

SB140 BREAKING THE ICE FOR ARCTIC INFRASTRUCTURE



SENATE RESOURCES COMMITTEE MARCH 27, 2014
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SB140 UNDERLYING NEED FOR ARCTIC INFRASTRUCTURE FUND

- GROWTH IN ARCTIC MARITIME OPERATIONS
SHIPPING AND PETROLEUM DEVELOPMENT
- ORGANIZATION OF LOCAL GOV'TS AND BUSINESS
AS PROJECT SPONSORS
- GEOSTRATEGIC POSITION OF ALASKA

TWO CRITICAL GOALS FOR ALASKA:

REALISE ECONOMIC OPPORTUNITIES

PROVIDE FACILITIES TO MANAGE RISK

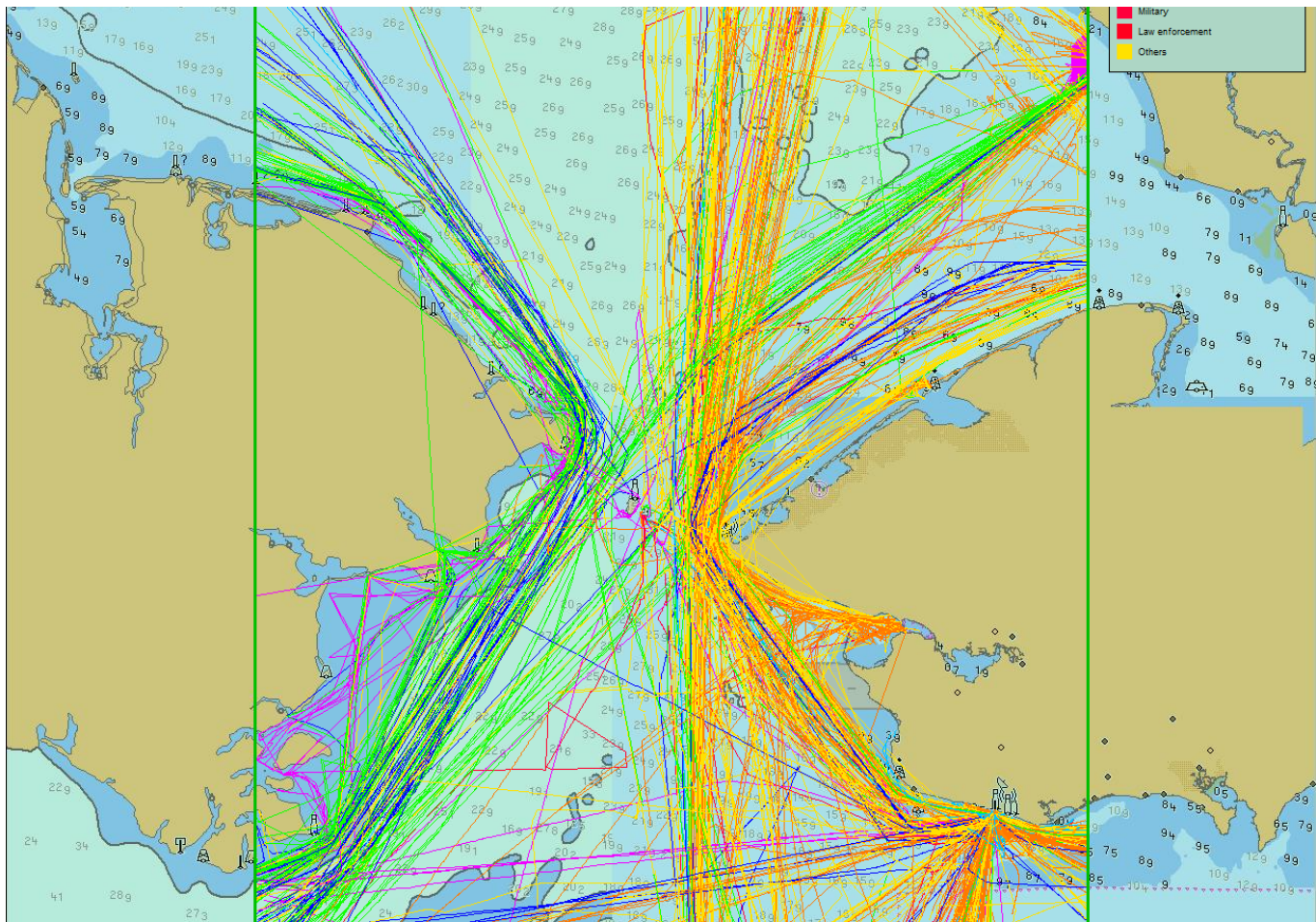
Humans Don't Go Back

Inupiat Endurance 10,000 yrs.

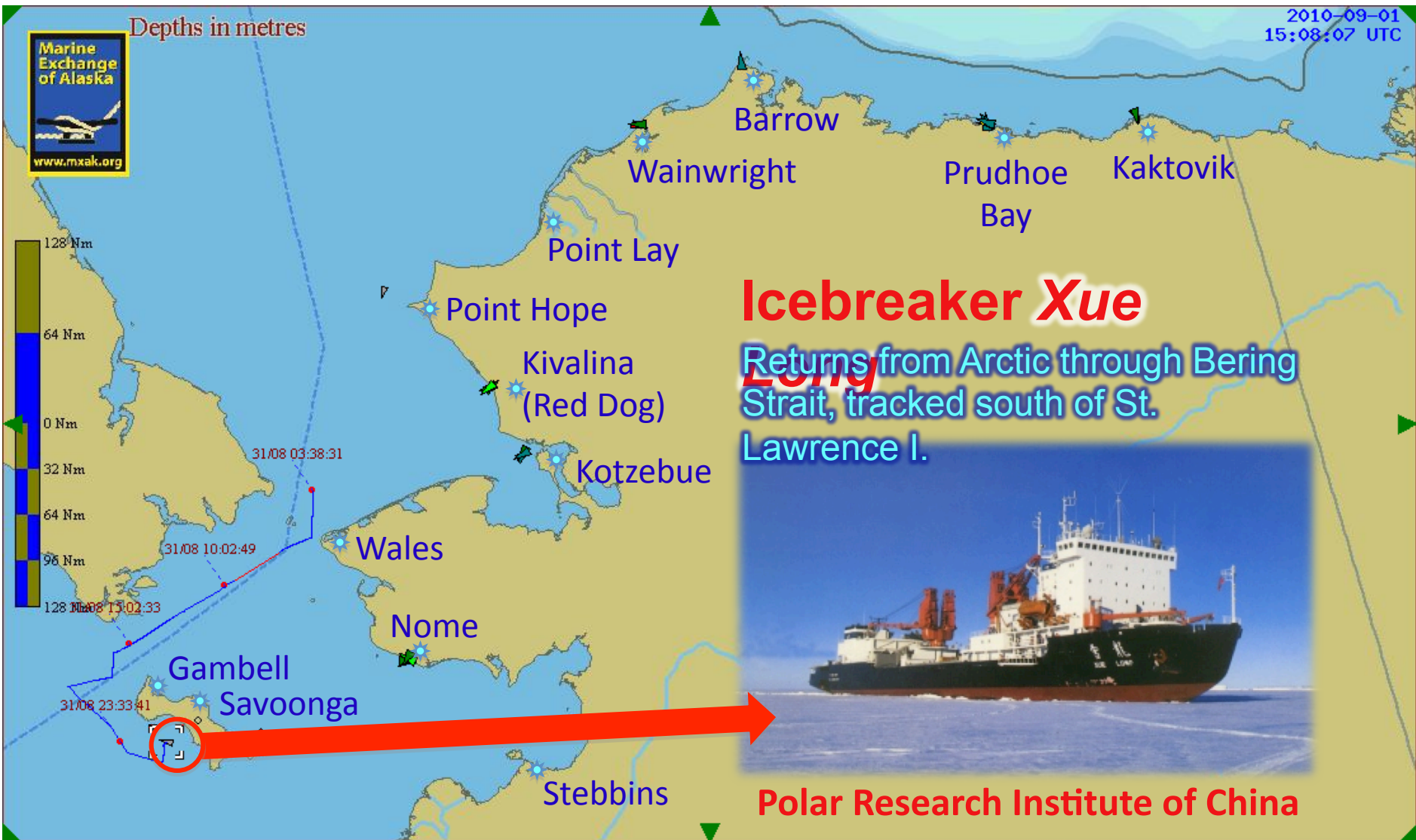


Bering Strait Vessel Traffic 2013

50% Increase Per Year



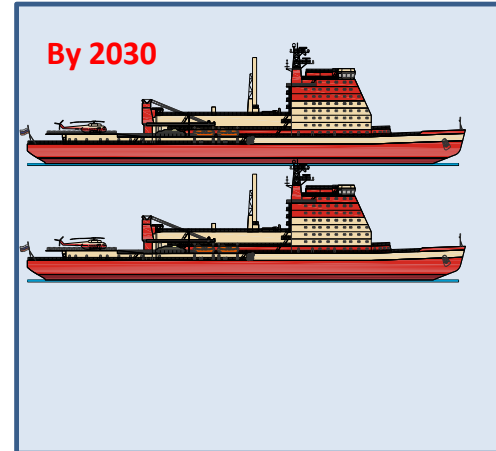
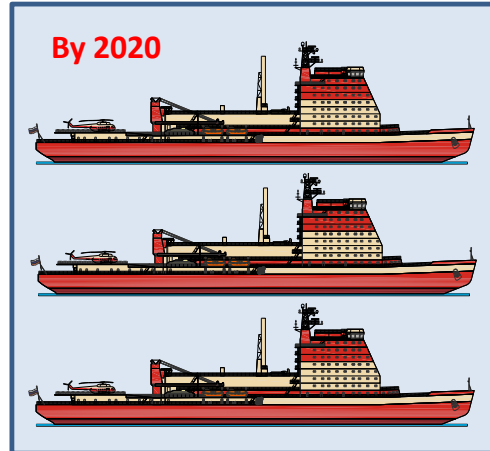
ALASKA MARINE EXCHANGE RECEIVING STATIONS



13 ARCTIC STATIONS, 101 STATEWIDE

Russian Icebreaker Construction Schedule

Shaft power 60 MW



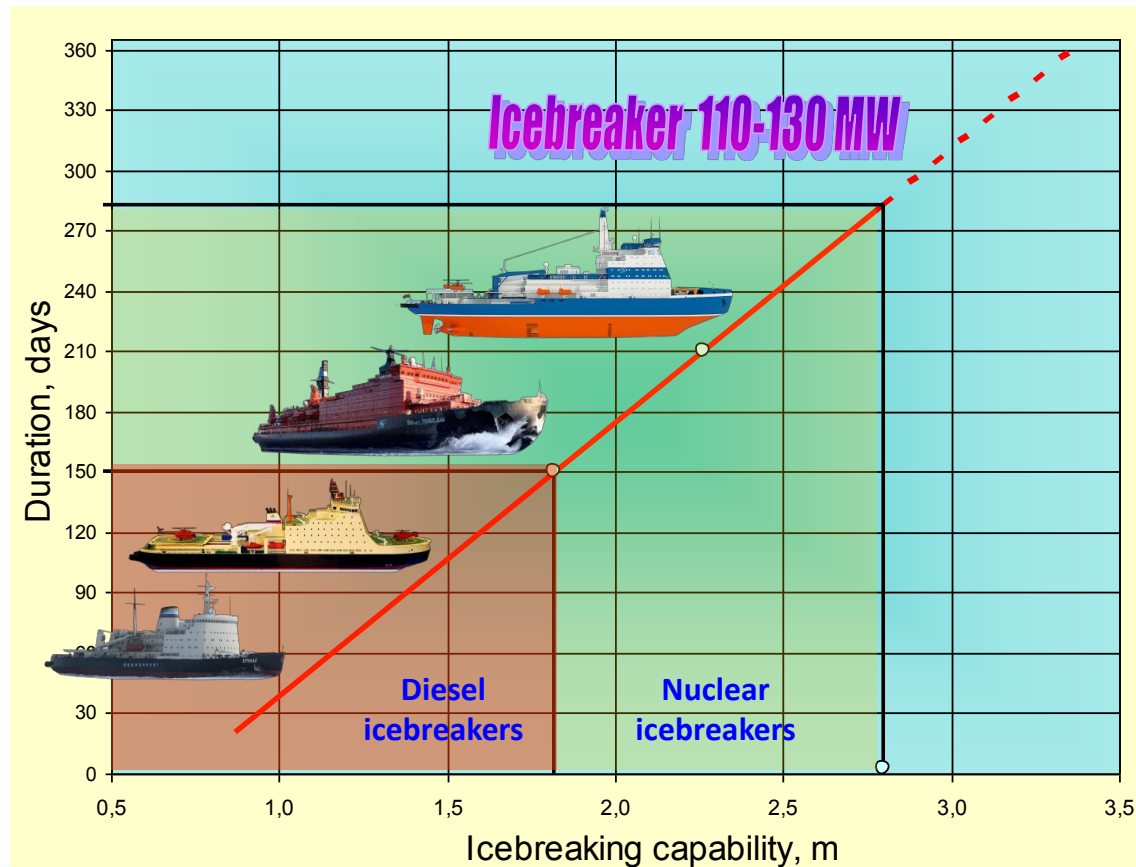
Shaft power 25 MW



Shaft power 18 MW



Icebreaking Capacity



Breaking All Barriers

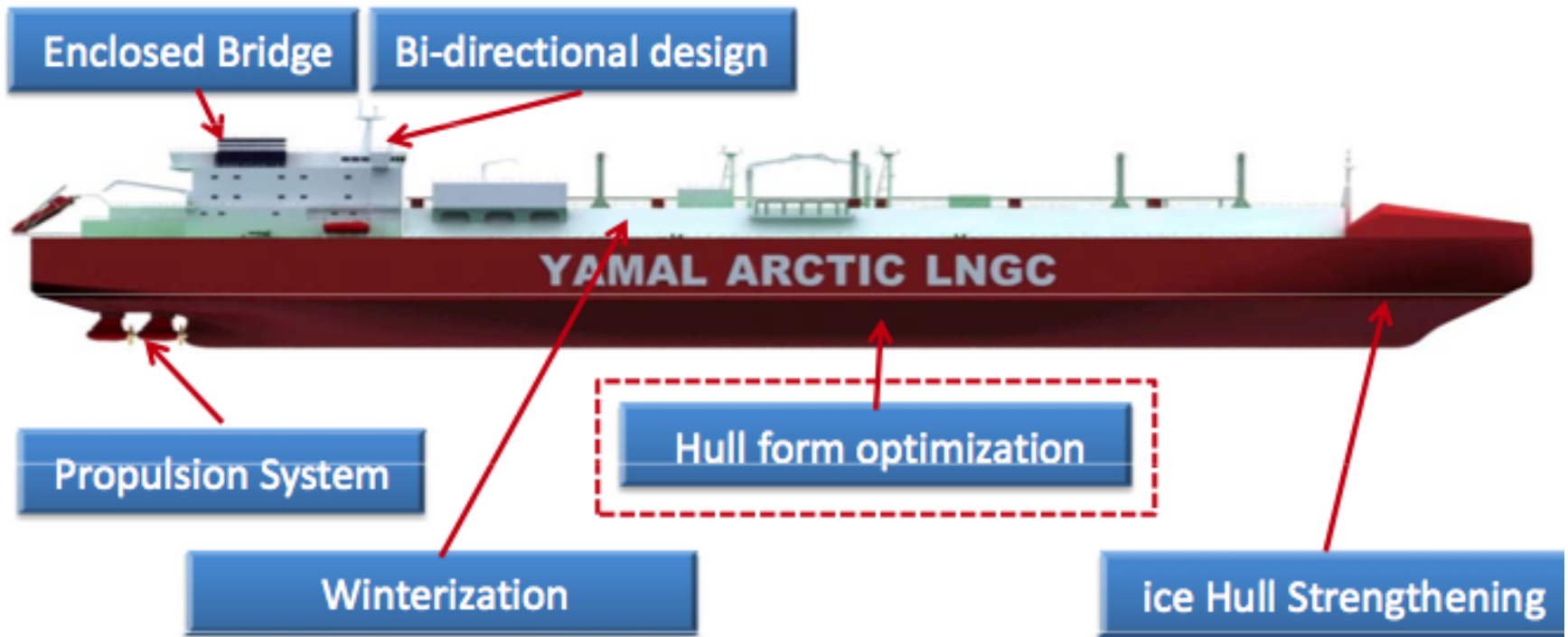


Operational tasks	Parameters	
Escorting of ships on the traditional transportation directions during winter-spring period.	Shaft power	110 MW
Escorting of large capacity ships in the year-round export of raw resources extracted on the arctic seas shelf.	Length	193.6 m
Servicing of the through transit transportation between Western Europe and Far East	Breadth	38 m
	Draft	11-13 m
	Displacement	55600 t
	Icebreaking capability	3.5 m

Korean LNG Vessels

Yamal Peninsula Petroleum Development

Technical features of Arctic Vessel



Korean Icebreaking Containership

Overview of LNG-Fuelled Ship for NSR

3. DSME Activities

Zero(0) HFO Design



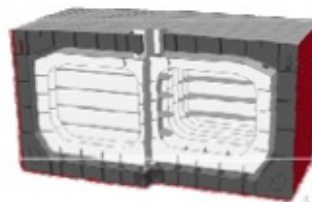
ME-GI Engine



Dual Fuel Diesel Generator Engine

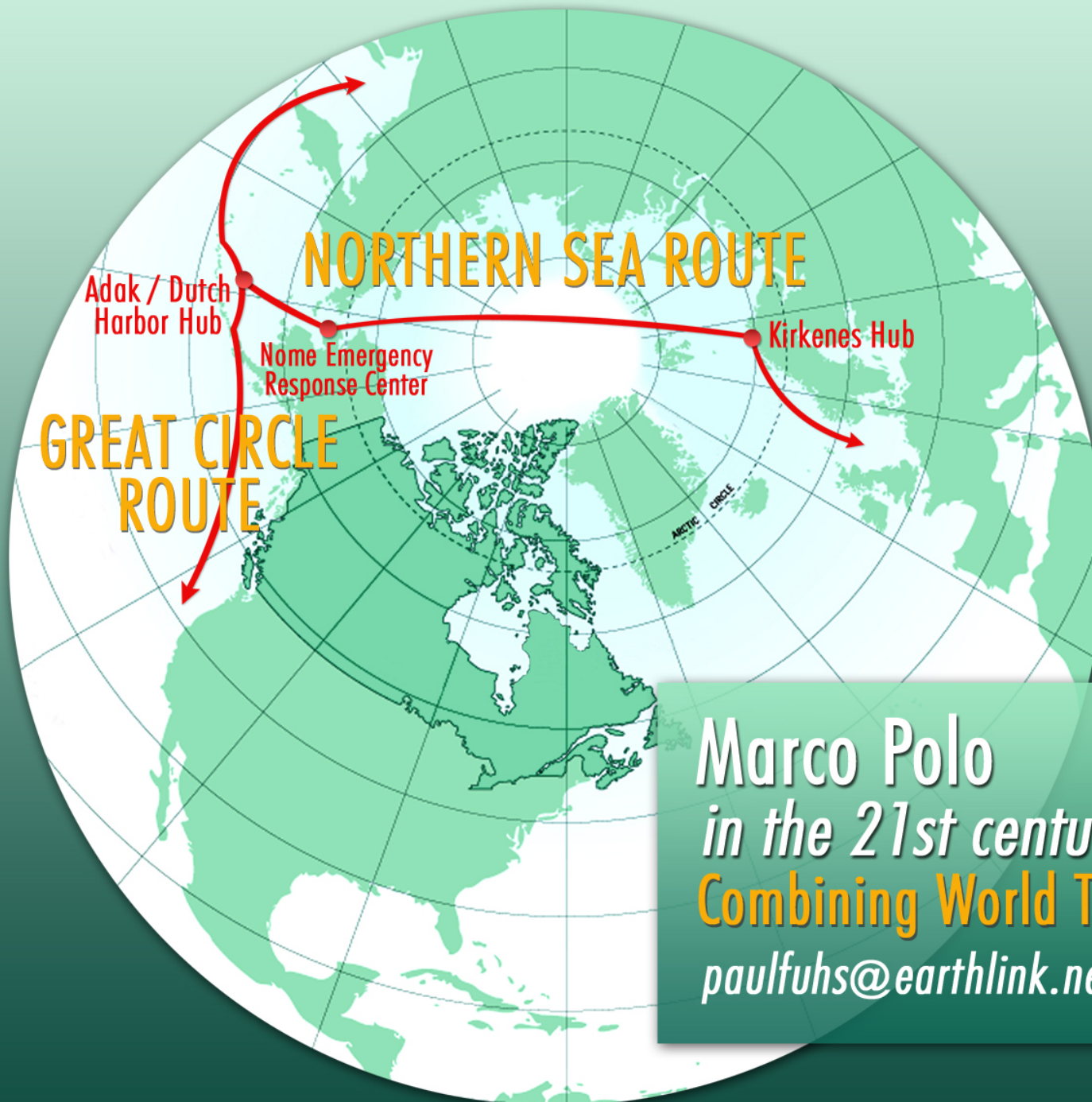


ACTIB LNG Tank



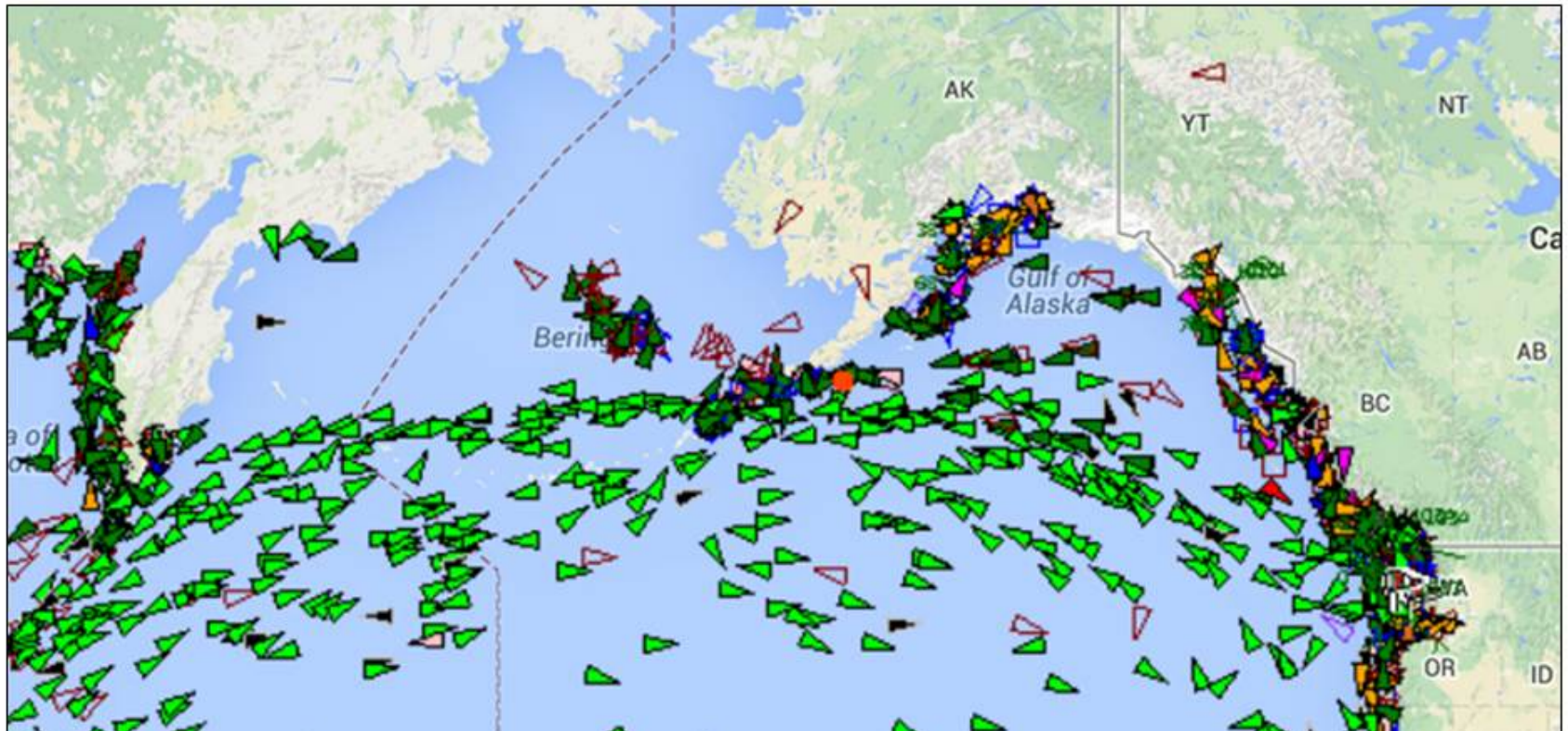
HIVAR Fuel Gas Supply Sys.





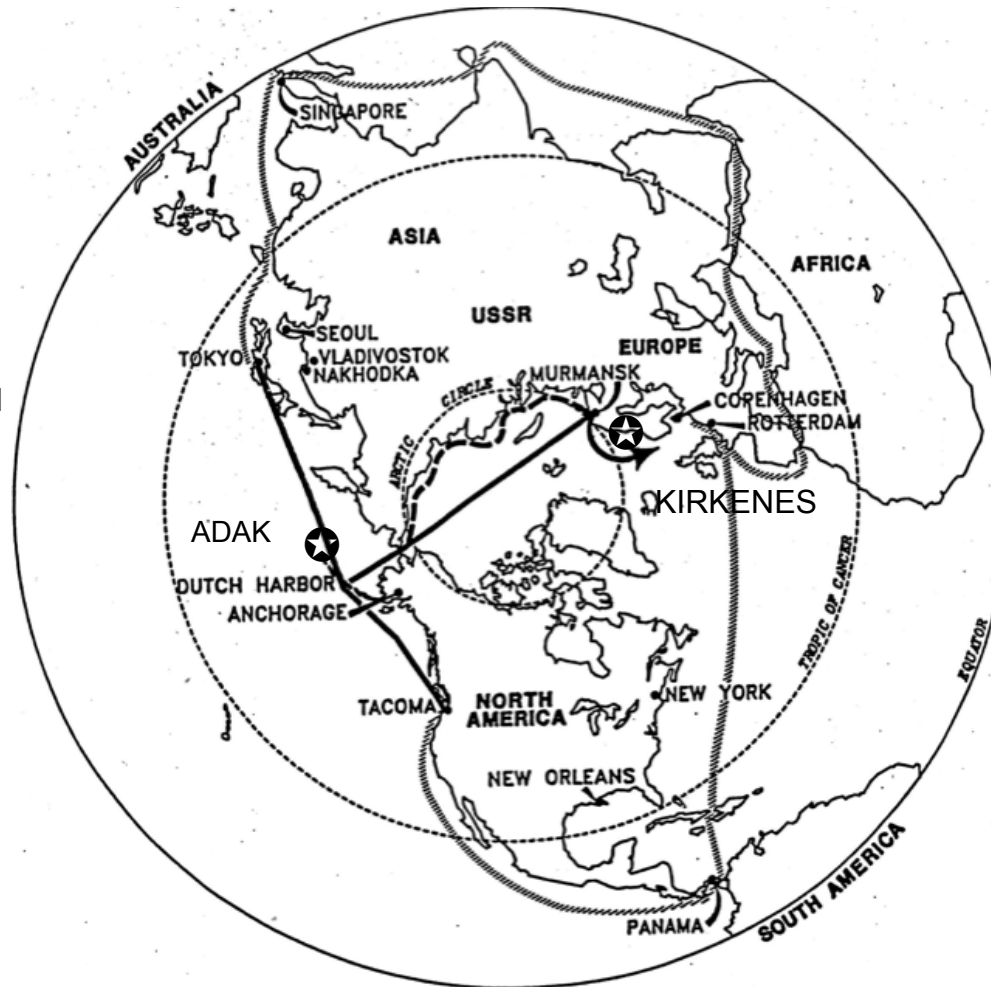
Marco Polo
in the 21st century
Combining World Trade Routes
paulfuhs@earthlink.net

Great Circle Route Vessel Traffic 1/22/14



NSR/Great Circle Route Container Hub Operations

Adak routes
cargo between
Europe, Asia and
US West Coast

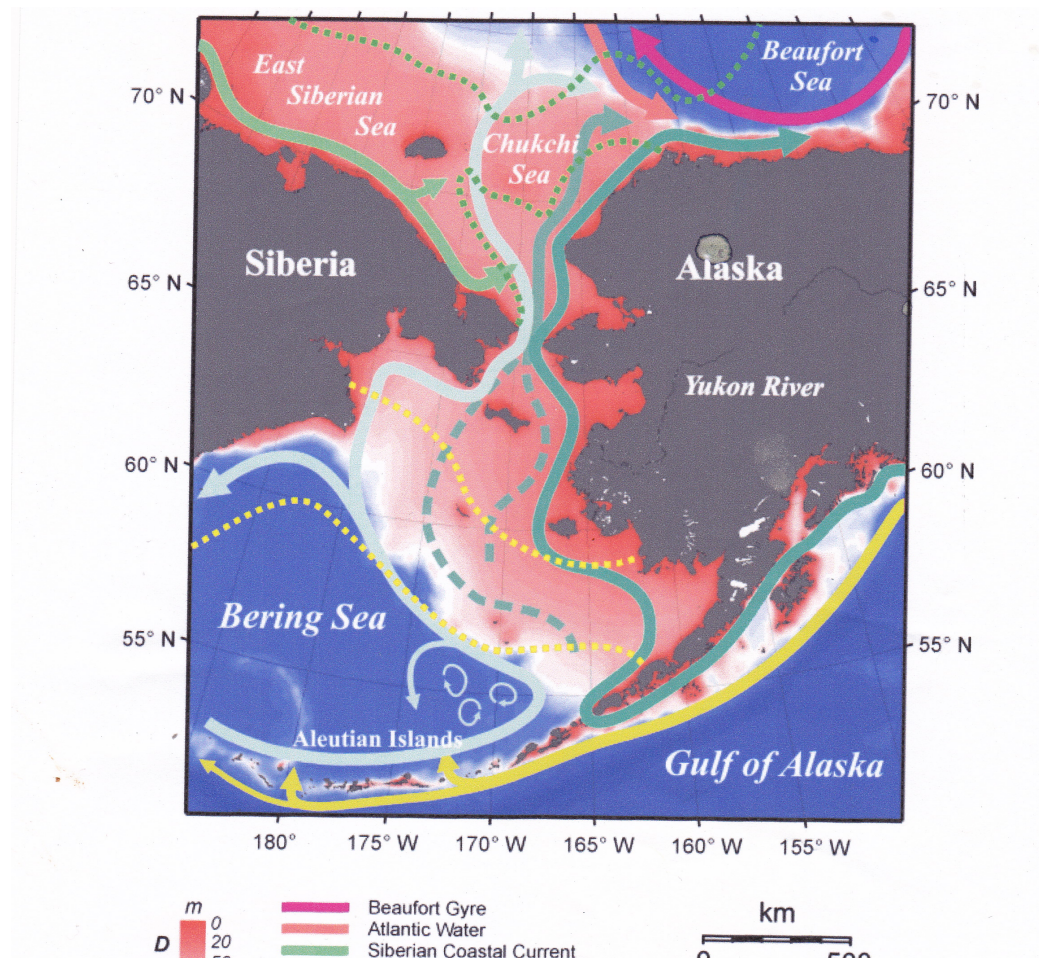


Kirkenes routes
cargo between
Asia, the US West
Coast and Europe

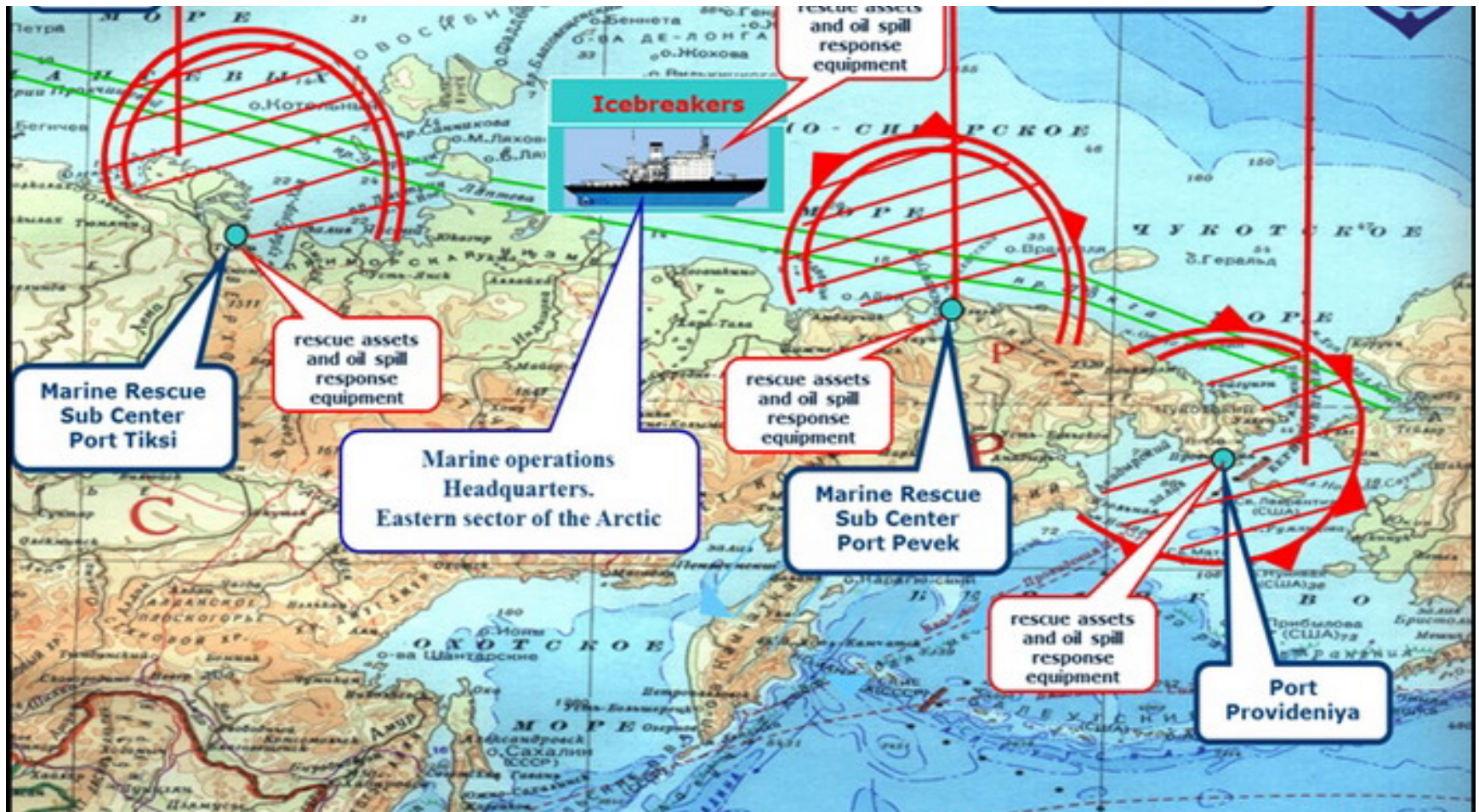
RISK FACTORS: 1.3 million tons cargo 2013
800,000 tons petroleum products



Arctic Circulation Patterns



Russian Response Centers



Spectators or Actors?



Will we ride the wave
or be rolled over by it?



Door to a Brighter Future? It's up to us



Pledge to Do It Right!



SB140 PROVIDES THE IMPORTANT TOOLS