

# Disruption of routes and directions: Changing corridors in global trade



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*SCOTT SIGMAN*

*EQUINANIMOUS ADVISORY SERVICE ENTERPRISE (EASE)*

*MARCH 13, 2024 – TOLEDO, OHIO*



# Overview

## Shipping Patterns

- Transit / Routings
- Container, Dry Bulk, Liquid Bulk, Break Bulk, Passenger, RoRo, Fishing, Space
  - Q3 '23 – Status Quo Ante
  - Q4 '23 – Disruption and Reaction
  - Q1 '24 – Tactical and Strategic Shifts
  - “...To Infinity and Beyond”
- Origins EB, Origins WB
- Destinations EB, Destinations WB

## Economics

- Supply and Demand – Fleet, Utilization, Capacity, Constraints
- Vessel side
- Land Side
- **107,000 km/hr or 67,000 MPH AND 720,000 km/hr OR 450,000 MPH**



[https://www.youtube.com/watch?v=0jHsq36\\_NT](https://www.youtube.com/watch?v=0jHsq36_NT) DjSadhu helical vortex

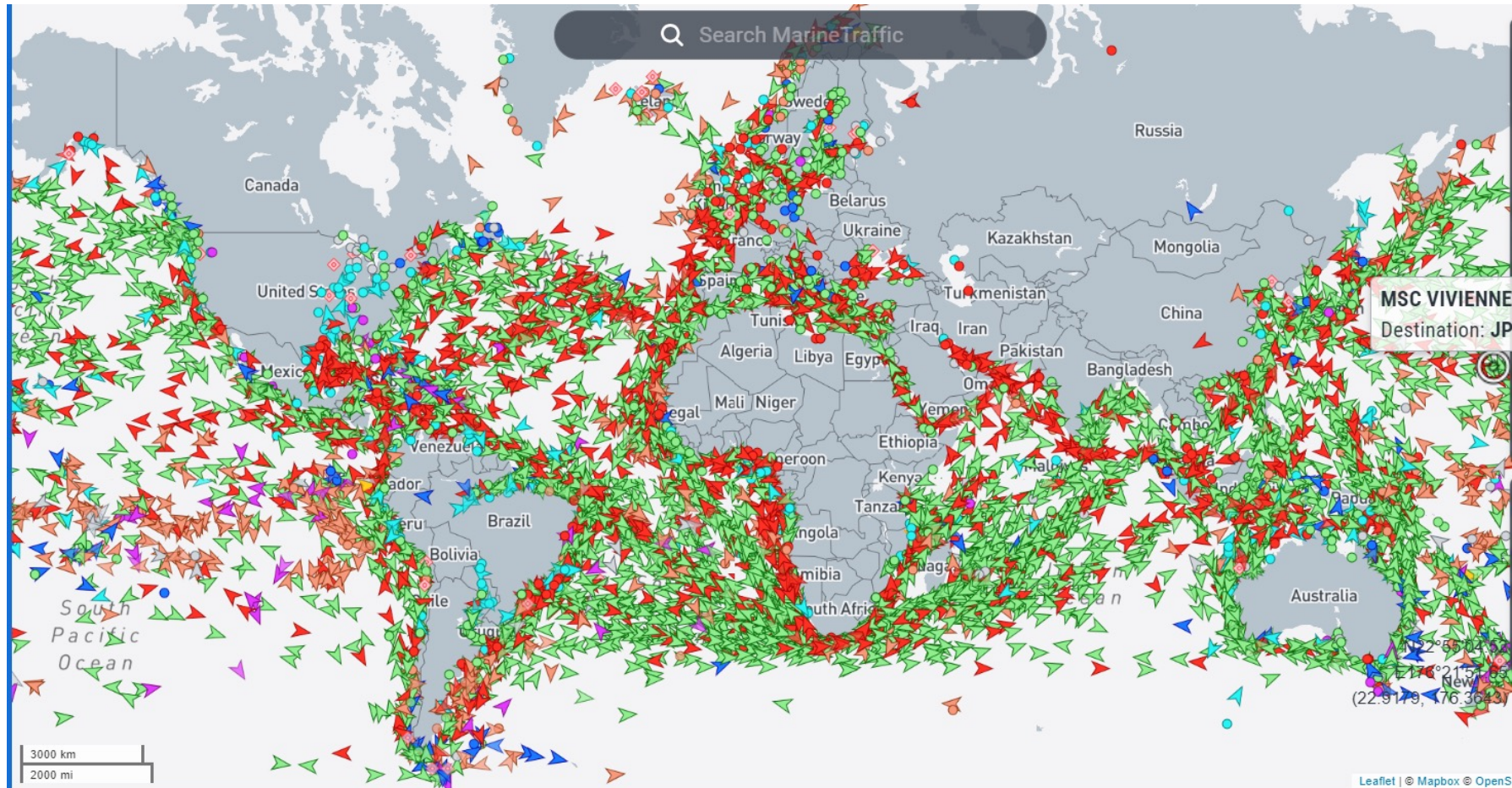


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# MARINETRAFFIC.com

~325,000 vessels tracked live



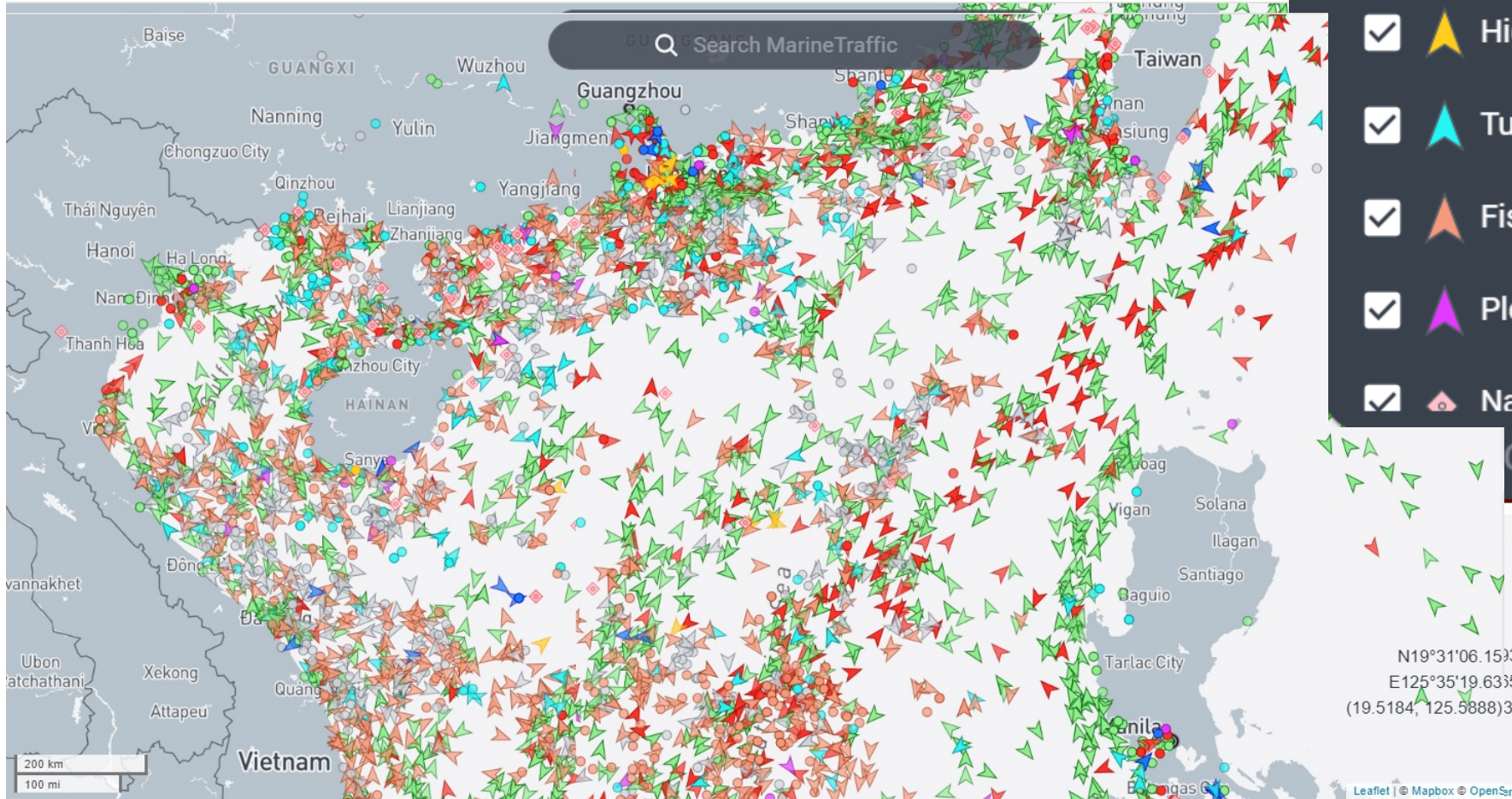


# Red Sea Marine Traffic February 22, 2024



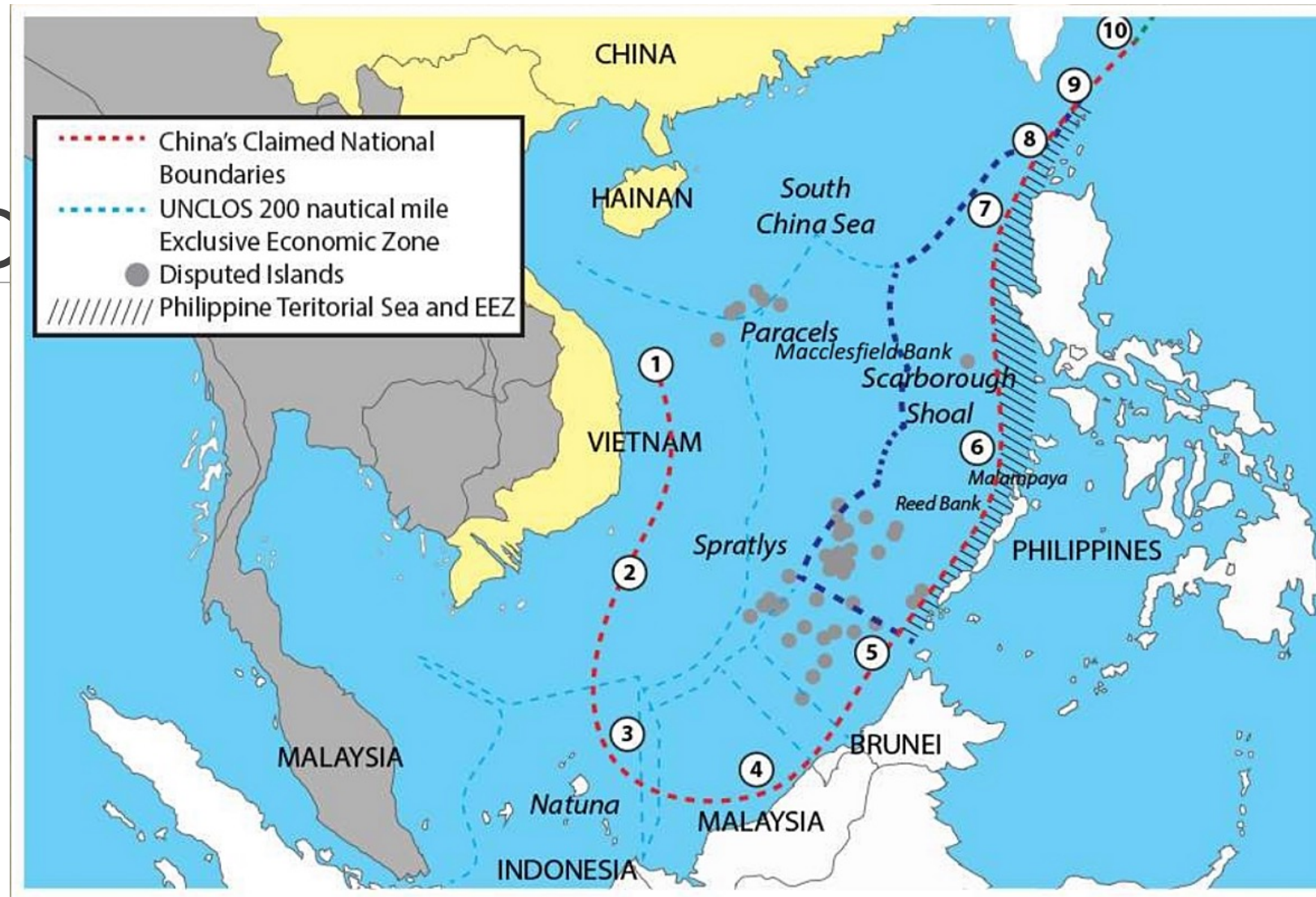


# The South China Sea













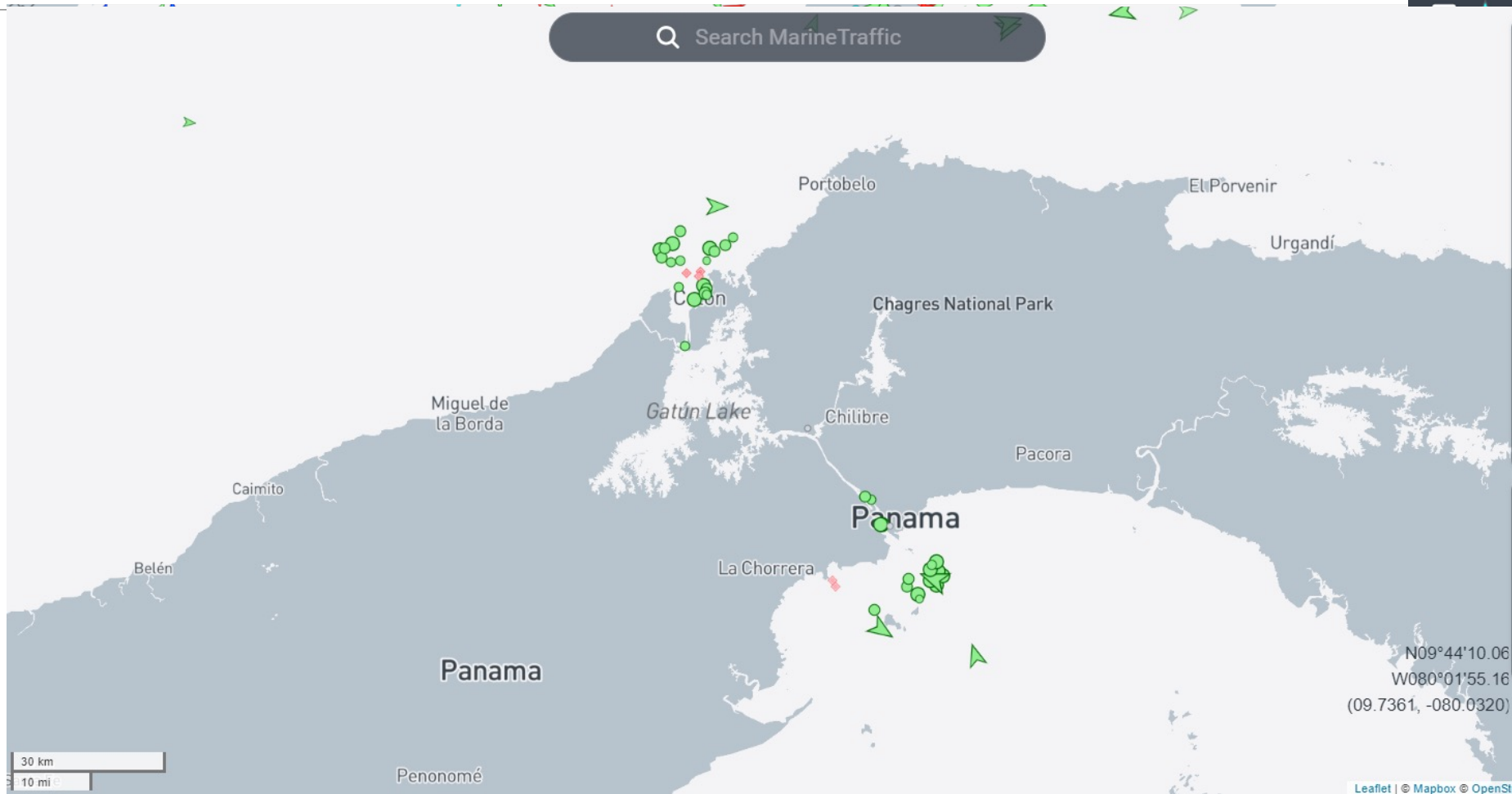
# Chinese Territorial Claims The 9 Dashed Line vs. Philippines, et. al., EEZ & ECS Claims UN Law of the Sea (UNCLOS)



[https://commons.wikimedia.org/wiki/File:9\\_dotted\\_line.png](https://commons.wikimedia.org/wiki/File:9_dotted_line.png) <https://www.philippine-resources.com/articles/2019/3/defending-our-territorial-rights-through-historical-facts>

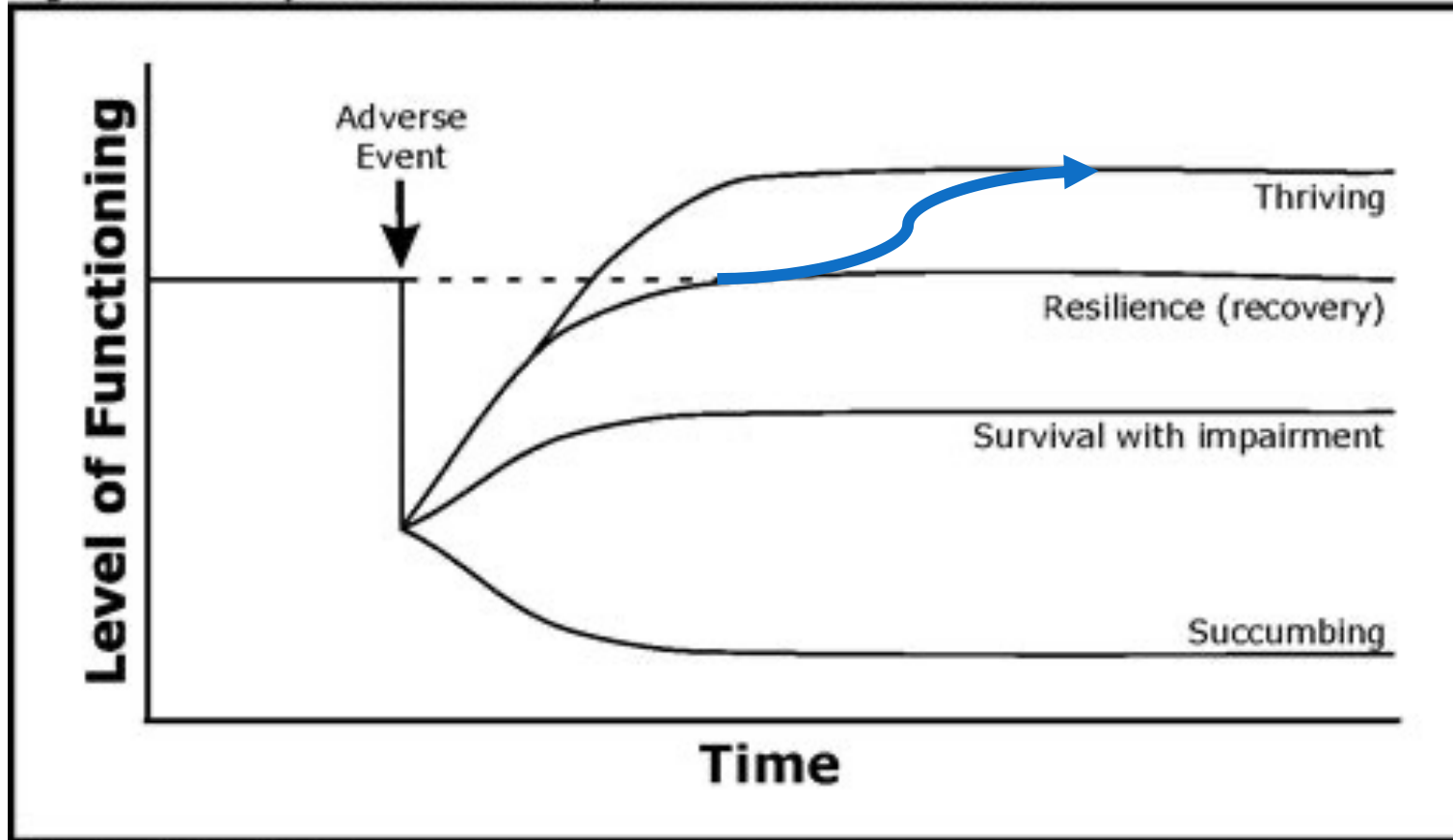
# Panama Canal – Mar 6 & Feb 22, 2024

- ☒  Cargo Vessels
- ☒  Tankers
- ☒  Passenger Vessels
- ☒  High Speed Craft
- ☐  Tugs & Special Craft
- ☐  Fishing
- ☐  Pleasure Craft
- ☐  Navigation Aids



# Economics to Recover, for Resilience to Thrive

Figure 2.2 Responses to Adversity: The Domain of Possibilities



[Carver, 1998, p. 246] [https://www.academia.edu/4852557/Resilience Theory A Literature Review with special chapters on deployment resilience in military families and resilience theory in social work](https://www.academia.edu/4852557/Resilience_Theory_A_Literature_Review_with_special_chapters_on_deployment_resilience_in_military_families_and_resilience_theory_in_social_work) (P.37)





# What Does It Mean

## Shipping and Agriculture

- Business costs
- Capital Costs
- Operating Costs
- Infrastructure

## Externalities

- Security
- Militaries
- Sustainability / Pollution
- Insurance cover
- Congestion
- Imbalances



**'The long run is a misleading guide to current affairs. In the long run we are all dead.'**

**- John Maynard Keynes, A Tract on Monetary Reform (1923)**

**The children that have been born over the past 10 years, those alive around the world, born today and tomorrow, are likely to see 2100.**

**We consider these issues for humanity to Thrive Sustainably.**

**– Scott Sigman - Transportation Go!**



# Transit Distances...

Transit Origins, Dests & Route		Miles			DIFFERENCE
Peoria to NOR		926		}	1036 miles
Peoria to LOS/LGB		1962			
Kearny, NE to NOR		1485		}	98 miles
Kearny, NE to LOS/LGB		1387			
Norfolk to Singapore	Panama	12330	1779 + 10505	}	1.195578
	SUEZ	10313	3335 + 1943 + 5035		
	Cape	12381	6802 + 5579		1.200524
LOS/LGB to Singapore		7867			
NOLA to Singapore	Panama	11894	1389 + 10505	}	1.082552
	SUEZ	10987	1943 + 4009 + 5035		
	Cape	12881	524 + 6778 + 5579		1.172386
Singapore to Ho Chi Minh, Vietnam		649			

<https://maddenmaritime.files.wordpress.com/2015/01/pub151-distances-btw-ports.pdf>



# Grain Capacities

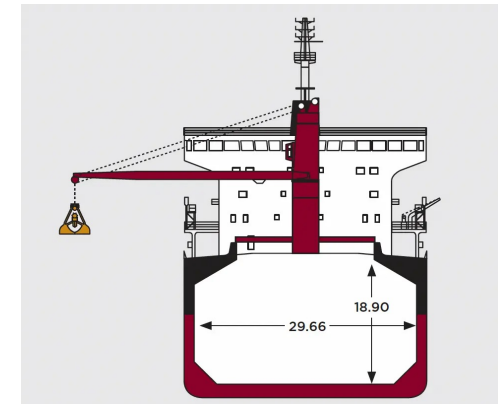
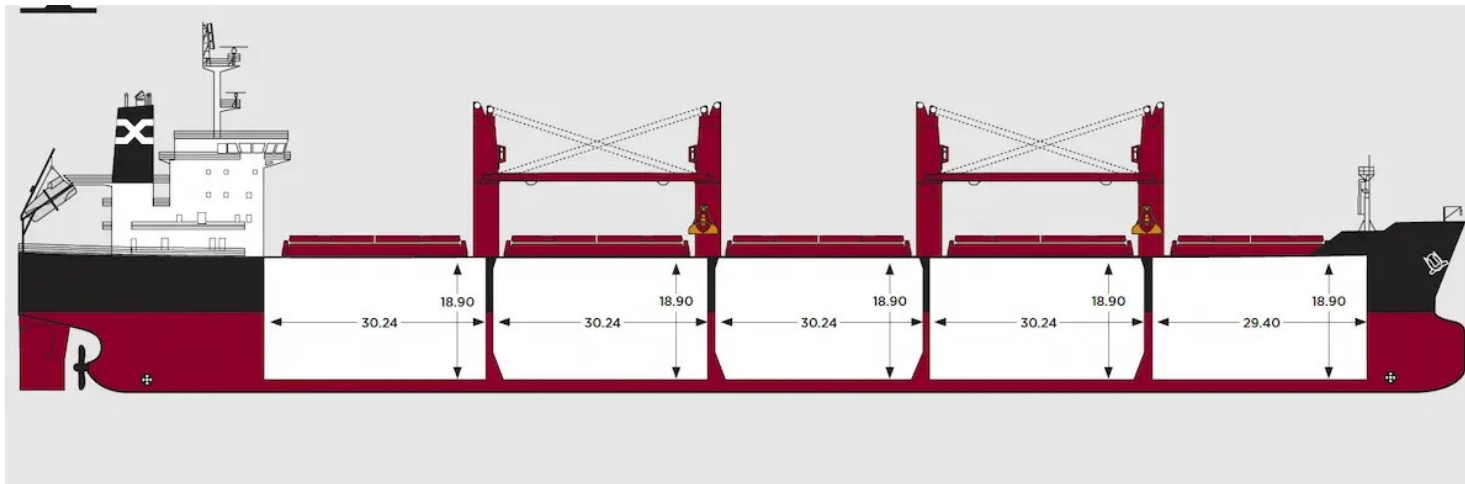
CAPACITIES		CORN		SOY	
Price (3-6-24)		4.29		11.495	
NATIONAL Av Yield/ac IN BU. (USDA)		177.3	\$ 760.62	50.6	\$ 581.65
lbs in a bu		56	69.99 lbs/cu <sup>3</sup>	60	74.64 lbs/cu <sup>3</sup>
CuFt / bu		1.25		1.25	
bu / st		35.71429	\$ 153.21	33.33333	\$ 383.17
bu / mt		39.36821	\$ 168.89	36.74367	\$ 422.37
DWT in ST		60000	\$ 9,192,857.14	60000	\$ 22,990,000.00
DWT in MT		54446.46	\$ 9,195,443.16	54446.46	\$ 22,996,467.24
Tons per acre		4.9644		1.4674	
Barge capacity in ST		1500	\$ 229,821.43	1500	\$ 574,750.00
Barge Capacity in MT		1361.162		1361.162	
Barge in Bushels	52,500		\$ 225,225		
	50,000				\$ 574,750.00
Ship MT					





# Vessel Capacities - Supramax

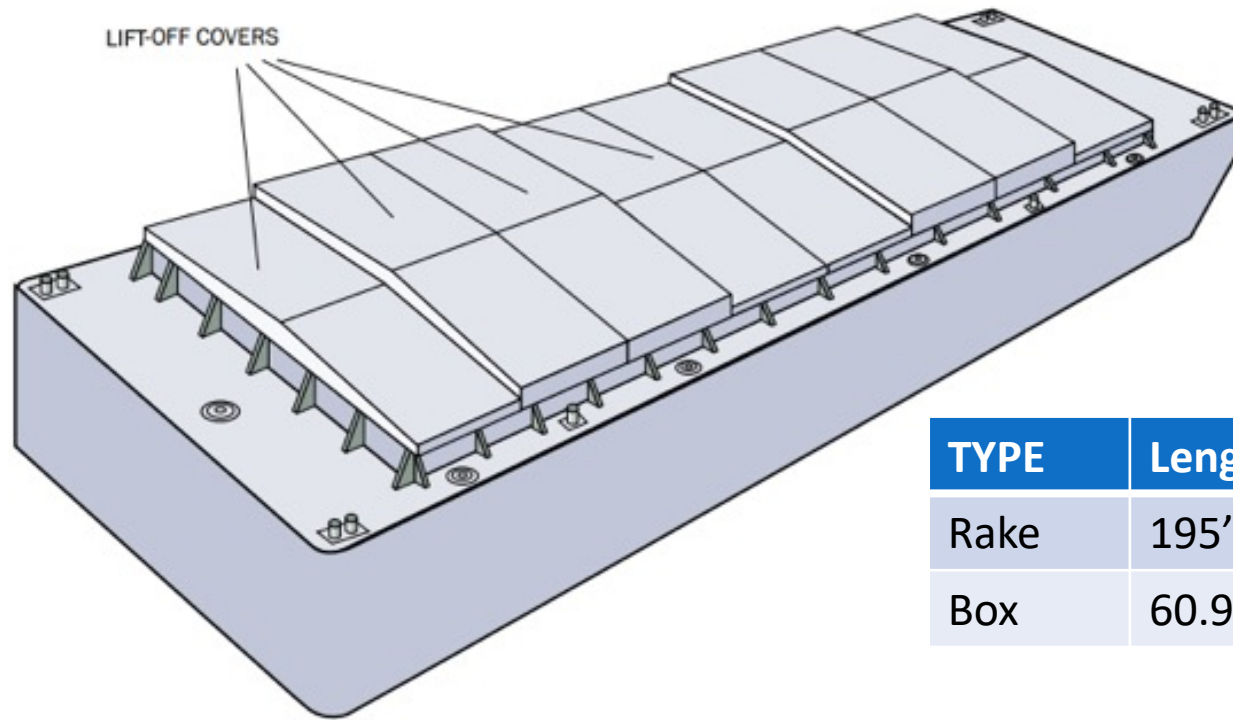
Vessel Holds	Width	Length	Height
Four	29.66 m (97' 3.7")	30.24 m (99' 2.6")	18.9 m (62')
One	29.66 m (97' 3.7")	29.40 m (96' 5.48")	18.9 m (62')
Total	84,288 cu. m = ~2,976,599 cu ft = ~2,381,279 cu bu		



<https://maritimepage.com/supramax-bulk-carriers/>



# Barge Dimensions and Capacity



TYPE	Length	Width	Depth
Rake	195'	35'	9' to 14'
Box	60.96 m (200')	10.668 m (35')	4.2672 m (9' – 14')



<https://pilebuck.com/barge-guide-different-types-functions/>



# Container Capacities

TRANSPORT		CORN	SOY	
Container at 44000 lbs in MT	44,000	19.96	19.96	
Container at 44000 lbs in MT	28 MT	61,729 lbs	61,729 lbs	
Cape Fulmar 20,309 summer DWT	1440 TEU			@28 MT 40,320
Full Ship in Bu	2,100,000	37,500 bu	35,000 bu	
Cubic Capacity	CONTAINER	2,385 ft <sup>3</sup>	2,385	<b>1908 ft<sup>3</sup> @1.25</b>
20' Container			796 bu	47770
40' Container			973 bu	58380
Foreign Material	1%	617.29	617.29	
Moisture Content		15.50%	13%	

<https://www.vesselfinder.com/vessels/details/9359313>, USDA, and EASE





# Typical\* Container Dimensions & Capacities

TYPE	Long	Wide	High	Nominal Payload	
20' container	5.9m / 19.4ft	2.38 m / 7.8 ft	2.39m / 7.9ft	25K kg / 55,126.9 lbs	33.2 m³ / ~1,172 ft³
40' container	12.03m / 39.5 ft			27.6 MT / 61,200 lbs	67.7 m³ / ~2389 ft³
40' Hi-Cube			2.7 m / 8.87 ft	28.6 MT / 63,051 lbs	76.3 m³ / ~2694.5 ft³

**CHECK SPECIFICS FOR YOUR  
COMMERCIAL CIRCUMSTANCES**



<https://www.container-xchange.com/blog/shipping-container-sizes/>



# What May Be Ahead to impact Thriving?

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## 2024 – 2025

- Evolving Trade Patterns Change Back (Mostly)
- The Corridors are More Constrained

## 2026 – 2030 and Beyond...

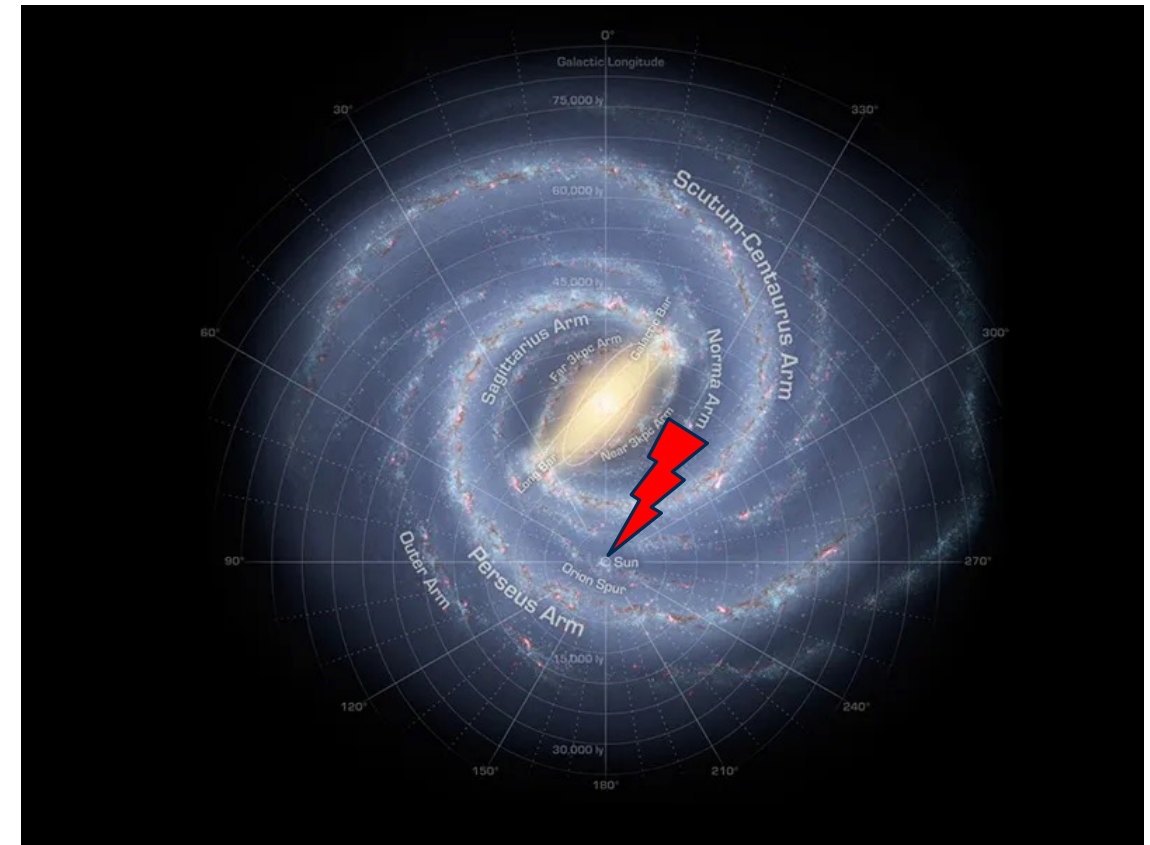
- Evolving Trade Patterns Change, Even More
  - Tariffs?
  - Natural and Political Disruptions?
- Corridors - More Open or Constrained
  - Others?



So, keeping it all in perspective, according to NASA, from somewhere in the Milky Way's Orion Spur, off the Sagittarius Arm, in a helical spiral around the Sun, going on average 720,000 km/hr or about 450,000 MPH - - -

# Thank You!

## Q & A



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<https://science.nasa.gov/sun/facts/>

NASA/Adler/U. Chicago/Wesleyan/JPL-Caltech