

Marine
Exchange
of Alaska



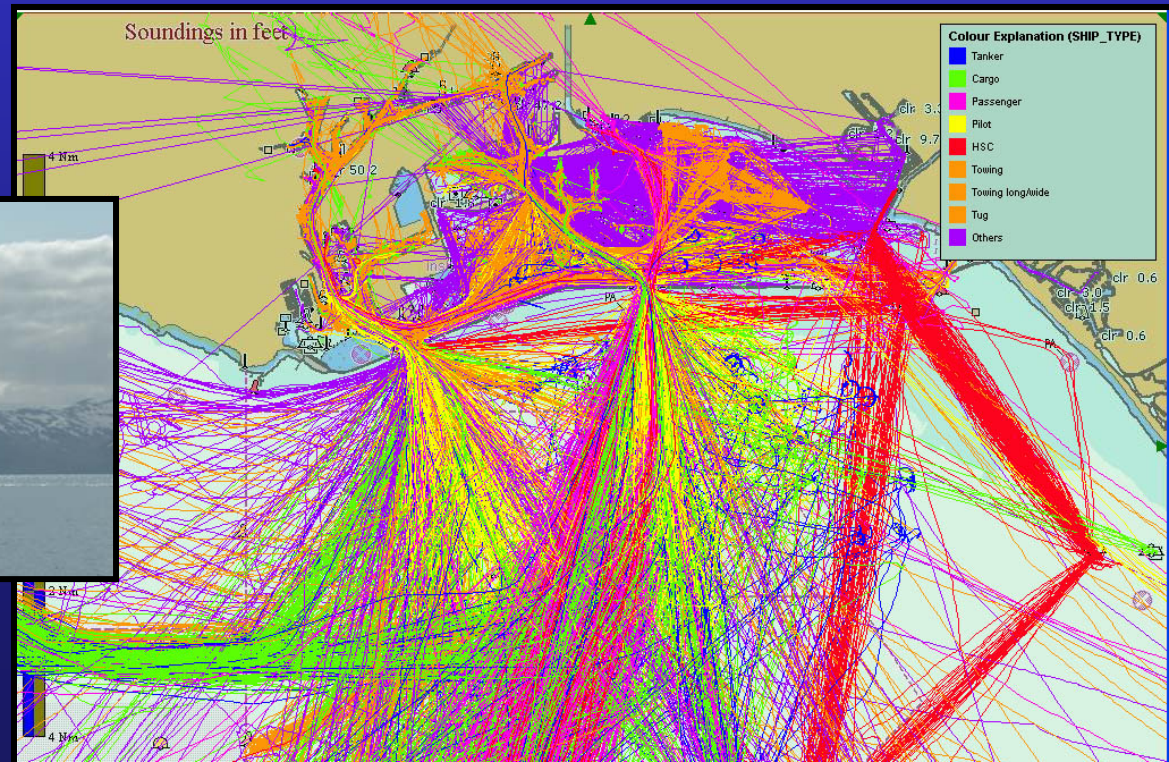
www.mxak.org

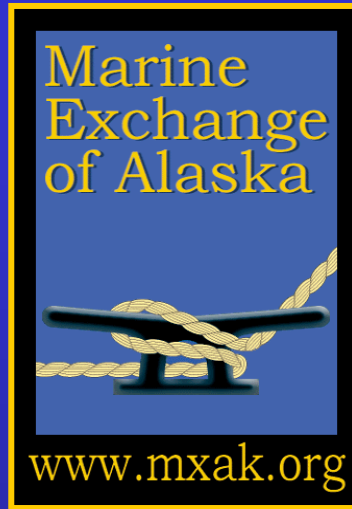
Vessel Traffic Risk Assessment

Ed Page

Executive Director

Marine Exchange of Alaska





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.

10th Annual Harbor Safety Committee Conference

Plan • Prevent • Protect • Recover

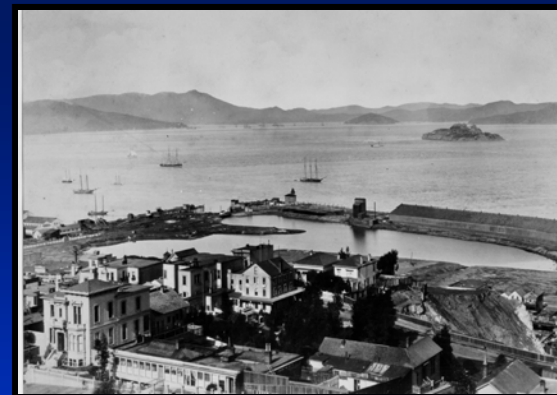
Vessel Traffic Risk Assessment





Marine Exchanges

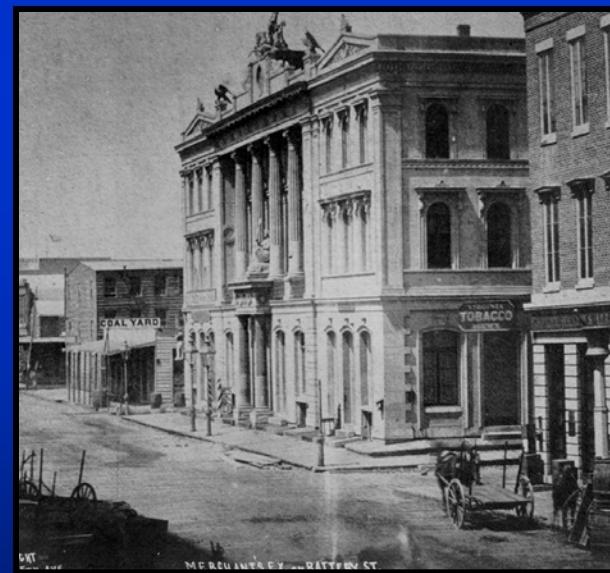
“Honest Brokers of Information”



Telegraph Hill San Francisco 1850

Marine Exchanges Date Back to 1800's

- Broker information on vessel arrivals
- Telescopes and semaphore in 1800's
- Radars, radios, AIS, e-mail, the internet, and satellites used today



San Francisco Exchange
1857



Maritime Information Services of North America (MISNA)



Alaska

Seattle

Portland

San Francisco

LA/LB

New York/New
Jersey

Philadelphia

Baltimore

Hampton
Roads Virginia

Jacksonville

Tampa

New Orleans

Houston



Container



Cruise Ships



Oil Spill Response
Vessels



Tugs and Barges

**Marine
Exchange
Vessel Tracking**



Trampers & Bulkers



Tankers



Small Passenger Vessels



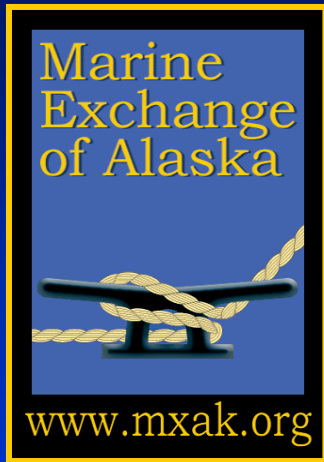
Fishing



Ferries



Coast Guard, State of Alaska
DOT, ADEC and
other agencies



Marine Exchange Programs

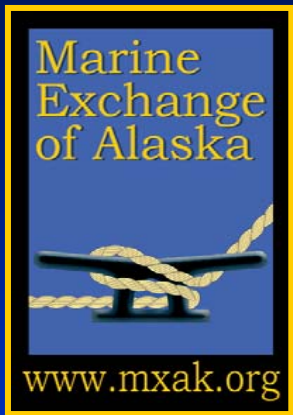


- Maritime Pride and Education
- Maritime Database (www.mxak.org)
- Charts and Publications
- Vessel Tracking
- Compliance with Regulations (TWIC)
- Maritime Advocacy



Automated Secure Vessel Tracking System (ASVTS)

A Vessel Tracking System developed by the Marine Exchange of Alaska that utilizes satellite communications and AIS to track the locations of vessels to aid safe, secure, efficient and environmentally responsible maritime operations.



Why Track Vessels?

Plan, Prevent, Protect, Recover



- Aid Response to Vessel Casualties – Minimize Impacts
- Demonstrate Compliance with Environmental Protection Measures
- Improve Efficiency of Maritime Operations
- Aid Maritime Security
- Fleet Management - ISM
- Provide information for Risk Assessments and Vessel Traffic Routes

*Safe, Secure, Efficient and Environmentally Sound
Maritime Operations*

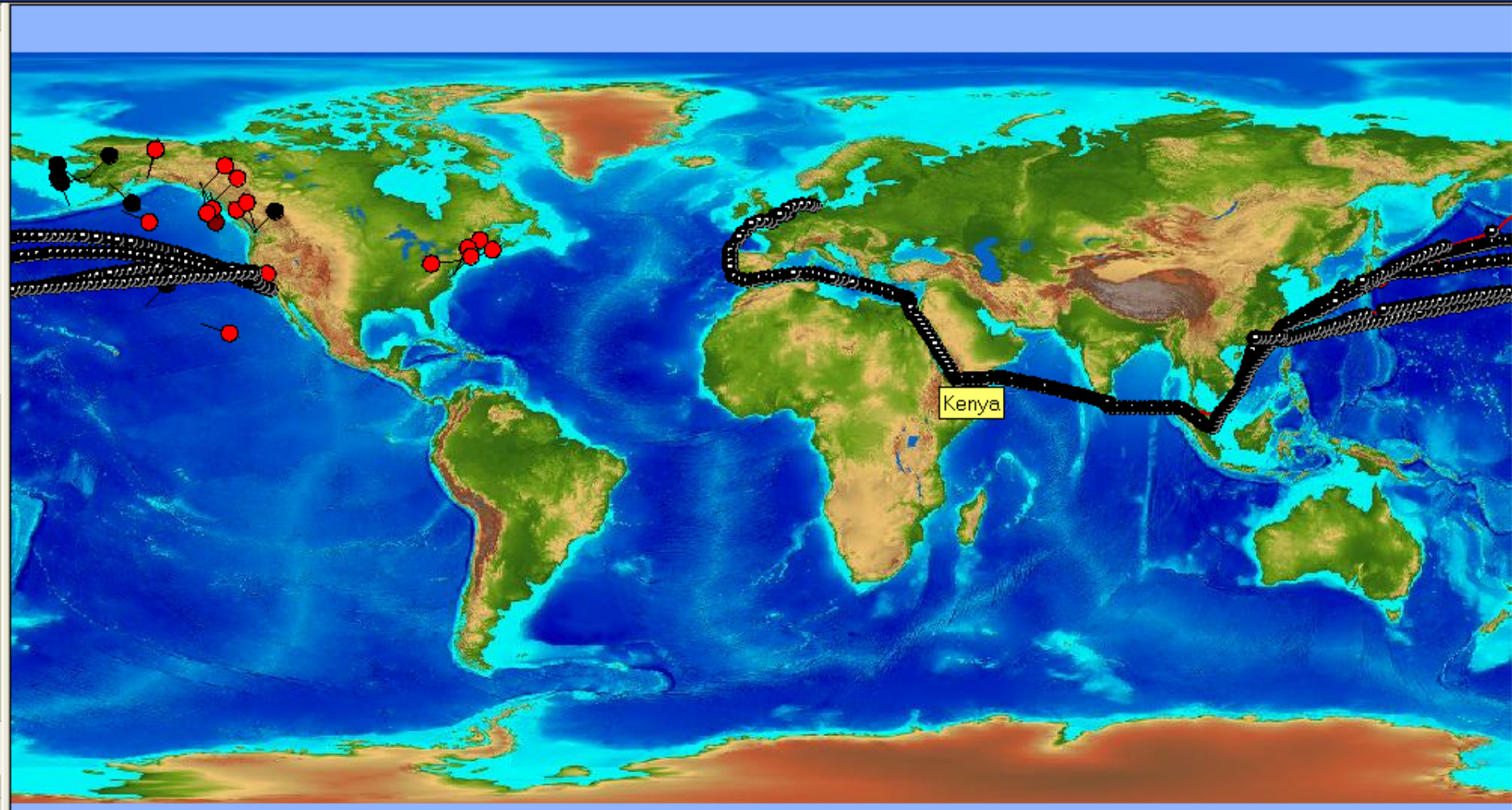
9-11 Impetus for Vessel Tracking



Automated Secure Vessel Tracking System™



Legend on/off | Navigation icons (Home, Stop, Refresh, etc.) | 17:48 UTC | Trip history | Logout



Kenya

ANOA "Do Loops"

(Tanker 45 minutes early to LA/LB)





Emerging Alaska Maritime Safety & Environmental Issues



- Present and future maritime traffic and oil exploration in the Bering Sea and Arctic Ocean

- Emerging Risks, Safety Issues and Environmental Impacts

- Solutions for Managing Risks to maintain safe and environmentally sound maritime operations



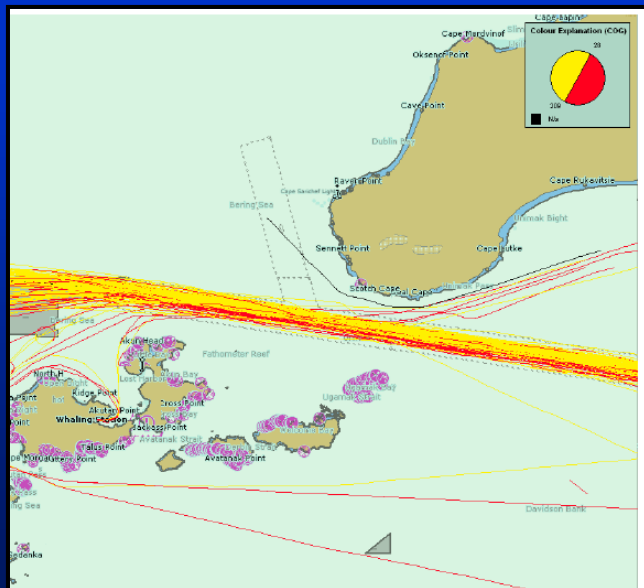
Polar Shipping Routes



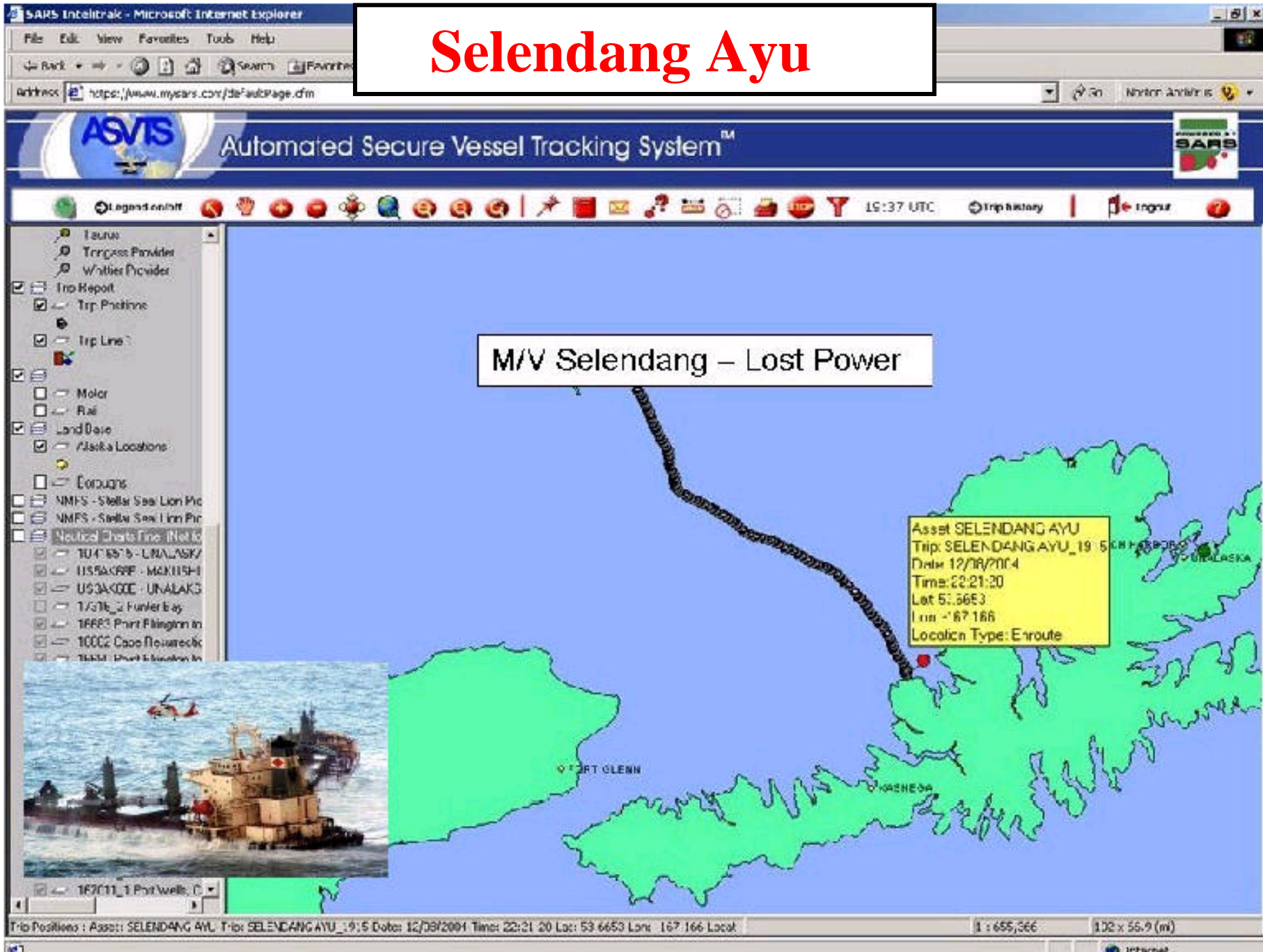
Northwest Passage Route

4,500 miles shorter – Europe to Asia (two weeks)

Aleutians Vessel Tracking – Ever Diadem



Selendang Ayu

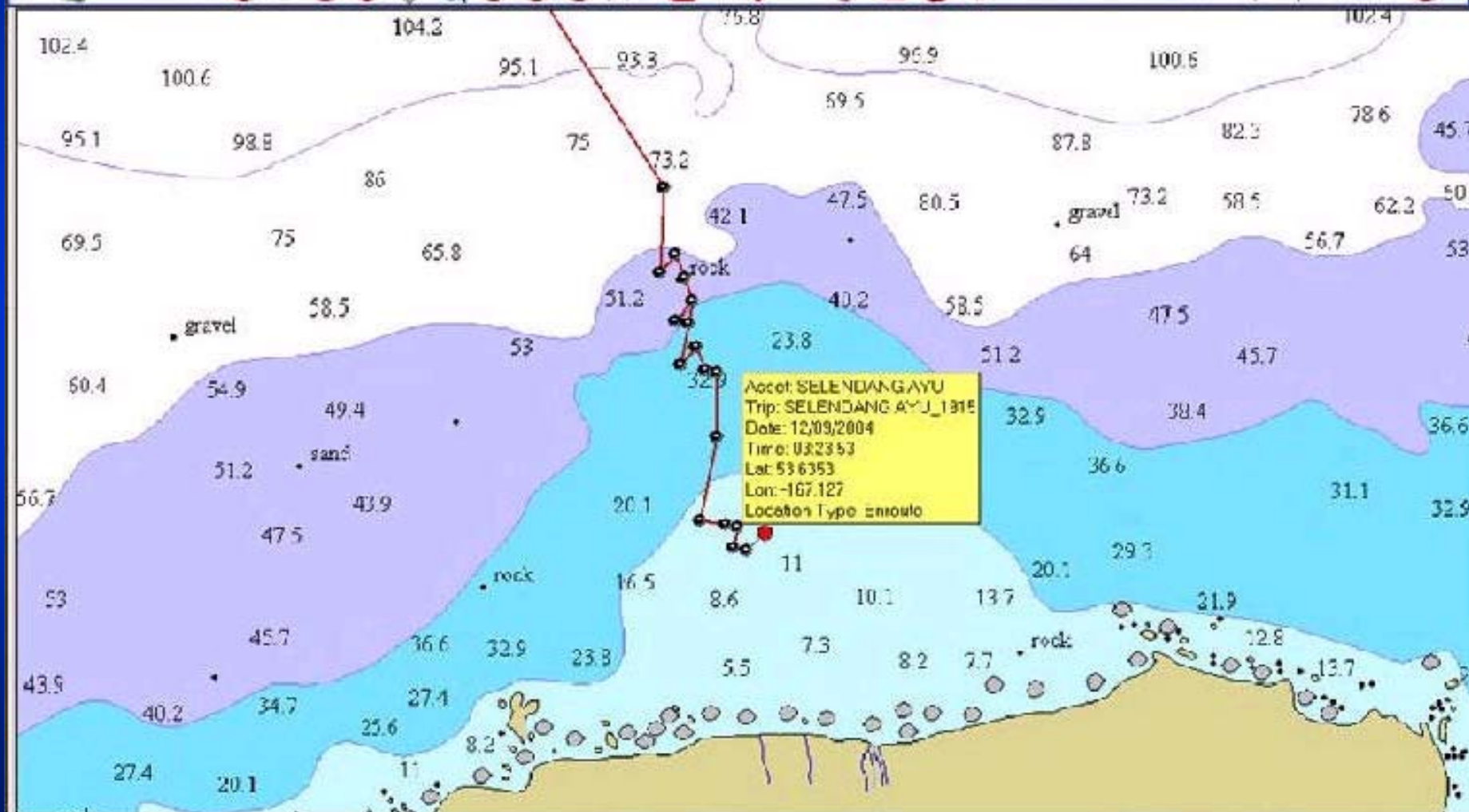




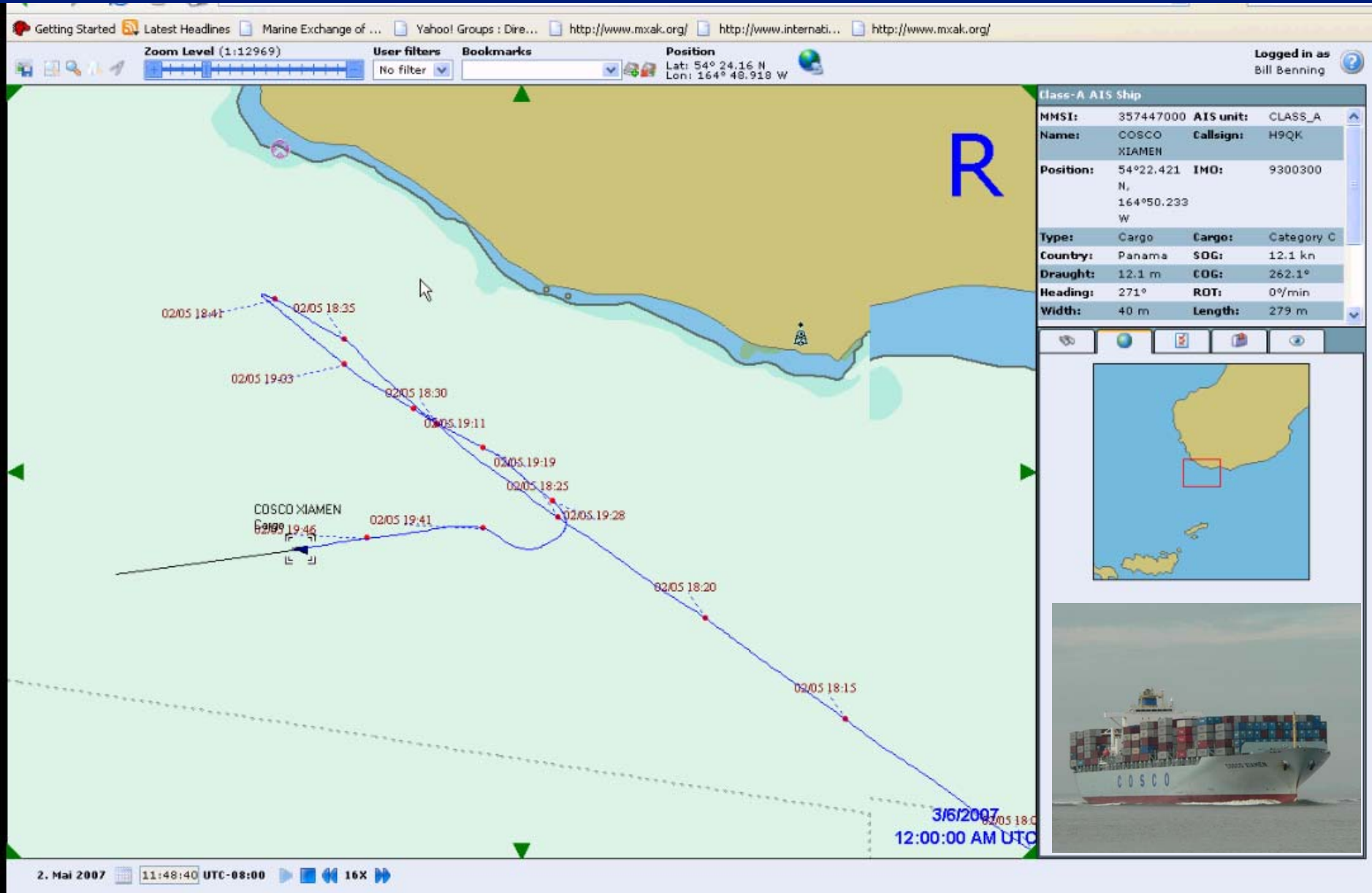
Automated Secure Vessel Tracking System™



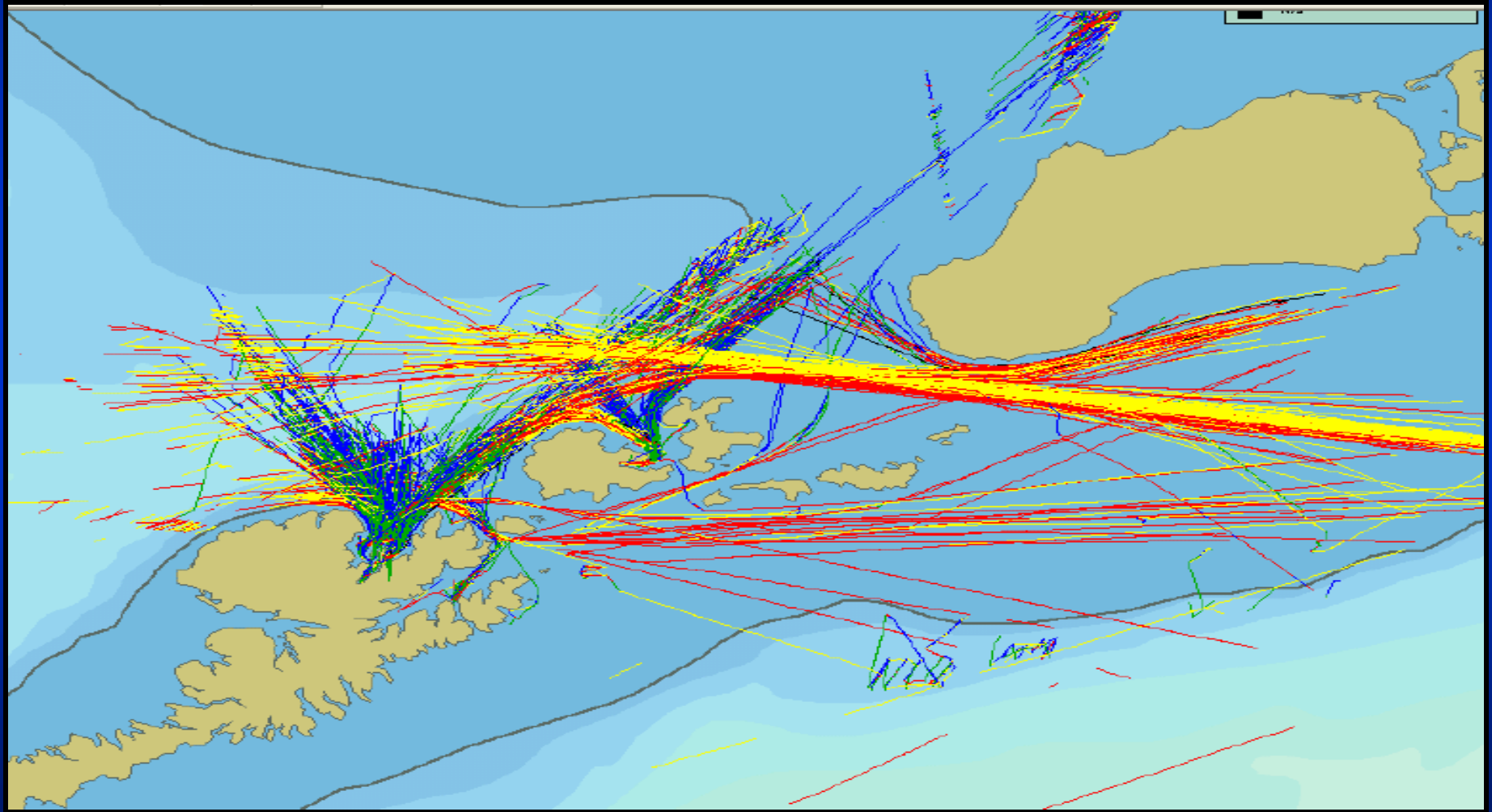
Legend on/off 15:35 UTC Trip history Logout

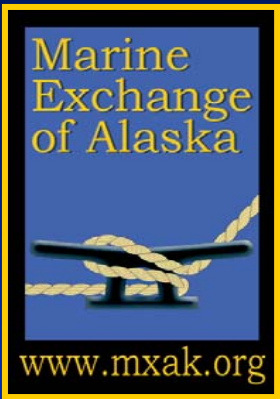


Container Ship Maneuvers – Unimak Pass



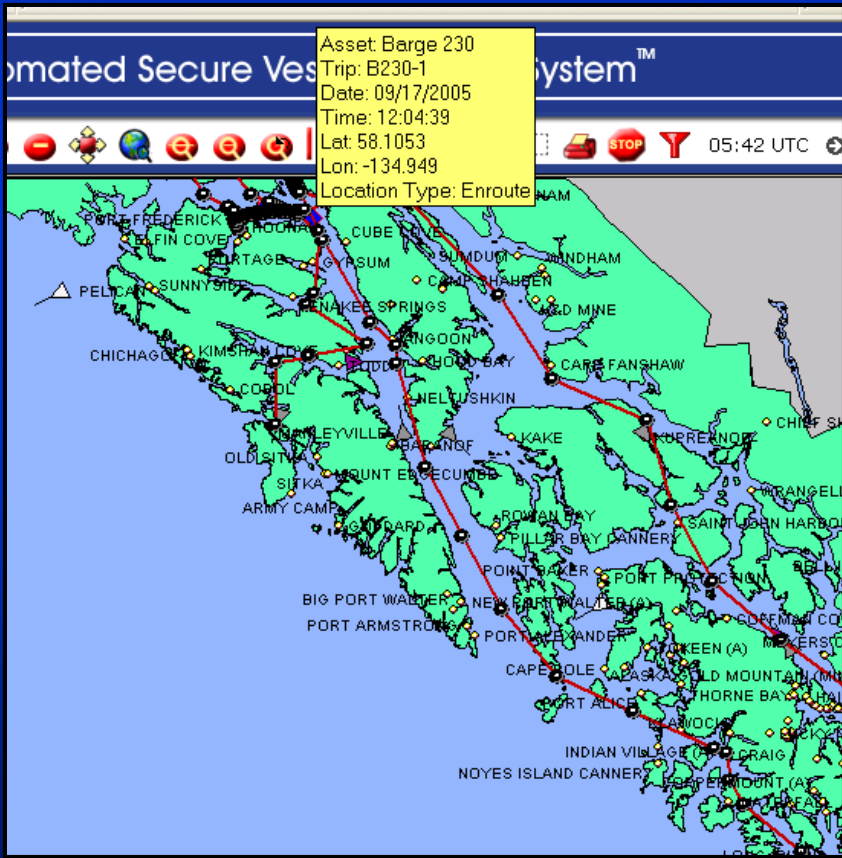
Aleutian Islands Vessel Traffic Monitoring and Assessment





Satellite Tracking

Satellite Tracking of Tank Barge with self contained transponder



Latte a day

Battery Operated Transponder



High Value Assets Yukon River



Jess Bill Trip Start-Noon, 9 Oct 07





Map Satellite Hybrid Terrain

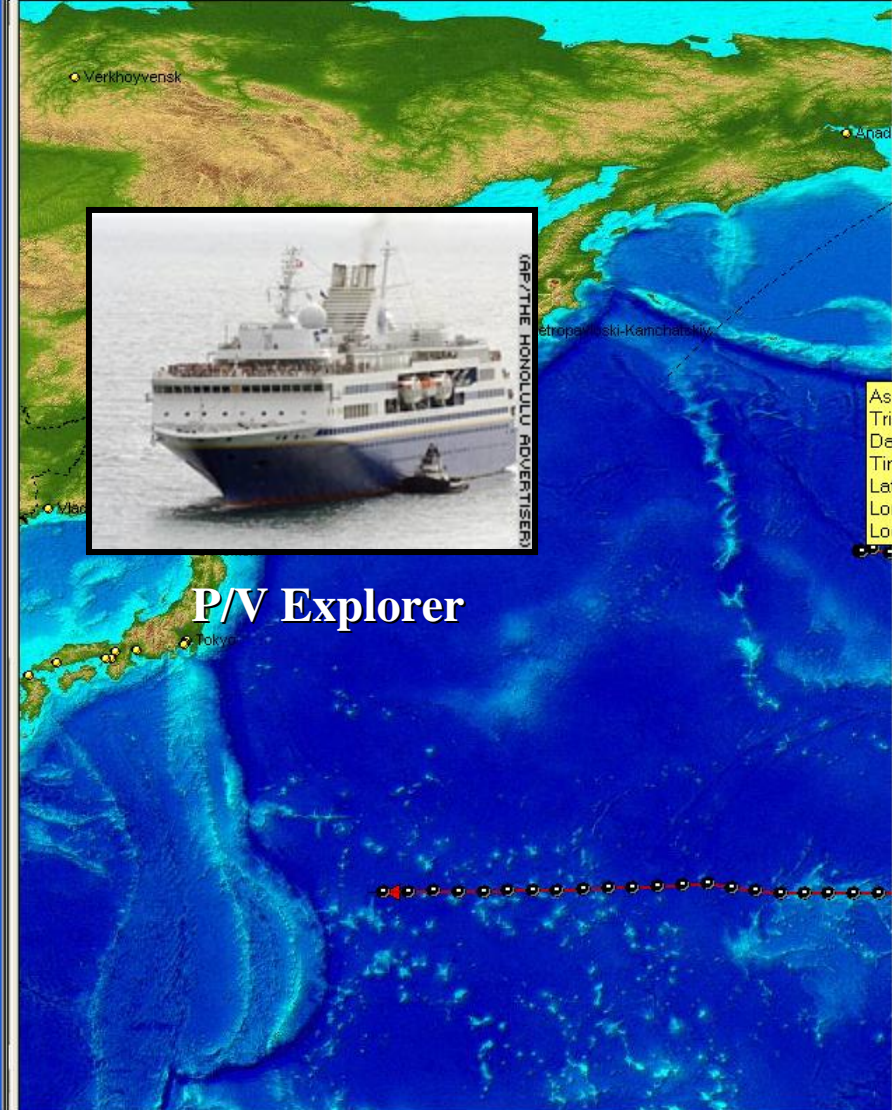


Sailing Catalina Island

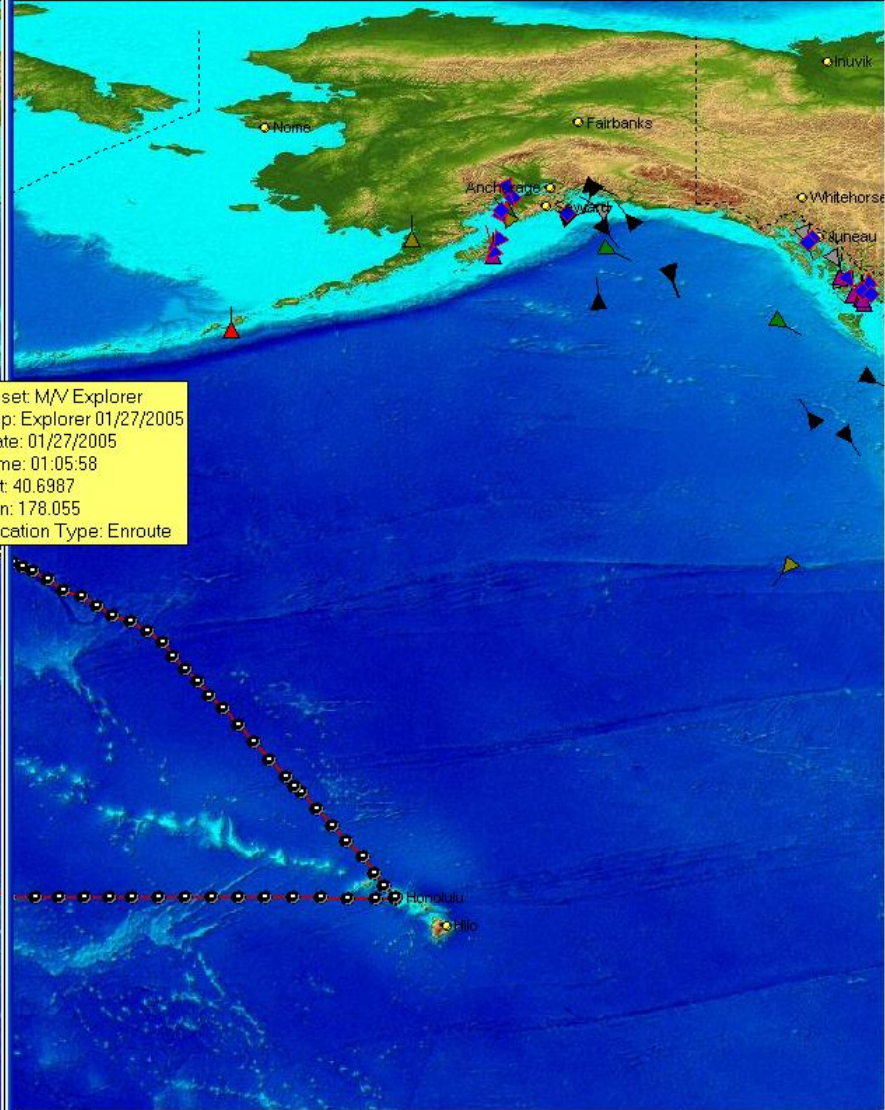


Emergency Response

SARS Vessel Tracking System



P/V Explorer



Asset: M/V Explorer
Trip: Explorer 01/27/2005
Date: 01/27/2005
Time: 01:05:58
Lat: 40.6987
Lon: 178.055
Location Type: Enroute

Oil Spill Response

Selendang Ayu

The screenshot displays the ASVIS (Automated Secure Vessel Information System) interface. The browser address bar shows the URL: <https://www.mysars.com/defaultPage.cfm>. The interface includes a search bar, a legend, and a list of vessels on the left. The main map area shows the Aleutian Islands with various vessel icons. A tooltip for the vessel F/V Sirene is displayed over the map.

ASVIS Automated Secure Vessel Information System

Legend on/off

Asset: F/V Sirene
Company: SELENDANG
Trip: RETURN TO DUTCH
Date: 07/16/2005
Time: 13:28:24 UTC
Location Type: Enroute
Lat: 53.8533325195
Lon: -167.1920013428
Comments:
Leg Distance: 0 nm
Leg Time: 2 min
Average Speed: 0 knots
Average Bearing: n/a

20:03 UTC Trip history Logout

- Anchorage Provider
- Baranoff Provider
- Chichagof Provider
- Cordova Provider
- F/V Alaska Lady
- F/V Aleutian Lady
- F/V American Islander
- F/V Cape Flattery
- F/V Exito
- F/V Freebird
- F/V Lady Kiska
- F/V Makushin
- F/V Mystery Bay
- F/V Silent Lady
- F/V Sirene
- F/V Zolotoi
- Fairbanks Provider
- GTS Infinity
- GTS Summit
- Horizon Anchorage
- Horizon Kodiak
- Horizon Tacoma
- Island Brave
- Island Champion
- Island Spirit
- Island Warrior
- L/C KAREN LINN
- LCM Flying D
- LCM Iron Mike
- LCM Joshua
- LCM Pegasus
- LCM Polar Bear

Shared Assets : Asset: F/V Sirene-Company: SELENDANG-Trip: RETURN TO DUTCH-Date: 07/16/2005-Time: 13:2: 1 'Shared Assets' selected 1 : 398,593 53.4 x 34.8 (mi)

Marine
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www.mxak.org

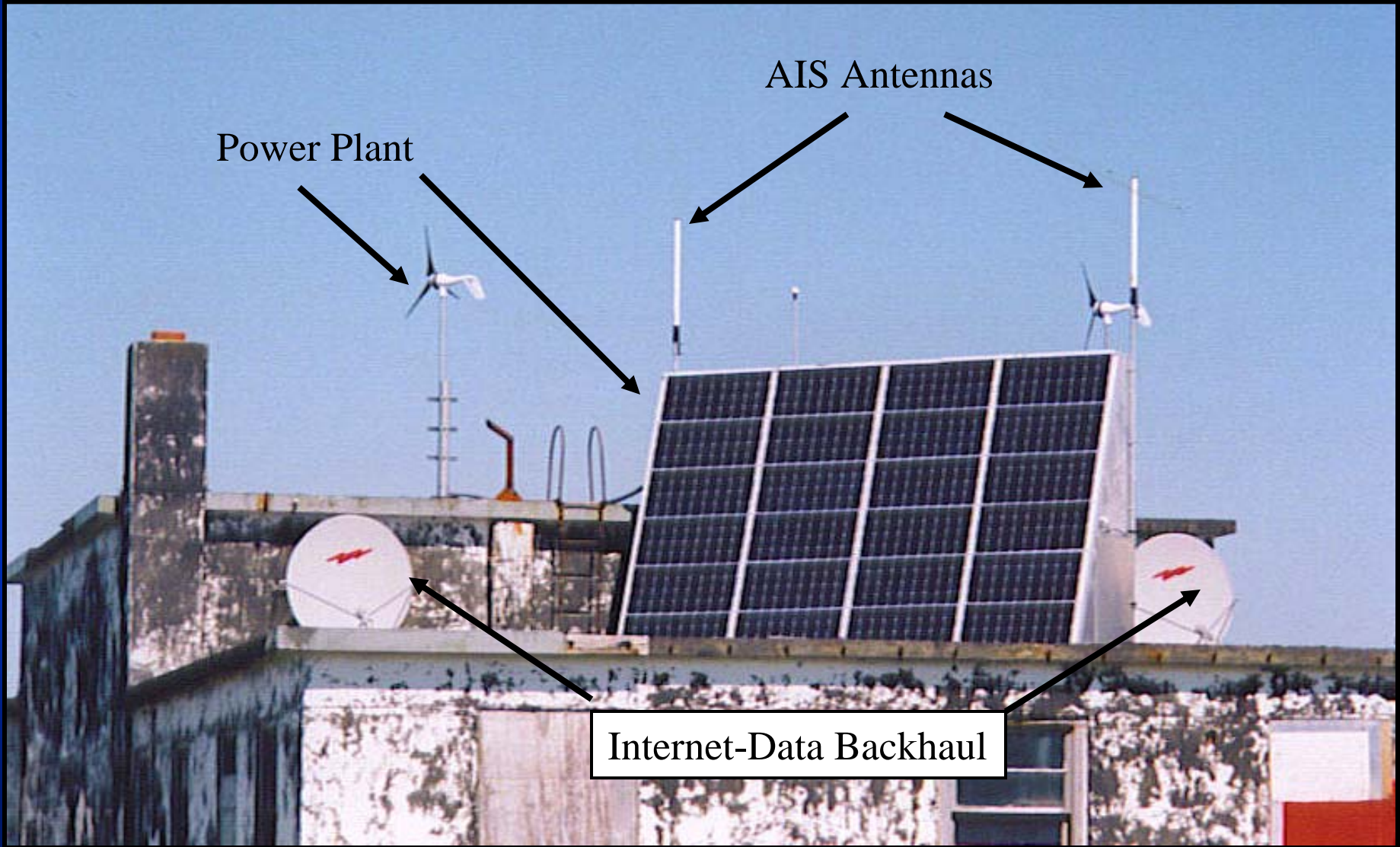
Automatic Identification System (AIS)

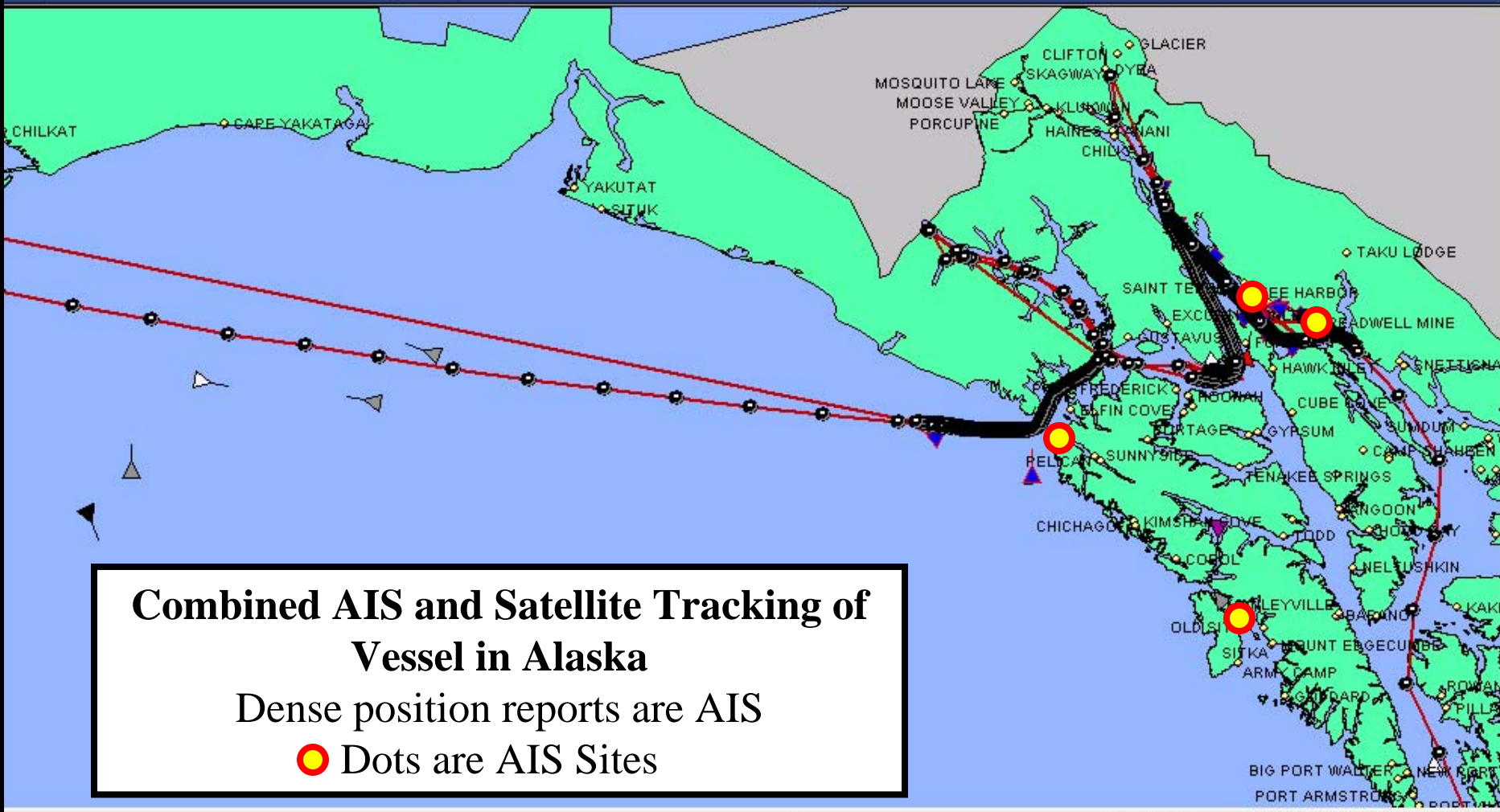


U.S. COAST GUARD



Scotch Cap AIS Site



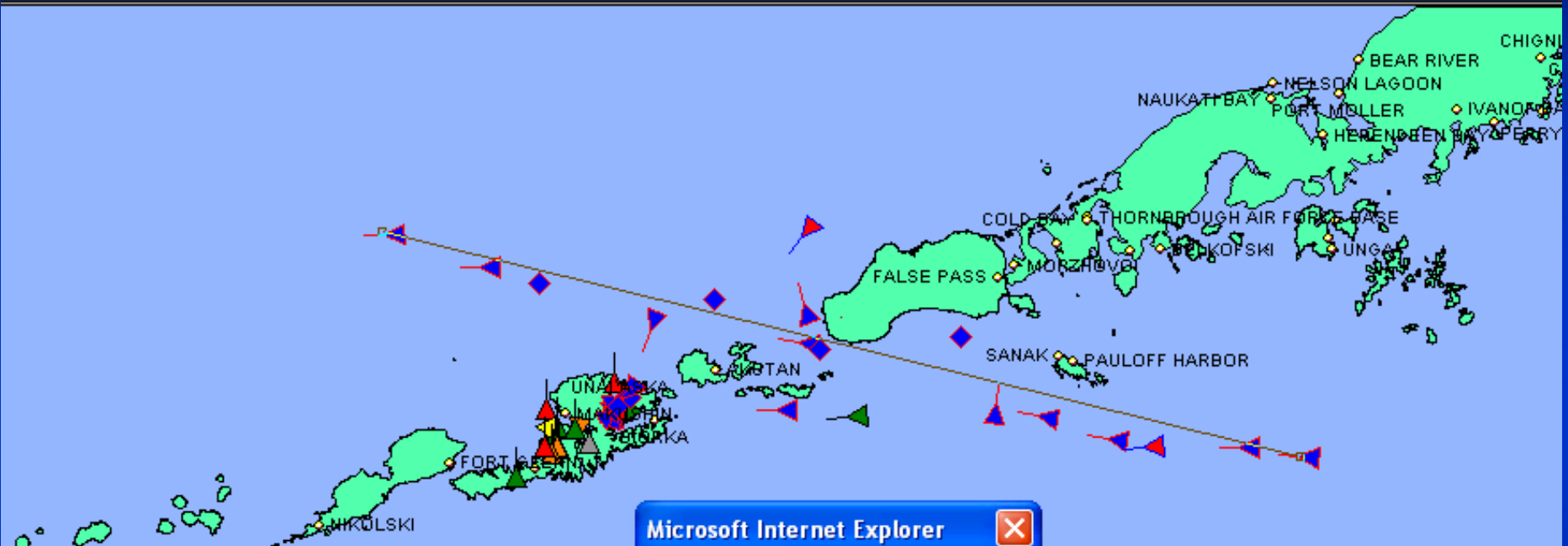


Combined AIS and Satellite Tracking of Vessel in Alaska
Dense position reports are AIS
● Dots are AIS Sites



Automated Secure Vessel Tracking System™

Legend on/off 04:12 UTC



Microsoft Internet Explorer

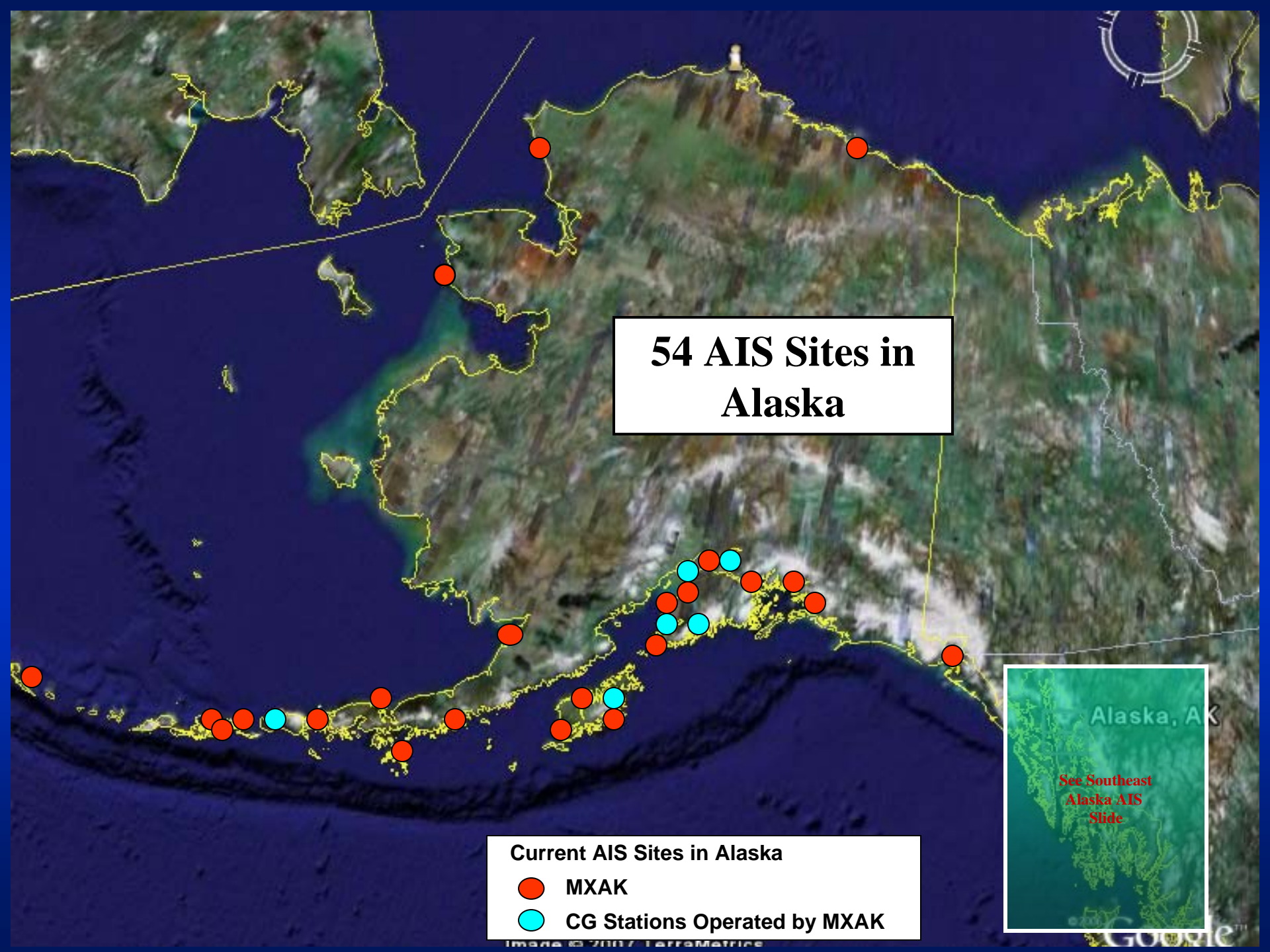
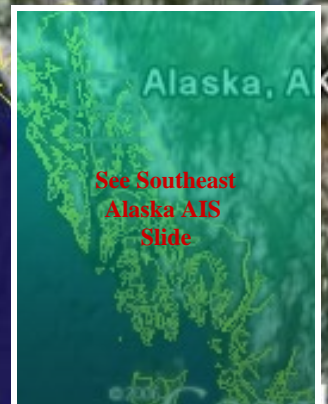
The Total Measured Distance is:

336 miles
541 kilometers

54 AIS Sites in Alaska



Current AIS Sites in Alaska

- MXAK
- CG Stations Operated by MXAK

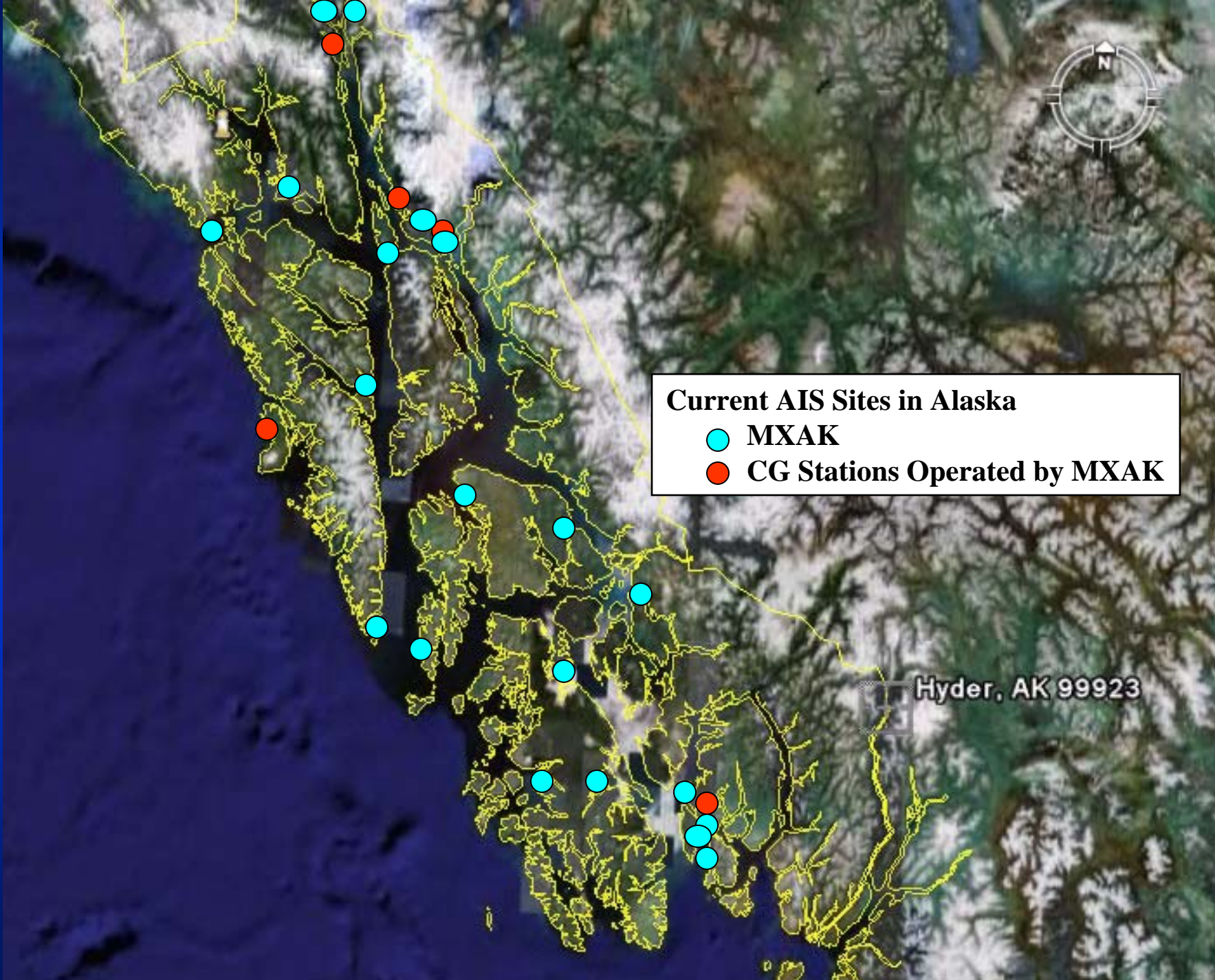




Current AIS Sites in Alaska

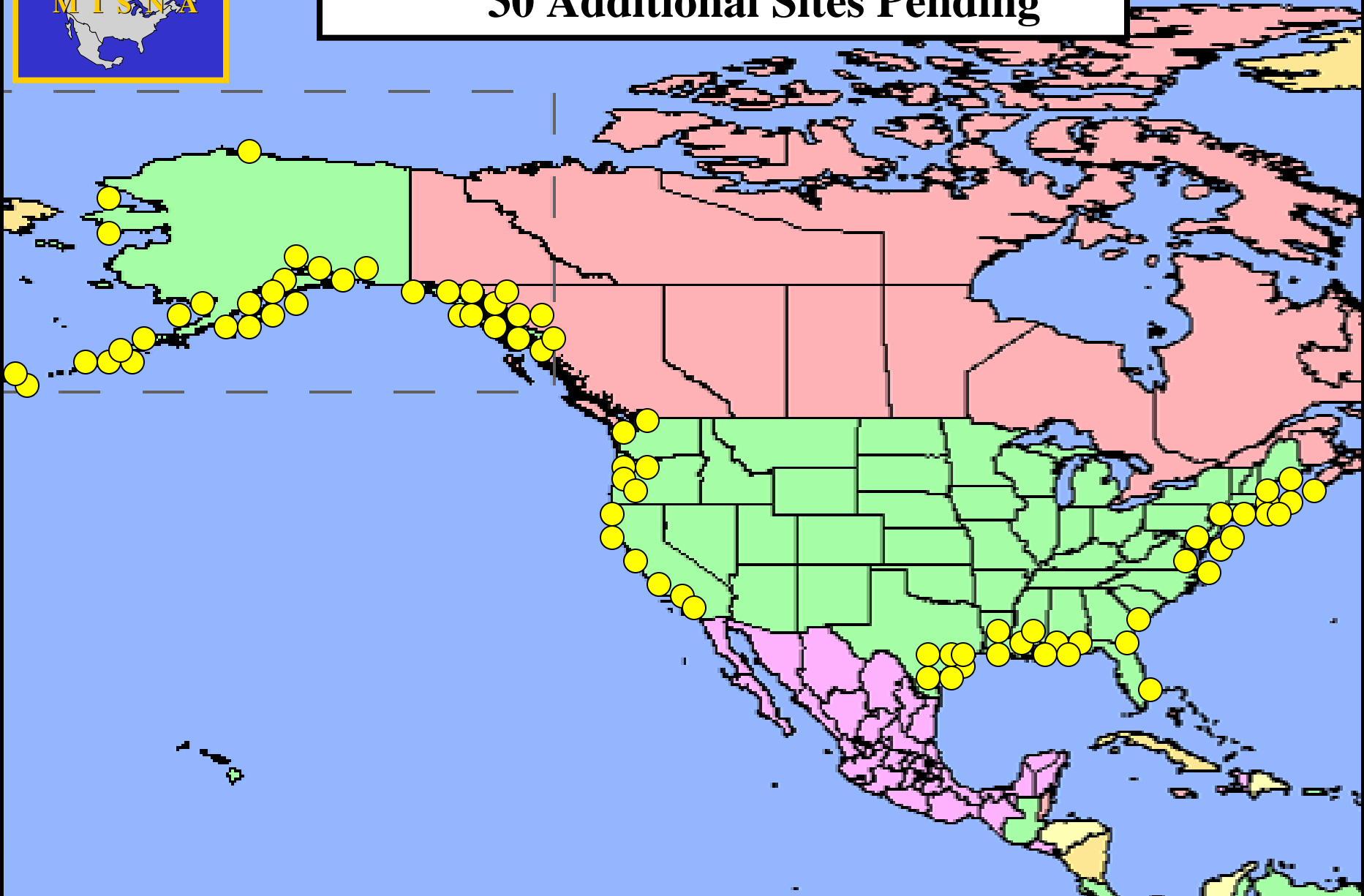
-  MXAK
-  CG Stations Operated by MXAK

Hyder, AK 99923





110+ MISNA Sites Operational
30 Additional Sites Pending

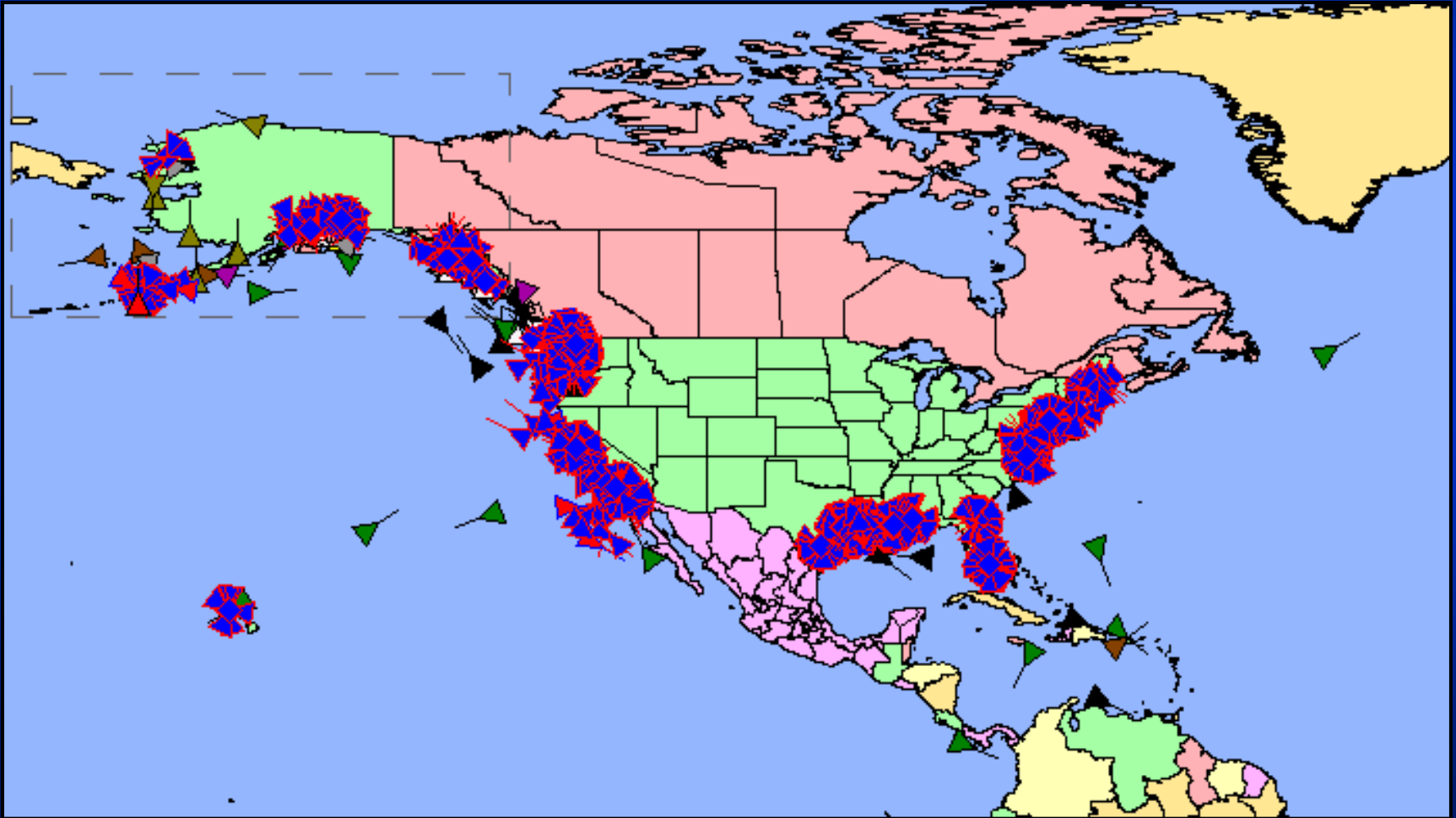




MISNA Vessel Tracking

North America AIS and LRIT

110 AIS Sites – Over 2,000 vessels tracked daily

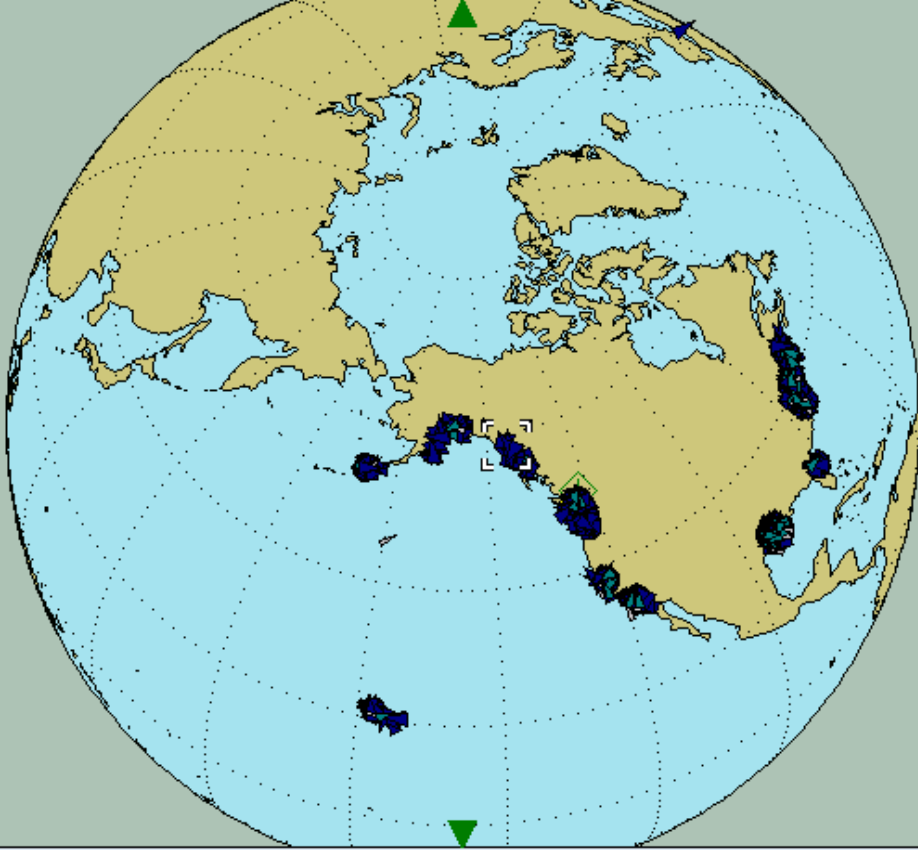


Arctic Perspective

GH AIS Webdisplay - 3.2.0

Zoom Level (1:25879476) User filters: No filter Bookmarks Position: Lat: 30° 59.817 N, Lon: 89° 31.259 W

Logged in as Ed Page



The map displays the Arctic region with several Class-A AIS ships represented by blue icons. The ships are clustered in the central Arctic Ocean and along the northern coast of Alaska and Canada. A green arrow points to a specific ship in the central Arctic.

Class-A AIS Ship

MMSI:	303177000	AIS unit:	CLASS_A
Name:	WESTERN NAVIGATOR	Callsign:	WAX7602
IMO:	1	Type:	Vessel
Cargo:	Undefined	Country:	Alaska
SOG:	9.3	Draught:	4.0
COG:	181.7	Heading:	Unknown
ROT:	Unknown	Width:	10
Length:	29	Destination:	SEATTLE
Nav. Status:	Under way using engine	ETA:	14 Feb 14.00

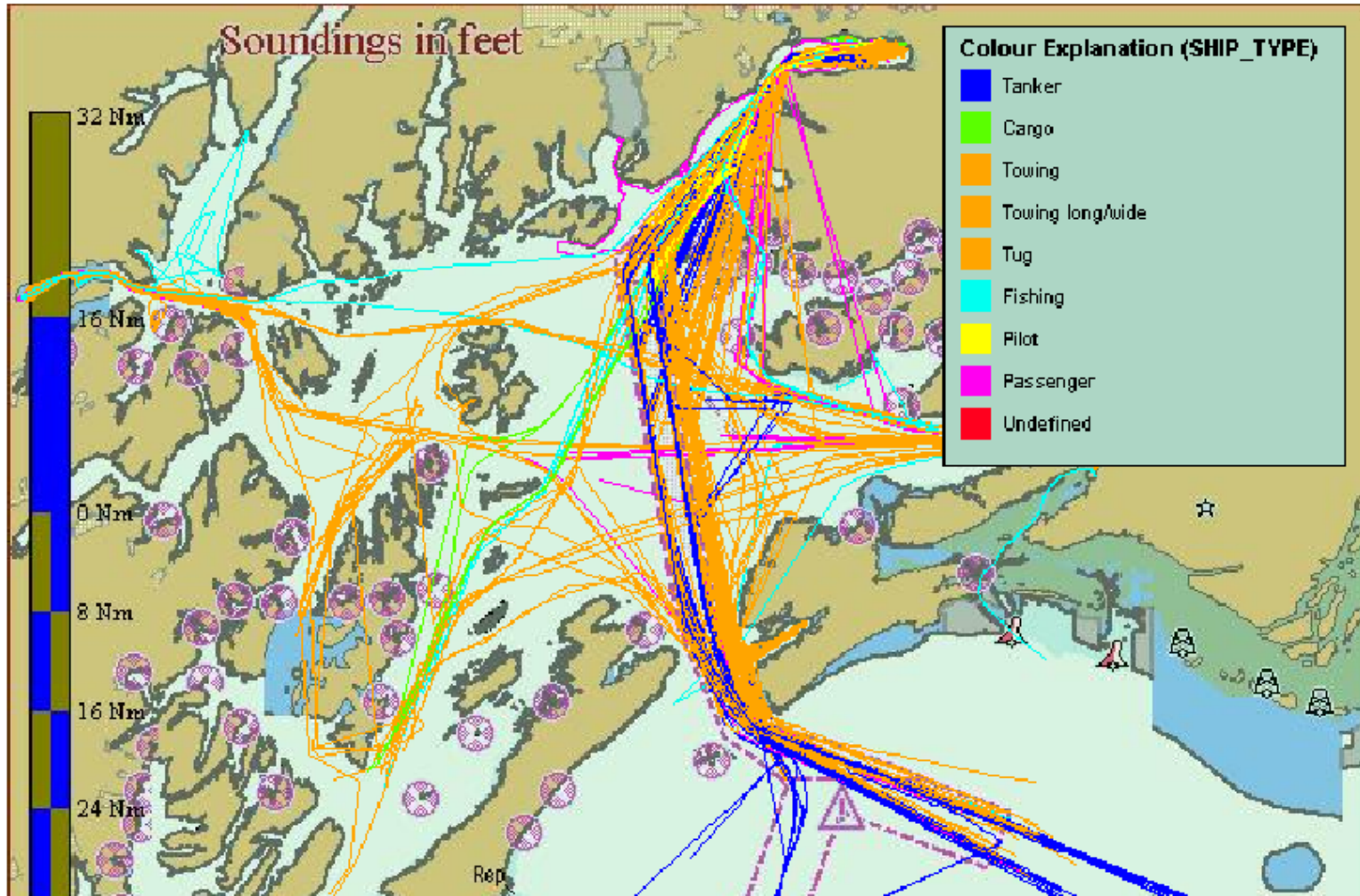
Find Ship:

Call Sign

Search String: (Min. 1 Characters/Digits)

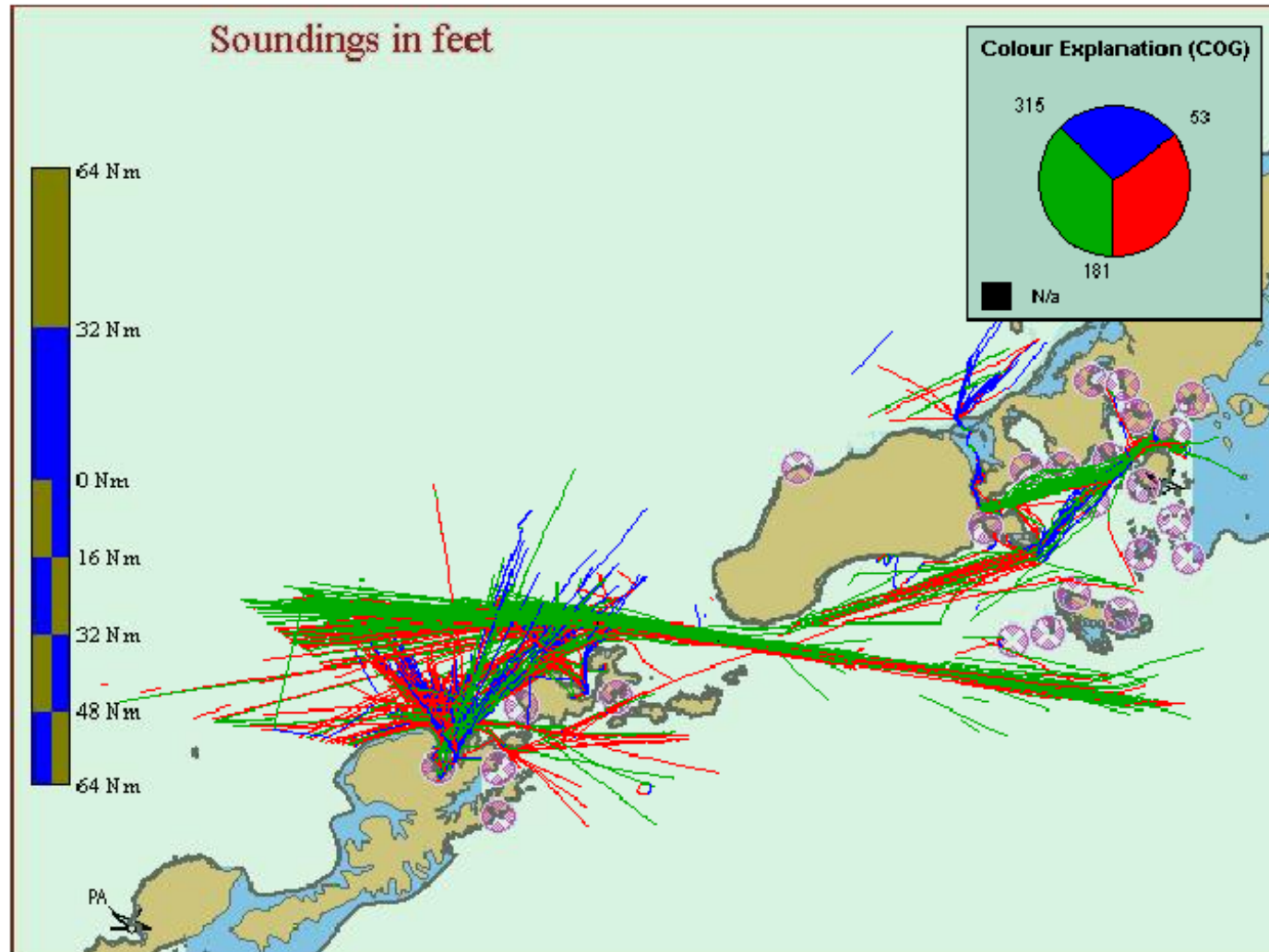
Historical Track

Area : Prince William Sound
Start : 12th April, 2008 00:00
End : 12th May, 2008 23:59



Historical Track

Area : Unimak Pass Dutch Harbor Plus
Start : 12th April, 2008 00:00
End : 13th May, 2008 23:59



3							
4	Name of Ship	Call Sign	Flag	Type of ship	Date & Time of transit	Next Port	Last Port
5	ALASKA ROSE	WCW900	USA	fishing	26 Sep 2007 08:12:32	DUTCH HARBOR	
6	ALASKAN COMMAND	WCX731	USA	fishing	29 Sep 2007 10:10:56	UNKNOWN	
7	ALEUTIAN MARINER	WDC842	USA	fishing	27 Sep 2007 01:22:53	DUTCH HARBOR	
8	ALEUTIAN SPRAY	WDD624	USA	fishing	24 Sep 2007 11:08:16	DUTCH HARBOR	
9	AMERICAN BEAUTY	WBP585	USA	fishing	20 Sep 2007 02:51:04	FISHING GROUNDS	
10	AMERICAN EAGLE					Unavailable	
11	AMSTERDAM					PETROPAVLOVSK	Juneau Alaska
12	ANITA J					Unavailable	
13	ANSAC LEGACY					INCHON	Vancouver Washington
14	APL ITALY	A8GK6	Liberia	container ship	18 Sep 2007 17:46:20	DUTCH HARBOR	Oakland California
15	APL EMPEROR	MDWP6	United Kingdom	container ship	26 Sep 2007 08:43:27	DUTCH HARBOR	Oakland California
16	APL GENERAL	DSEM3	Korea	container ship	21 Sep 2007 00:59:13	YOKOHAMA	Vancouver Canada
17	APL JAPAN	S6TS	Singapore	container ship	17 Sep 2007 09:17:42	SEATTLE	Hong Kong
18	APL PHILIPPINES	WCX888	USA	container ship	24 Sep 2007 15:21:49	UPS YOKOHAMA	Oakland California
19	APL SINGAPORE	WCX881	USA	container ship	17 Sep 2007 10:33:49	YOKOHAMA	Oakland California
20	ARCTIC EXPLORER	WCZ900	USA	fishing	28 Sep 2007 23:47:33	AKUTAN	
21	ARCTIC WIND	WDB603	USA	fishing	27 Sep 2007 12:20:05	FISHING	
22	ARCTIC MARINER	WDC887	USA	fishing	26 Sep 2007 10:09:31	DUTCH HARBOR	
23	ASTRAL EXPRESS	HOSL	Panama	product tanker	20 Sep 2007 14:14:38	ULSAN,S.KOREA	Puerto Quetzal Guatemala
24	AURIGA	WTE678	USA	fishing	30 Sep 2007 11:12:59	DUTCH HARBOR	
25	AURORA	WTE677	USA	fishing	30 Sep 2007 21:03:21	Unavailable	
26	BALAENA	WDC381	USA	fishing	29 Sep 2007 20:14:04	TACOMA	
27	BARANOF	WBB484	USA	fishing	22 Sep 2007 06:50:15	FISHING GROUNDS	
28	BARBARA J	WBC509	USA	fishing	30 Sep 2007 21:07:02	TENDERING	
29	BERING ROSE	WCW900	USA	fishing	16 Sep 2007 12:47:43	Unavailable	
30	BIRTHDAY	C6SH6	Bahamas	bulk carrier	27 Sep 2007 07:55:17	NANTONG,CHINA	Vancouver Canada
31	BLUE ARIES	3FRH8	Panama	bulk carrier	16 Sep 2007 04:13:18	SHIMIZU PSTNJAPAN	Vancouver Canada
32	BLUE LEO	3FOK8	Panama	bulk carrier	18 Sep 2007 06:05:33	CHIBA. JAPAN	Vancouver Canada
33	BRISTOL MARINER	WCX905	USA	fishing	27 Sep 2007 17:32:42	SEATTLE	
34	BRISTOLEXPLORER	WCZ901	USA	fishing	28 Sep 2007 02:19:19	DUTCH HARBOR	
35	BULLDOG	WBY519	USA	fishing	27 Sep 2007 03:22:55	DUTCH HARBOR	
36	BUM SHIN	DSOE3	Korea	chemical tanker	25 Sep 2007 16:28:03	ULSAN	Vancouver Canada
37	C.S. ENTREPRENEUR	3EIU6	Panama	bulk carrier	27 Sep 2007 12:26:04	POHANG-S.KOERA	Port Angeles Washington
38	CAITLIN ANN	WDC646	USA	fishing	24 Sep 2007 11:05:37	DUTCH,HBR.AK.	
39	CAPE CAUTION	WBP706	USA	fishing	29 Sep 2007 05:26:37	HOME	
40	CAPE HORN	WDC425	USA	fishing	29 Sep 2007 19:28:49	Unavailable	
41	CASCADE MARINER	WDA640	USA	tug	26 Sep 2007 06:09:12	DUTCH HARBOR AK	
42	CG ACUSHNET	Unavailable	USA	WMEC	29 Sep 2007 17:05:22	Unavailable	
43	CGC SPAR	NJAR	USA	buoy tender	20 Sep 2007 05:39:32	Unavailable	
44	CHEI SEA K	WDD564	USA	fishing	29 Sep 2007 16:37:51	DUTCH HARBOR	

Detailed Vessel Data

JUL 1-15	JUL 16-31	AUG 1-15	AUG 16-31	SEP 1-15	SEP 16-30	TOTAL WESTBOUND	
54	56	64	60	45	29	1317	BULK CARRIERS
4	4	3	4	3	5	106	CHEMICAL TANKER
74	94	57	59	50	25	1547	CONTAINER SHIPS
		1			1	10	CRUDE OIL TANKERS
						2	FISHING VESSELS
4	7	5	7	3	3	121	GENERAL CARGO SHIPS
1	2	1	2	1	1	27	LNG TANKER
	2				1	5	LPG/NH3 CARRIER
2				3	2	7	PASSENGER SHIP
2	1	2	1		1	20	PRODUCT TANKERS
	7	1	7	2	1	55	REEFER CARGO SHIPS
3	2	2		2	1	27	RORO
11	10	9	9	5	1	231	MOTOR VEHICLE CARRIER
2	3	2	1	1	1	40	WOOD CHIP CARRIER
1	2			2		7	OTHER

3522

TOTAL WESTBOUND TRAFFIC

Fiscal Year	Westbound Traffic	Eastbound Traffic
2006	2923	568
2007	3581	890
% Increase	22.5%	56.6%



APL CORAL



CAPE FINISTERRE



CHICAGO BRIDGE



SNOWMASS



CORVIGLIA



GINGA LION



BREMEN



CSCL QINGDAO



CSCL HAMBURG



CORAL ACE



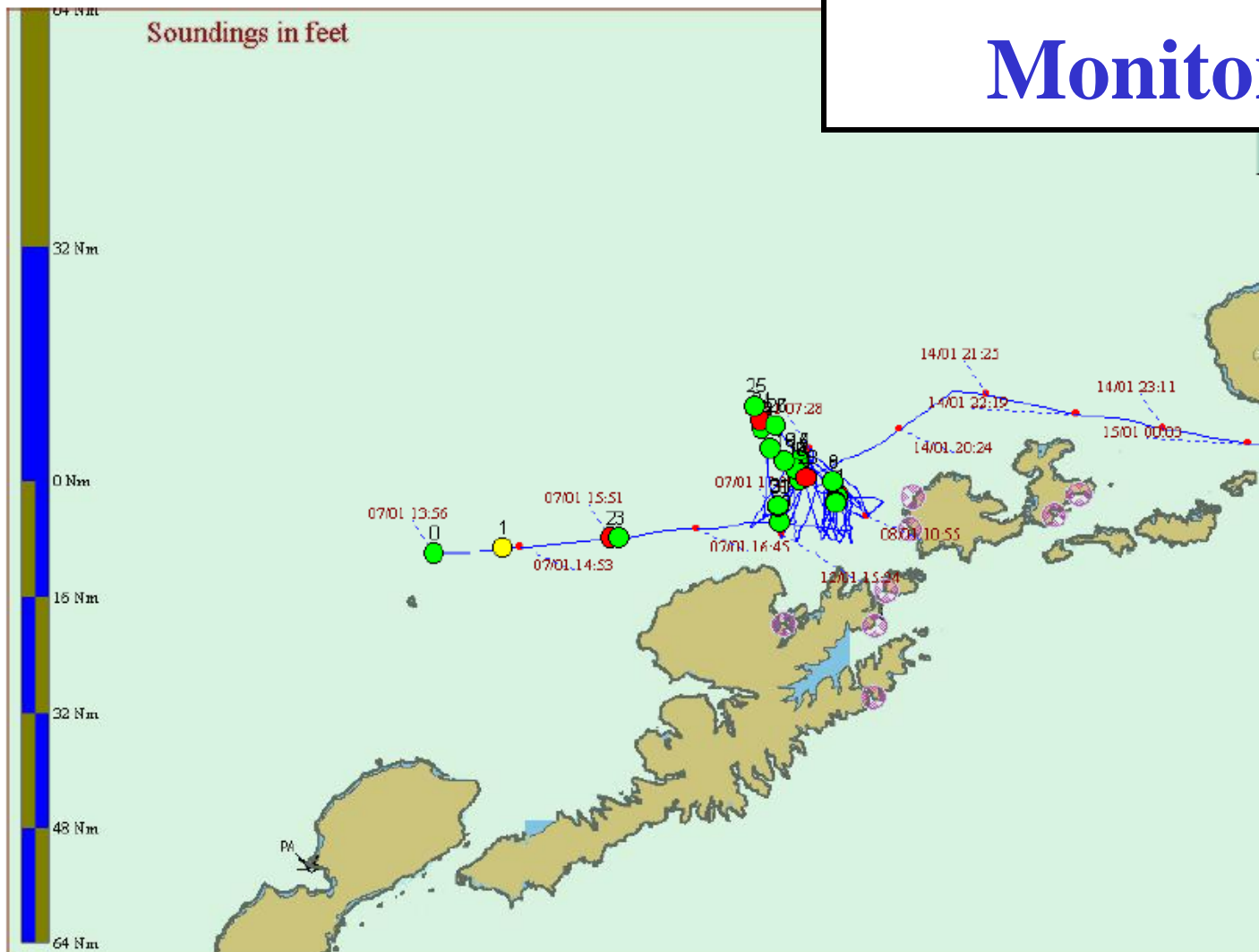
KENT TIMBER



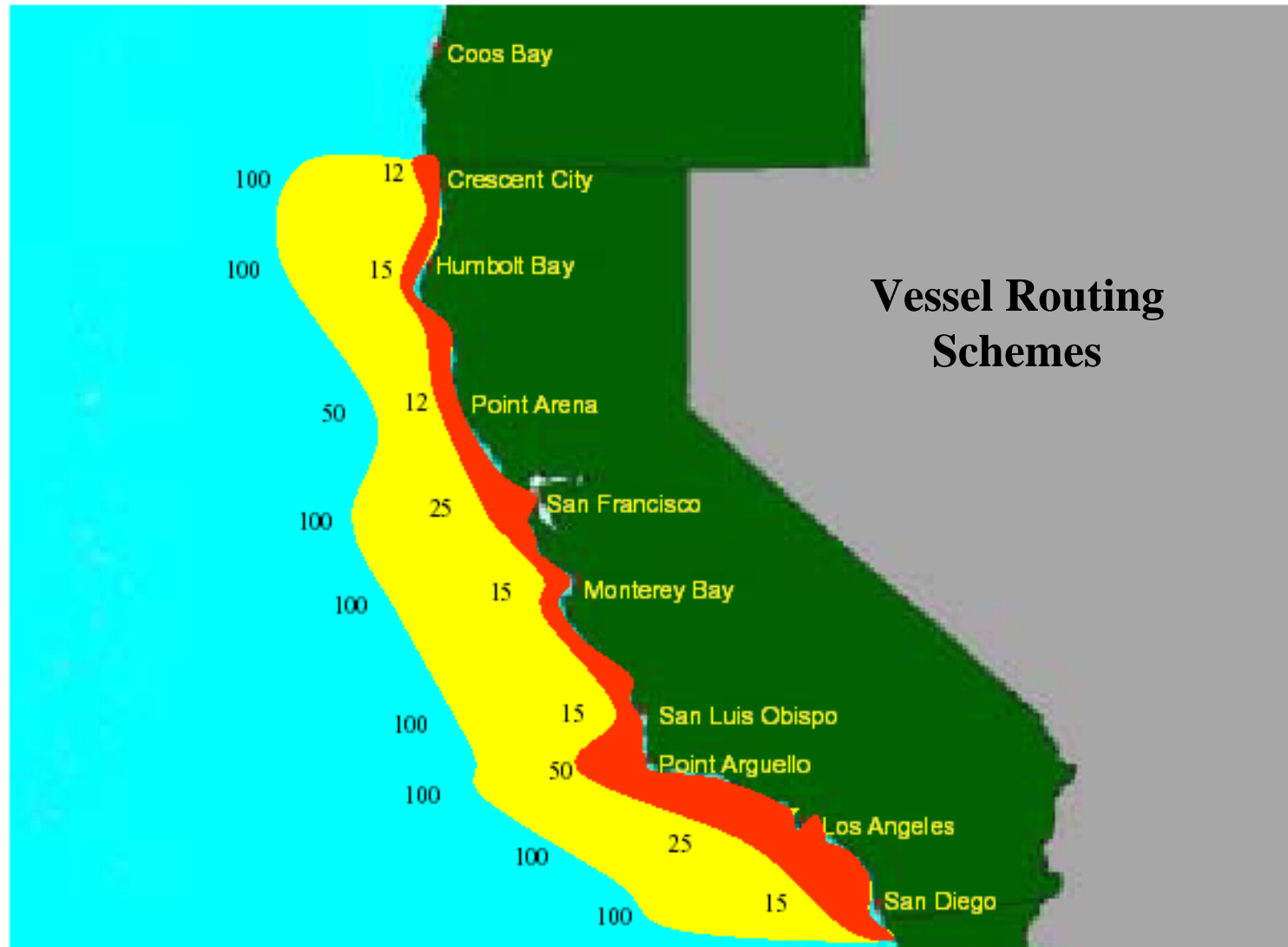
OOCL KOREA

Name : HOUYOSHI EXPRESS
Callsign : H3NF
Start : 7th January, 2008 13:00
End : 15th January, 2008 01:30

Vessel Traffic Monitoring



Laden Tankers/Cargo/Passenger Vessels -- California



National Academies of Sciences

DRAFT RISK MITIGATION OPTIONS

Risk of Vessel Accidents and Spills in the Aleutian Islands:



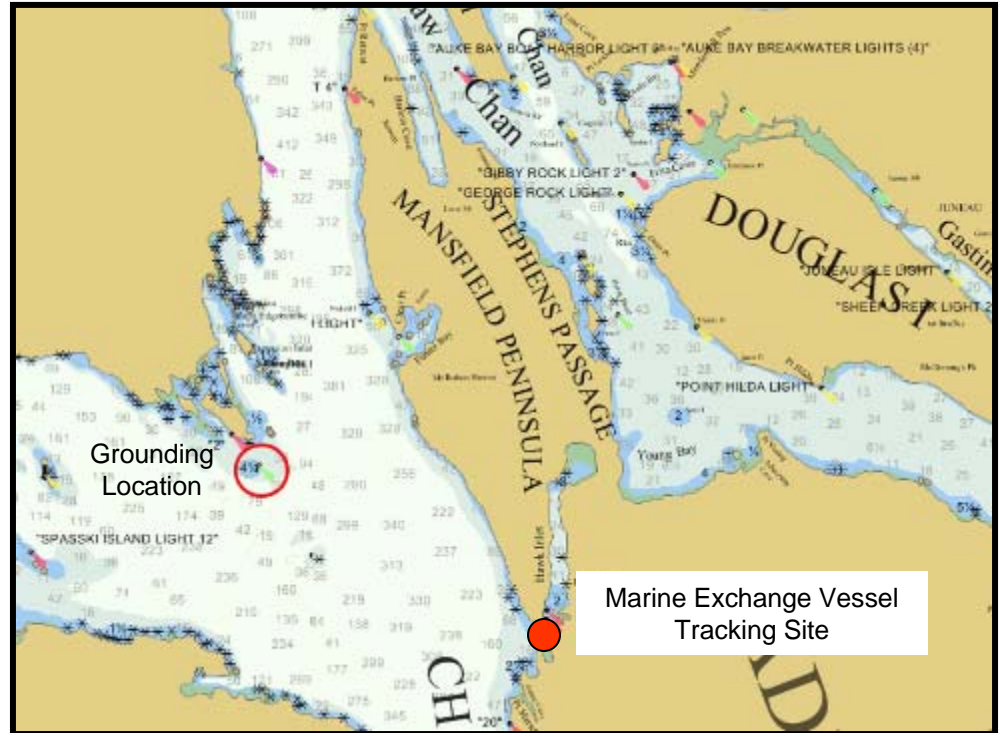
PREVENTION MEASURES

- Enhance or expand vessel tracking and communication systems (voluntary VTIS for Unimak Pass or mandatory traffic management scheme)
- Expand existing AIS network to encompass larger region (esp. southern route)
- Build and operate more AIS receiver stations throughout the Aleutians and possibly along the southern route by using weather buoys for mounting

Empress of the North

Marine Casualty

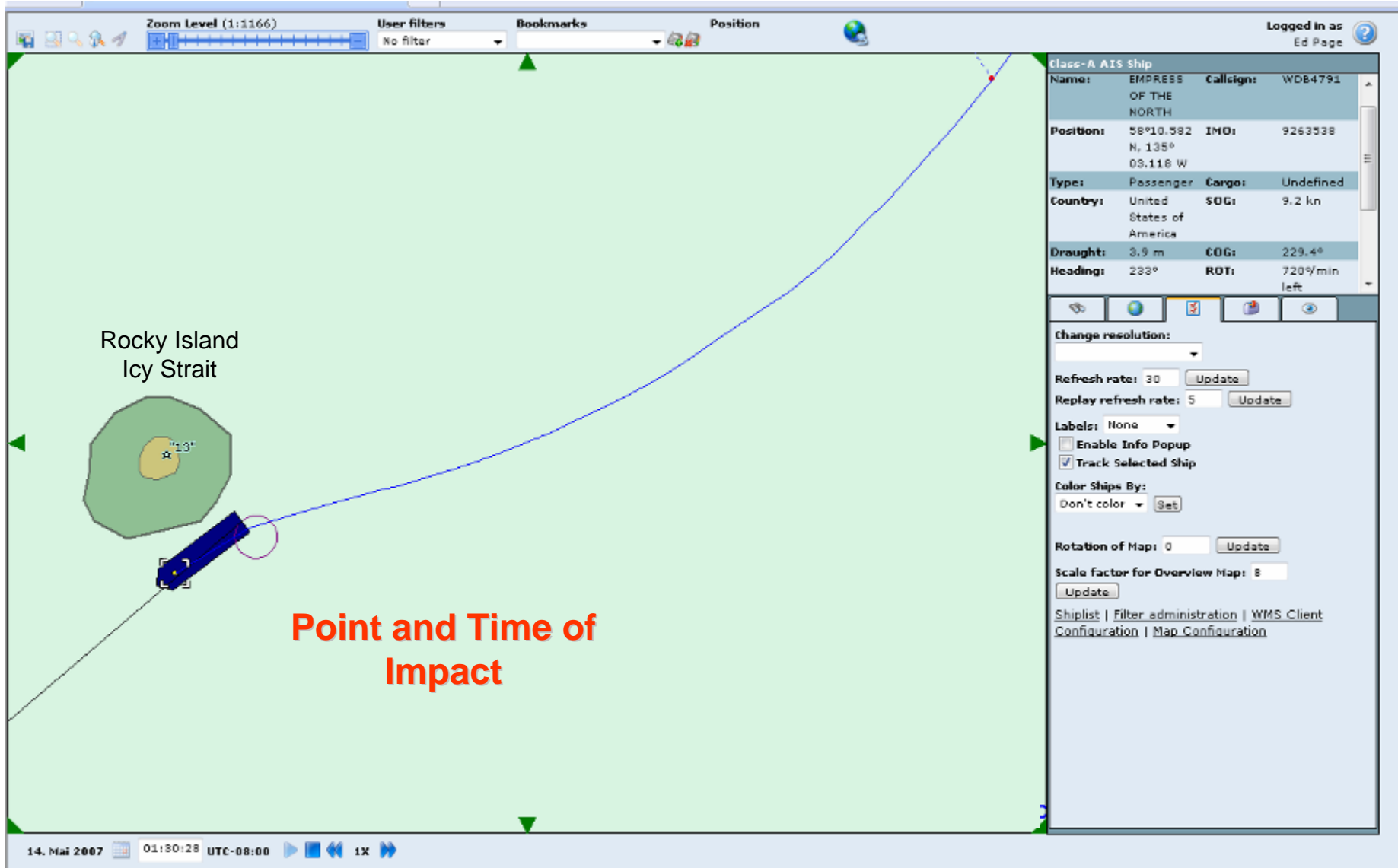
Icy Strait, Alaska
14 May 2007



Vessel Tracked with Marine Exchange's Automatic Identification System -
Information on Incident and Assist Vessels Shared with Coast Guard to Aid
Emergency Response and Investigation

Empress of the North – 01:30:28 Local Time

Course: 233 Spd: 9.2 Rate of Turn: 720 deg/min-left



ATBA Monitoring

http://216.67.61.34/webgad/main.php

Zoom Level (1:161747) User filters: No filter Bookmarks Position: Lat: 47° 51.567 N Lon: 125° 11.684 W Logged in as John Veentjer

The map displays a ship's track in the North Pacific Ocean. The track is a blue line with red dots representing AIS positions. Time stamps along the track include 05:17, 05:27, 05:37, 05:48, 05:58, 06:05, and 06:21. A callout box indicates a distance of 2.487 nautical miles and a bearing of 39.27 degrees from the current position to the 05:58 position. The map also shows the coastline of the United States of America.

Class-A AIS Ship			
MMSI:	218061000	AIS unit:	CLASS_A
Name:	HANJIN DALLAS	Callsign:	DDZA2
IMO:	9295220	Type:	Cargo
Cargo:	Undefined	Country:	Germany
SOG:	24.2	Draught:	9.6
COG:	21.6	Heading:	20
ROT:	0	Width:	42
Length:	300	Destination:	SEATTLE
Nav. Status:	Under way using engine	ETA:	10 Apr 11.00

Callsign IMO
 Type Cargo
 Country Destination

Update

History Settings
 Enabled
10 Timestamp (min)
24 Lookback time (hours)

Update

Automated Notifications of Encroachments into ATBA's

-----Original Message-----

From: AIS-Alert@mxak.org [<mailto:AIS-Alert@mxak.org>]

Sent: Tuesday, April 10, 2007 12:00 AM

To: billbenning@mxak.org

Subject: WatchDog deactivated on ship Hanjin Dallas, event OCNMS

Hanjin Dallas has left the Olympic Coast National Marine Sanctuary - AREA TO BE AVOIDED ZONE, at 10 April 2007 06:05:32 GMT, it entered at 10 April 2007 05:39:36 GMT, total time within the zone was 00:25:56.

Vessel Details:

IMO Number: 9295220

MMSI: 218061000

Call Sign: DDZA2

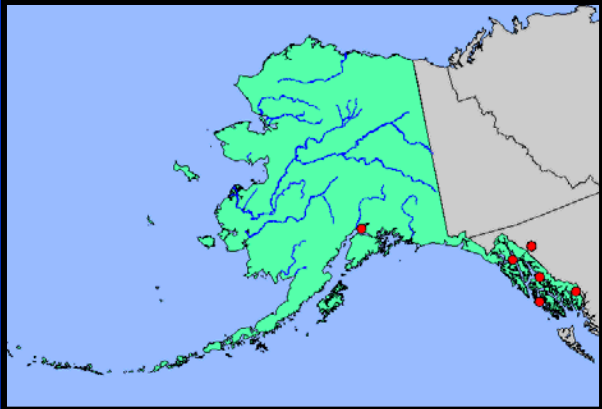
(-8 hours = PST)

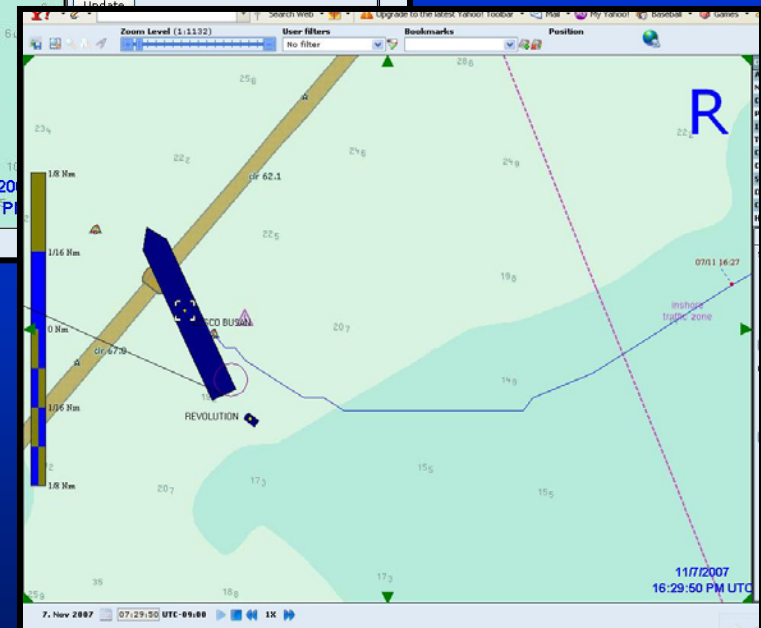
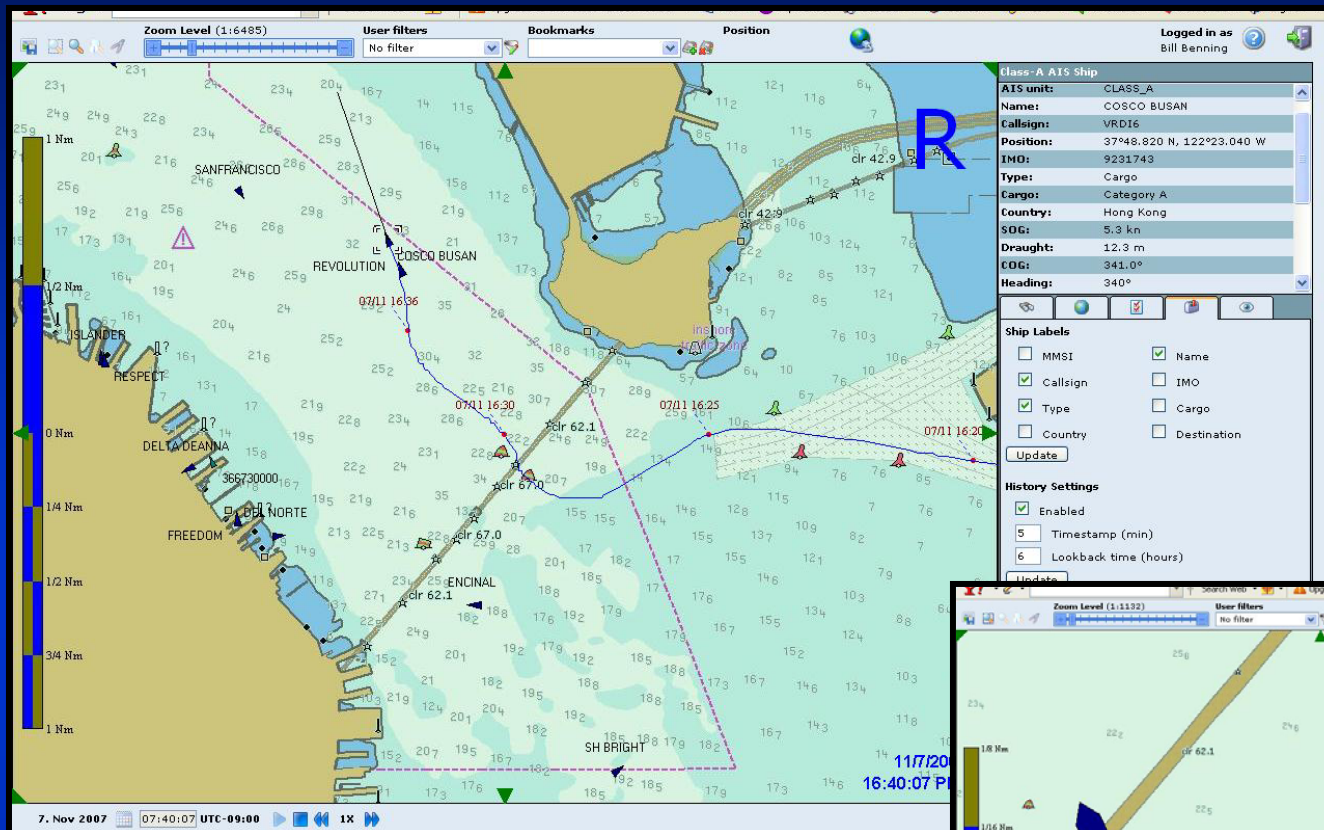
(-7 hours = PDT)



Maritime Safety, Security, and Environmental Protection

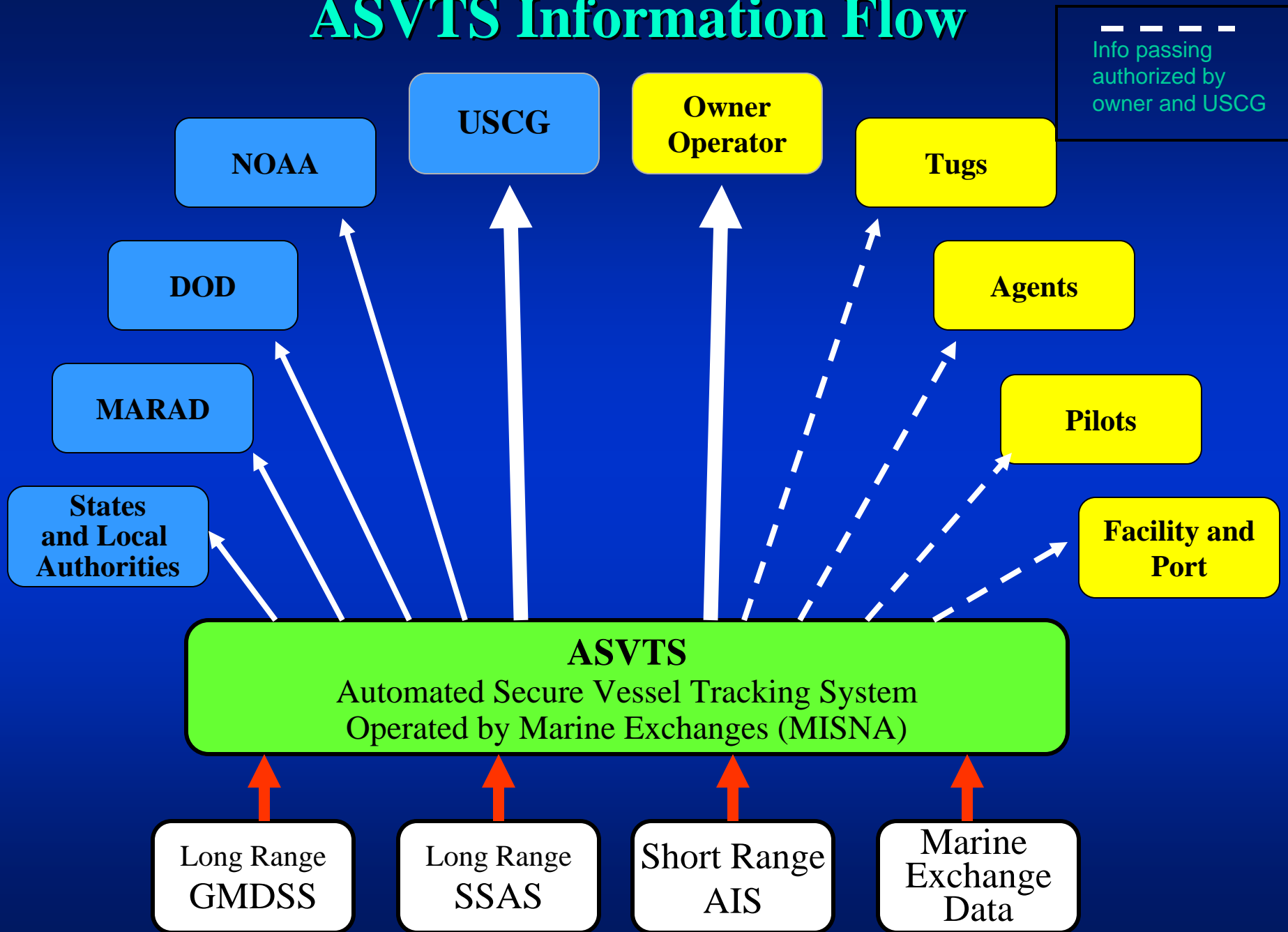
Addressed by Shared Commitment and Resources





COSCO BUSAN
 Shared Commitment
 Shared Responsibility

ASVTS Information Flow



Marine
Exchange
of Alaska



www.mxak.org

Marine Exchange of Alaska

Established to provide information, communications and services to ensure maritime operations are safe, secure, efficient and environmentally sound

