



2025年 第23周市场周报

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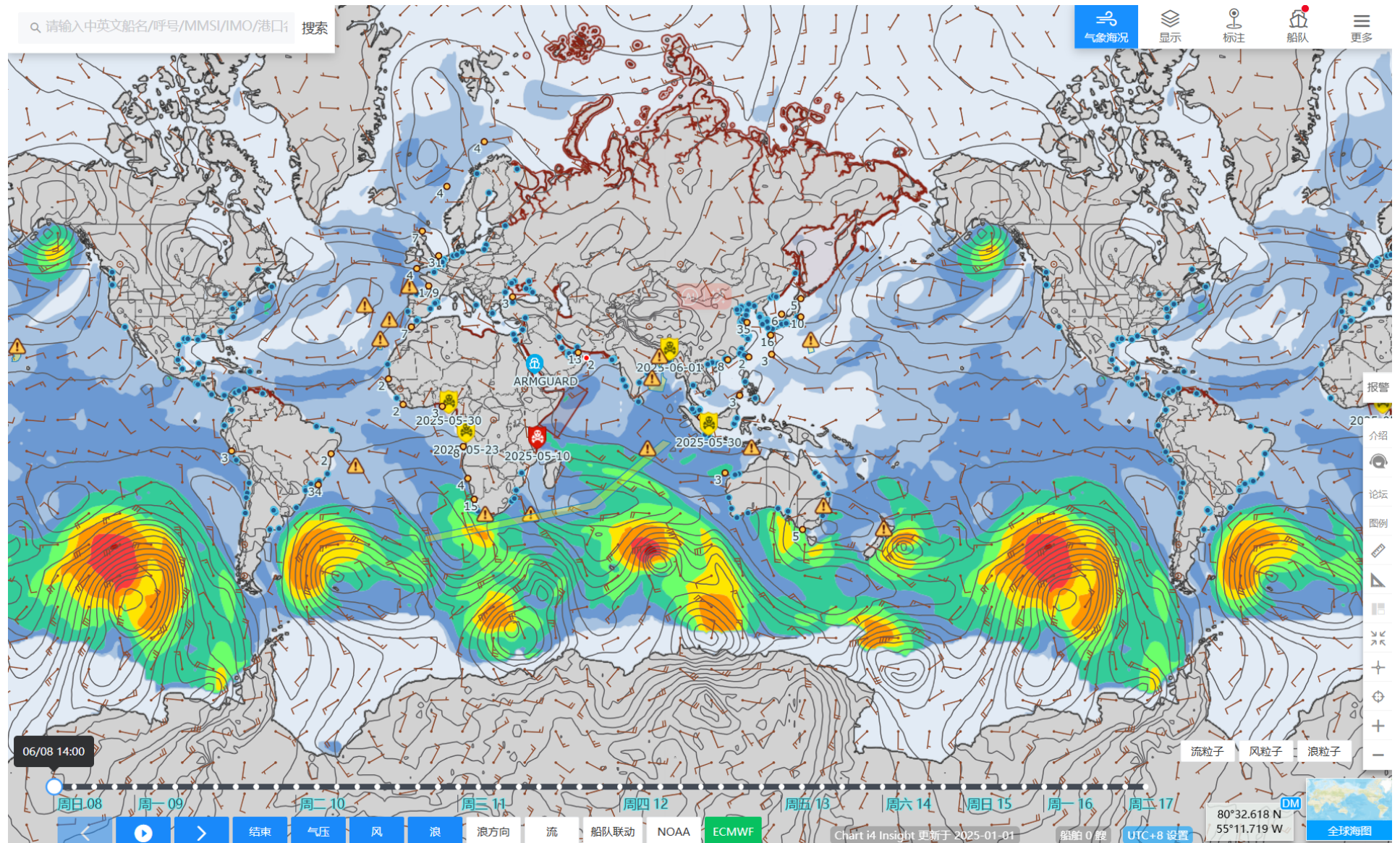
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最新商品价格 LATEST COMMODITIES PRICE

第八部分

本周话题 WEEKLY TOPIC

第一部分 航运安全 SHIPPING SAFETY



航行警告 Navigation Warning

HiFleet显示全球目前有效的航行警告有437个，远东和环加勒比海居多，请相关水域船舶注意航行警告内容。There are currently 437 navigational warnings in effect around the ocean on hiFleet with the Far East being the majority. Please pay attention to the navigational warnings in relevant waters.

航海气象 Meteorology

未来一周中国渤海海域风力3-4级，轻浪；黄海风力3-4级，轻浪；东海风力4-5级，有时中浪；台湾海峡3-4级风，中浪；南海大部海域风力3-5级，中浪。太平洋北部和北大西洋的低气压开始减弱。The coming week the wind in Bohai Sea is breeze with slight sea. Wind in Yellow Sea is breeze with slight sea. And China East Sea will become fresh with moderate sea. The wind in the Taiwan Strait will be fresh with moderate sea. In most of the South China Sea the wind is moderate with moderate sea. The low pressure activities become small and gentle both in North of Pacific and Atlantic.

海盗事件 Piracy

6月1日，孟加拉国的吉大港锚地，十名强盗，手持一把刀，登上了一艘停泊的散货船，并进入了船的前舱储藏室。警报响起，船员们集合起来。听到警报，看到船员们的警觉，强盗们带着偷来的货物逃走了。所有船员报告安全。这一事件已报告给港口管制。
01.06.2025: 1700 UTC: Posn: 22:13.31N - 091:44.41E, Chittagong Anchorage, Bangladesh. Ten robbers, armed with a knife, boarded an anchored bulk carrier, and entered the ship's forward storeroom. Alarm raised and crew mustered. Hearing the alarm and seeing the crew's alertness, the robbers escaped with stolen ship's stores. All crew reported safe. The incident was reported to port control.

海上事件 Marine Incidents

6月6日周五早上，新加坡海事和港口管理局（MPA）表示，一艘集装箱驳船“Marco Polo 802号”在新加坡圣淘沙的丹绒海滩搁浅。圣淘沙说，没有迹象表明有石油泄漏，而MPA说，没有损害，伤害或污染，航行安全也不会受到影响。On Friday morning, June 6th, the Maritime and Port Authority (MPA) of Singapore said that a container barge "Marco Polo 802" ran aground at Tanjung Beach in Sentosa, Singapore. Sentosa said there were no indications of an oil spill, while the MPA said there was no damage, injury or pollution and navigation safety would not be affected.

其它 Others

没有 Nil

备注 Remark

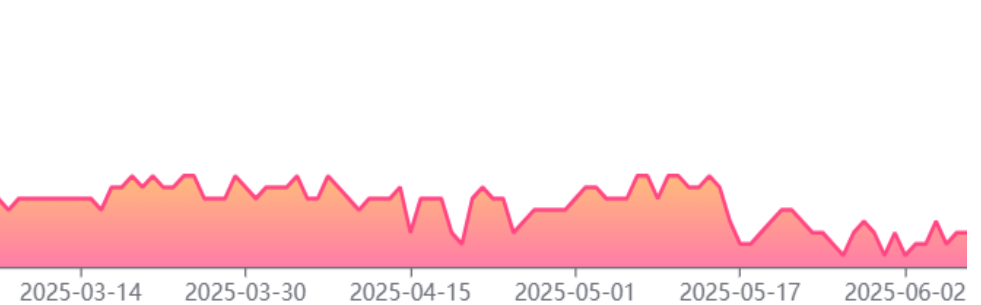
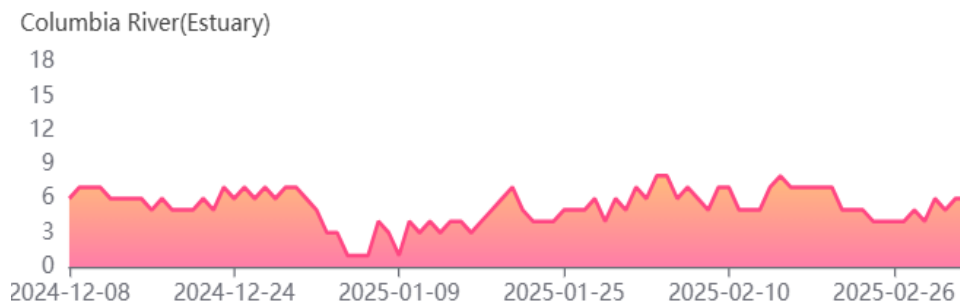
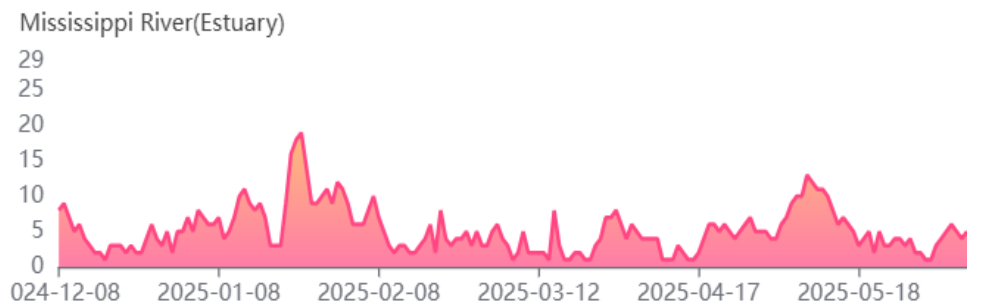
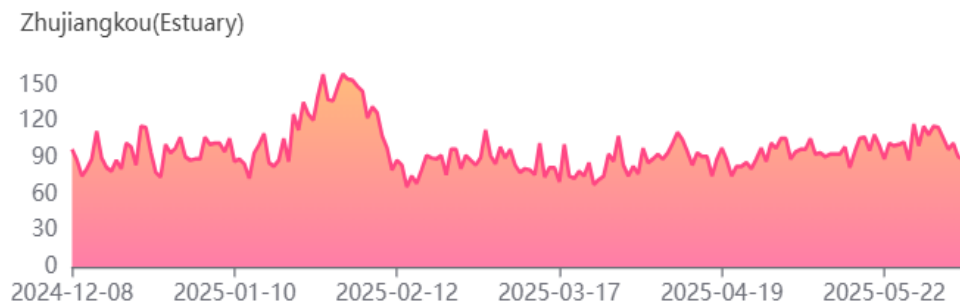
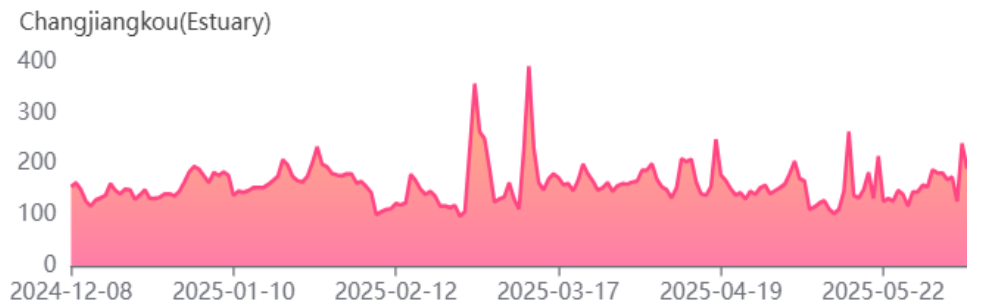
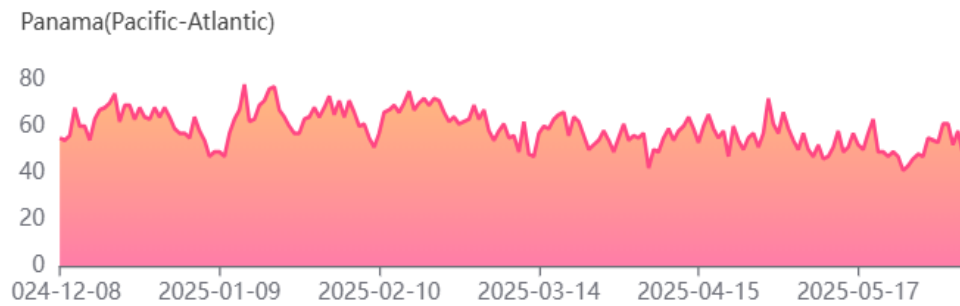
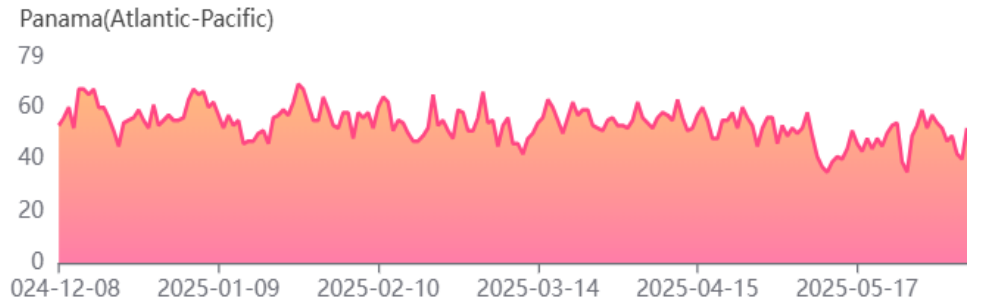
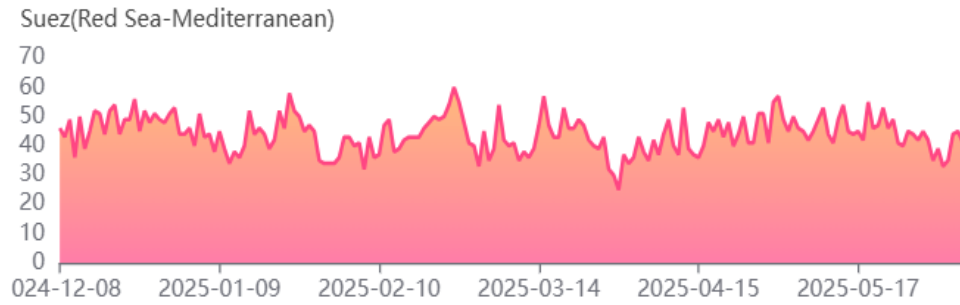
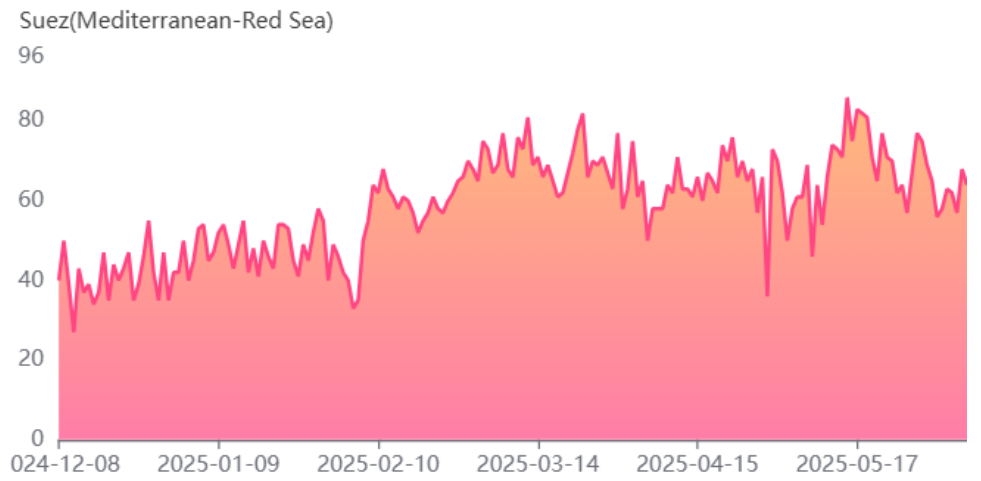
本报告数据截止时间为2025年6月08日北京时间17点；所有数据和或观点仅供参考，在任何情况下本公司及其员工不承担任何风险。The data deadline for this report is Beijing time 17 hours on June 08th of 2025; All data and/or opinions are for reference only and under no circumstances do the Company and its employees assume any risk.

第二部分 航运数据 SHIPPING DATA

最近一周船舶运河/河口锚地等待数量

Latest Week Update Vessel Waiting Numbers Information in Anchorages of Canals and Rivers

Canal/Riv.	P.N.	M.N.	WoW	MoM
Suez.Red	33	1264	-29	-60
Miss.Riv.	5	131	12	-44
CJK	190	4527	255	54
Pa.Atlan.	52	1361	-5	-130
Colum.Riv.	3	106	0	-61
Suez.Med.	64	2009	-43	183
Pa.Pac.	52	1495	58	-127
ZJK	65	2880	-70	221

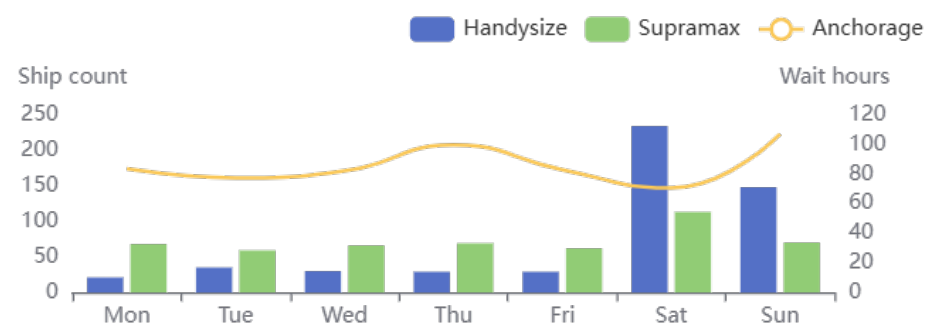


(P.N.-Present Number; M.N.-Month Number; WoW-Week on Week; MoM-Month on Month)

最近一周中国区域超大灵便型散货船和灵便型散货船舶锚泊数量和平均锚泊时长

Latest Week Update for Supra and Handy Num. and Waiting Time Information in Anchorages of China

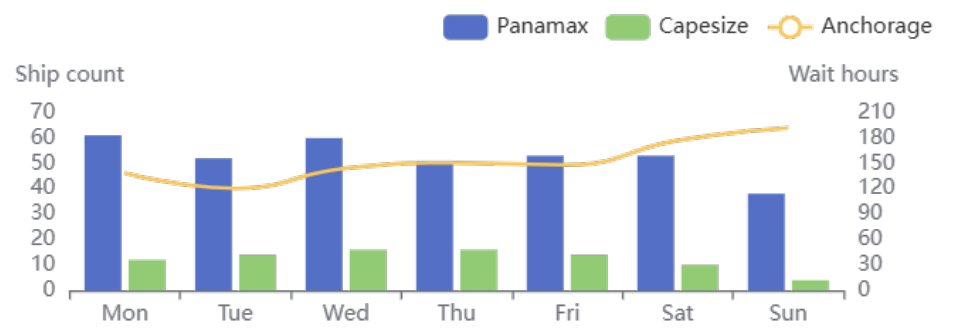
Type	M	T	W	Th	F	Sat	Sun
HDY	21	35	30	29	29	234	148
SMX	68	59	66	69	62	113	70
WT.h.	83.6	77.3	82.0	99.7	82.8	70.5	107



最近一周巴西区域好望角型和巴拿马型散货船舶锚泊数量和平均锚泊时长

Latest Week Update for Capesize and Panamax Num. and Waiting Time Information in Anchorages of Brazil

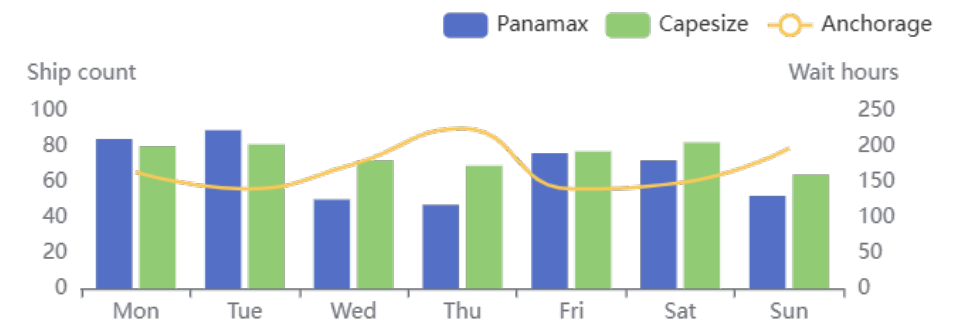
Type	M	T	W	Th	F	Sat	Sun
Pan.	61	52	60	51	53	53	38
Cap	12	14	16	16	14	10	4
WT.h.	138.8	120.7	144.4	150.7	148.1	177.2	192



最近一周澳大利亚区域好望角型和巴拿马型散货船舶锚泊数量和平均锚泊时长

Latest Week Update for Capesize and Panamax Num. and Waiting Time Information in Anchorages of Australia

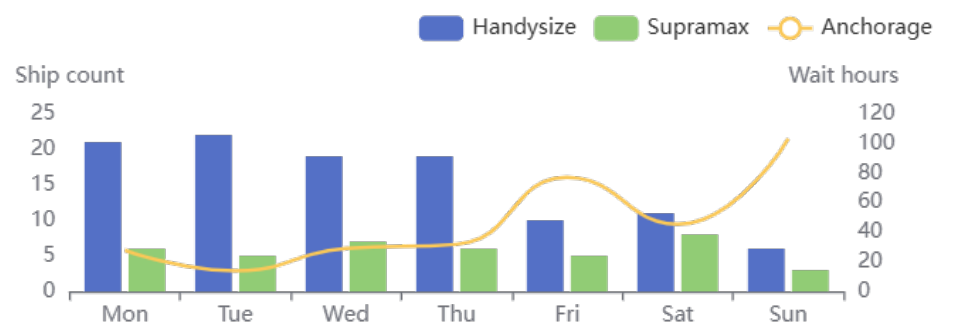
Type	M	T	W	Th	F	Sat	Sun
Pan.	84	89	50	47	76	72	52
Cap	80	81	72	69	77	82	64
WT.h.	163.6	140.15	174.8	224.85	139.9	148.6	197



最近一周黑海区域超大灵便型散货船和灵便型散货船舶锚泊数量和平均锚泊时长

Latest Week Update for Supra & Handy Num. and Waiting Time Information in Anchorages of Black Sea

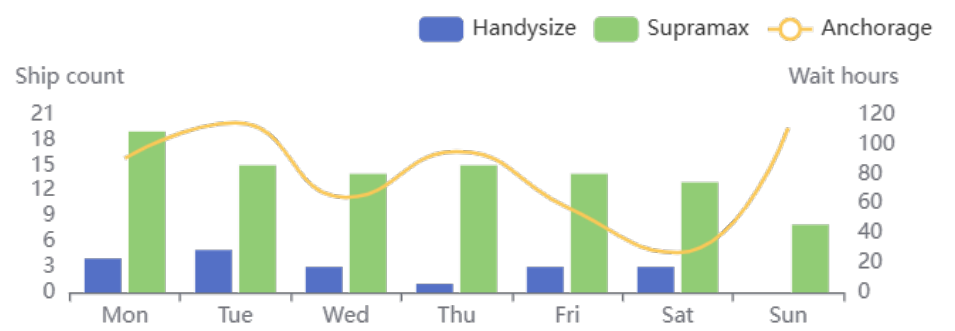
Type	M	T	W	Th	F	Sat	Sun
HDY	21	22	19	19	10	11	6
SMX	6	5	7	6	5	8	3
WT.h.	27.8	13.9	29	31.8	77	45.3	103



最近一周美湾区域超大灵便型散货船和灵便型散货船舶锚泊数量和平均锚泊时长

Latest Week Update for Supra and Handy Num. and Waiting Time Information in Anchorages of US Gulf

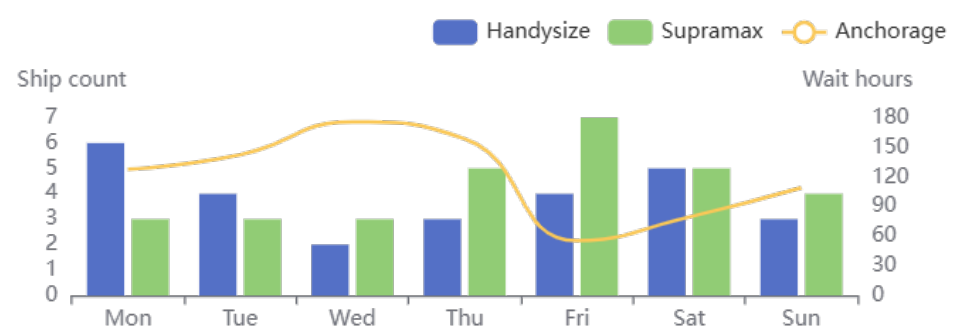
Type	M	T	W	Th	F	Sat	Sun
HDY	4	5	3	1	3	3	0
SMX	19	15	14	15	14	13	8
WT.h.	90.5	114.5	64.2	95.0	57.4	26.8	111



最近一周拉普拉特河区域超大型散货船和灵便型散货船舶锚泊数量和平均锚泊时长

Latest Week Update for Supra and Handy Num. and Waiting Time Information in Anchorages of Plate River

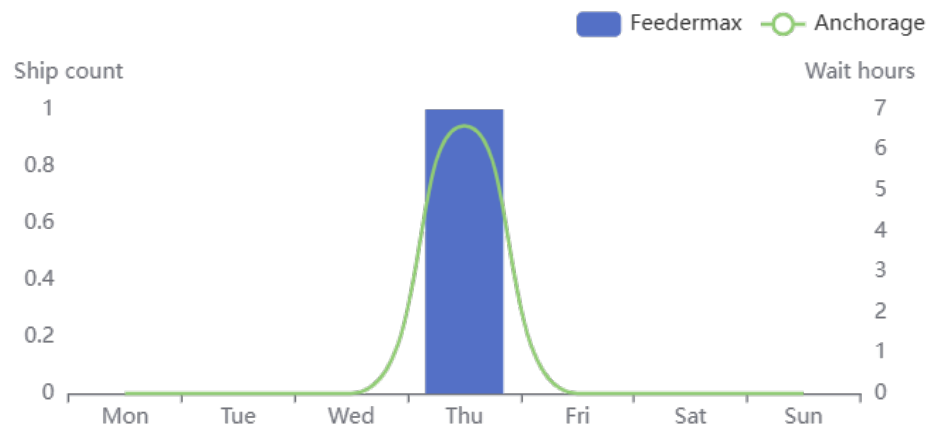
Type	M	T	W	Th	F	Sat	Sun
HDY	6	4	2	3	4	5	3
SMX	3	3	3	5	7	5	4
WT.h.	127.7	142.4	175.8	158.65	55.4	79.4	109



最近一周香港区域集装箱船锚泊数量和平均等待时长

Latest Week Update for Container Vessels Num. and Waiting Time Information on Anchorages of HongKong

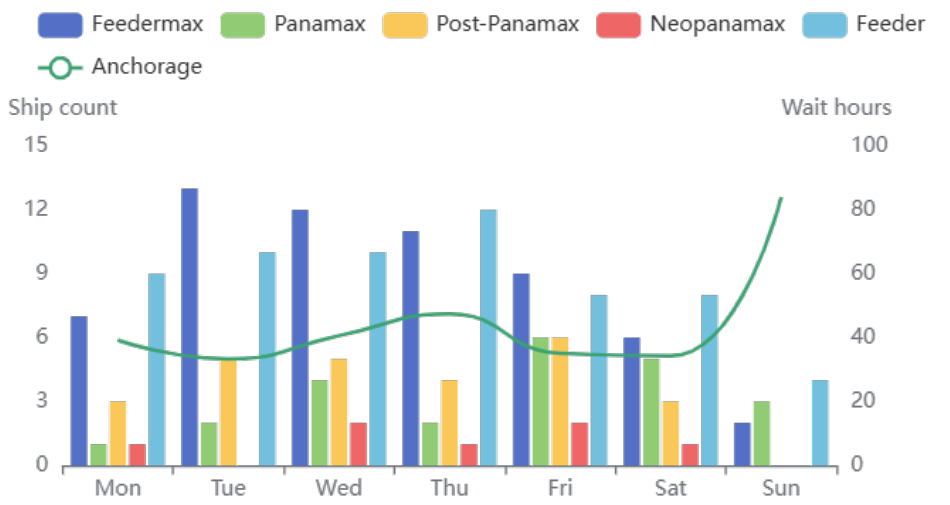
Type	M	T	W	Th	F	Sat	Sun
F.ma.	0	0	0	1	0	0	0
Pan.	0	0	0	0	0	0	0
PPx	0	0	0	0	0	0	0
NPx	0	0	0	0	0	0	0
Fd	0	0	0	0	0	0	0
WT.h.	0.0	0.0	0.0	6.6	0.0	0.0	0.0
UlcV	0	0	0	0	0	0	0



最近一周上海区域集装箱船锚泊数量和平均等待时长

Latest Week Update for Container Vessels Num. and Waiting Time Information in Anchorages of Shanghai

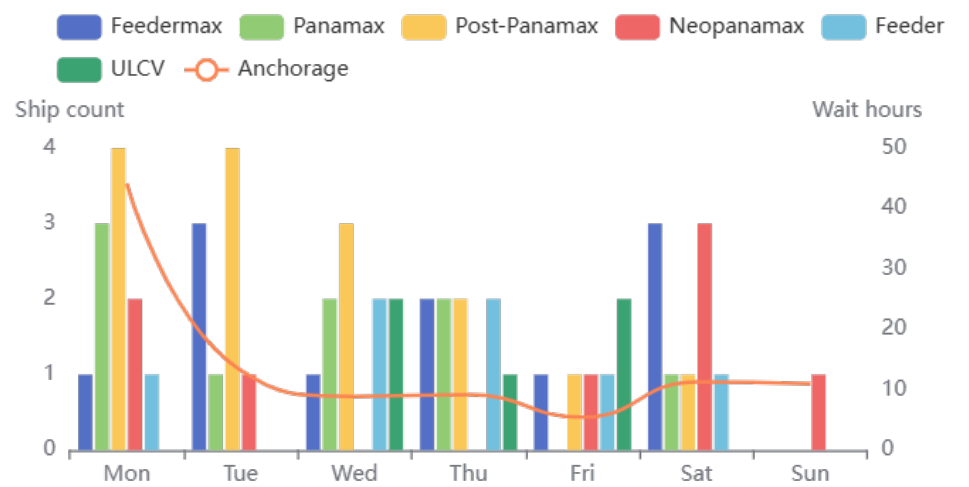
Type	M	T	W	Th	F	Sat	Sun
F.ma.	7	13	12	11	9	6	2
Pan.	1	2	4	2	6	5	3
PPx	3	5	5	4	6	3	0
NPx	1	0	2	1	2	1	0
Fd	9	10	10	12	8	8	4
UlcV	0	0	0	0	0	0	0
WT.h.	39.2	33.3	40.6	47.45	35.1	34.3	84



最近一周新加坡区域集装箱船锚泊数量和平均锚泊时长

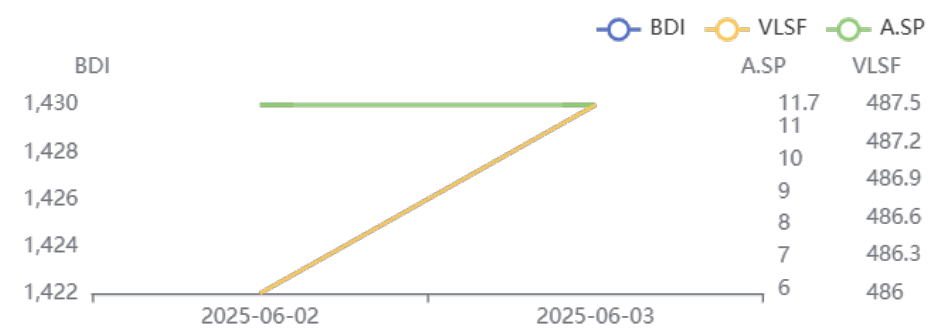
Latest Week Update for Container Vessels Num. and Waiting Time Information in Anchorages of Singapore

Type	M	T	W	Th	F	Sat	Sun
F.ma.	1	3	1	2	1	3	0
Pan.	3	1	2	2	0	1	0
PPx	4	4	3	2	1	1	0
NPx	2	1	0	0	1	3	1
Fd	1	0	2	2	1	1	0
UlcV	0	0	2	1	2	0	0
WT.h.	44.1	13.2	8.9	9.2	5.45	11.3	11



最近一周空载散货船平均航速 Latest Weekly Average Speed for Bulkers during Ballast Voyage

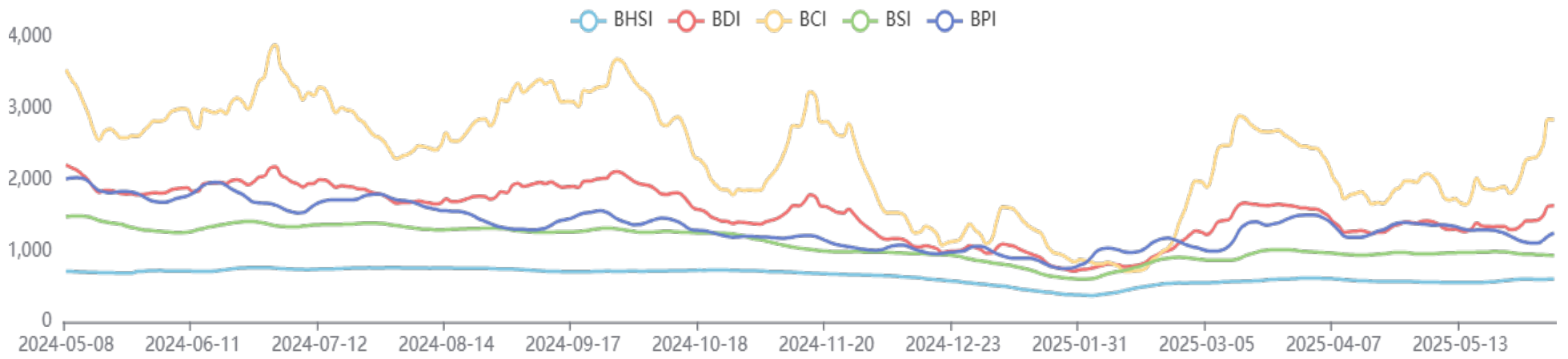
Type	M	T	W	Th	F	Sat	Sun
BDI	1107	1108					
VLSF	486.00	487.50	490.50	490.00			
A.SP	11.7	11.7	11.74	11.74	11.7	11.71	



第三部分 航运市场 SHIPPING MARKET

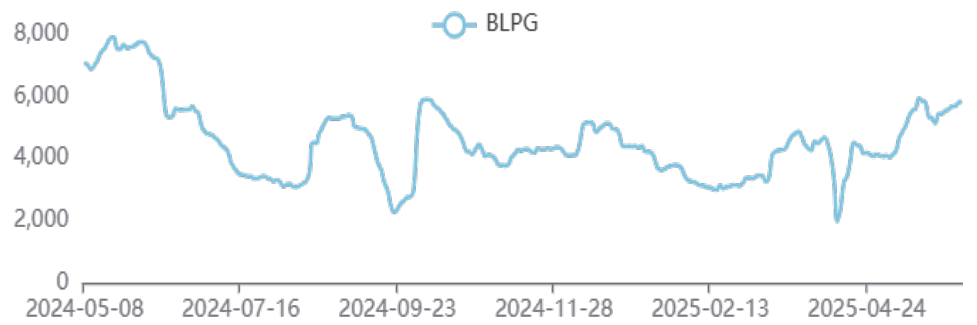
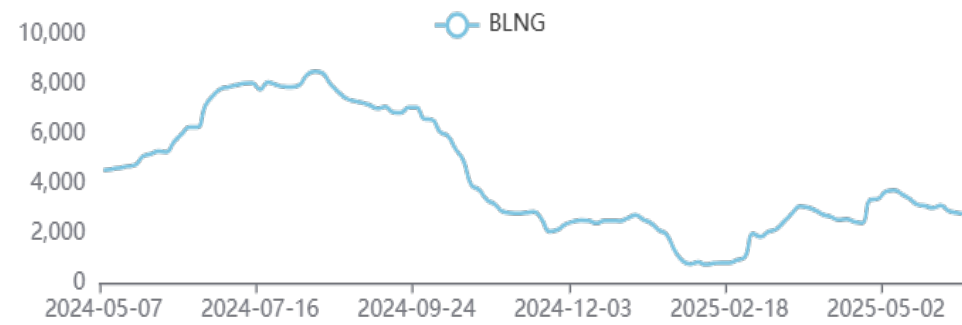
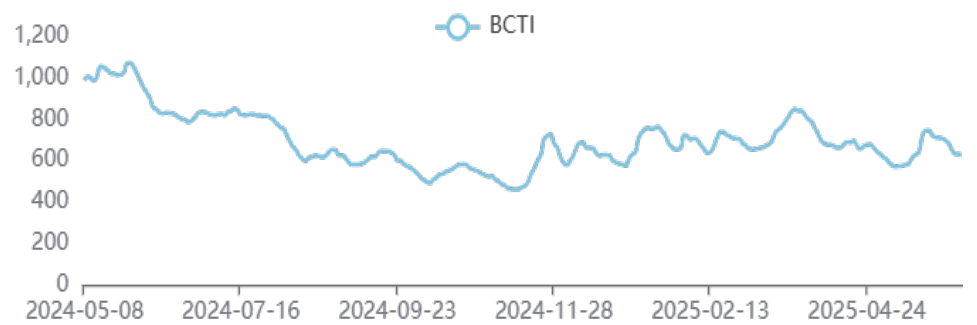
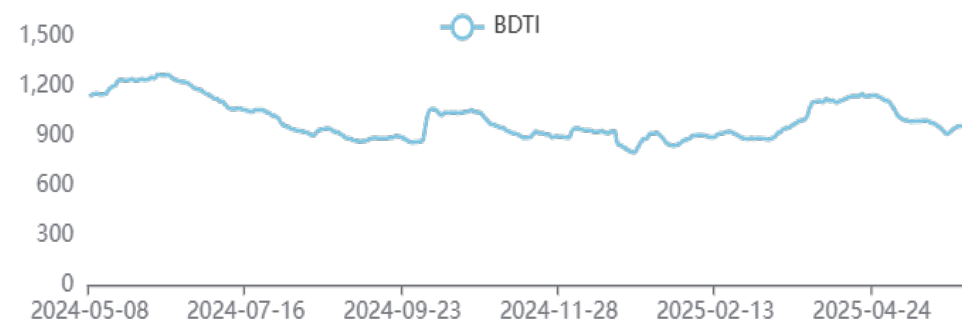
波罗的海干散货指数Baltic Dry Index

Type	PI	WoW	W%	M%	y%
BDI	1633	215.0	15.16	25.71	-12.63
BCI	2842	565.0	24.81	66.3	-4.53
BPI	1246	127.0	11.35	-7.91	-28.02
BSI	933	-18.0	-1.89	-3.72	-25.66
BHSI	600	-1.0	-0.17	8.3	-16.2

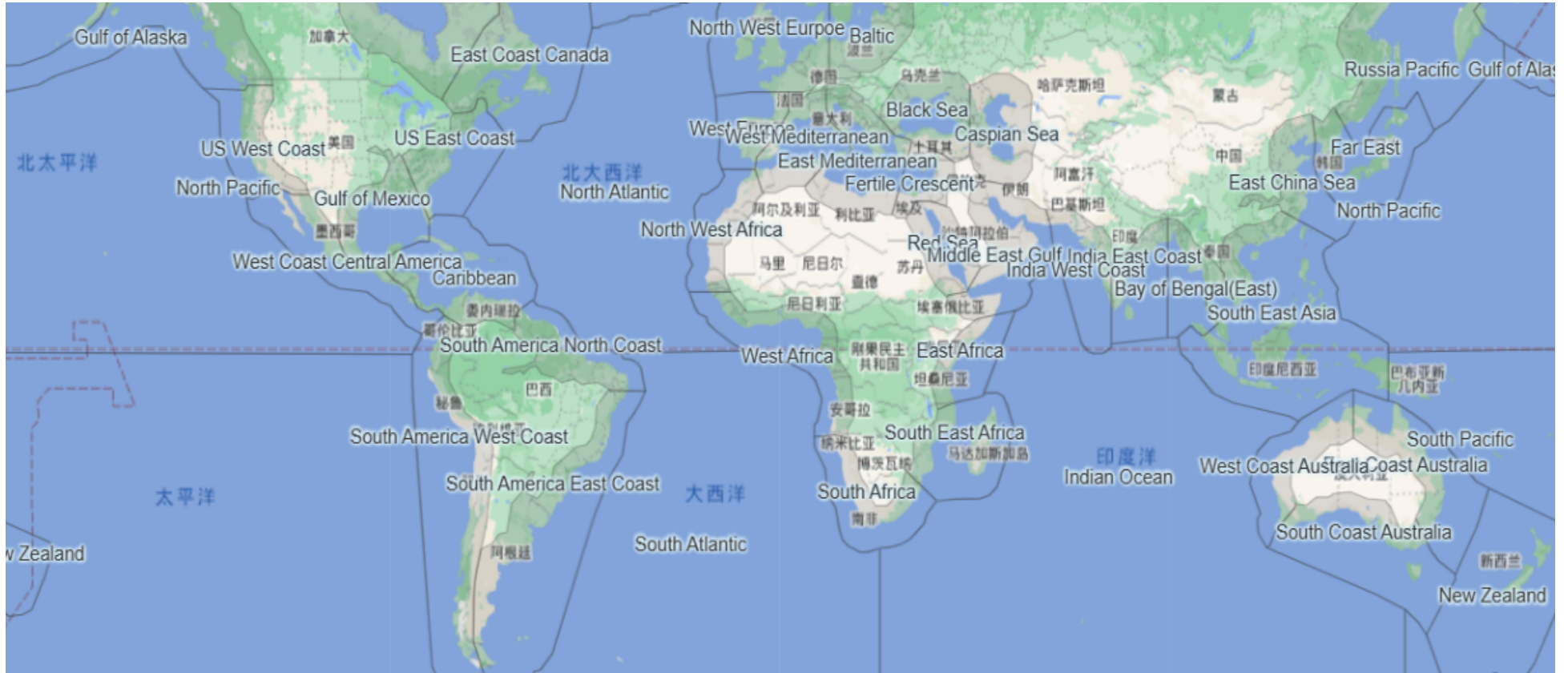


能源运价指数Energy Shipping Index

Type	PI	WoW	W%	M%	y%
BDTI	951	29.0	3.15	-4.42	-23.68
BCTI	626	-72.0	-10.32	9.25	-30.75
BLNG	2777	-123.0	-4.24	-22.43	-50.99
BLPG	5853	327.0	5.92	25.14	-20.7



第四部分 运力分布 SUPPLY DISTRIBUTION

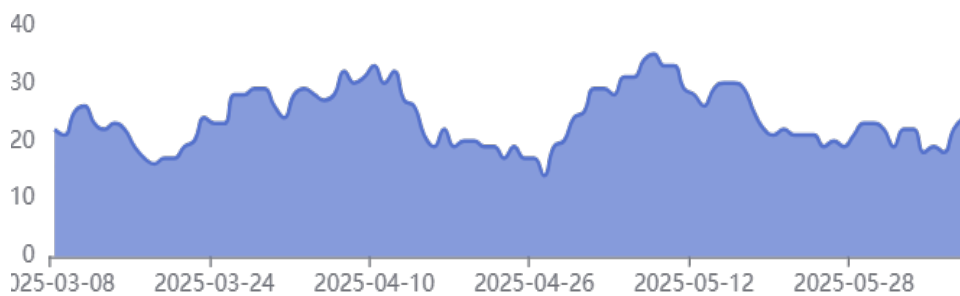


好望角型散货船 Capesize

区域：巴西，最近一周好望角型散货船准备装货船舶数量

Area: Brazil, The latest week update number for Capesize with cargo loading intention.

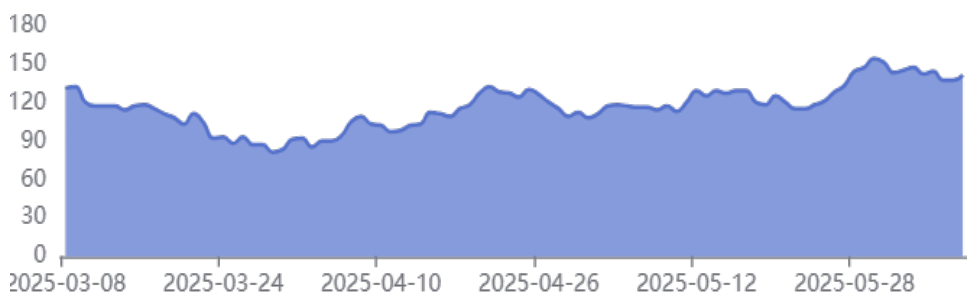
Type	M	T	W	Th	F	Sat	Sun
Cape	22	22	18	19	18	22	24



区域：澳大利亚。最近一周好望角型散货船准备装货船舶数量。

Area: Australia. The latest week update number for Capesize with cargo loading intention.

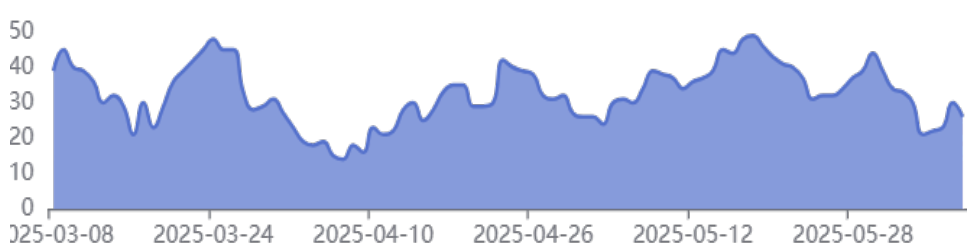
Type	M	T	W	Th	F	Sat	Sun
Cape	145	147	142	144	137	137	141



区域：南非，最近一周好望角型散货船准备装货船舶数量

Area: South Africa, The latest week update number for Capesize with cargo loading intention.

Type	M	T	W	Th	F	Sat	Sun
Cape	33	30	21	22	23	30	26

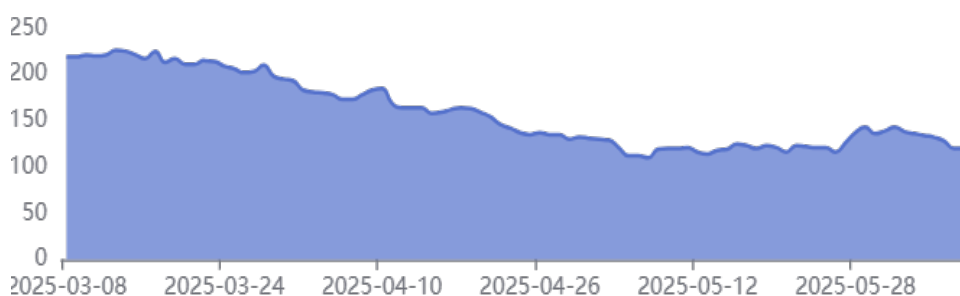


巴拿马型散货船 PANAMAX

区域：南美北部和东部。最近一周巴拿马型散货船准备装货船舶数量。

Area: South America. The latest week update number for Panamax with cargo loading intention.

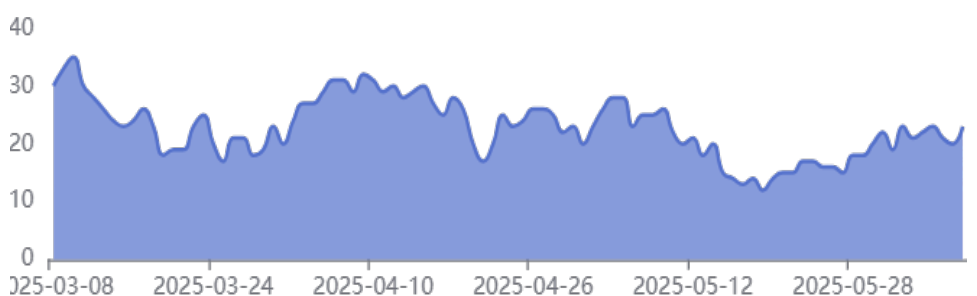
Type	M	T	W	Th	F	Sat	Sun
Pan.	138	136	134	132	128	120	120



区域：黑海。最近一周巴拿马型散货船准备装货船舶数量。

Area: Black Sea. The latest week update number for Panamax with cargo loading intention.

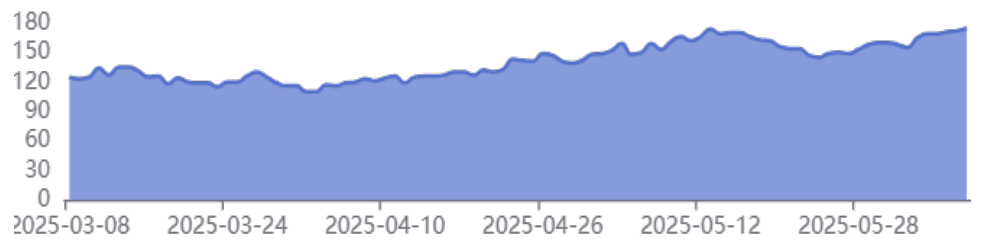
Type	M	T	W	Th	F	Sat	Sun
Pan.	9	8	7	8	7	7	7



区域：澳大利亚。最近一周巴拿马型散货船准备装货船舶数量。

Area: Australia. The latest week update number for Panamax with cargo loading intention.

Type	M	T	W	Th	F	Sat	Sun
Pan.	155	165	169	169	171	172	175

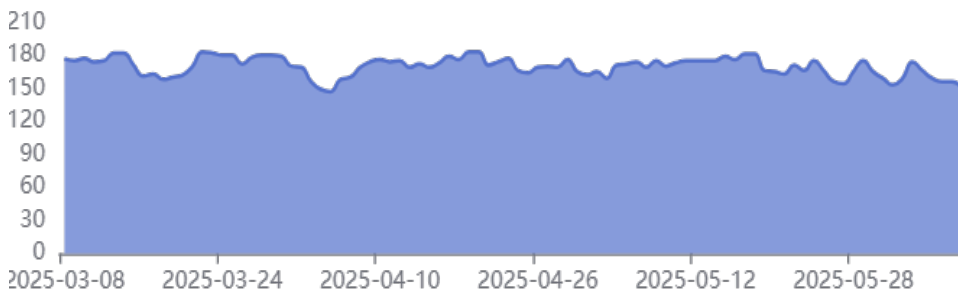


超大灵便型散货 SUPRAMAX

区域：北中国。最近一周超大灵便型散货船准备装货船舶数量。

Area: North China. The latest week update number for Supramax with cargo loading intention.

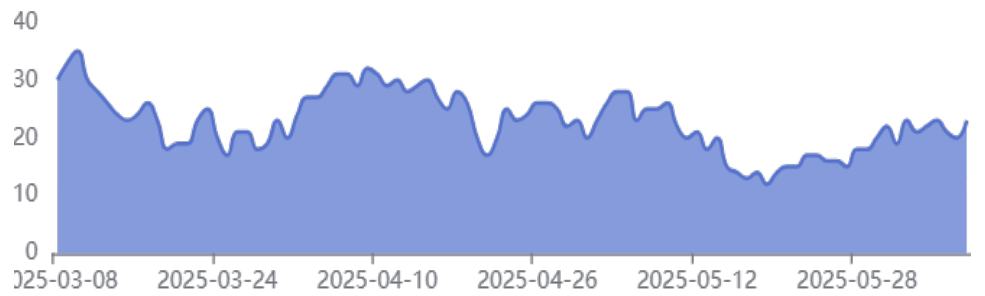
Type	M	T	W	Th	F	Sat	Sun
SMX	159	174	166	159	156	156	151



区域：黑海。最近一周巴拿马型散货船准备装货船舶数量。

Area: Black Sea. The latest week update number for Panamax with cargo loading intention.

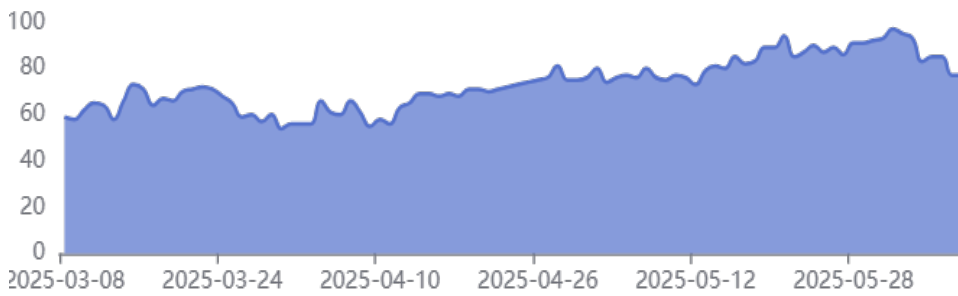
Type	M	T	W	Th	F	Sat	Sun
SMX	23	21	22	23	21	20	23



区域：美湾。最近一周超大灵便型散货船准备装货船舶数量。

Area: US Gulf. The latest week update number for Supramax with cargo loading intention.

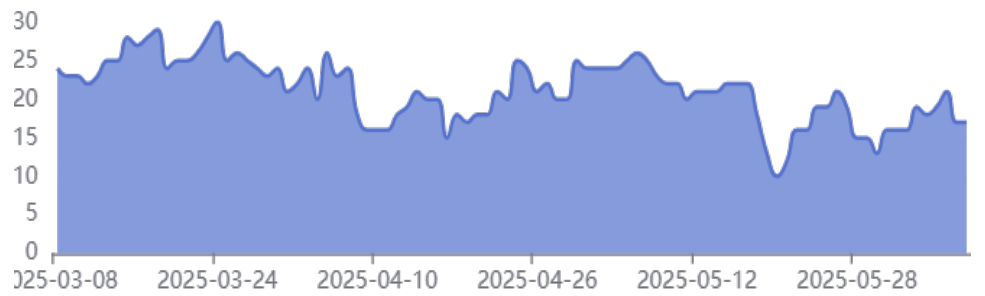
Type	M	T	W	Th	F	Sat	Sun
SMX	16	19	18	19	21	17	17



区域：南美的北部和东部。最近一周超大灵便型散货船准备装货船舶数量。

Area: South America. The latest week update number for Supramax with cargo loading intention.

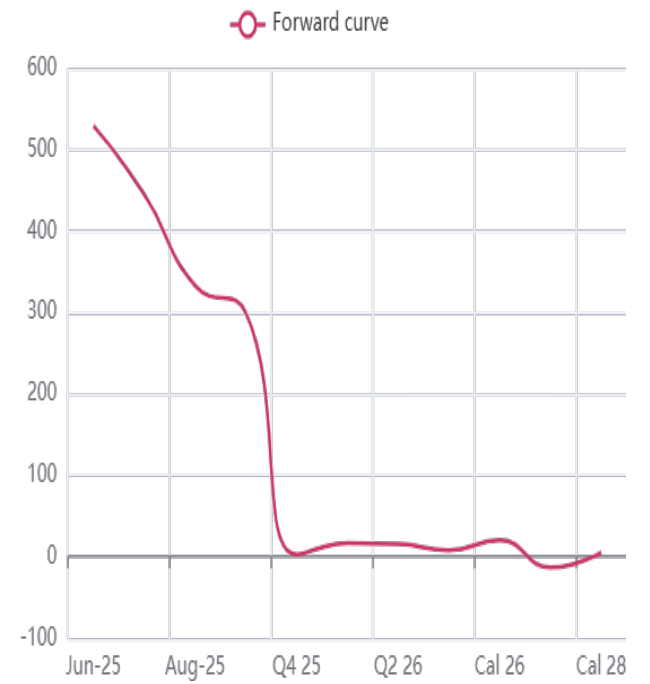
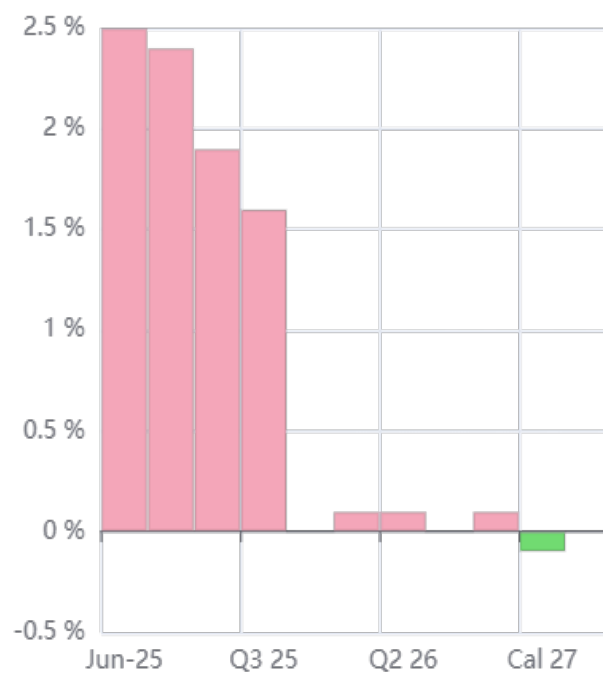
Type	M	T	W	Th	F	Sat	Sun
SMX	95	93	83	85	85	77	77



第五部分 远期运价协议 FFA

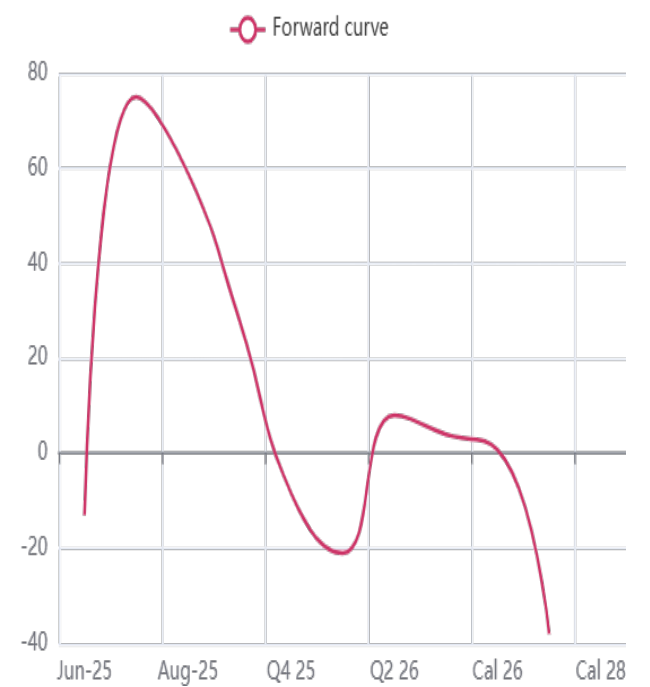
好望角型散货船Capesize

5TC	\$/day	WoW	
Jun-25	21,917.00	529.0	2.5 %
Jul-25	18,858.00	445.0	2.4 %
Aug-25	17,625.00	333.0	1.9 %
Q3 25	18,558.33	299.67	1.6 %
Q4 25	19,356.00	3.0	0.0 %
Q1 26	12,163.00	17.0	0.1 %
Q2 26	17,179.00	16.0	0.1 %
Q3 26	20,521.00	8.0	0.0 %
Cal 26	17,722.00	20.75	0.1 %
Cal 27	18,625.00	-13.0	-0.1 %
Cal 28	18,538.00	5.0	0.0 %



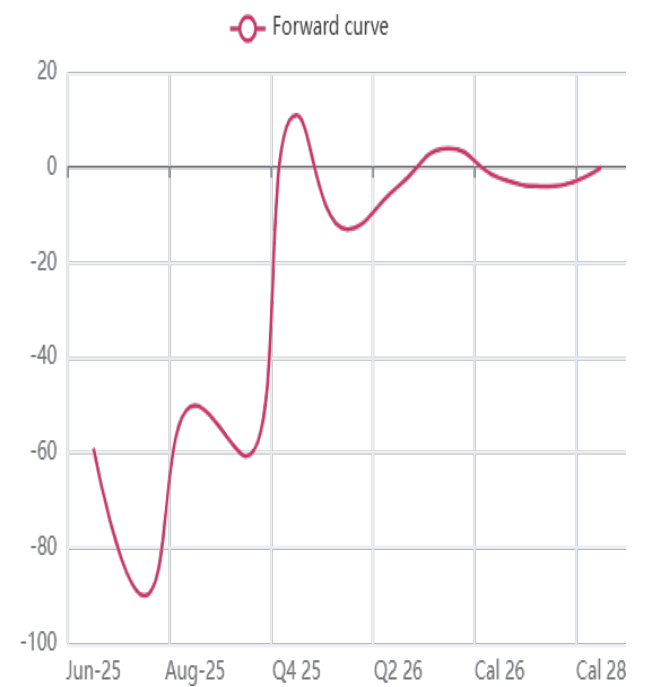
巴拿马型散货船Panamax

4TC	\$/day	WoW	
Jun-25	9,775.00	-13.0	-0.1 %
Jul-25	9,817.00	75.0	0.8 %
Aug-25	9,892.00	59.0	0.6 %
Q3 25	10,011.33	28.0	0.3 %
Q4 25	10,090.33	-8.33	-0.1 %
Q1 26	8,446.00	-21.0	-0.2 %
Q2 26	10,379.00	8.0	0.1 %
Q3 26	10,342.00	4.0	0.0 %
Cal 26	9,805.25	0.75	0.0 %
Cal 27	10,079.00	-38.0	-0.4 %
Cal 28	-	-	-



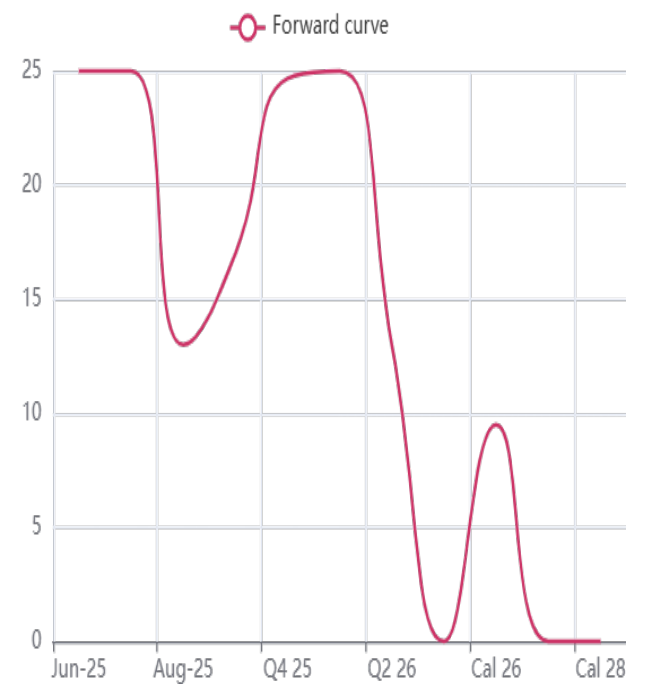
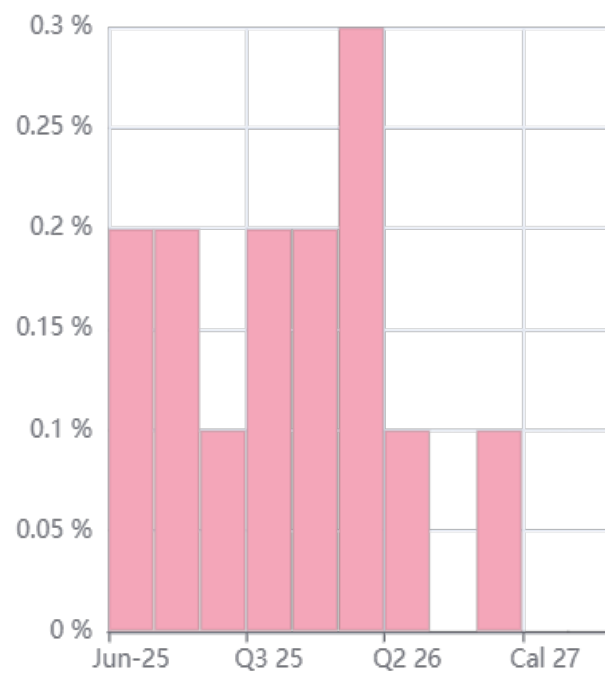
超大灵便型散货船Supramax

10TC	\$/day	WoW	
Jun-25	10,183.00	-59.0	-0.6 %
Jul-25	10,350.00	-90.0	-0.9 %
Aug-25	10,492.00	-50.0	-0.5 %
Q3 25	10,550.00	-60.67	-0.6 %
Q4 25	10,514.00	11.0	0.1 %
Q1 26	8,858.00	-13.0	-0.1 %
Q2 26	10,717.00	-4.0	0.0 %
Q3 26	10,725.00	4.0	0.0 %
10,191.75	Cal 26	-2.25	0.0 %
Cal 27	10,546.00	-4.0	0.0 %
Cal 28	10,842.00	0.0	0.0 %



灵便型散货船Handysize

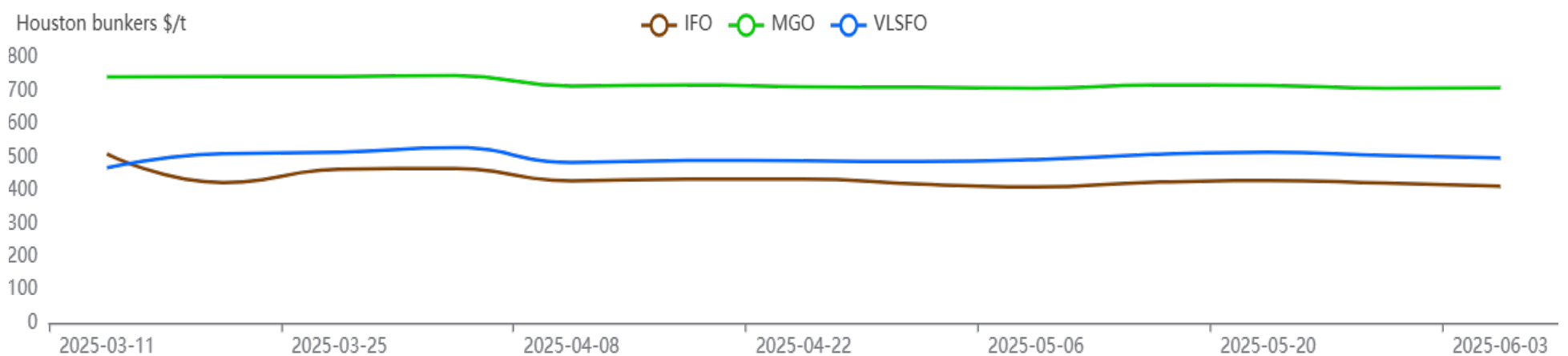
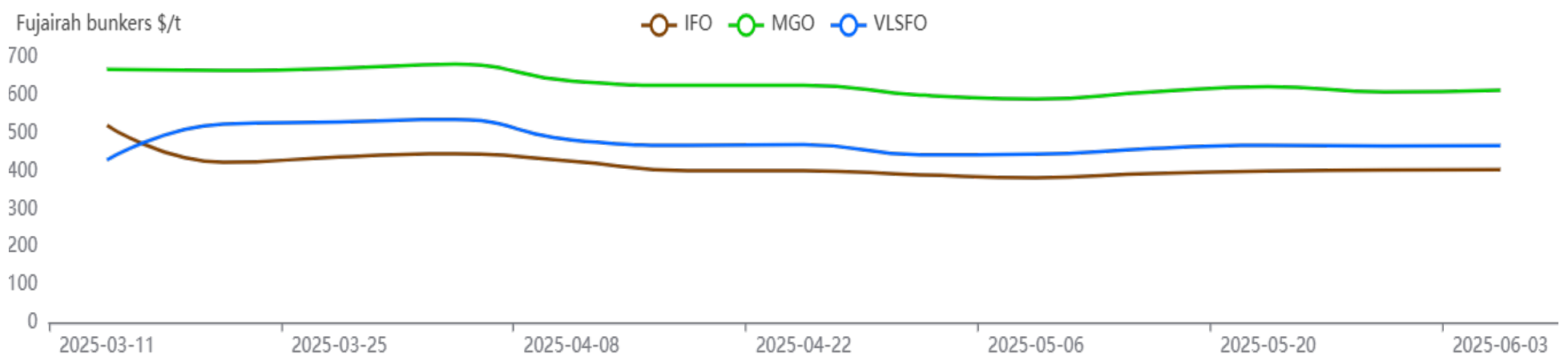
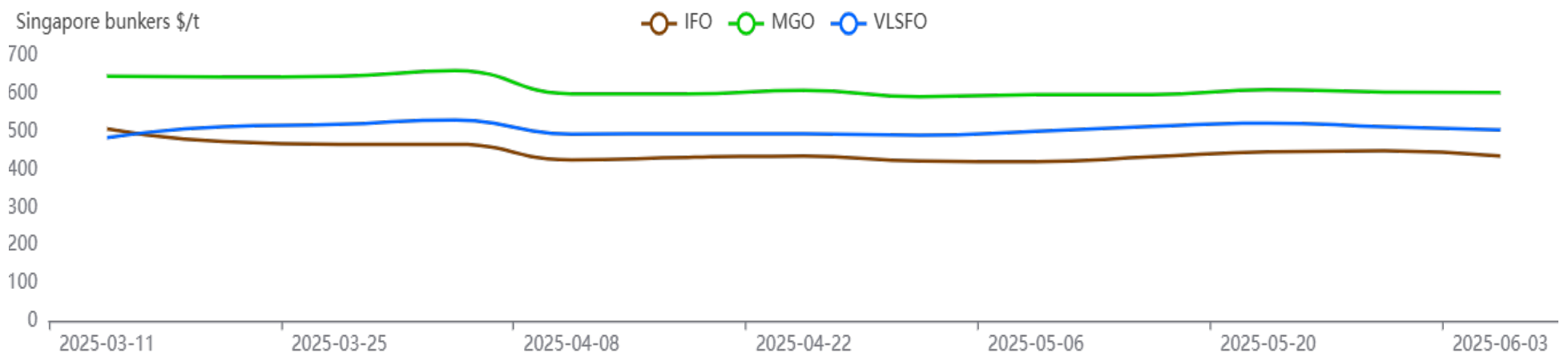
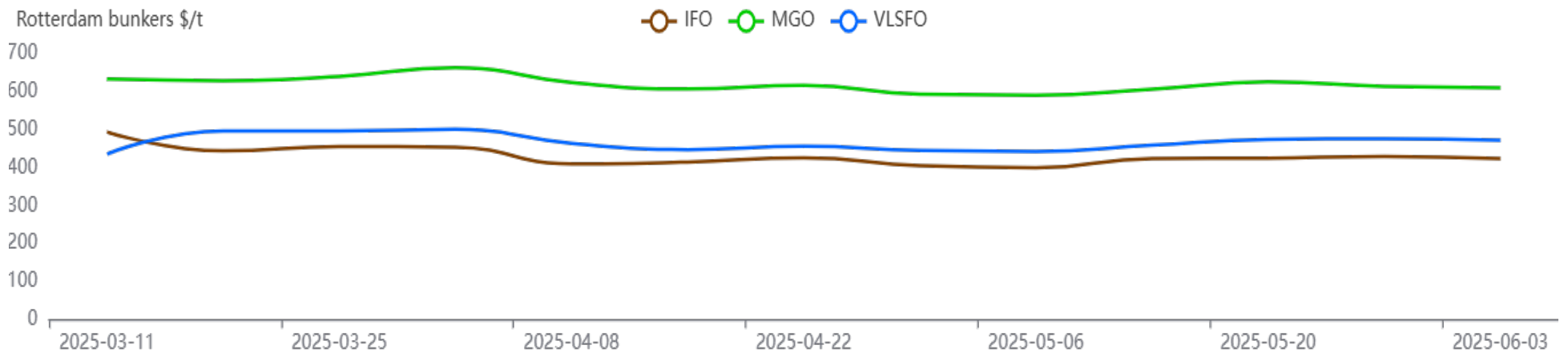
7TC	\$/day	WoW	
Jun-25	10,600.00	25.0	0.2 %
Jul-25	10,550.00	25.0	0.2 %
Aug-25	10,538.00	13.0	0.1 %
Q3 25	10,542.00	17.0	0.2 %
Q4 25	10,446.00	24.67	0.2 %
Q1 26	8,813.00	25.0	0.3 %
Q2 26	10,663.00	13.0	13.0
Q3 26	10,588.00	0.0	0.0 %
Cal 26	10,075.50	9.5	0.1 %
Cal 27	10,275.00	0.0	0.0 %
Cal 28	10,388.00	0.0	0.0 %



第六部分 燃油价格 BUNKER PRICE

MP	LO	HO	MO	SP	WoW	W%	M%
zhoushan	521.5	454.0	630.0	67.5	3.0	4.65	13.45
Singapore	505.0	436.0	603.5	69.0	5.5	8.66	-13.75
Rotterdam	472.0	423.5	610.0	48.5	1.5	3.19	14.12
Fujairah	468.0	404.5	614.5	63.5	0.5	0.79	2.42
Houston	498.5	413.0	709.0	85.5	2.0	2.4	3.64

(MP-Bunkering Main Ports; LO-Heavy Low Sulphur Fuel Oil; HO-Heavy High Sulphur Fuel Oil; MO-MGO; SP-Spread;)



第七部分 最新商品价格 LATEST COMMODITIES PRICE

Grains and Oilseeds		Index	+/-	Weekly	Monthly	YTD
Wheat		202.0	0.0	0.0	1.0	-9.42
Maize		221.0	-10.0	-4.33	-4.33	5.24
Soybeans		203.0	-3.0	-1.46	0.0	-12.5
Rice		174.0	0.0	0.0	-1.69	-32.56
Barley		222.0	-9.0	-3.9	-4.31	-2.63
Energy		Index	+/-	Weekly	Monthly	YTD
Crude Oil	USD/Bbl	62.67	1.36	2.22	7.31	-18.8
Brent	USD/Bbl	64.76	0.21	0.33	5.58	-20.35
Natural Gas	USD/MMBtu	3.69	0.43	13.19	1.1	43.02
Gasoline	USD/Gal	2.06	-0.05	-2.37	1.48	-14.88
Heating Oil	USD/Gal	2.05	-0.04	-1.91	3.54	-14.23
Ethanol	USD/Gal	1.75	-0.05	-2.78	1.74	-3.85
Naphtha	USD/T	531.13	-15.09	-2.76	0.56	-19.78
Propane	USD/Gal	0.74	-0.01	-1.33	4.23	5.71
Uranium	USD/Lbs	71.9	0.35	0.49	2.57	-18.85
Methanol	CNY/T	2272.0	31.0	1.38	-1.77	-13.78
TTF Gas	EUR/MWh	35.44	-1.35	-3.67	2.55	2.31
UK Gas	GBP/thm	82.77	-4.99	-5.69	-0.45	-0.22
Industrial		Index	+/-	Weekly	Monthly	YTD
Copper	USD/Lbs	4.72	-0.01	-0.21	3.51	2.61
Coal	USD/T	105.35	4.95	4.93	6.68	-26.79
Steel	CNY/T	2931.0	-102.0	-3.36	-4.47	-16.71
Iron Ore	USD/T	95.95	-3.86	-3.87	-3.4	-18.35
Aluminum	USD/T	2452.05	0.0	0.0	0.48	-7.56
Lithium	CNY/T	60300.0	-1700.0	-2.74	-7.59	-42.84
Metals		Index	+/-	Weekly	Monthly	YTD
Gold	USD/t.oz	3360.88	54.49	1.65	0.4	44.43
Silver	USD/t.oz	34.24	1.18	3.57	5.55	12.63
Platium	null	1050.9	-26.6	-2.47	8.05	N/A
Currencies		Index	+/-	Weekly	Monthly	YTD
EUR/USD		1.14	0.01	0.88	0.88	5.56
USD/CNY		7.19	0.0	0.0	-0.69	-0.96

第八部分 本周话题 WEEKLY TOPIC



海上散货煤炭运输安全

2023年，一艘悬挂方便旗的散货船在距离美国弗吉尼亚州海岸约100海里处遭遇连续爆炸事故，引发国际航运界对煤炭运输安全的高度关注。据美国海岸警卫队（USCG）调查报告显示，该船正装载高挥发焦煤的货物，事故导致两个货舱严重破坏。初步调查表明，爆炸由货舱内积聚的甲烷气体形成爆炸性气体所致。事故调查中发现其他五个货舱内的甲烷浓度也已接近爆炸下限，对船员和船舶安全构成“直接威胁”。美国海岸警卫队指出，事故暴露出货物申报、通风管理、气体监测及货物整理等多环节的违规操作。

此次事件不仅造成经济损失，更凸显了煤炭海运中忽视国际规范可能引发的灾难性后果。结合《国际海运固体散装货物规则》（IMSBC CODE），简单解析运输煤炭时防范爆炸事故的关键措施。

首先严格履行货物申报义务，根据IMSBC CODE（2022版）第4节货物信息要求，托运人必须提供完整的货物特性声明，包括货物的化学性质、潜在危险（如甲烷释放风险）及运输条件。此次事故中，因申报未披露煤炭的甲烷生成特性，导致船舶未能采取针对性预防措施。合规要点，托运人需在申报中明确煤炭类型（如高挥发焦煤）、自燃倾向、气体释放风险等

关键信息；船方应核实申报内容与货物实际特性的一致性，必要时要求独立检测报告；若货物行为与申报不符（如途中突发气体释放），船员须立即通知托运人并启动应急预案。

再是科学管理货舱通风系统，IMSBC CODE第9.3节规定，对可能释放可燃气体的货物（如某些煤炭），必须实施持续或定期通风，以维持货舱内气体浓度低于爆炸下限（LEL）。本次事故中，货舱通风不足直接导致甲烷积聚。根据货物特性选择自然通风或机械强制通风，确保气流均匀覆盖货物表面；安装气体检测装置并制定检测计划，高风险货物需提高监测频率；当爆炸性气体接近LEL时，立即启动强化通风并隔离货舱。

同时系统科学实施气体监测与记录。IMSBC CODE附录2要求，运输易释放气体的货物时，船方需配备经认证的气体检测设备，并定期记录货舱环境数据。此次事件中，气体采样频率不足导致未能及时发现风险。确保检测仪器精度，定期校验传感器；在货舱不同高度（顶部、中部、底部）采集气体样本，避免“死角”；监测结果应实时录入船舶日志，异常情况需立即通报船长及岸基管理部门。

最后规范货物装载与整理操作。IMSBC CODE第5节强调，货物装载后需进行平整处理（Trimming），以减少空隙并抑制气体扩散。该涉事船舶因未妥善整理货物，形成气体积聚空间，加剧爆炸风险。根据货舱结构设计装载顺序，避免局部堆积过高；使用推土机或滑板确保货物表面平整，消除孔隙；对易氧化煤炭洒水雾（需符合环保要求），抑制甲烷生成。

强化船员培训与应急演练更不可少。IMSBC CODE第7.2节要求船员接受货物特性及应急程序培训。美国海岸警卫队在报告中特别指出，船员需具备识别货物异常行为的能力，并与托运人保持动态沟通。学习煤炭自燃、气体释放的早期征兆（如温度升高、异味）；定期演练货舱隔离、全员撤离、灭火系统启动等流程；建立与托运人、港口当局的实时信息共享机制。

In 2023, a bulk carrier flying a flag of convenience suffered a series of explosions about 100 nautical miles off the coast of Virginia, United States, causing the international shipping community to pay high attention to the safety of coal transportation. According to the US Coast Guard (USCG) investigation report, the ship was carrying a cargo of highly volatile coking coal, and the accident caused severe damage to two cargo holds. Preliminary investigations indicate that the explosion was caused by the formation of explosive gas from methane gas that had accumulated in the cargo hold. The investigation found that methane concentrations in five other cargo holds were close to the lower explosive limit, posing a "direct threat" to crew and ship safety. The U.S. Coast Guard said the accident exposed multiple violations in cargo declaration, ventilation management, gas monitoring and cargo sorting.

The incident not only caused economic damage, but also highlighted the disastrous consequences of ignoring international norms in the shipping of coal. Combined with the International Maritime Solid Bulk Cargo CODE (IMSBC CODE), the key measures to prevent explosion accidents when transporting coal are briefly analyzed.

According to the cargo information requirements in Section 4 of the IMSBC CODE (Version 2022), shippers must provide a complete declaration of the characteristics of the cargo, including the chemical properties of the cargo, potential hazards (such as the risk of methane release) and transport conditions. In this case, because the declaration did not disclose the methane generation characteristics of the coal, the ship failed to take targeted preventive measures. Key points of compliance, shippers need to clarify the type of coal (such as high-volatile coking coal), spontaneous combustion tendency, gas release risk and other key information in the declaration; The ship shall verify the consistency of the declared content with the actual characteristics of the goods, and request an independent inspection report if necessary; If the behavior of the cargo does not conform to the declaration (such as sudden gas release in transit), the crew shall immediately notify the shipper and activate an emergency plan.

Section 9.3 of the IMSBC CODE stipulates that cargo that may release flammable gases (such as certain coal) must be ventilated continuously or regularly to maintain the gas concentration in the cargo hold below the lower explosive limit (LEL). In this case, insufficient ventilation in the cargo hold led to a buildup of methane. Choose natural ventilation or mechanical forced ventilation according to the characteristics of the goods to ensure that the air evenly covers the surface of the goods; Install gas detection devices and develop testing plans. High-risk goods need to increase the monitoring frequency; When explosive gases approach the LEL, immediately activate enhanced ventilation and isolate the cargo hold.

At the same time, gas monitoring and recording are systematically implemented. Appendix 2 of the IMSBC CODE requires that when transporting goods that are prone to release gas, the ship must be equipped with certified gas detection equipment and regularly record the environmental data in the cargo hold. In this case, insufficient gas sampling frequency led to the failure to detect the risk in a timely manner. Ensure the accuracy of the measuring instrument and check the sensor regularly; Collect gas samples at different heights (top, middle, bottom) in the cargo hold to avoid "dead corners"; The monitoring results shall be recorded in the ship's log in real time, and the captain and the shore-based management department shall be notified of any abnormal situation immediately.

Finally, the cargo loading and finishing operations are regulated. Section 5 of IMSBC CODE emphasizes that Trimming needs to be implemented after cargo loading to reduce voidage and inhibit gas diffusion. The ship involved did not properly arrange the cargo, forming a space for gas accumulation and increasing the risk of explosion. Design the loading sequence according to the structure of the cargo hold to avoid excessive local accumulation; Use a bulldozer or skateboard to ensure that the surface of the goods is smooth and eliminate pores; Spray water mist on easily oxidized coal (to meet environmental requirements) to inhibit methane generation.

Strengthening crew training and emergency drills is indispensable. Section 7.2 of the IMSBC CODE requires crew to be trained in cargo characteristics and emergency procedures. In particular, the U.S. Coast Guard noted in its report that crews need to have the ability to identify abnormal cargo behavior and maintain dynamic communication with shippers. Learn the early signs of spontaneous coal combustion, gas release (e.g., temperature rise, odor); Regularly rehearse the process of cargo hold isolation, full crew evacuation, fire extinguishing system start-up, etc. Establish real-time information sharing mechanism with shippers and port authorities.

