Type/Cargo	Cargo ship
Length x Beam	180m x 30m
Draught	5.6m
Nav. Status	Under way using engine
Last Seen UTC	3/27/2014 4:08 PM
Last Seen Local	3/27/2014 8:08 AM
Latitude	50°37.523'N
Longitude	165°44.068'W
Nearest MM	
Speed	13.9knt(16.0MPH)
Course	117.9°
Heading	115°



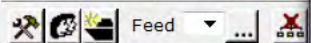
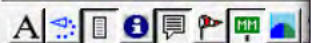


CG Notification



Emergency Response Data Base





CSAV RIO MAIPO
GYRFALCON
ISLAND PACKER
JAMES DUNLAP
MAKUSHIN BAY
MALOLO
RESOLVE PIONEER
SEA HAWK
WESTERN.MARINER

JAMES DUNLAP**EICS Details****James Dunlap**

MMSI: 367413000

IMO: 9133965

Official: 9133965

Call Sign: WCV9860

Ship Type: Tug

GT: 196

NT: 133

Fuel: 71,540

Engine: GMC 16-645-E2

HP: 4,300

Length: 101ft (30.79m)

Breadth: 36ft (10.97m)

Draught: 19.5ft (5.94m)

Towing: Yes

Company: Dunlap

Company Phone: 425-259-4163 / 360-466-3114

Company Email: info@dunlaptowing.com

**AIS Details**

Type and Cargo: Tug

Length: 98.4ft (30m)

Breadth: 26.2ft (8m)

Navigational Status: Moored

Close

Ship Details

EICS Details

Company

Photos

Report

EICS

Akutan Bay

Beaver Inlet

MONITORING COMPELS COMPLIANCE WITH RISK MITIGATING MEASURES





Allocation of Revenues

- Enhanced Spill Response Equipment
- Enhanced Prevention Capabilities:
 - Tug Tracking – Emergency Towing Systems
 - Ship Arrestors – Vessel Tracking
- Spill Response Organization Funding
- Administration

“Network” 5 Year NTV Work Plan

		YR 1 2014	YR 2 2015	YR 3 2016	YR 4 2017	YR 5 2018
Milestone		Administer Programs	Administer Programs	Administer Programs	Administer Programs	Administer Programs
Enhanced Prevention	Network Administration	Administer Programs	Administer Programs	Administer Programs	Administer Programs	Administer Programs
	24 hour AIS watch	Annual Operations	Annual Operations	Annual Operations	Annual Operations	Annual Operations
	AIS Expansion	Fund expanding terrestrial AIS coverage of APC areas by 5,000 square miles	Fund expanding terrestrial AIS coverage of APC areas by 5,000 square miles	Fund expanding terrestrial AIS coverage of APC areas by 5,000 square miles	Fund expanding terrestrial AIS coverage of APC areas by 5,000 square miles	Fund expanding terrestrial AIS coverage of APC areas by 5,000 square miles
Enhanced Response	Storm Refuge Project	Begin study of storm refuge options	Propose and begin to implement storm refuge program	Buildout AIS to support storm refuge program	Maintain and monitor storm refuge program	Continue program
	Vessels of Opportunity	Add 5 new vessels in program	Add 5 new vessels in program	Add 5 new vessels in program	Add 5 new vessels in program	Maintain VOO tracking system
	Ship Assist Program	Provide for enhanced emergency towing capability	Allocate funds for additional ETS (Emergency Towing System)	Allocate funds for procuring and staging sea arrestor	Exercise ship assist system	Establish capital account to acquire additional system[s]
	Enhance Spill Response Capability	Work with OSRO[s] to evaluate response capability build out options	Allocate capital to procure and stage increased response capability in strategic areas	Allocate capital to procure and stage increased response capability in strategic areas	Allocate capital to procure and stage increased response capability in strategic areas	Allocate capital to procure and stage increased response capability in strategic areas
Annual Progress Reports		Annual progress report to USCG COTP W-AK	Annual progress report to USCG COTP W-AK	Annual progress report to USCG COTP W-AK	Begin new 5 year planning initiative	Finalize new 5 year plan



Network Developments in 2014

- Enrolled 2,000 vessels
- Enhanced vessel tracking capabilities....more AIS sites
- Supported Cooperative Research and Development Agreement with Coast Guard
- Procured \$950k in Oil Spill Response Equipment
- Established office in Anchorage
- Initiated Ship Arrestor R&D Project with Glosten Engineering



ALASKA MARITIME
Prevention & Response Network

NON-PARTICIPATING NTV DAILY REPORT

WAK COTP ZONE

Date: 02/23/2014

Summary: 177 NTVs in the zone
112 Participating NTVs in the zone
65 Non-Participating NTVs in the zone
43 Non-Participating NTVs on innocent passage
22 Non-Participating NTVs not on innocent passage

Vessel Name	IMO	Vessel Length	Type	GT/ITC	LPOC/NPOC	Owner
MOUNT BAKER	9266918	176.85	Bulk Carrier	19738	Longview WA/MATSUNAGA JP	PACIFIC BASIN SHIPPING (HK) LIMITED
PROUD SEAS	9590620	189.95	Bulk Carrier	24196	San Pedro(CA USA)/CHINA	Adonia Enterprises S.A.
STX AMBER	9626003	189	Bulk Carrier	24504	Vancouver(USA)/Incheon S Korea	STX Pan Ocean Company Limited
BULK URUGUAY	9426154	189	Bulk Carrier	32309	KALAMA USA/NAGOYA JP	Kyosei Agencies (HK) Limited
HANJIN KOREA	9408853	349.65	Fully Cellular Containership	113412	Seattle, U.S.A./ Busan, South Korea	Hanjin Shipping Company Limited
LOCH MAREE	9658800	176.83	Bulk Carrier	21168	Everett(WA), U.S.A/ Lianyungang, China	Mitsui Warehouse Company Limited
COSCO FELIXSTOWE	9246401	280	Fully Cellular Containership	65531	Seattle WA/Nakhodka Russia	COSCO Maritime (UK) Limited-Cosbright
CAPTAIN V.LIVANOS	9451238	190	Bulk Carrier	33194	Portland(OR USA)/ TAICHUNG China	Kingdom Steamship Incorporated
GREAT LEGEND	9324667	190	Bulk Carrier	30046	Busan S. Korea/ Portland OR	Sinotrans Ship Management Limited
CORESHIP OL	9473755	177.5	Bulk Carrier	19817	Olympia WA/Kashima Japan	Shih Wei Navigation Company Limited
CLIPPER LASCO	9283837	169.3	Bulk Carrier	16954	Lianyungang China/ Longview WA	Clipper Bulk (Singapore) Private Limited
NAVIOS STAR	9243502	224.94	Bulk Carrier	39727	Xingang China/ Kalama WA	Nikko Kisen K.K.
MANDARIN GRACE	9569267	189.99	Bulk Carrier	33034	Seattle WA/ Ko Sichang Thailand	Dasin Shipping Private Limited
DELHI HIGHWAY	9536959	199.91	Vehicle Carrier	58997	Tokyo Japan/ Tacoma WA	Taiyo Nippon Kisen Company Limited
NYK ATLAS	9262728	299.9	Fully Cellular Containership	75519	Yantian China/ Los Angeles CA	Kaisho Shipping Company Limited
PACIFIC BLESS	9626948	189.99	Bulk Carrier	33057	Busan S. Korea/ Portland OR	Hanjin Shipping Company Limited
YM PORTLAND	9236535	286.27	Fully Cellular Containership	51364	Oakland CA/ Nakhodka Russia	Peter Dohle Schiffsahrts-KG
WILLIAM SHAKESPEARE	9303778	222.53	Fully Cellular Containership	35581	Oakland CA/ Tokyo Japan	Reederei Karl Schluter GmbH & Company KG
TRITON ACE	9519121	199.94	Vehicle Carrier	60876	Los Angeles CA/ Yokohama Japan	Mitsui O.S.K. Lines Limited (MOL)
COSCO ASHDOD	9518335	261.1	Fully Cellular Containership	40465	Norfolk VA/ Vladivostok Russia	COSCO Container Lines Limited (COSCON)
BELLE MASUKA	9370317	170.7	Bulk Carrier	17979	Vancouver(USA)/ Chiba Japan	Reitaku Kalun K.K.
ROSCO PLUM	9294496	225	Bulk Carrier	40014	Vancouver WA/Pusan South Korea	Rewood Ocean Shipping Company Limited

* **BOLD** vessels are new since previous report



ALASKA MARITIME
Prevention & Response Network

NON-PARTICIPATING NTV DAILY REPORT

WAK COTP ZONE

Date: 04/1/2014

Summary: 192 NTVs in the zone
154 Participating NTVs in the zone
38 Non-Participating NTVs in the zone
31 Non-Participating NTVs on innocent passage
7 Non-Participating NTVs not on innocent passage

Vessel Name	IMO	Vessel Length	Type	GT/ITC	LPOC/NPOC	Owner
BARANOF	*8836247		Fishing (General)	917	Dutch Harbor, AK/ Dutch Harbor, AK	Romanzof Fishing Company LLC
PLEIADES	9172533	224.98	Bulk Carrier	35878	Long Beach CA/Ningbo, China	Touon Panama S.A.
HANJIN NORFOLK	9375496	261.4	Fully Cellular Containership	40487	Charleston, USA/ Nakhodka, Russia	Hanjin Shipping Company Limited
LIBERTY	9423542	189.99	Bulk Carrier	32415	Longview, WA/ Qingdao, China	Orion Bulkers GmbH & Company KG
MOL PACE	9321017	293.19	Fully Cellular Containership	71902	Seattle, WA/ Tokyo, Japan	Shoei Kisen Kaisha Limited
NYK METEOR	9337638	294.12	Fully Cellular Containership	55534	Savannah, GA/ Nakhodka, Russia	Kitaura Kaiun K.K.
STAR HIDRA	9071569	198	General Cargo w/Container Capacity	32744	Seattle, WA/ Qingdao, China	Grieg Shipping Group AS

* BOLD vessels are new since previous report



ALASKA MARITIME
Prevention & Response Network

NON-PARTICIPATING NTV DAILY REPORT

WAK COTP ZONE

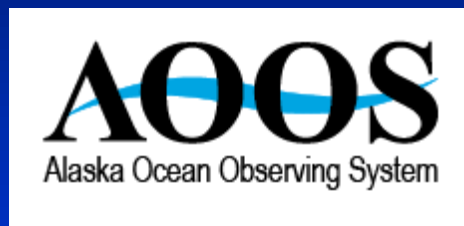
Date: 7/1/2014

Summary: 132 NTVs in the zone (Not in ports)
97 Participating NTVs in the zone (Not in ports)
35 Non-Participating NTVs in the zone (Not in ports)
32 Non-Participating NTVs on innocent passage (Not in ports)
3 Non-Participating NTVs not on innocent passage (Not in ports)

Vessel Name	IMO	Vessel Length	Type	GT/ITC	LPOC/NPOC	Owner
OCEANIC HAWK	9561899	170.7	Bulk Carrier	18000	Kashima Japan / Vancouver WA	Nissen Kaiun Company Limited
APOSTOLIS II	9260158	179.28	Bulk Carrier	22072	Busan South Korea / Portland OR	Capital Ship Management Corporation
VEGA LEA	9477684	190	Bulk Carrier	32638	Vladivostok Russia / Long Beach CA	Vega Reederei GmbH & Company KG

* BOLD vessels are new since previous report

AOOS Sponsored AIS Weather Project

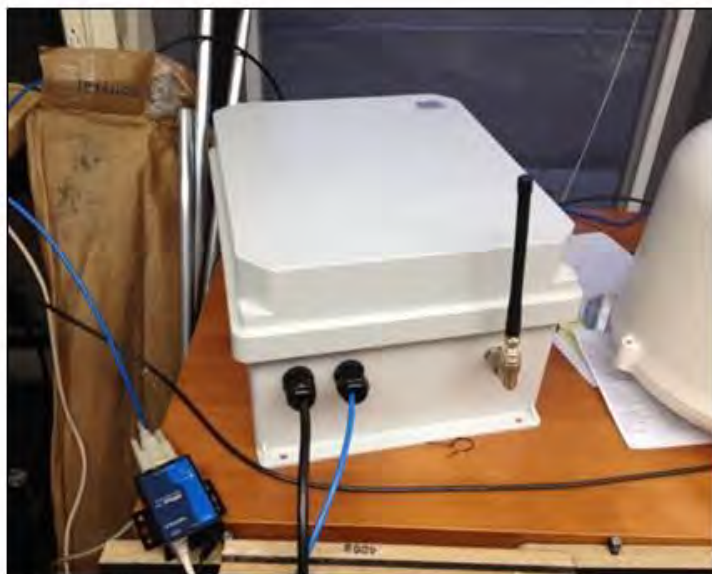


Juneau Alaska AIS Weather data distribution project





L3 Type 3 ATON
AIS Transponder



AIRMAR Weather
Sensor





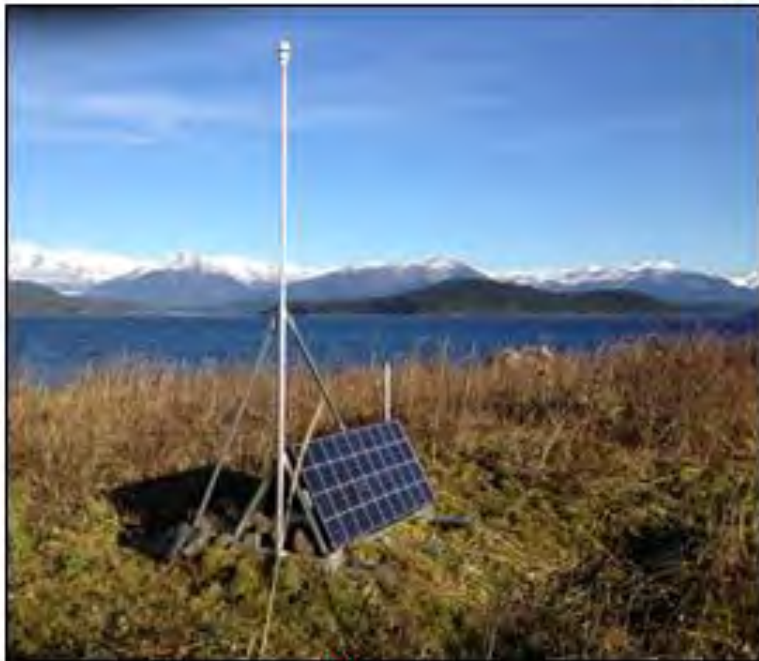
AIS Transmitting Antenna

Weather Sensor



GPS Antenna

December 2012

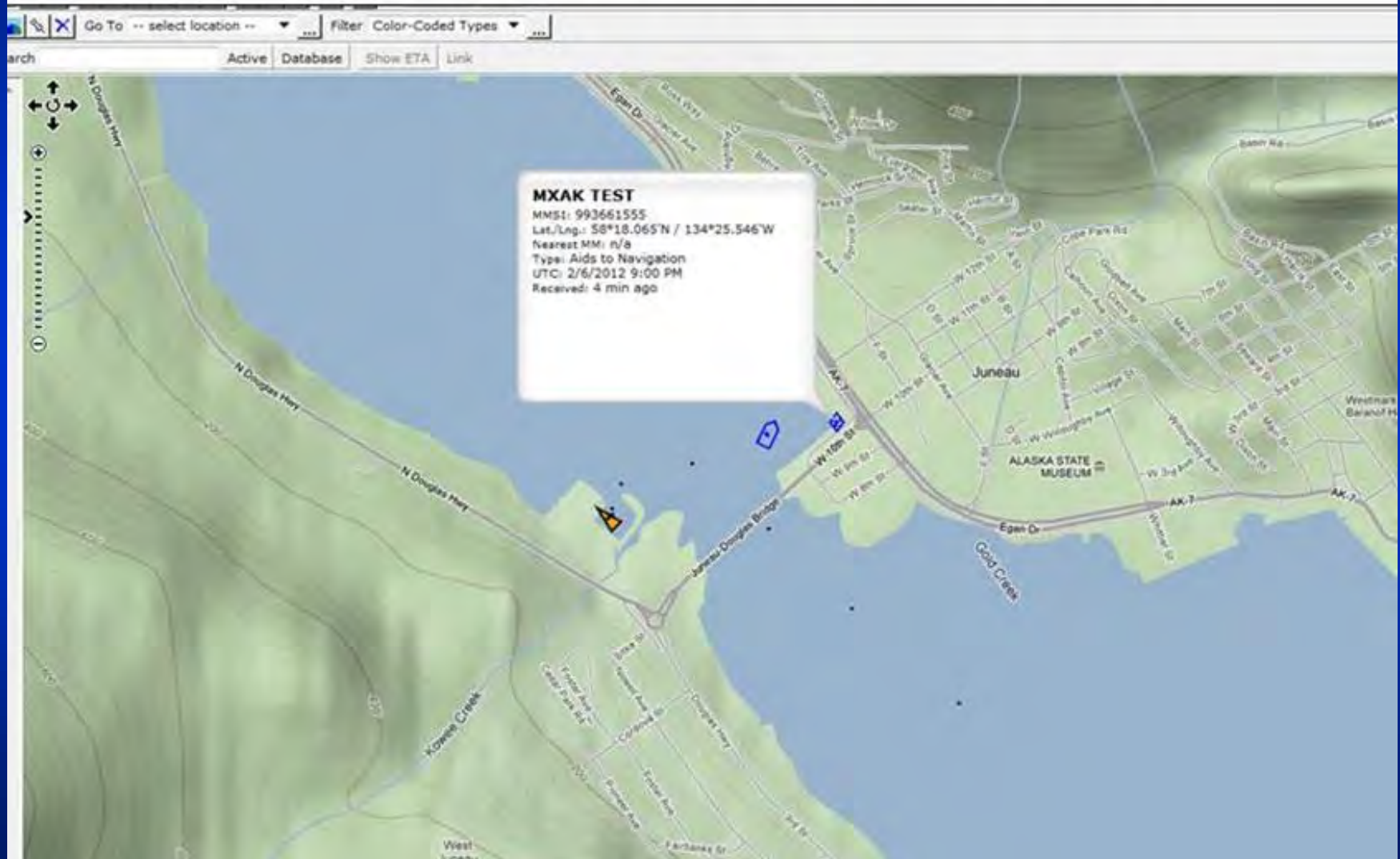


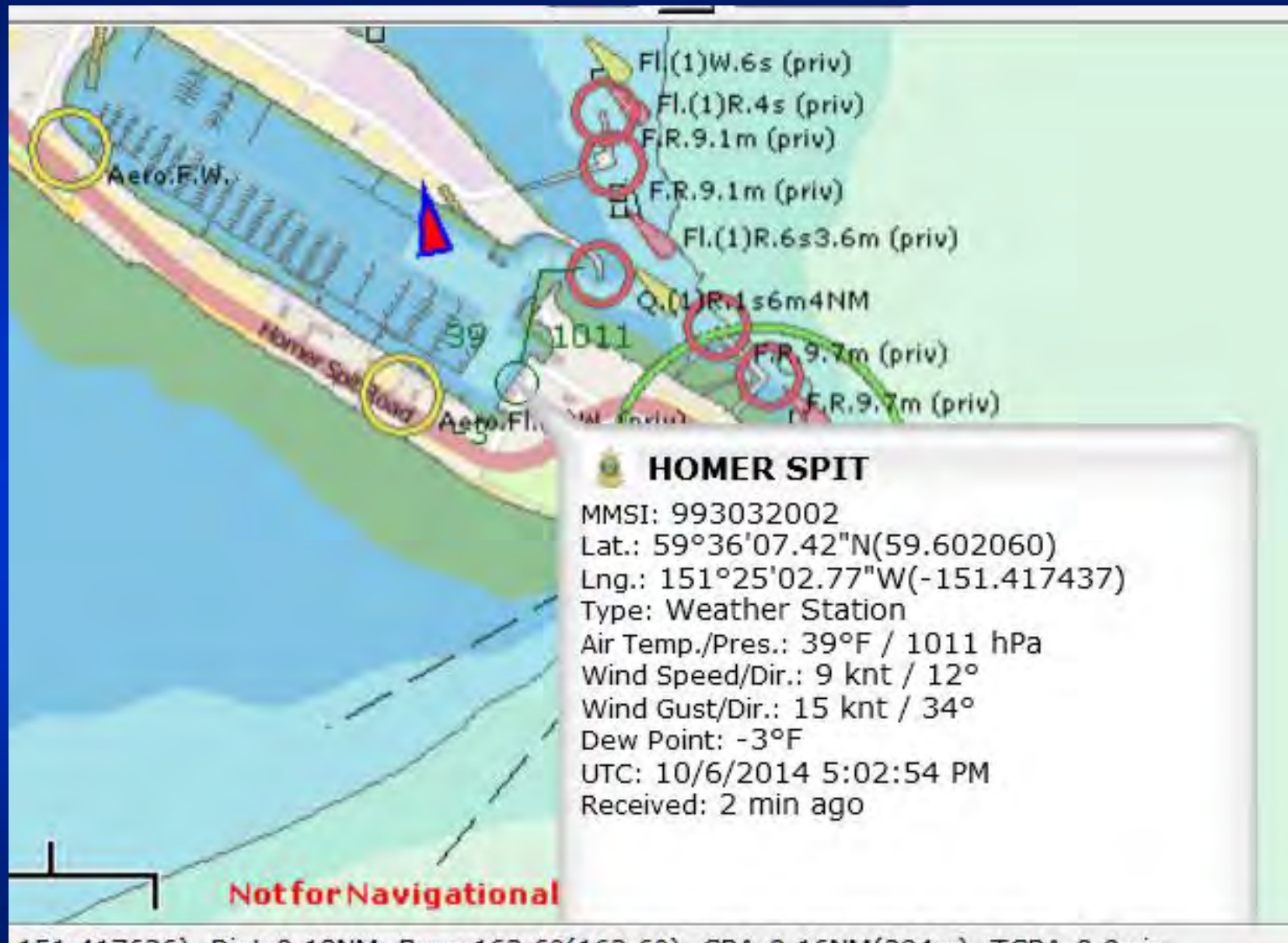
AIS WX
Stations



AIS Weather Station Test

Weather Station Displayed on AIS Display







Weather Stations

Select station name for additional information on the site.

Station Name	Wind Spd (kts)	Wind Dir (True)	Wind Gust (kts)	Gust Dir (True)	Press (mB)	Temp (F)	Rel Humidity %	Dew Pt (F)
Anchorage Port	6.5	N (350.0°)	10.9	NNW (332.3°)	1013.8	33.1	45.1	14.2
Barrow	22.2	NNW (342.9°)	27.8	NW (316.2°)	1019.8	26.4	65.0	16.3
Cape Decision	7.1	NNW (337.1°)	11.2	NNW (327.0°)	1018.5	47.7	67.6	37.4
Dutch Harbor APL	11.3	ENE (77.9°)	21.0	ENE (56.8°)	1012.9	45.1	58.5	31.5
Dutch Harbor Port Of	---	---	---	---	---	---	---	---
Eldred Rock	24.9	S (178.6°)	33.2	S (178.0°)	1009.3	43.5	---	---
Five Finger Light	14.2	S (181.4°)	18.6	S (188.8°)	1017.4	43.3	78.5	37
Guard Island	1.7	NW (312.7°)	3.4	NNW (328.0°)	1018.3	51.3	73.2	42.8
Gustavus	2.6	ENE (70.2°)	5.1	ENE (56.3°)	1014.4	43	71.4	34.5
Homer Spit	9.8	NNE (20.7°)	14.3	NNE (31.9°)	1010.7	38.8	17.5	-0.6
Icy Bay	2.5	ENE (77.7°)	4.8	ENE (62.6°)	1013.0	40.3	83.8	35.6
Juneau AML	1.6	W (260.9°)	3.4	W (265.9°)	1015.6	43.5	86.3	39.4
Kenai	3.2	NE (55.8°)	3.9	NE (48.3°)	1011.3	32.9	48.2	15.4
Ketchikan	6.0	NNW (334.5°)	8.7	NNW (341.0°)	1017.2	49.1	75.7	41.9
Little Island	16.3	ESE (114.9°)	22.1	ESE (112.8°)	1015.2	43.5	78.7	37.4
Marmion Island	1.2	NW (306.8°)	2.4	NW (309.0°)	1013.3	47.5	62.5	35.1
Mendenhall Valley	2.8	ENE (75.6°)	5.4	NE (50.0°)	1013.9	41.9	76.7	35.1
MXAK Office	1.5	SSE (160.1°)	3.1	S (172.1°)	1015.9	50.4	71.8	41.5
Naked Island	18.4	S (170.1°)	25.1	SSE (163.8°)	1015.5	43.3	83.2	38.7
Nikiski	19.8	N (6.4°)	26.2	N (4.8°)	1012.4	36.3	46.2	17.8
Nikolski White Alice	39.2	E (99.9°)	51.4	E (96.4°)	1006.1	42.4	84.4	38.1
Point Retreat	7.0	SSE (146.4°)	13.9	SE (128.8°)	1016.4	42.8	86.7	38.8
Portland Island	11.6	E (91.6°)	15.0	ESE (103.1°)	1014.0	43.3	78.5	37.2
Rocky Island	15.9	E (97.9°)	20.5	E (93.4°)	1015.4	43.2	79.8	37
Scull Island	13.8	E (94.6°)	17.3	E (97.8°)	1015.0	42.3	80.2	36.5
Tenakee Springs	4.7	N (9.9°)	7.1	N (1.7°)	1015.1	46	72.2	37.8
Wales	3.3	NNW (335.2°)	9.5	N (358.3°)	1025.5	33.8	57.2	20.3

Notes:

1. Wind speed is shown as a 10-minute average (mean)
2. Wind direction is a 10-minute vector weighted average
3. Wind gust and gust direction show the highest recorded wind speed in the last 10 minutes and the direction of the gust
4. This page automatically refreshes every 60 seconds. Last refresh occurred at 8:44 AM



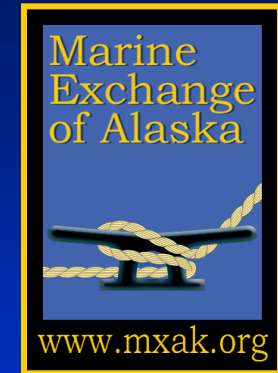
The Alaska Ocean Observing System (AOOS) is funding a Marine Exchange project that is adding weather stations to Automatic Identification System (AIS) receiving sites and

28 WX Sites & Growing



USCG-MXAK CRADA

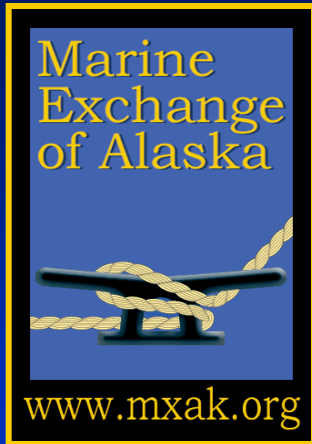
(Cooperative Research and
Development Agreement)



“Arctic Next Generation Navigational Safety Information System”



AIS transmission tests
conducted in summer
of 2014 with Coast
Guard cutter Healy




Arctic Next Generation Navigational Safety Information System



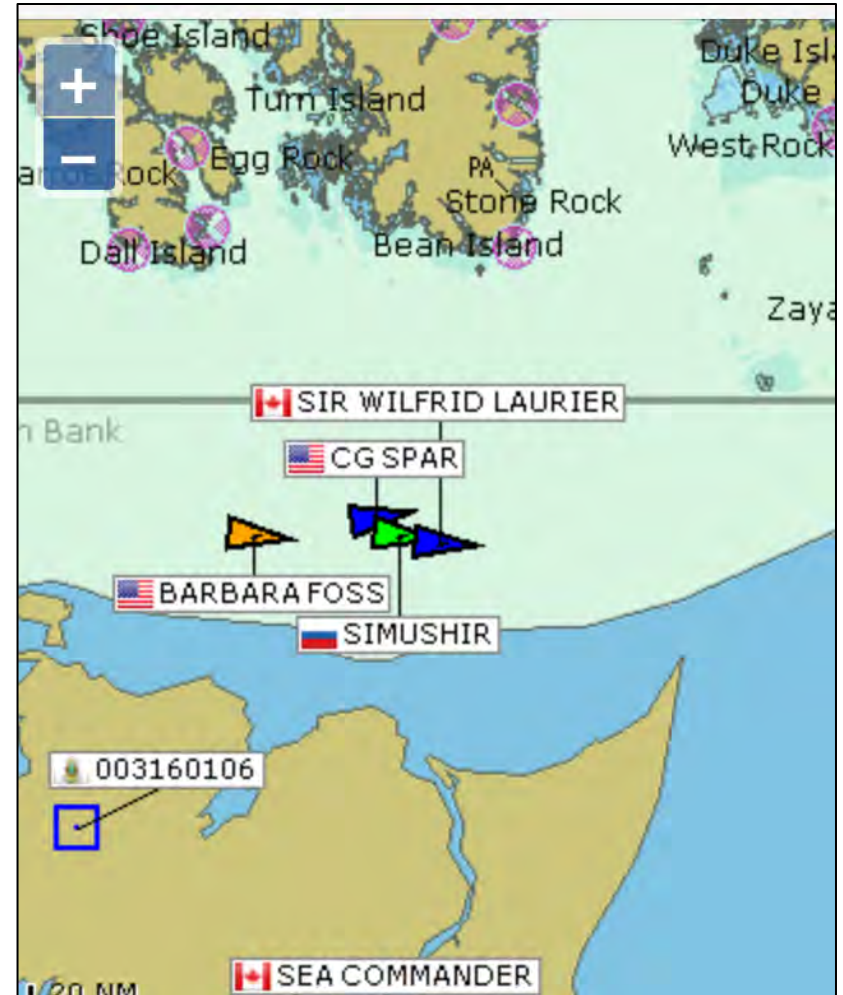
Builds upon AOOS AIS/WX project to communicate information to vessels via AIS;

- Virtual aids to Navigation (i.e. buoys)
- Locations of whalers
- Environmental Data (i.e. weather and ice)
- Locations of whales
- Vessels in distress, etc.
- Notify vessels in “Areas to be Avoided” or exceeding speed restrictions

SIMUSHIR ADrift

SHIP INFORMATION		t location -- ... Filter [Color-Coded Types]	
Name	SIMUSHIR	Find	Show ETA Link
MMSI	273356170		
IMO	9179385		
Call Sign	UBR15		
Type/Cargo	Cargo ship		
Length x Beam	134m x 16m		
Draught	6.3m		
Nav. Status	Not under command		
Last Seen UTC	10/17/2014 5:42 PM		
Last Seen Loc	10/17/2014 9:42 AM		
Latitude	52°38.062'N		
Longitude	132°16.891'W		
Nearest MM			
Speed	1.5knt(1.7MPH)		
Course	319.1°		
Heading	88°		
Rate of Turn	0°/min		
Destination	PROVIDENIYA RU		
ETA	10/24/2014 12:00 AM		
Last AIS UTC	10/15/2014 10:45 PM		
Last Sat UTC	10/17/2014 5:42 PM		
Last AIS Lat	48°55.350'N		
Last AIS Long	126°48.824'W		
Last Sat Lat	52°38.062'N		
Last Sat Long	132°16.891'W		
IP	216.67.61.34:40002c		

U.S. Coast Guard Vessel, Two Canadian Coast Guard Vessels and Commercial Tug Assisting the **Simushir** to Prince Rupert

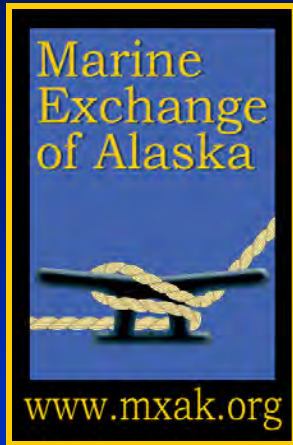


Summary

Arctic Maritime Safety and Environmental Protection

- Maritime Domain Awareness and Management
- Implementation of Risk Mitigating Measures
- Monitoring and Compelling Compliance
- Response Network and Capabilities
- Leveraging Technology to Enhance Maritime Safety

Information – Time – Capabilities



Marine Exchange of Alaska

Providing information, communications and services to aid safe, secure, efficient and environmentally sound maritime operations.

