

Insights from Windward Maritime AI – May 2022

Dark activity & deceptive shipping trends – lessons learned from the Russia-Ukraine conflict

From Hope to Cope in 2022

It is now hard to believe, but the beginning of 2022 offered hope...

The world finally seemed to be emerging from the Covid-19 pandemic and the havoc it had wreaked on the global supply chain. The public and private sectors had mostly returned to “business as usual” and logistics companies were less concerned about global disruption. Little did we know that 2022 would offer more of the same (and perhaps even worse).

The [Omicron outbreak](#) threatened further economic and supply chain setbacks, and then Russia decided on a full-scale invasion of Ukraine on February 24, 2022.

Since the start of the conflict three months ago, Windward’s [Insight series](#) has carefully analyzed trends and unique, proprietary data points to keep those who rely on us ahead of the curve. This **special installment of the series** looks back on **the first three months of the Russia-Ukraine conflict** to summarize the many effects on the shipping ecosystem and provide you with actionable insights.

For most of those three months, the maritime market was informally governed by the threat of “moral sanctions” and “soft restrictions.” Deceptive shipping practices and dark activity quickly multiplied, as this summary will show.

That may quickly change, though. Breaking EU sanctions on Russia is now a criminal offense in 12 EU countries, according to a recent [Reuters article](#). The European Commission has moved to make violating European Union sanctions against Russia a crime. This would enable EU governments to confiscate assets of individuals and organizations engaged in sanctions evasion or collusion with Russia.

Meanwhile, the [U.S. recently attempted](#) to close loopholes in existing sanctions legislation “to tighten the noose around the Russian economy by another few notches.” This included technology export bans.

Deceptive Shipping Practices & Vessels Going Dark

Windward's proprietary, AI-driven data revealed a growing trend of **Russian oil majors selling away their vessels to non-Russian companies**. Since the beginning of the invasion, there were **180 ownership changes** from Russian entities to non-Russian entities. This number represents **53%** of the total ownership changes that took place in all of 2021 – in just three months!



Image 1: Ownership of Russian-affiliated vessels changing from Russian to non-Russian companies

- Some of these vessels were sold to companies based mostly in **Turkey, Singapore, United Arab Emirates, and Norway**. The same places that housed the top buyers of Russian-affiliated vessels before the war.
- It's interesting to note that **Hong Kong was one of the leading countries in terms of its companies buying Russian-affiliated vessels in 2021**, but since the invasion, they only bought **one**. On the contrary, **Latvian companies**, who only bought two vessels in 2021, have already bought **six Russian-affiliated vessels since the beginning of the invasion**. **This is in addition to five more ownership changes from Russian to Latvian entities**.

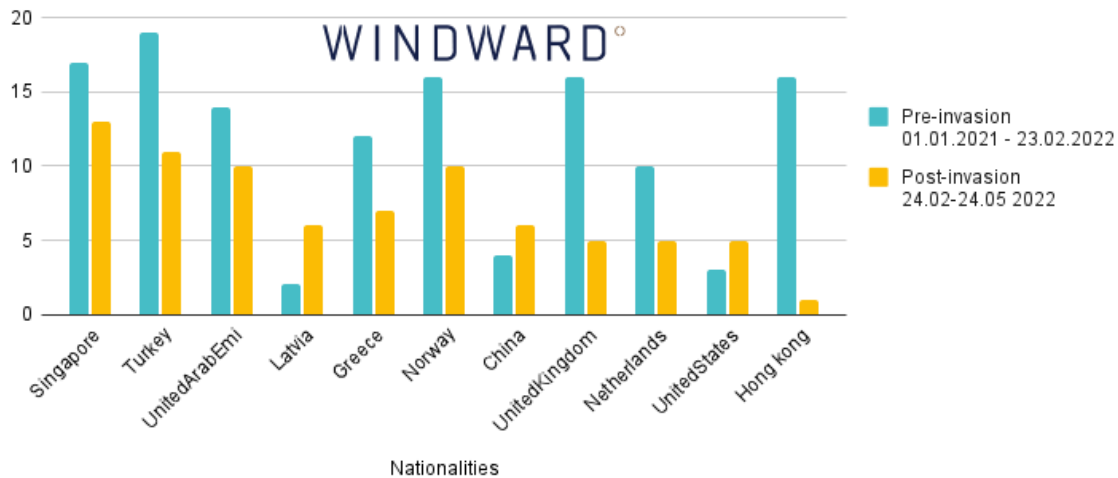


Image 2: Ownership changes for Russian-affiliated vessels from Russian to non-Russian entities, by company location

Windward insights also show a significant and steady increase in **dark activity** by Russian-affiliated oil tankers since the beginning of the Russian invasion of Ukraine, due to the series of moral restrictions and official sanctions that emerged.

- Before sanctions were put into place, the average number of dark activities by Russian-affiliated oil tankers was **1.9 per day**.
- That number has since **more than tripled to a daily average of 6.3 dark activities**.

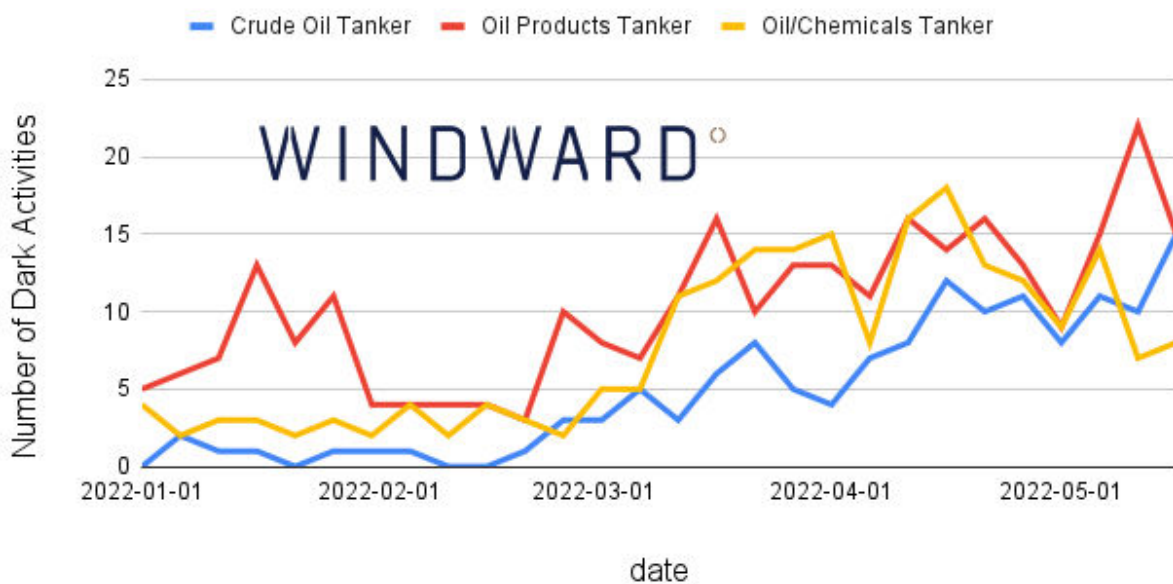


Image 3: Number of dark activities by Russian-affiliated tanker vessels

- Before the invasion and subsequent sanctions, Russian crude oil tankers were barely involved in dark activities, with a weekly average of **1.1** such activities per week. **Between February 24 and May 24, that number skyrocketed to 10.75 dark activities on average per week!**

Trade of sanctioned Russian crude oil via STS operations

- The number of ship-to-ship (STS) operations between crude oil tankers after one of the vessels called port in Russia is currently at **50** (from February 24 until May 24). For comparison, during the same three-month period in 2021 there were a total of **34** such STS meetings between crude oil tankers.
- These 50 meetings were carried out by **35 unique crude oil tankers** that have already delivered an estimated **27,500,000 barrels of Russian crude oil**.
- The cargos of crude oil tankers from Russia have arrived in **Asia, countries within Europe, and the U.S.**

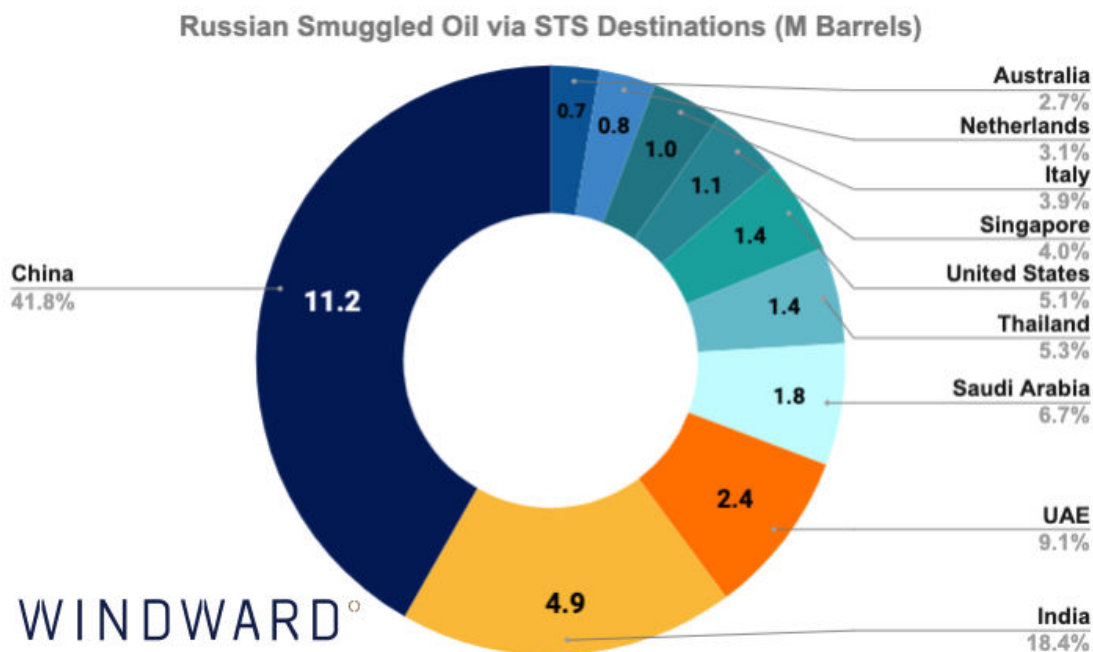


Image 4: Destinations of crude oil tankers delivering smuggled Russian oil

- **41.8% of sanctioned Russian oil is going to China**, the majority of it through two main STS hubs – Denmark (three meeting events) and South Korea (six meeting events).
- One such example is the **Yang Li Hu** vessel detailed in [Business Insider](#). This crude oil tanker, flying the Chinese flag, is operating a busy line between Russia and South Korea, with many STS operations.

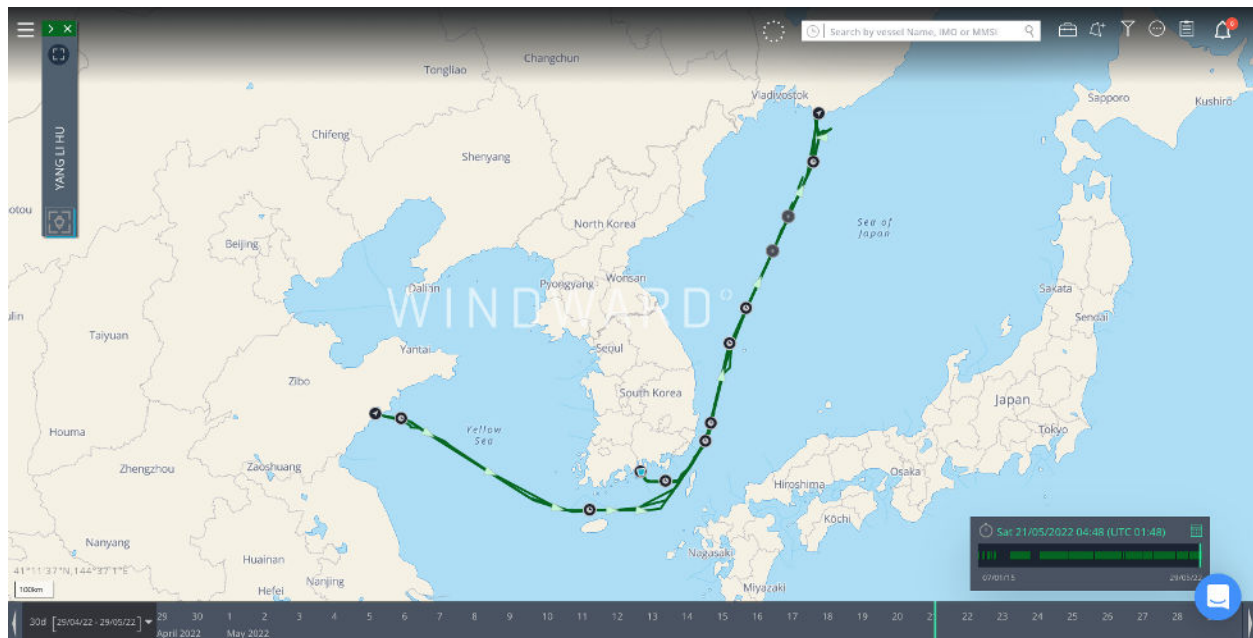


Image 5: Yang Li Hu's path between Russia, China, and South Korea

- In the satellite image presented below, we can see two tankers, with three service vessels by their sides. The bigger tanker on the right hand side is the very large crude carrier (VLCC) Yuan Qiu Hu, and the tanker on the left hand side is the Aframax Yang Li Hu.

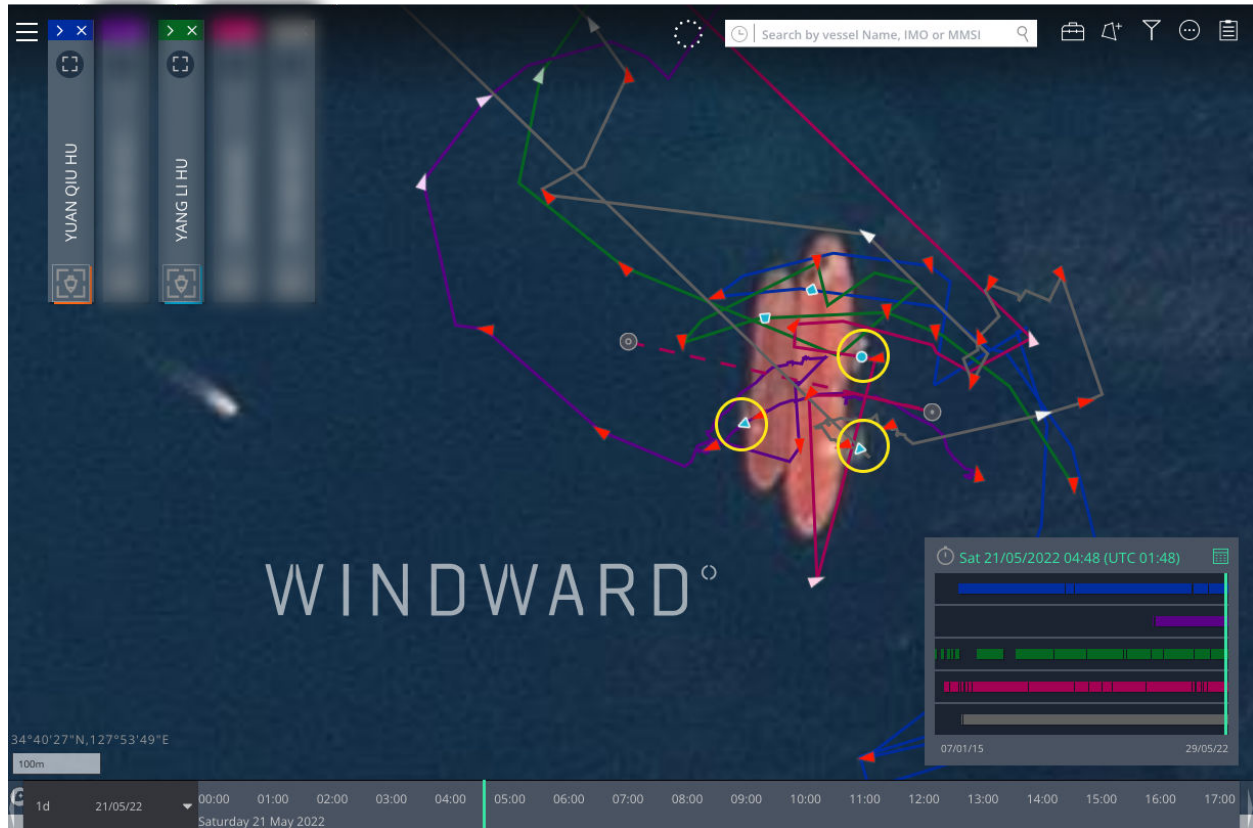


Image 6: STS operation between Yang Li Hu and Yuan Qiu Hu (Source: Planet Labs)

- Yang Li Hu departed from Kozmino port in Russia on May 17, 2022, reporting an almost fully laden draft of 15.2m.
- It then arrived at the port waiting area of Gwangyang in South Korea on May 19.
- Following its arrival in South Korea, it engaged in a ship-to-ship (STS) operation with the VLCC tanker (Yuan Qiu Hu) that arrived from the port of Ningbo, China.
 - The two tankers were assisted by three local South Korean-flagged tankers.
- When the operation ended, the Yuan Qiu Hu sailed to Lanshan, China with the Russian oil, while the Yang Li Hu sailed back to the port of Kozmino, probably to bring more oil back to the meeting point.
- While the Business Insider article states that some shipbrokers said these STS are not performed to avoid sanctions, but rather because the availability of tankers is decreasing, it is difficult to understand the operational or commercial rationale
 - The Yuan Qiu Hu VLCC returned to China only $\frac{3}{4}$ laden. Had there been a real tanker-availability problem with moving Russian oil legally, it would have been fully laden to optimize the trade.

Black Sea Trade Flows

Even before the [European Commission's sanctions announcement](#), the invasion had a great effect on general trade flow in the Black Sea.

- The shift in terms of traffic and vessel movements is noticeable when you look month-by-month since the beginning of 2022:

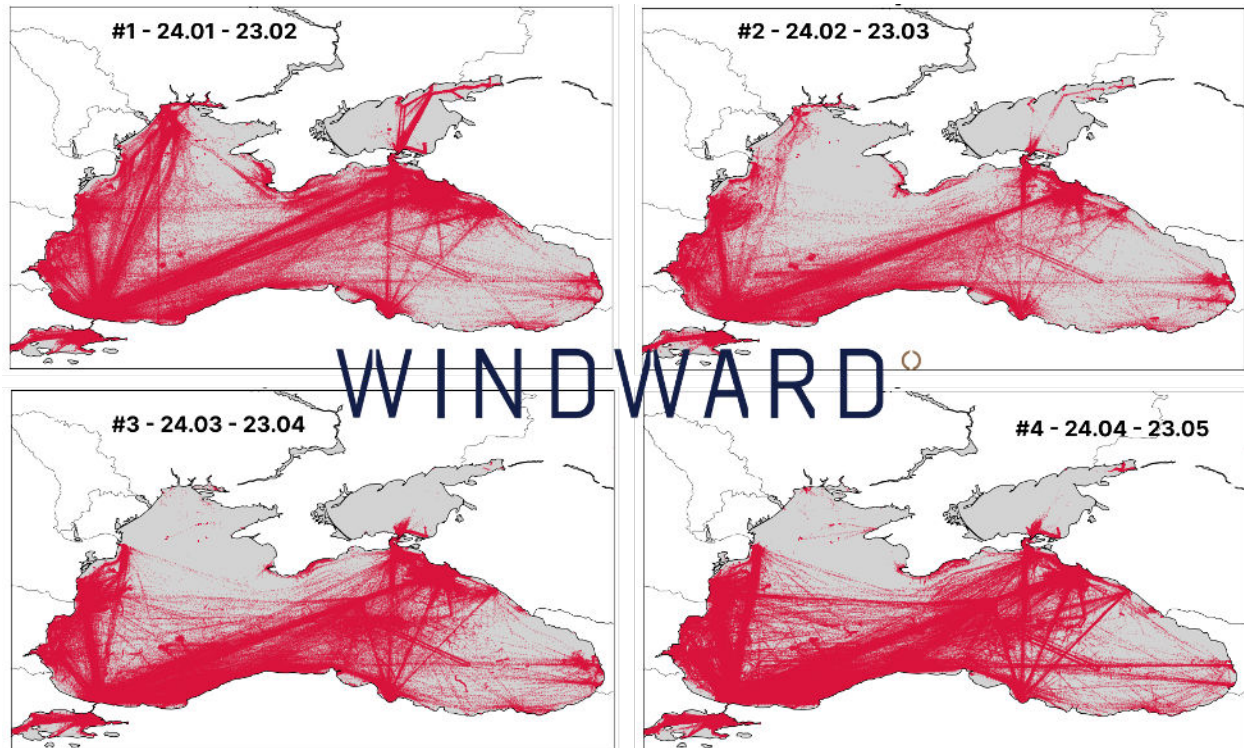


Image 7: Trade flow shifts in the Black Sea – month-by-month view since the beginning of 2022

- To further investigate the shift in trade, we compared the last status image (April-May 2022) to the same timeframe in 2021. It seems like **the commercial activity in the area has actually increased since 2021**, but changed course, as almost **no vessels go north of Romania**.

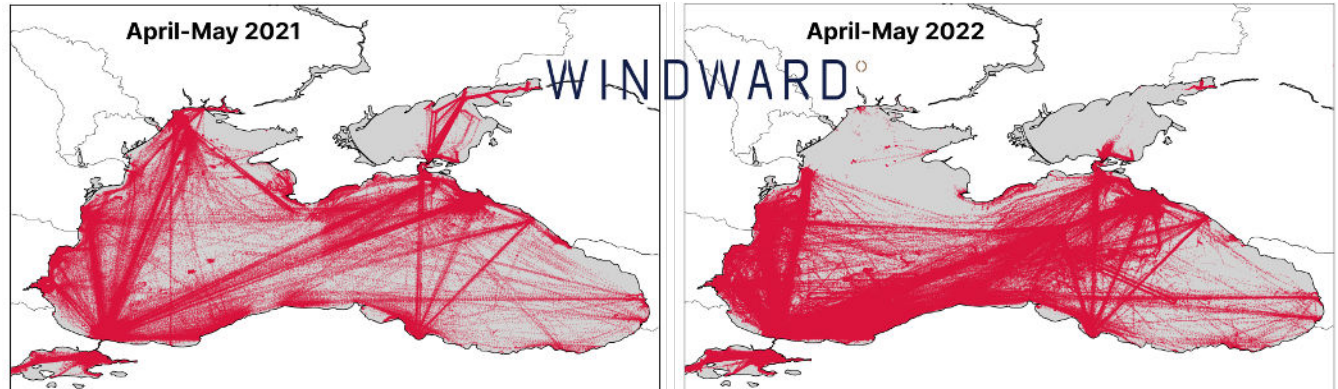


Image 8: Trade flow trends in the Black Sea comparing April-May 2021 vs. April-May 2022

- There was a spike in commercial port operations by tanker and cargo vessels in Romania and Bulgaria during the first few weeks after the invasion. But it seems that **as the conflict continues, business is going back to normal and port calls are back at their usual rate in all Black Sea ports.**
- In March-May 2021, the monthly average number of port calls in the Black Sea area was 3,481. During the same time period of 2022, that **monthly average only went down by 17.5%** to 2,870 port calls per month.
- Diving into the sub-class details for the same timeframe shows that port operations **decreased by 16% for bulk carriers**, by **46% for container vessels**, and by **20% for general cargo vessels** – clearly [disrupting the wheat export trade flows](#) from Ukraine and the area (trade lines that usually use these types of vessels).
- On the contrary, **crude oil tankers saw a 25% increase** in port operations in the area when comparing March-May of 2021 to March-May 2022. This raises questions since the area is not a major oil trade hub...

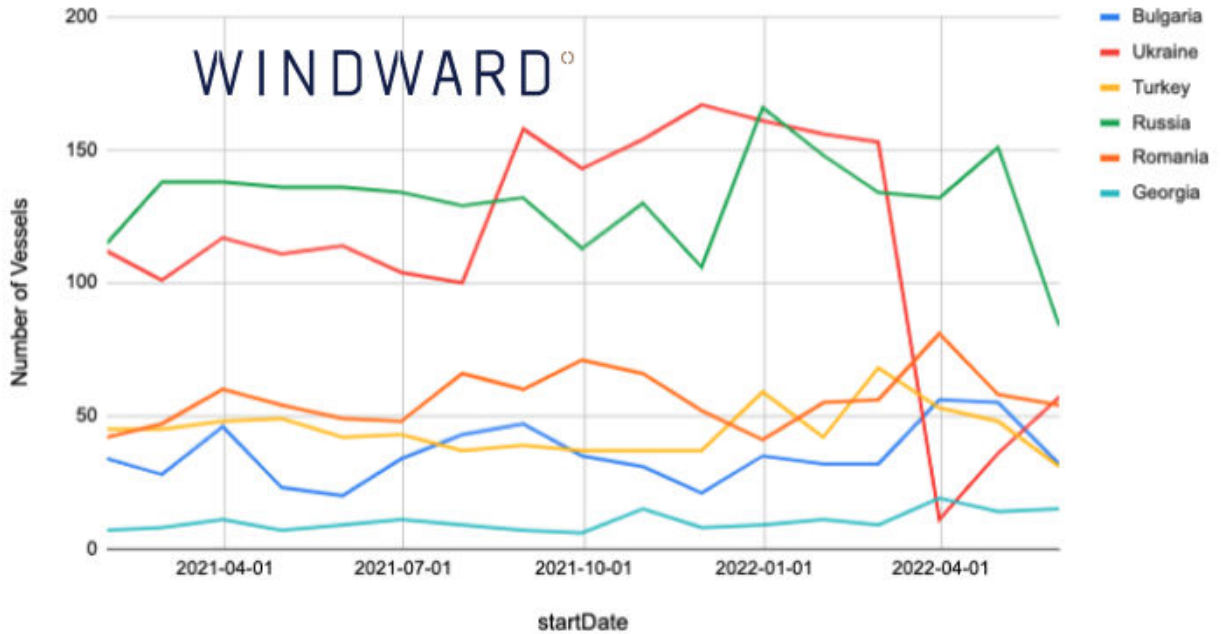


Image 9: Port calls by bulk carriers in the Black Sea

- The country that has suffered the most commercial damage so far is of course Ukraine, with a 36% drop in its monthly average of commercial port calls compared to 2021.



Image 10: Monthly port calls in the Black Sea by country

- When we deep dive into the Windward data on Ukrainian ports, we see yet another effect of the invasion on the trade flows in the area. The data clearly indicates that **Izmail, a minor port near Romania, has adapted to the new trade landscape and has been stepping up to keep international trade flowing.**

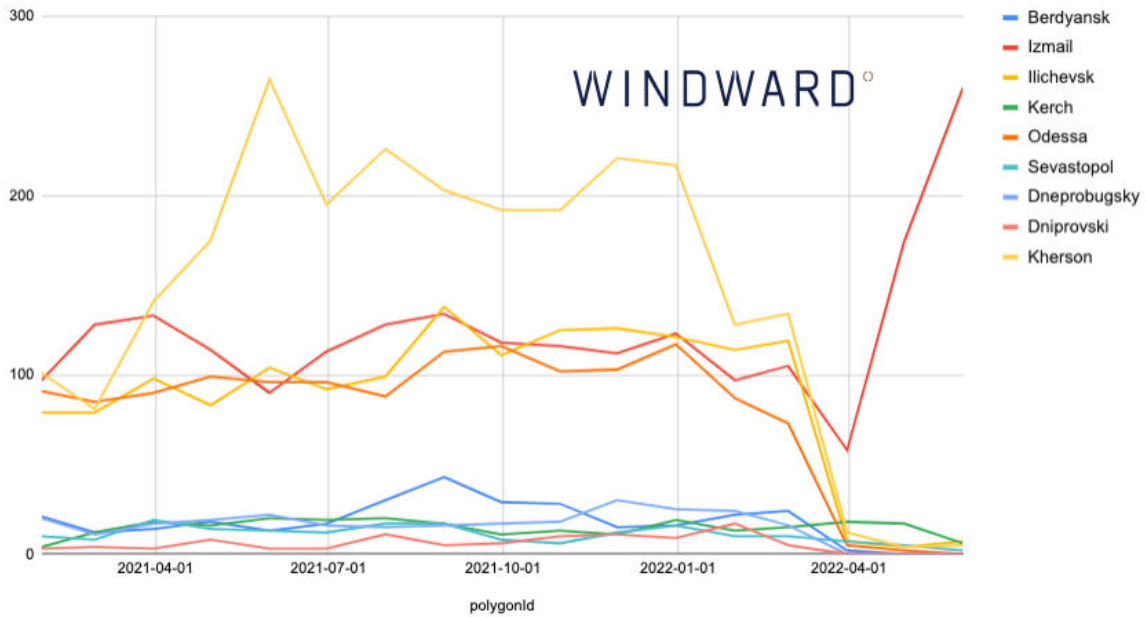


Image 11: Tanker and cargo port calls in Ukraine

- In March-May 2021, Izmail port had **337** port calls by **international tankers and cargo** vessels. This number increased to **494** during the equivalent period in 2022.



Image 12: Showing the location of Izmail port and its challenging size and geographical landscape (Left side image source: Planet Labs)

- Having this much container and cargo traffic diverted to a smaller port than usual definitely creates port congestion and greatly disrupts the supply chain to the entire Black Sea area.



Image 13: IZMAIL port congestion - on May 2022 (right) vs. May 2021 (left) (Source: Planet Labs)

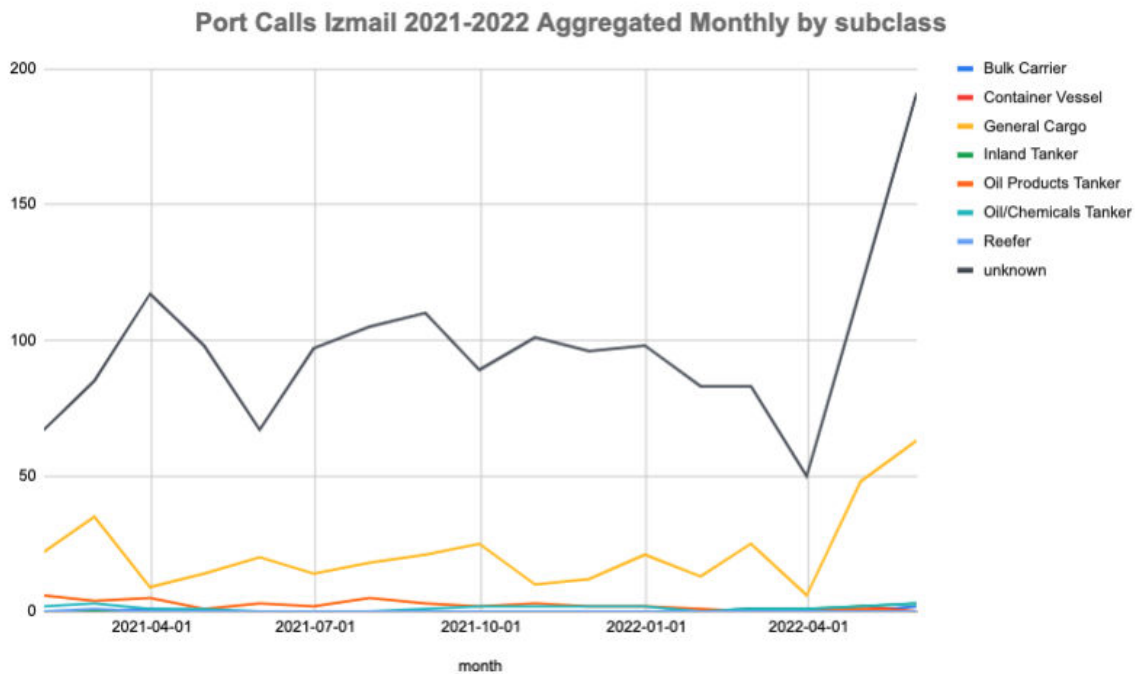


Image 14: Port calls in IZMAIL port by subclass

Looking Ahead

The tightening vice of sanctions will encourage many countries, vessels, and shipping companies to avoid certain ports, ship-to-ship meetings, and travel routes. This is already happening, as we saw with the effect on the Black Sea area and its surrounding countries. Expect this phenomena to continue and morph to different regions. A Maritime AI system can help you track congestion in real-time, know which vessels are in certain areas, stay up to date on ETAs for containers, and more.

If EU governments follow through and start confiscating assets of individuals and organizations engaged in sanctions evasion, it will be more important than ever for entities operating in those countries to know exactly who they are doing business with, including non-maritime counterparties. A dynamic and comprehensive due diligence process is a must for players across the maritime ecosystem (and around the world).

No matter how severe the penalties, some Russian-affiliated entities will continue to try to evade sanctions and sell Russian crude oil, etc. They will likely change up their evasion methods and seek out loopholes. Predictive intelligence will continue to increase in importance for the maritime sector.

Windward, your trusted Maritime AI advisor, will continue to analyze our AI-driven data and bring you the latest trends and actionable insights, to ensure you stay up to date and ahead of the next wave.