United States Department of Agriculture

Grain Transportation Report

A weekly publication of the Agricultural Marketing Service
www.ams.usda.gov/GTR

February 9, 2023

Contents

The next release is February 16, 2023

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WEEKLY HIGHLIGHTS

CHS Announces Plans for a New Grain Shuttle Facility in South Dakota

On January 20, CHS Inc. announced plans to build a new grain shuttle facility in southeast South Dakota. The new 1.1-million-bushel grain facility will be located near an existing rail loop operated by BNSF with market access to Pacific Northwest export facilities and grain markets. According to CHS (as reported to *Brownfield Ag News*), at the new facility, three to four people will be able to load a train in 6 to 8 hours, which nearly halves the time of nearby shuttle facilities. According to the Freight Analysis Framework, South Dakota shipped 11.6 million tons of grain by rail in 2020. The top destinations for these shipments included shipments within the State (6.2 million tons), Illinois (2.5 million tons), Washington (1.5 million tons), and California (0.9 million tons). Bids/offers for the delivery of shuttle cars have fallen in recent weeks (**GTR figs. 3**, **4**, and **5**) and are below the 3-year average.

FHWA Funds Four "Nationally Significant" Bridge Projects

The U.S. Department of Transportation's Federal Highway Administration (FHWA)—through its first round of Large Bridge Project Grants of the competitive Bridge Investment Program (BIP)—recently funded four bridge projects, at least two of which should facilitate the fluid transport of grain. In Covington, KY, $1.385 billion in BIP funding will be used to rehabilitate and reconfigure the existing Brent Spence Bridge. Currently, the bridge is the Nation's second-worst truck bottleneck, and the overhaul is expected to improve interstate and local traffic flow between the communities on either side of the Ohio River. In Chicago, IL, $144 million in BIP funding will rehabilitate four bridges over the Calumet River, which connects Lake Michigan with the Lake Calumet Port District. The Lake Calumet Port District, in turn, connects to the Illinois River, a major tributary of the Mississippi River. Rehabilitating these bridges ensures the bridges continue to allow barge and ship traffic to access the Illinois International Port and beyond. According to Freight Analysis Framework data, over 994,000 tons of cereal grain and animal feed was shipped by truck between Ohio and Kentucky in 2017.

Two Largest Ocean Carriers Dissolve Alliance

On January 25, MSC and Maersk, the two largest ocean carriers announced they have agreed to terminate their pact known as the 2M vessel-sharing alliance effective January 2025. Under the agreement signed in 2015, the alliance on east-west services was for a minimum of 10 years with a 2-year notice period for termination. Combined, MSC and Maersk serve about 17 percent of the global container shipping market. Analysts differ on how the alliance's termination will affect shipping capacity: some analysists think the termination could lead to lower shipping costs, and others believe it will have no effect on costs.

Iowa Extends Overweight Limits for Transportation of Grain, Fertilizer, and Manure Transportation

The Iowa governor has extended through February 19 the harvest-time proclamation that suspends weight limits for vehicles transporting grain, fertilizer, and manure. The harvest proclamation allows vehicles to be overweight without a permit (not exceeding 90,000 pounds gross weight) when they are transporting corn, soybeans, hay, straw, silage, stover, fertilizer (dry, liquid, and gas), and manure (dry and liquid).

Snapshots by Sector

Export Sales

For the week ending January 26, **unshipped balances** of wheat, corn, and soybeans for marketing year (MY) 2022/23 totaled 28.95 million metric tons (mmt), down 26 percent from the same time last year and down 2 percent from last week. Net **corn export sales** for MY 2022/23 were 1.593 mmt, up 75 percent from last week. Net **soybean export sales** were 0.736 mmt, down 36 percent from last week. Net weekly **wheat export sales** were 0.136 mmt, down 73 percent from last week.

Rail

U.S. Class I railroads originated 24,811 **grain carloads** during the week ending January 28. This was a 13-percent increase from the previous week, unchanged from last year, and unchanged from the 3-year average.

Average February **shuttle secondary railcar bids/offers** (per car) were $234 below tariff for the week ending February 2. This was $5 less than last week and $905 lower than this week last year.

Barge

For the week ending February 4, **barged grain movements** totaled 568,625 tons. This was 9 percent lower than the previous week and 2 percent lower than the same period last year.

For the week ending February 4, 375 grain barges **moved down river**—27 fewer than last week. There were 697 grain barges **unloaded** in the New Orleans region, 10 percent fewer than last week.

Ocean

For the week ending February 2, 26 **oceangoing grain vessels** were loaded in the Gulf—26 percent fewer than the same period last year. Within the next 10 days (starting February 3), 47 vessels were expected to be loaded—4 percent more than the same period last year.

As of February 2, the rate for shipping a metric ton (mt) of grain from the U.S. Gulf to Japan was $50.50. This is 3 percent less than the previous week. The rate from the Pacific Northwest to Japan was $28.25 per mt, unchanged from the previous week.

Fuel

For the week ending February 6, the U.S. average **diesel fuel price** decreased 8.3 cents from the previous week to $4.539 per gallon, 58.8 cents above the same week last year.

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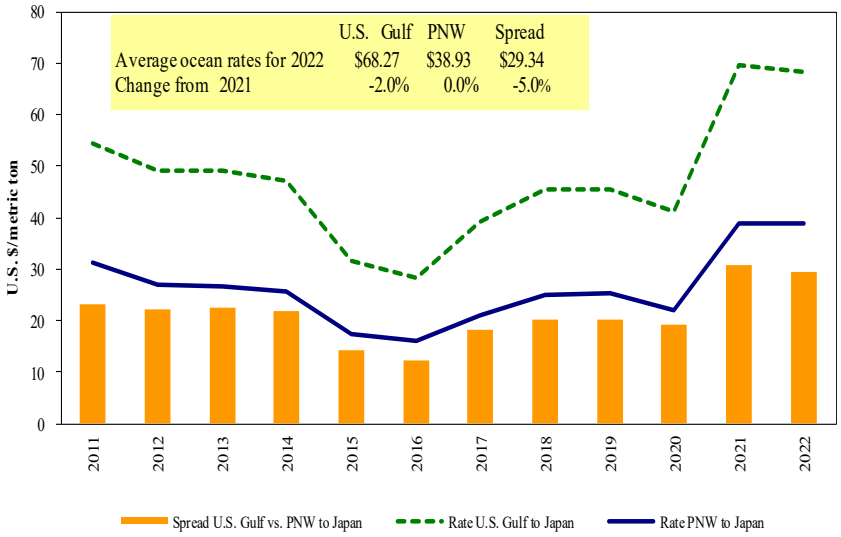
Feature Article/Calendar

Bulk Ocean Freight Rates: Review of 2022 and Early 2023

Ocean freight rates for shipping bulk items, including grain, fluctuated throughout 2022. Prominent downward pressures on ocean freight rates came from weak cargo demand from a China strained by COVID-19 and low vessel demand due to extreme weather in China and Europe. Major upward pressures on ocean freight rates came from economic uncertainty from Russia's invasion of Ukraine and worldwide inflation. Although ocean freight rates fell from third quarter to fourth quarter 2022 (quarter to quarter), changes in average yearly rates varied for major grain routes.

In 2022, the average ocean freight rate for shipping bulk grain from the U.S. Gulf to Japan was $68.27 per metric ton (mt)—2 percent less than in 2021. The rate from the Pacific Northwest (PNW) to Japan was $38.93—relatively unchanged from 2021. The spread—or difference between the U.S. Gulf- and PNW-to-Japan rates—averaged $29.34 per mt, 5 percent below 2021 (fig. 1). The cost of shipping grain from the U.S. Gulf to Europe was $30.12 per mt—19 percent more than in 2021. This article examines, in detail, the factors behind 2022's quarterly rate fluctuations and also looks at January and early February 2023.

Figure 1. Grain vessel rates, United States to Japan.



Note: PNW = Pacific Northwest.

Source: O'Neil Commodity Consulting.

Ocean Rates in 2022

First quarter. Typically, first-quarter ocean freight rates fall with dips in trade activity due to various holidays, such as New Year and Chinese Lunar New Year holidays. From January through February, first quarter 2022 ocean freight rates fell, in accord with historical patterns. Then, in March, ocean freight rates uncharacteristically rose with the Russian invasion of Ukraine. Yet, despite this unexpected increase, first-quarter average ocean freight rates still trailed the previous quarter. The rates' decline from fourth quarter 2021 resulted from typically low seasonal market activity combined with eased congestion at Chinese ports (*Grain Transportation Report (GTR)*, April 28, 2022).

Second quarter. In second quarter 2022, ocean freight rates for shipping bulk commodities, including grain, rose in response to numerous challenges, including rising global inflation. In April, the war in Ukraine elevated ocean freight rates by creating new logistic obstacles at ports around the world. Also, in April, a rise in China's steel-production and steel-export activity helped to further drive up rates. In May, there occurred both an easing of pandemic-induced labor shortages in Australia and an easing of weather-related supply disruptions in Brazil. These more benign trade conditions were outweighed by an increased demand for iron ore imports by China, putting more upward pressure on ocean freight rates.

Further boosting rates, the bunker fuel prices of the world's 20 largest ports of very low sulfur fuel oil (International Maritime Organization grade 0.5 percent) averaged $949 per mt in May—up 4 percent from April and up 83 percent from May 2021. Although still relatively high, ocean freight rates fell slightly in June, as congestion eased in some Chinese ports. The rates might have fallen more had they not been buoyed by very strong coal trade to Europe and still high bunker fuel prices. The elevated coal trade reflected efforts to offset the losses of Russian gas—one effect of the ongoing Russia-Ukraine conflict (*GTR*, July 21, 2022).

Third quarter. Throughout third quarter 2022, ocean freight rates fell, as low trade activity in grain and minor bulk products persisted, demand for goods shrank, and bunker fuel prices fell. Lackluster trade activity resulted from several factors, including economic uncertainty triggered by the war in Ukraine, new COVID-19 cases in China, and extreme weather events. From typhoons in Asia to scorching heatwaves and drought in China and across Europe, natural disasters challenged agricultural and energy production sectors globally throughout the summer and into September (*GTR*, November 10, *2022*).

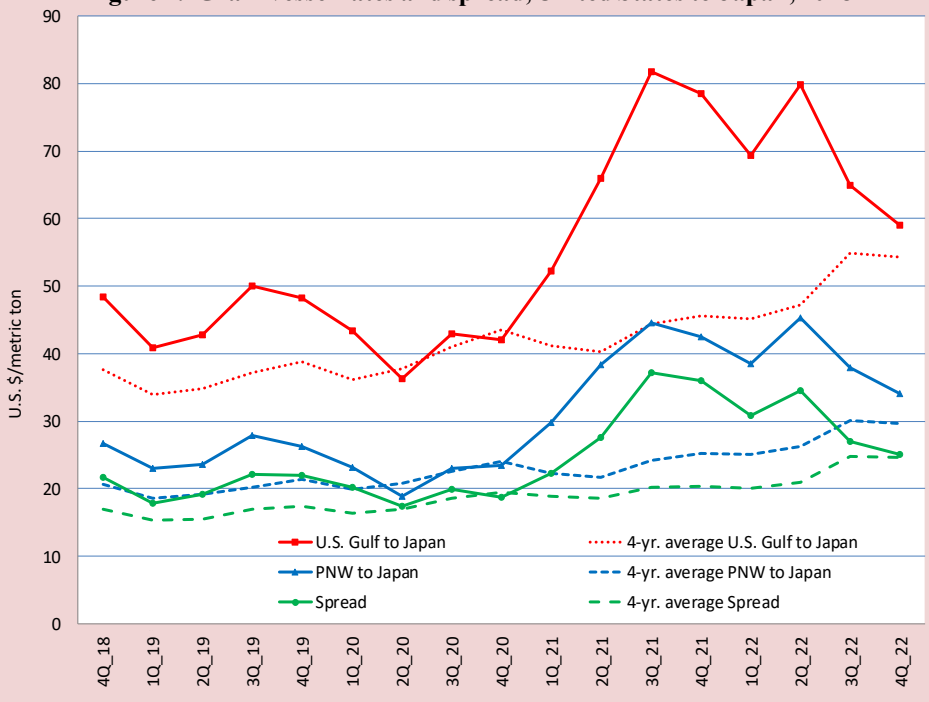
Table 1. Ocean freight rates for grain routes during fourth quarter 2022.

Route	Oct.	Nov.	Dec.	4th quarter 2022	Change from 3rd qtr. '22	Change from 4th qtr. '21	Change from 4-yr. avg.
	--$/mt--			--$/mt--	Percent		
U.S. Gulf to Japan	62.56	57.83	56.81	59.07	-9	-25	9
PNW to Japan	36.38	33.75	31.94	34.02	-10	-20	14
Spread	26.18	24.08	24.87	25.04	-7	-30	2
U.S. Gulf to Europe	29.75	28.83	28.94	29.17	-9	-3	31

Note: qtr. = quarter; avg = average; mt = metric ton; yr = year; PNW = Pacific Northwest.
Source: O'Neil Commodity Consulting.

Fourth quarter. Paralleling bunker fuel prices, ocean freight rates rose in October 2022, but fell in November and December, causing fourth-quarter rates to fall below the previous quarter (table 1 and fig. 2). The fall was due in part to continued easing of congestion at ports. The dip also stemmed from low market activity during end-of-year holidays in 2022's final week, as well as from preparations for the upcoming Chinese Lunar New Year holiday.

Figure 2. Grain vessel rates and spread, United States to Japan, 2018-22



Note: Q = quarter; yr. = year; PNW = Pacific Northwest.
Source: O'Neil Commodity Consulting.

Current Market Analysis and Outlook

As of February 2, 2023, the rate for shipping 1 mt of grain from the U.S. Gulf to Japan was $50.50—7 percent less than the first available rate at the beginning of the year and 18 percent less than the same period in 2022. The rate from PNW to Japan was $28.25 per mt—7 percent less than the first available rate at the beginning of the year and 17 percent less than the same period in 2022. The currently low rates are partly due to a normal seasonal slump combined with an earlier-than-usual Chinese Lunar New Year celebration (January 22 to February 5). Although no one knows how long rates will stay flat, industry analysts predict rates will rise again following the recent reopening of the Chinese economy from COVID zero restrictions. *surajudeen.olowolayemo@usda.gov*

Grain Transportation Indicators

Table 1
Grain transport cost indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Non-Shuttle	Shuttle		Gulf	Pacific
02/08/23	305	327	249	333	224	200
02/01/23	310	333	263	372	230	200

[1]Indicator: Base year 2000 = 100. Weekly updates include truck = diesel ($/gallon); rail = near-month secondary rail market bid and monthly tariff rate with fuel surcharge ($/car); barge = Illinois River barge rate (index = percent of tariff rate); ocean = routes to Japan ($/metric ton); n/a = not available due to holiday.
Source: USDA, Agricultural Marketing Service.

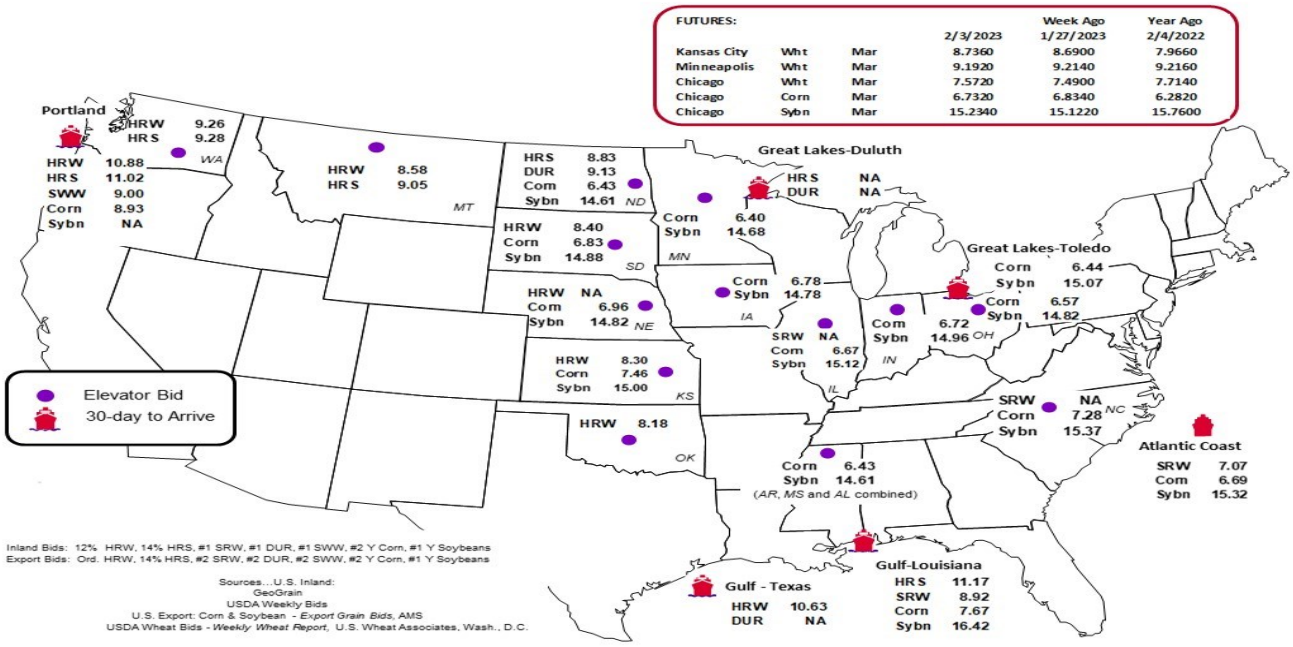
Table 2
Market Update: U.S. origins to export position price spreads ($/bushel)

Commodity	Origin–destination	2/3/2023	1/27/2023
Corn	IL–Gulf	-1.00	-1.09
Corn	NE–Gulf	-0.71	-0.78
Soybean	IA–Gulf	-1.64	-1.80
HRW	KS–Gulf	-2.33	-2.33
HRS	ND–Portland	-2.19	-2.19

Note: nq = no quote; n/a = not available; HRW = hard red winter wheat; HRS = hard red spring wheat.
Source: USDA, Agricultural Marketing Service.

The **grain bid summary** illustrates the market relationships for commodities. Positive and negative adjustments in differential between terminal and futures markets, and the relationship to inland market points, are indicators of changes in fundamental market supply and demand. The map may be used to monitor market and time differentials.

Figure 1
Grain bid summary



Rail Transportation

Table 3

Class I rail carrier grain car bulletin (grain carloads originated)

For the week ending:	East		West			U.S. total	Canada	
1/28/2023	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,658	2,913	12,442	1,507	6,291	24,811	5,512	4,637
This week last year	2,085	2,084	13,306	1,511	5,938	24,924	4,099	3,583
2023 YTD	8,261	11,943	47,303	5,293	24,123	96,923	21,915	19,772
2022 YTD	7,363	9,385	46,701	5,678	25,440	94,567	13,914	13,742
2023 YTD as % of 2022 YTD	112	127	101	93	95	102	158	144
Last 4 weeks as % of 2022*	112	127	101	93	95	102	158	144
Last 4 weeks as % of 3-yr. avg.**	105	114	99	110	102	103	131	124
Total 2022	93,313	130,282	570,232	66,338	296,945	1,157,110	214,443	214,010

*The past 4 weeks of this year as a percent of the same 4 weeks last year.

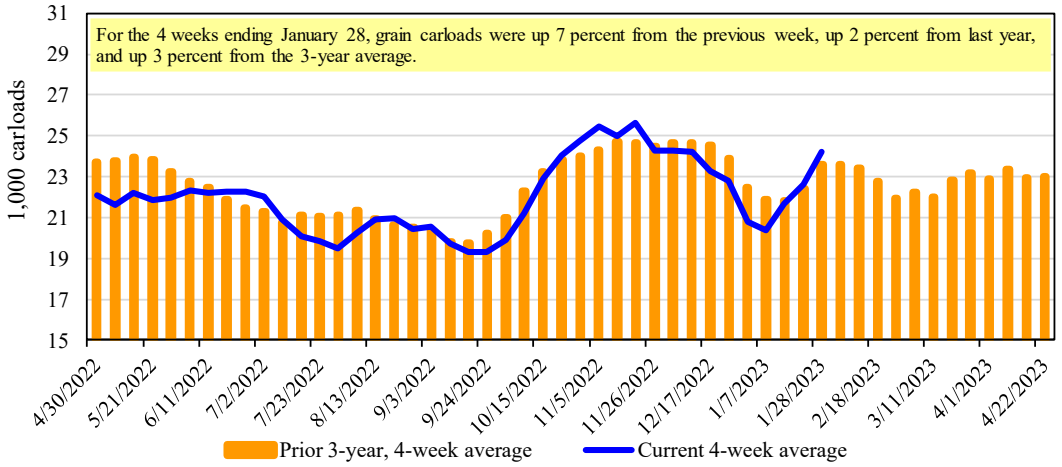
**The past 4 weeks as a percent of the same period from the prior 3-year average. YTD = year-to-date; avg. = average; yr. = year.

Note: NS = Norfolk Southern; KCS = Kansas City Southern; UP = Union Pacific; CN = Canadian National; CP = Canadian Pacific.

Source: Association of American Railroads.

Figure 2

Total weekly U.S. Class I railroad grain carloads



Source: Association of American Railroads.

Table 4

Railcar auction offerings[1] ($/car)[2]

For the week ending:		Delivery period							
2/2/2023		Feb-23	Feb-22	Mar-23	Mar-22	Apr-23	Apr-22	May-23	May-22
BNSF[3]	COT grain units	no offer	no bids	no offer	no bids	0	no bids	0	no bids
	COT grain single-car	no offer	0	no offer	0	55	0	117	no bids
UP[4]	GCAS/Region 1	no offer	no offer	no offer	no offer	no offer	no offer	n/a	n/a
	GCAS/Region 2	no offer	no offer	no offer	no offer	no offer	no offer	n/a	n/a

[1]Auction offerings are for single-car and unit train shipments only.

[2]Average premium/discount to tariff, last auction. n/a = not available.

[3]BNSF - COT = BNSF Railway Certificate of Transportation; north grain and south grain bids were combined effective the week ending 6/24/06.

[4]UP - GCAS = Union Pacific Railroad Grain Car Allocation System.

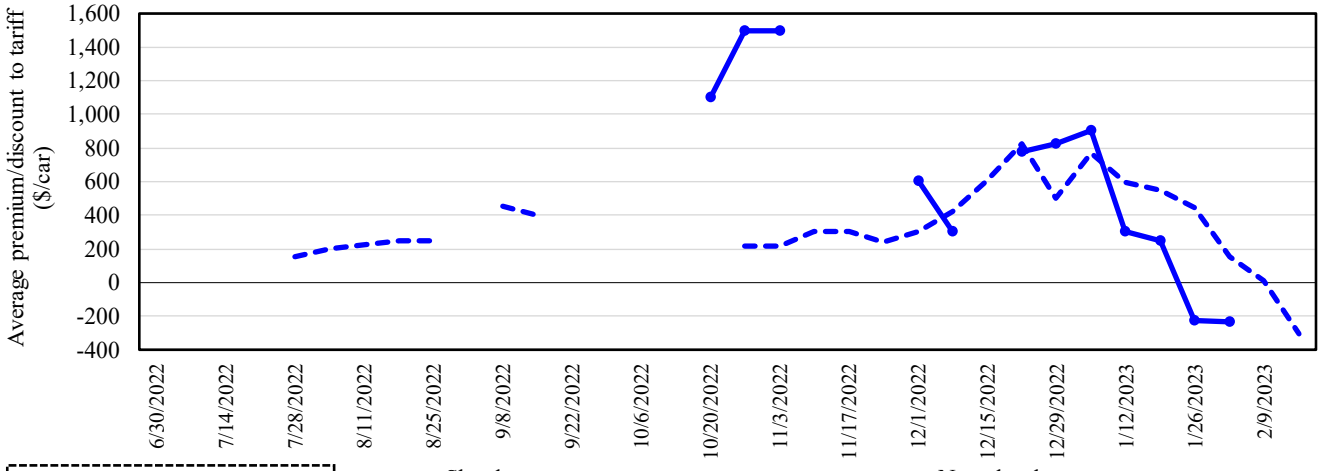
Region 1 includes: AR, IL, LA, MO, NM, OK, TX, WI, and Duluth, MN.

Region 2 includes: CO, IA, KS, MN, NE, WY, and Kansas City and St. Joseph, MO.

Source: USDA, Agricultural Marketing Service.

The **secondary rail market** information reflects trade values for service that was originally purchased from the railroad carrier as some form of guaranteed freight. The **auction and secondary rail** values are indicators of rail service quality and demand/ supply.

Figure 3
Secondary market bids/offers for railcars to be delivered in February 2023

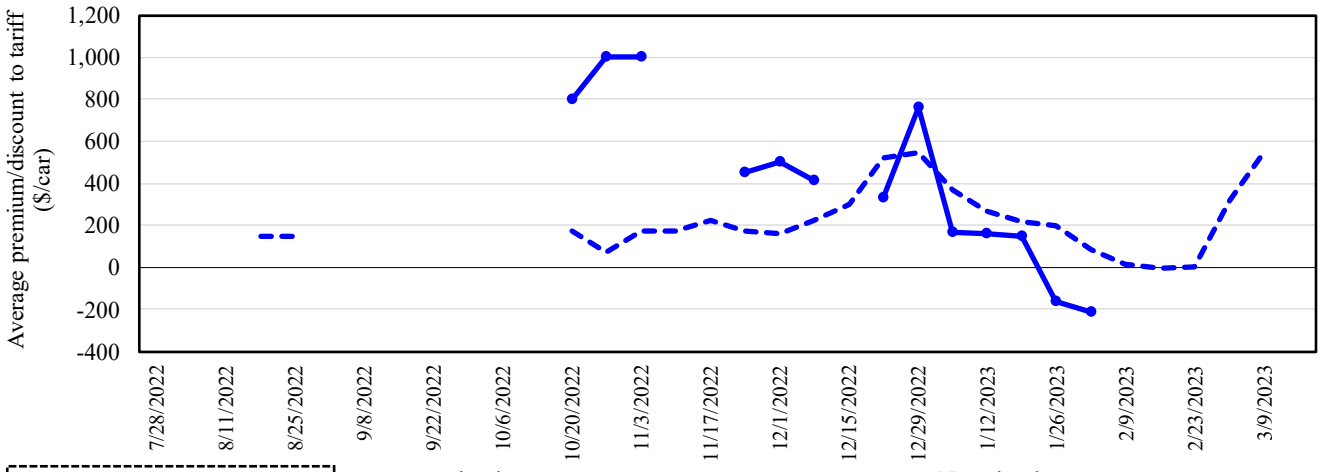


2/2/2023	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$213	-$256

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $5 this week and are $1,734 below the peak.

Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year; BNSF = BNSF Railway; UP = Union Pacific Railroad
Source: USDA, Agricultural Marketing Service.

Figure 4
Secondary market bids/offers for railcars to be delivered in March 2023



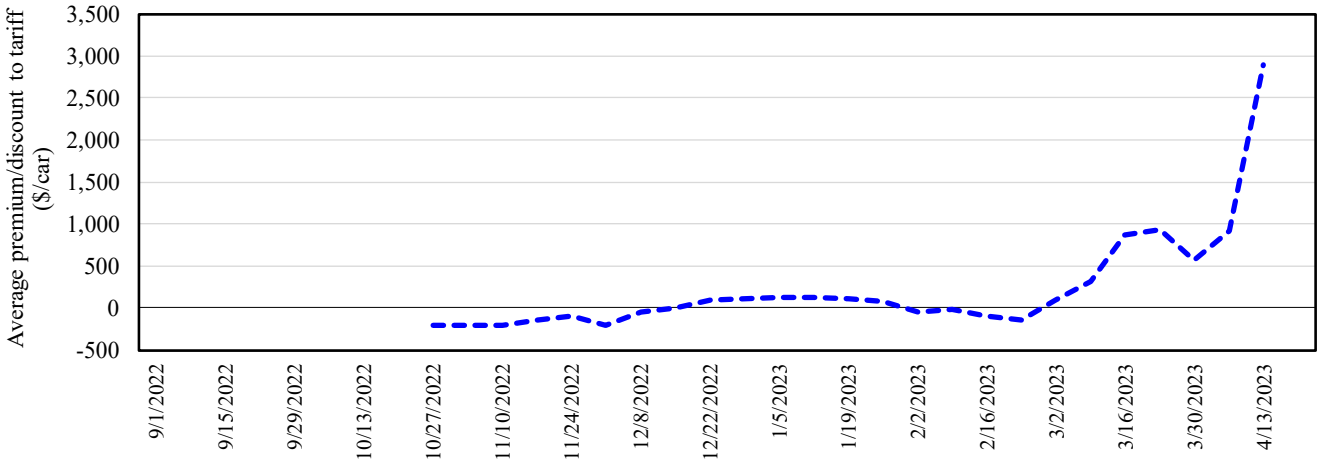
2/2/2023	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	-$200	-$225

There were no non-shuttle bids/offers this week.
Average shuttle bids/offers fell $50 this week and are $1,213 below the peak.

Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year; BNSF = BNSF Railway; UP = Union Pacific Railroad
Source: USDA, Agricultural Marketing Service.

Figure 5

Secondary market bids/offers for railcars to be delivered in April 2023



2/2/2023	BNSF	UP
Non-shuttle	n/a	n/a
Shuttle	n/a	n/a

There were no non-shuttle bids/offers this week.
There were no shuttle bids/offers this week.

Note: Non-shuttle bids include unit-train and single-car bids. n/a = not available; avg. = average; yr. = year; BNSF = BNSF Railway; UP = Union Pacific Railroad
Source: USDA, Agricultural Marketing Service.

Table 5

Weekly secondary railcar market ($/car)[1]

	For the week ending: 2/2/2023	Delivery period					
		Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23
Non-shuttle	**BNSF-GF**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	n/a	n/a	n/a	n/a	n/a	n/a
	Change from same week 2022	n/a	n/a	n/a	n/a	n/a	n/a
	UP-Pool	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	n/a	n/a	n/a	n/a	n/a	n/a
	Change from same week 2022	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	**BNSF-GF**	**(213)**	**(200)**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	(30)	(100)	n/a	n/a	n/a	n/a
	Change from same week 2022	(1,029)	(588)	n/a	n/a	n/a	n/a
	UP-Pool	**(256)**	**(225)**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	19	0	n/a	n/a	n/a	n/a
	Change from same week 2022	(781)	(825)	n/a	n/a	n/a	n/a

[1]Average premium/discount to tariff, $/car-last week.

Note: Bids listed are market indicators only and are not guaranteed prices. n/a = not available; GF = guaranteed freight; Pool = guaranteed pool; BNSF = BNSF Railway; UP = Union Pacific Railroad.

Data from James B. Joiner Co., Tradewest Brokerage Co.

Source: USDA, Agricultural Marketing Service.

The **tariff rail rate** is the base price of freight rail service. Together with **fuel surcharges** and any **auction and secondary rail** values, the tariff rail rate constitutes the full cost of shipping by rail. Typically, auction and secondary rail values are a small fraction of the full cost of shipping by rail relative to the tariff rate. However, during times of high rail demand or short supply, high auction and secondary rail values can exceed the cost of the tariff rate plus fuel surcharge.

Table 6

Tariff rail rates for unit and shuttle train shipments[1]

February 2023	Origin region[3]	Destination region[3]	Tariff rate/car	Fuel surcharge per car	Tariff plus surcharge per: metric ton	Tariff plus surcharge per: bushel[2]	Percent change Y/Y[4]
Unit train							
Wheat	Wichita, KS	St. Louis, MO	$3,695	$268	$39.36	$1.07	3
	Grand Forks, ND	Duluth-Superior, MN	$3,858	$110	$39.41	$1.07	8
	Wichita, KS	Los Angeles, CA	$7,490	$566	$80.00	$2.18	8
	Wichita, KS	New Orleans, LA	$4,600	$472	$50.36	$1.37	8
	Sioux Falls, SD	Galveston-Houston, TX	$7,226	$465	$76.37	$2.08	8
	Colby, KS	Galveston-Houston, TX	$4,850	$517	$53.29	$1.45	7
	Amarillo, TX	Los Angeles, CA	$5,121	$719	$58.00	$1.58	5
Corn	Champaign-Urbana, IL	New Orleans, LA	$4,000	$533	$45.02	$1.14	5
	Toledo, OH	Raleigh, NC	$8,551	$585	$90.72	$2.30	8
	Des Moines, IA	Davenport, IA	$2,655	$113	$27.49	$0.70	8
	Indianapolis, IN	Atlanta, GA	$6,593	$439	$69.83	$1.77	8
	Indianapolis, IN	Knoxville, TN	$5,564	$284	$58.08	$1.48	8
	Des Moines, IA	Little Rock, AR	$4,250	$332	$45.50	$1.16	9
	Des Moines, IA	Los Angeles, CA	$6,130	$966	$70.47	$1.79	10
Soybeans	Minneapolis, MN	New Orleans, LA	$3,856	$816	$46.39	$1.26	15
	Toledo, OH	Huntsville, AL	$7,037	$417	$74.02	$2.01	7
	Indianapolis, IN	Raleigh, NC	$7,843	$593	$83.77	$2.28	8
	Indianapolis, IN	Huntsville, AL	$5,689	$282	$59.29	$1.61	8
	Champaign-Urbana, IL	New Orleans, LA	$4,865	$533	$53.61	$1.46	8
Shuttle train							
Wheat	Great Falls, MT	Portland, OR	$4,393	$326	$46.86	$1.28	10
	Wichita, KS	Galveston-Houston, TX	$4,311	$253	$45.33	$1.23	2
	Chicago, IL	Albany, NY	$7,090	$552	$75.89	$2.07	9
	Grand Forks, ND	Portland, OR	$6,051	$562	$65.67	$1.79	10
	Grand Forks, ND	Galveston-Houston, TX	$5,399	$586	$59.43	$1.62	12
	Colby, KS	Portland, OR	$5,923	$847	$67.23	$1.83	4
Corn	Minneapolis, MN	Portland, OR	$5,660	$685	$63.01	$1.60	14
	Sioux Falls, SD	Tacoma, WA	$5,620	$627	$62.04	$1.58	13
	Champaign-Urbana, IL	New Orleans, LA	$4,170	$533	$46.70	$1.19	11
	Lincoln, NE	Galveston-Houston, TX	$4,360	$366	$46.93	$1.19	13
	Des Moines, IA	Amarillo, TX	$4,670	$417	$50.52	$1.28	9
	Minneapolis, MN	Tacoma, WA	$5,660	$679	$62.95	$1.60	14
	Council Bluffs, IA	Stockton, CA	$5,580	$703	$62.39	$1.58	14
Soybeans	Sioux Falls, SD	Tacoma, WA	$6,350	$627	$69.29	$1.89	12
	Minneapolis, MN	Portland, OR	$6,400	$685	$70.36	$1.91	13
	Fargo, ND	Tacoma, WA	$6,250	$558	$67.60	$1.84	12
	Council Bluffs, IA	New Orleans, LA	$5,095	$615	$56.70	$1.54	9
	Toledo, OH	Huntsville, AL	$5,277	$417	$56.54	$1.54	9
	Grand Island, NE	Portland, OR	$5,730	$868	$65.52	$1.78	14

[1] A unit train refers to shipments of at least 25 cars. Shuttle train rates are generally available for qualified shipments of 75-120 cars that meet railroad efficiency requirements.

[2] Approximate load per car = 111 short tons (100.7 metric tons): corn 56 pounds per bushel (lbs/bu), wheat and soybeans 60 lbs/bu.

[3] Regional economic areas are defined by the Bureau of Economic Analysis (BEA).

[4] Percentage change year over year (Y/Y) calculated using tariff rate plus fuel surcharge.

Source: BNSF Railway, Canadian National Railway, CSX Transportation, and Union Pacific Railroad.

Table 7

Tariff rail rates for U.S. bulk grain shipments to Mexico

Commodity	Origin state	Destination region	Tariff rate per car[1]	Fuel surcharge per car[2]	Tariff rate plus fuel surcharge per: metric ton[3]	bushel[3]	Percent change[4] Y/Y
Date: December 2021							
Wheat	MT	Chihuahua, CI	$7,699	$0	$78.67	$2.14	4
	OK	Cuautitlan, EM	$6,900	$230	$72.85	$1.98	6
	KS	Guadalajara, JA	$7,619	$719	$85.19	$2.32	7
	TX	Salinas Victoria, NL	$4,420	$138	$46.57	$1.27	4
Corn	IA	Guadalajara, JA	$9,102	$663	$99.77	$2.53	6
	SD	Celaya, GJ	$8,300	$0	$84.81	$2.15	2
	NE	Queretaro, QA	$8,322	$462	$89.75	$2.28	5
	SD	Salinas Victoria, NL	$6,905	$0	$70.55	$1.79	0
	MO	Tlalnepantla, EM	$7,687	$450	$83.14	$2.11	5
	SD	Torreon, CU	$7,825	$0	$79.95	$2.03	2
Soybeans	MO	Bojay (Tula), HG	$8,647	$614	$94.63	$2.57	5
	NE	Guadalajara, JA	$9,207	$646	$100.67	$2.74	5
	IA	El Castillo, JA	$9,510	$0	$97.17	$2.64	1
	KS	Torreon, CU	$8,109	$466	$87.61	$2.38	5
Sorghum	NE	Celaya, GJ	$7,932	$597	$87.15	$2.21	6
	KS	Queretaro, QA	$8,108	$287	$85.77	$2.18	3
	NE	Salinas Victoria, NL	$6,713	$231	$70.94	$1.80	3
	NE	Torreon, CU	$7,225	$438	$78.29	$1.99	6

[1]Rates are based upon published tariff rates for high-capacity shuttle trains. Shuttle trains are available for qualified shipments of 75-110 cars that meet railroad efficiency requirements.

[2]Fuel surcharge adjusted to reflect the change in Ferrocarril Mexicano, S.A. de C.V railroad fuel surcharge policy as of 10/01/2009.

[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu.

[4]Percentage change calculated using tariff rate plus fuel surchage; Y/Y = year over year.

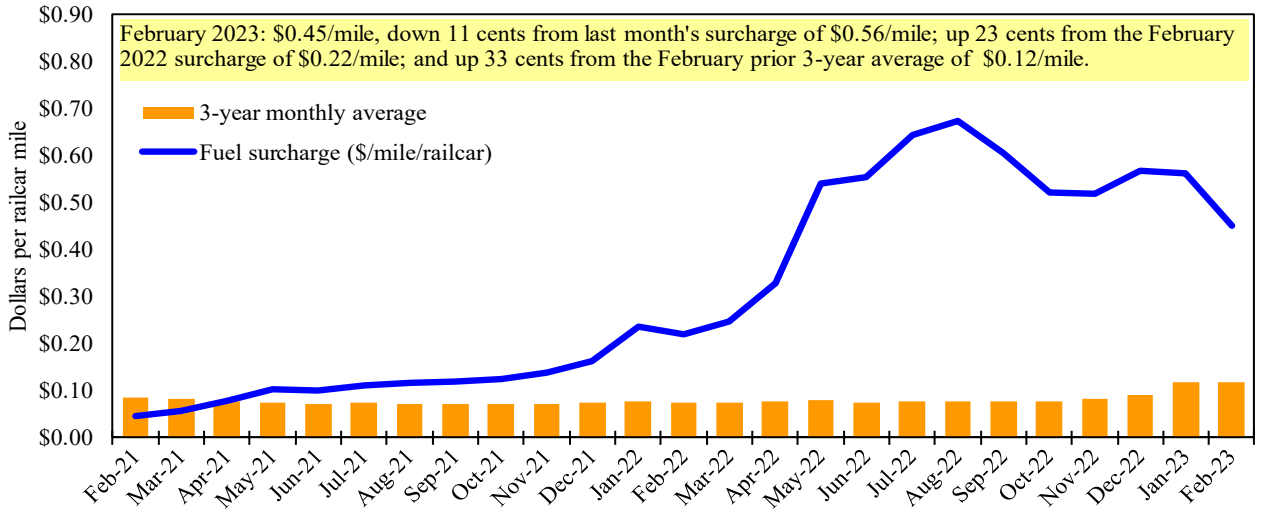
[5] As of January 1, 2022, both BNSF and Union Pacific changed their billing and reporting of rates to Mexico.

As we incorporate the change, Table 7 updates will be delayed.

Sources: BNSF Railway, Union Pacific Railroad, Kansas City Southern.

Figure 6

Railroad fuel surcharges, North American weighted average[1]

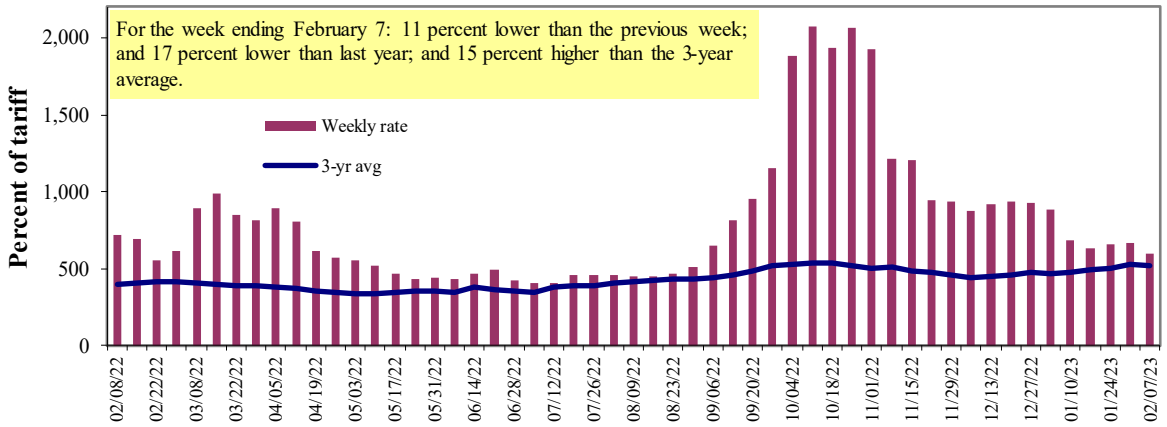


[1] Weighted by each Class I railroad's proportion of grain traffic for the prior year.

Sources: BNSF Railway, Canadian National Railway, CSX Transportation, Canadian Pacific Railway, Union Pacific Railroad, Kansas City Southern Railway, Norfolk Southern Corporation.

Barge Transportation

Figure 7
Illinois River barge freight rate[1,2]



[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average of the 3-year average.
Source: USDA, Agricultural Marketing Service.

Table 8
Weekly barge freight rates: Southbound only

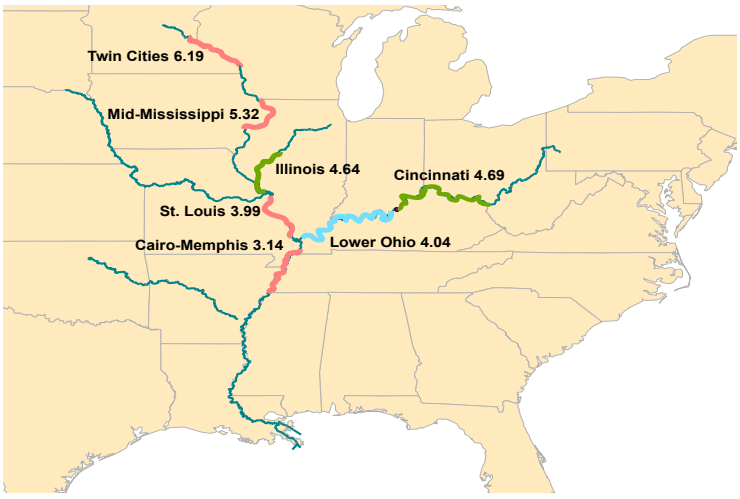
		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	2/7/2023	-	-	599	465	520	520	348
	1/31/2023	-	-	670	471	542	542	370
$/ton	2/7/2023	-	-	27.79	18.55	24.39	21.01	10.93
	1/31/2023	-	-	31.09	18.79	25.42	21.90	11.62
Current week % change from the same week:								
	Last year	-	-	-17	-26	-26	-26	-34
	3-year avg. [2]	-	-	15	14	18	18	-1
Rate[1]	March	-	583	566	428	470	470	342
	May	550	516	511	388	424	424	331

[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average; ton = 2,000 pounds; "-" data not available.
Source: USDA, Agricultural Marketing Service.

Figure 8
Benchmark tariff rates

Calculating barge rate per ton:
(Rate * 1976 tariff benchmark rate per ton)/100

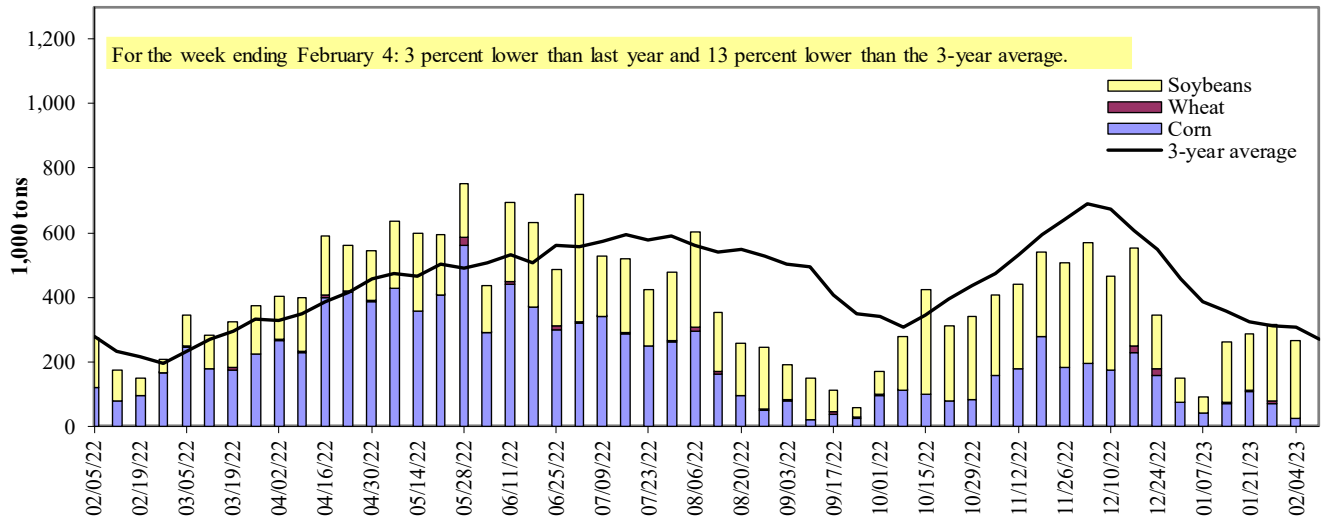
Select applicable index from market quotes are included in tables on this page. The 1976 benchmark rates per ton are provided in map.



Map Credit: USDA, Agricultural Marketing Service

Figure 9

Barge movements on the Mississippi River[1] (Locks 27 - Granite City, IL)



[1] The 3-year average is a 4-week moving average.

Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers.

Table 9

Barge grain movements (1,000 tons)

For the week ending 02/04/2023	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	0	0	0
Winfield, MO (L25)	0	0	0	0	0
Alton, IL (L26)	17	0	209	0	226
Granite City, IL (L27)	23	0	244	0	268
Illinois River (La Grange)	32	0	198	0	230
Ohio River (Olmsted)	79	11	189	0	278
Arkansas River (L1)	0	19	4	0	23
Weekly total - 2023	102	29	437	0	569
Weekly total - 2022	305	27	245	5	581
2023 YTD[1]	764	81	1,858	62	2,766
2022 YTD[1]	1,326	128	1,411	17	2,883
2023 as % of 2022 YTD	58	63	132	366	96
Last 4 weeks as % of 2022[2]	63	74	139	658	103
Total 2022	16,437	1,594	14,464	232	32,727

[1] Weekly total, YTD (year-to-date), and calendar year total include MI/27, OH/Olmsted, and AR/1; Other refers to oats, barley, sorghum, and rye. Total may not add exactly due to rounding.

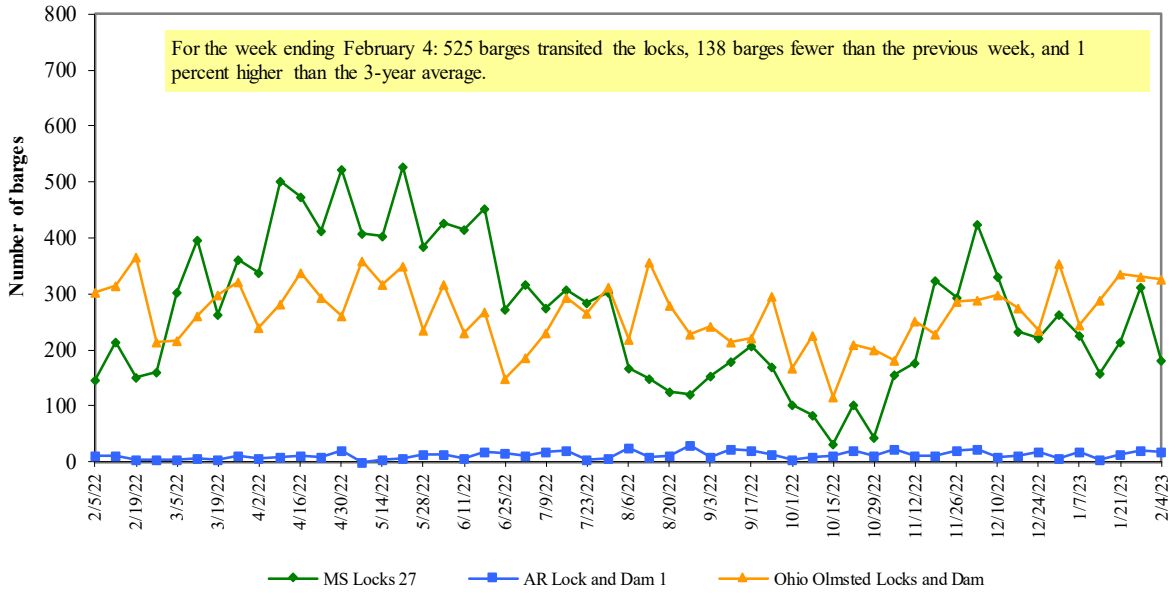
[2] As a percent of same period in 2022.

Note: L (as in "L15") refers to a lock, locks, or locks and dam facility. The U.S. Army Corps of Engineers has recently migrated its lock and vessel database database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers.

Figure 10

Upbound empty barges transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Olmsted Locks and Dam

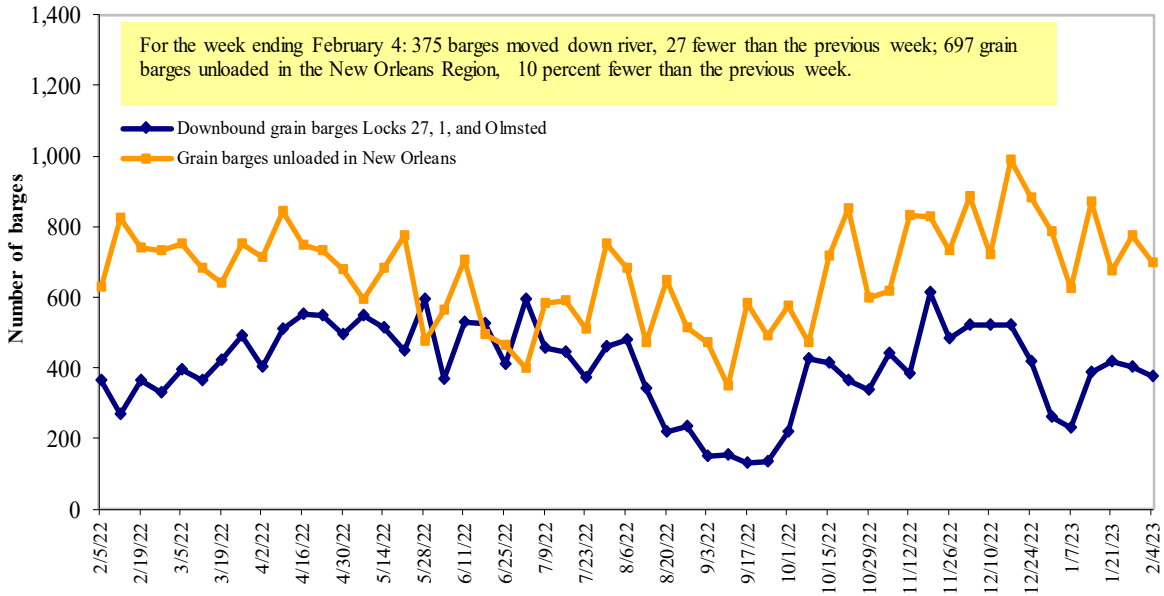


Note: The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers.

Figure 11

Grain barges for export in New Orleans region



Note: Olmsted = Olmsted Locks and Dam. The U.S. Army Corps of Engineers has recently migrated its lock and vessel database and has noted the latest data may be revised in coming weeks.

Source: U.S. Army Corps of Engineers and USDA, Agricultural Marketing Service.

Truck Transportation

The **weekly diesel price** provides a proxy for trends in U.S. truck rates as diesel fuel is a significant expense for truck grain movements.

Table 10

Retail on-highway diesel prices, week ending 2/6/2023 (U.S. $/gallon)

Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	4.752	-0.083	0.781
	New England	5.117	-0.012	1.170
	Central Atlantic	5.000	-0.057	0.902
	Lower Atlantic	4.624	-0.099	0.728
II	Midwest	4.378	-0.096	0.570
III	Gulf Coast	4.249	-0.102	0.519
IV	Rocky Mountain	4.741	-0.001	0.880
V	West Coast	5.086	-0.040	0.464
	West Coast less California	4.742	-0.052	0.492
	California	5.482	-0.026	0.533
Total	United States	4.539	-0.083	0.588

[1]Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

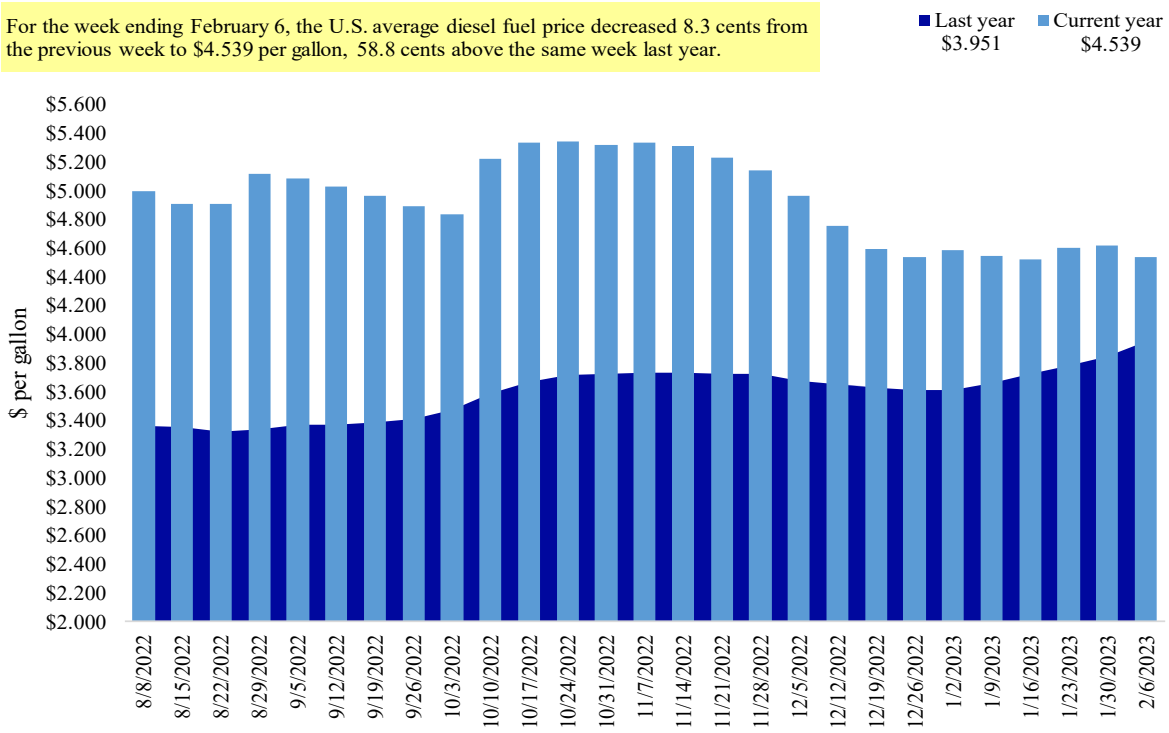
Note: On June 13, the Energy Information Administration implemented a new methodology to estimate weekly on-highway diesel fuel prices.

Source: U.S. Department of Energy, Energy Information Administration.

Figure 12

Weekly diesel fuel prices, U.S. average

For the week ending February 6, the U.S. average diesel fuel price decreased 8.3 cents from the previous week to $4.539 per gallon, 58.8 cents above the same week last year.



Note: On June 13, the Energy Information Administration implemented a new methodology to estimate weekly on-highway diesel fuel prices.

Source: U.S. Department of Energy, Energy Information Administration, Retail On-Highway Diesel Prices.

Grain Exports

Table 11

U.S. export balances and cumulative exports (1,000 metric tons)

	Wheat						Corn	Soybeans	Total
For the week ending	HRW	SRW	HRS	SWW	DUR	All wheat			
Export balances[1]									
1/26/2023	905	717	1,248	1,262	113	4,246	13,021	11,683	28,950
This week year ago	2,037	711	1,267	751	55	4,820	25,558	8,868	39,245
Cumulative exports-marketing year[2]									
2022/23 YTD	3,488	1,816	3,581	2,843	198	11,925	12,611	35,588	60,124
2021/22 YTD	4,815	1,848	3,366	2,300	113	12,443	19,566	36,295	68,304
YTD 2022/23 as % of 2021/22	72	98	106	124	175	96	64	98	88
Last 4 wks. as % of same period 2021/22	48	95	106	166	228	90	48	149	76
Total 2021/22	7,172	2,786	5,254	3,261	196	18,669	59,764	57,189	135,622
Total 2020/21	8,422	1,790	7,500	6,438	656	24,807	66,958	60,571	152,335

[1] Current unshipped (outstanding) export sales to date.

[2] Shipped export sales to date.

Note: marketing year: wheat = 6/01-5/31, corn and soybeans = 9/01-8/31. YTD = year-to-date; wks. = weeks; HRW= hard red winter; SRW = soft red winter; HRS= hard red spring; SWW= soft white wheat; DUR= durum.
Source: USDA, Foreign Agricultural Service.

Table 12

Top 5 importers[1] of U.S. corn

For the week ending 1/26/2023	Total commitments[2] 2022/23 current MY	Total commitments[2] 2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
		1,000 mt -		
Mexico	11,888	13,026	(9)	15,227
China	4,326	12,445	(65)	12,616
Japan	2,139	5,604	(62)	10,273
Columbia	867	2,760	(69)	4,398
Korea	211	78	170	2,563
Top 5 importers	**19,432**	**33,913**	(43)	**45,077**
Total U.S. corn export sales	**25,632**	**45,123**	(43)	**56,665**
% of projected exports	52%	72%		
Change from prior week[2]	**1,593**	**1,175**		
Top 5 importers' share of U.S. corn export sales	76%	75%		80%
USDA forecast February 2023	**48,982**	**62,875**	(22)	
Corn use for ethanol USDA forecast, February 2023	**133,350**	**135,281**	(1)	

[1]Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2021/22; marketing year (MY) = Sep 1 - Aug 31.

[2]Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. Total commitments change (net sales) from prior week could include revisions from previous week's outstanding sales or accumulated sales.

[3]FAS marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average.

Note: A red number in parentheses indicates a negative number; mt = metric ton.

Source: USDA, Foreign Agricultural Service.

Table 13

Top 5 importers[1] of U.S. soybeans

For the week ending 1/26/2023	Total commitments[2] 2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
				- 1,000 mt -
China	29,023	25,395	14	27,283
Mexico	3,705	4,216	(12)	4,929
Egypt	782	2,205	(65)	3,553
Japan	1,645	1,518	8	2,266
Indonesia	792	914	(13)	2,116
Top 5 importers	**35,948**	**34,248**	5	**40,147**
Total U.S. soybean export sales	**47,272**	**45,164**	5	**54,231**
% of projected exports	87%	77%		
change from prior week[2]	**736**	**1,030**		
Top 5 importers' share of U.S. soybean export sales	76%	76%		**74%**
USDA forecast, February 2023	**54,223**	**58,801**	(8)	

[1]Based on USDA, Foreign Agricultural Service (FAS) marketing year ranking reports for 2021/22; marketing year (MY) = Sep 1 - Aug 31.

[2]Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. The total commitments change (net sales) from prior week could include revisions from previous week's outstanding sales and/or accumulated sales.

[3]FAS marketing year ranking reports (carryover plus accumulated export); yr. = year; avg. = average.

Note: A red number in parentheses indicates a negative number; mt = metric ton.

Source: USDA, Foreign Agricultural Service.

Table 14

Top 10 importers[1] of all U.S. wheat

For the week ending 1/26/2023	Total Commitments[2] 2022/23 current MY	2021/22 last MY	% change current MY from last MY	Exports[3] 3-yr. avg. 2019-21
	1,000 mt -			- 1,000 mt -
Mexico	2,734	2,953	(7)	3,566
Philippines	1,786	2,510	(29)	2,985
Japan	1,869	2,060	(9)	2,453
China	750	848	(12)	1,537
Nigeria	706	1,859	(62)	1,528
Korea	1,192	1,096	9	1,459
Taiwan	652	765	(15)	1,106
Indonesia	299	67	346	711
Thailand	591	526	12	703
Colombia	418	552	(24)	621
Top 10 importers	**10,996**	**13,235**	(17)	**16,669**
Total U.S. wheat export sales	**16,171**	**17,262**	(6)	**22,763**
% of projected exports	77%	79%		
change from prior week[2]	**136**	**57**		
Top 10 importers' share of U.S. wheat export sales	68%	77%		73%
USDA forecast, February 2023	**21,117**	**21,798**	(3)	

[1] Based on USDA, Foreign Agricultural Service(FAS) marketing year ranking reports for 2020/21; Marketing year (MY) = Jun 1 - May 31.

[2] Cumulative exports (shipped) + outstanding sales (unshipped), FAS weekly export sales report, or export sales query. The total commitments change (net sales) from prior week could include revisions from the previous week's outstanding and/or accumulated sales.

[3] FAS marketing year final reports (carryover plus accumulated export); yr. = year; avg. = average.

Note: A red number in parentheses indicates a negative number.

Source: USDA, Foreign Agricultural Service.

Table 15

Grain inspections for export by U.S. port region (1,000 metric tons)

Port regions	For the week ending 02/02/23	Previous week*	Current week as % of previous	2023 YTD*	2022 YTD*	2023 YTD as % of 2022 YTD	Last 4-weeks as % of: Last year	Last 4-weeks as % of: Prior 3-yr. avg.	2022 total*
Pacific Northwest									
Wheat	402	314	128	1,260	970	130	130	106	9,836
Corn	0	146	0	483	980	49	47	63	9,615
Soybeans	502	591	85	2,379	2,191	109	110	128	14,178
Total	**904**	**1,051**	**86**	**4,123**	**4,141**	**100**	**100**	**108**	**33,629**
Mississippi Gulf									
Wheat	111	47	237	230	369	62	67	87	4,053
Corn	275	222	124	1,372	3,408	40	47	53	30,781
Soybeans	1,080	1,202	90	5,237	3,743	140	149	124	31,283
Total	**1,466**	**1,471**	**100**	**6,839**	**7,520**	**91**	**99**	**95**	**66,116**
Texas Gulf									
Wheat	0	40	0	119	307	39	46	46	3,421
Corn	0	1	n/a	28	75	37	37	47	648
Soybeans	0	0	n/a	52	0	n/a	n/a	34	685
Total	**0**	**40**	**0**	**199**	**382**	**52**	**59**	**42**	**4,754**
Interior									
Wheat	52	68	76	267	239	112	107	123	2,912
Corn	197	159	123	860	805	107	106	119	8,961
Soybeans	259	157	165	971	747	130	138	131	7,109
Total	**507**	**385**	**132**	**2,098**	**1,790**	**117**	**119**	**125**	**18,982**
Great Lakes									
Wheat	0	0	n/a	4	6	63	59	47	395
Corn	0	0	n/a	0	0	n/a	n/a	n/a	158
Soybeans	0	0	n/a	2	0	n/a	n/a	n/a	760
Total	**0**	**0**	**n/a**	**6**	**6**	**98**	**88**	**70**	**1,312**
Atlantic									
Wheat	0	1	n/a	7	4	150	n/a	n/a	169
Corn	0	5	0	16	18	91	112	337	309
Soybeans	85	82	104	457	307	149	128	146	2,867
Total	**85**	**88**	**97**	**480**	**329**	**146**	**130**	**151**	**3,345**
U.S. total from ports*									
Wheat	565	469	120	1,887	1,896	100	103	97	20,786
Corn	472	533	88	2,760	5,285	52	56	65	50,471
Soybeans	1,926	2,032	95	9,098	6,988	130	135	124	56,882
Total	**2,963**	**3,035**	**98**	**13,745**	**14,168**	**97**	**102**	**102**	**128,139**

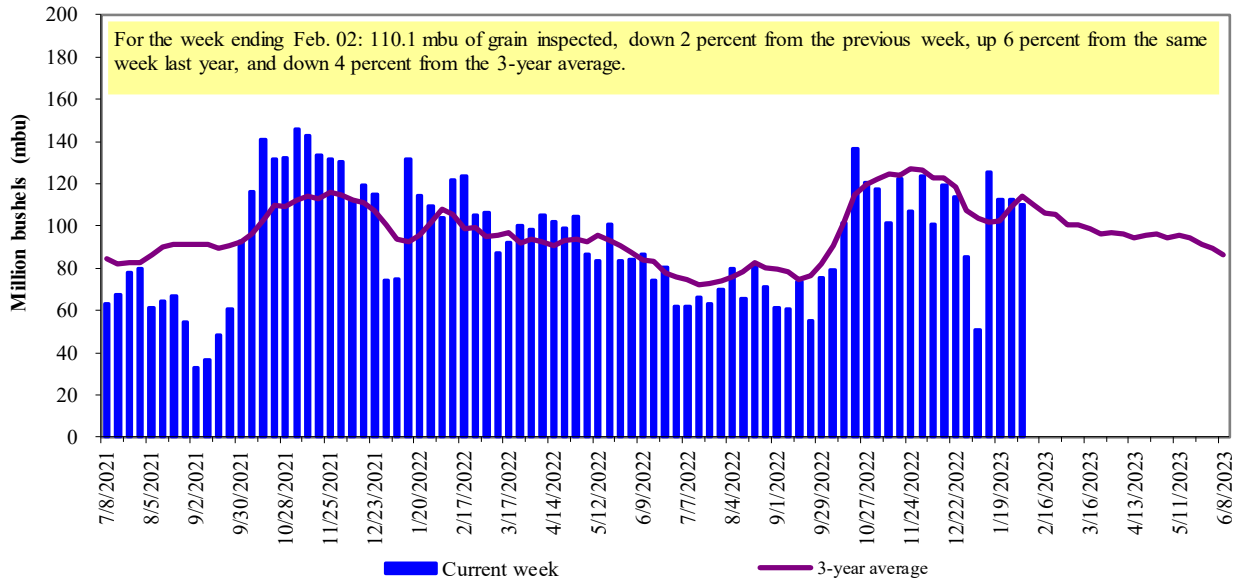
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

Source: USDA, Federal Grain Inspection Service; YTD= year-to-date; n/a = not applicable or no change.

The United States exports approximately one-quarter of the grain it produces. On average, this includes nearly 45 percent of U.S.-grown wheat, 50 percent of U.S.-grown soybeans, and 20 percent of the U.S.-grown corn. Approximately 55 percent of the U.S. export grain shipments departed through the U.S. Gulf region in 2019.

Figure 13

U.S. grain inspected for export (wheat, corn, and soybeans)

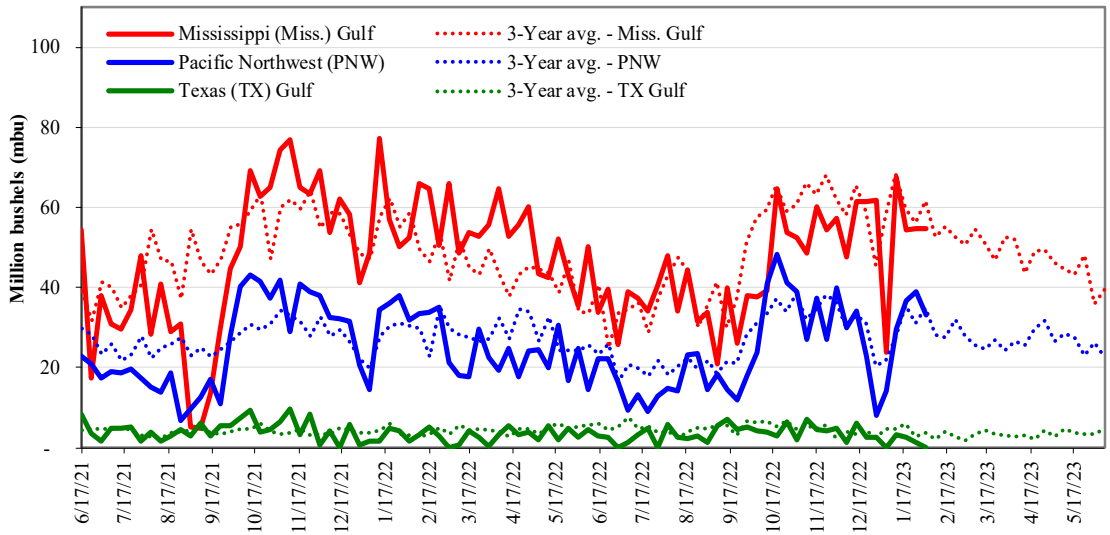


Note: 3-year average consists of 4-week running average.

Source: USDA, Federal Grain Inspection Service.

Figure 14

U.S. Grain inspections: U.S. Gulf and PNW[1] (wheat, corn, and soybeans)



Week ending 02/02/23 inspections (mbu):	
MS Gulf:	54.6
PNW:	33.2
TX Gulf:	0.0

Percent change	MS Gulf	TX	U.S. Gulf	PNW
Last wk:	unchanged	down 100	down 3	down 15
Last Year (same wk):	up 4	down 100	unchanged	up 5
3-yr avg. (4-wk. mov. Avg):	down 11	down 100	down 17	up 3

Source: USDA, Federal Grain Inspection Service.

Table 16

Weekly port region grain ocean vessel activity (number of vessels)

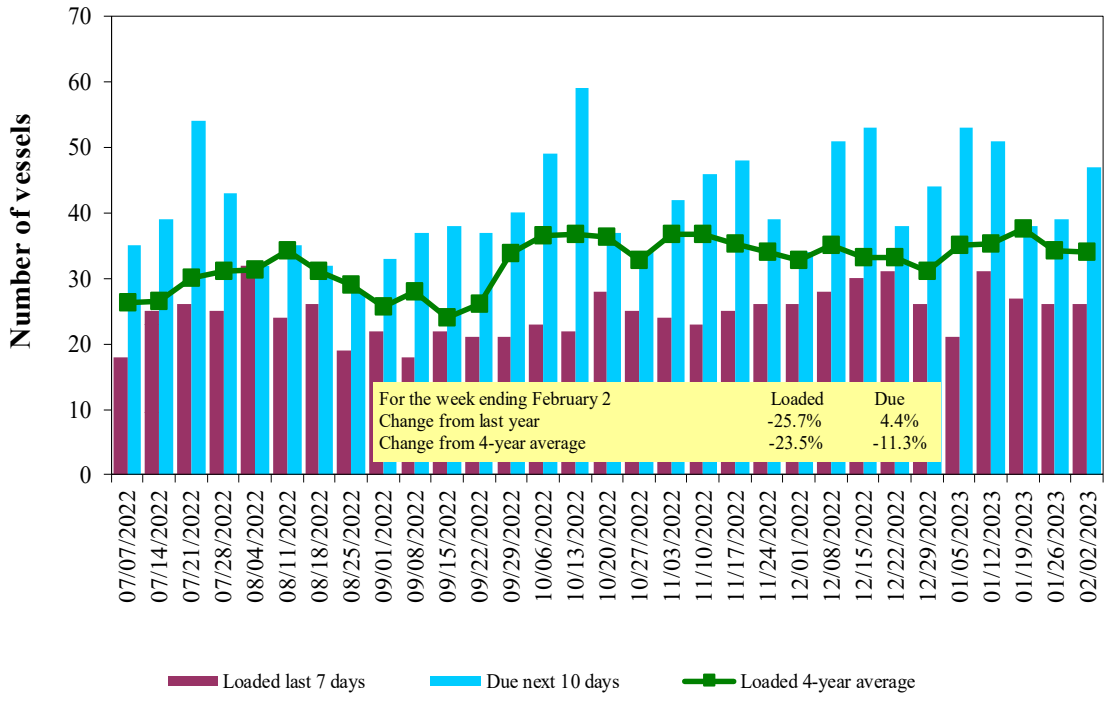
	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
2/2/2023	23	26	47	14
1/26/2023	32	26	39	21
2022 range	(14…61)	(18…39)	(28...62)	(5…23)
2022 average	30	28	44	13

Note: The data is voluntarily collected and may not be complete.

Source: USDA, Agricultural Marketing Service.

Figure 15

U.S. Gulf[1] vessel loading activity

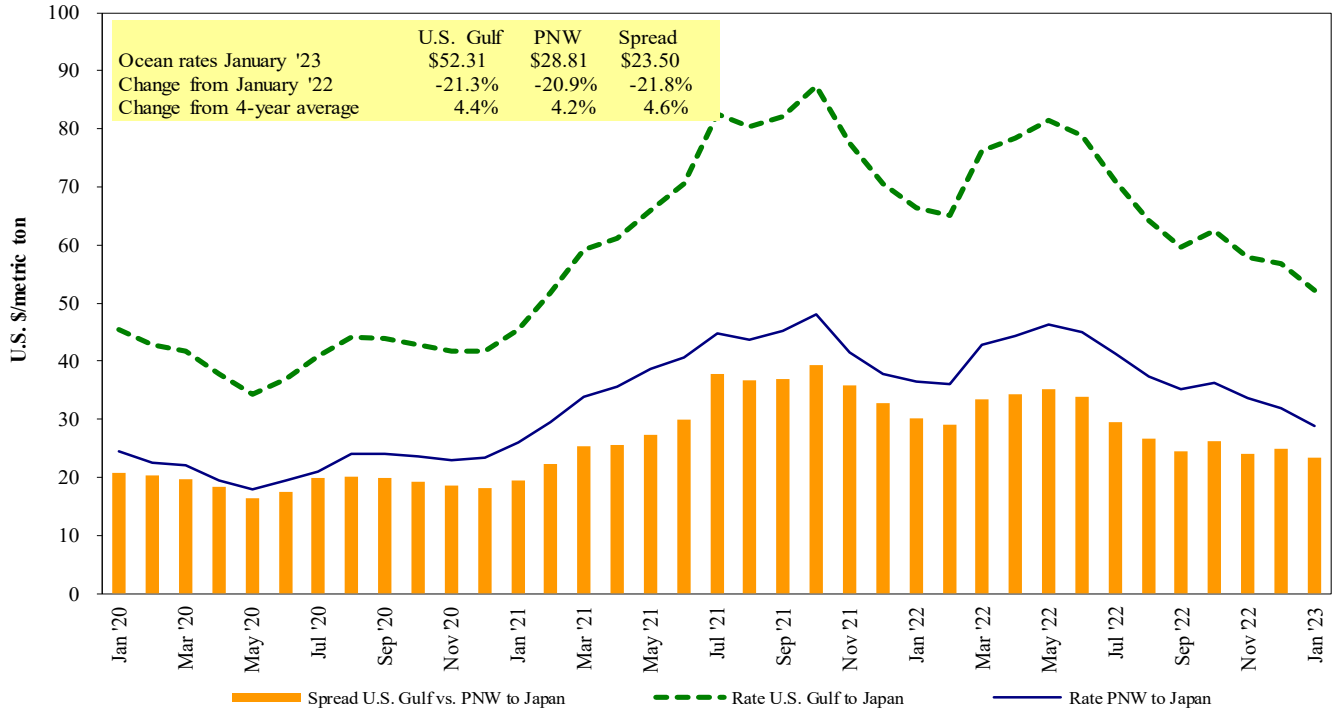


[1]U.S. Gulf includes Mississippi, Texas, and East Gulf.

Source: USDA, Agricultural Marketing Service.

Figure 16

Grain vessel rates, U.S. to Japan



Note: PNW = Pacific Northwest.

Source: O'Neil Commodity Consulting.

Table 17

Ocean freight rates for selected shipments, week ending 02/4/2023

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US$/metric ton)
U.S. Gulf	Japan	Heavy grain	Nov 1/10, 2022	50,000	79.25
U.S. Gulf	Japan	Heavy grain	Jul 20/30, 2022	50,000	81.50
U.S. Gulf	Japan	Heavy grain	Jun 1/10, 2022	50,000	89.65
U.S. Gulf	Japan	Heavy grain	May 1/20, 2022	50,000	78.90
U.S. Gulf	S. China	Corn	Aug 1/10, 2022	68,000	71.00
U.S. Gulf	Kenya	Sorghum	Feb 15/25, 2023	22,820	63.30*
U.S. Gulf	Djibouti	Wheat	Nov 5/15, 2022	22,500	102.88*
U.S. Gulf	S. Korea	Heavy grain	Jun 1/Jul, 2022	55,000	82.75
WC US	Japan	Wheat	Feb 1/Mar 1, 2023	34,500	47.75
Brazil	China	Heavy grain	Feb 4/11	63,000	36.00
Brazil	N. China	Heavy grain	Mar 18/27, 2022	64,000	56.85
Argentina	Taiwan	Corn	May 1/Jun, 2022	65,000	85.00
Australia	Vietnam	Heavy grain	Feb 24/Apr 9, 2023	60,000	20.80

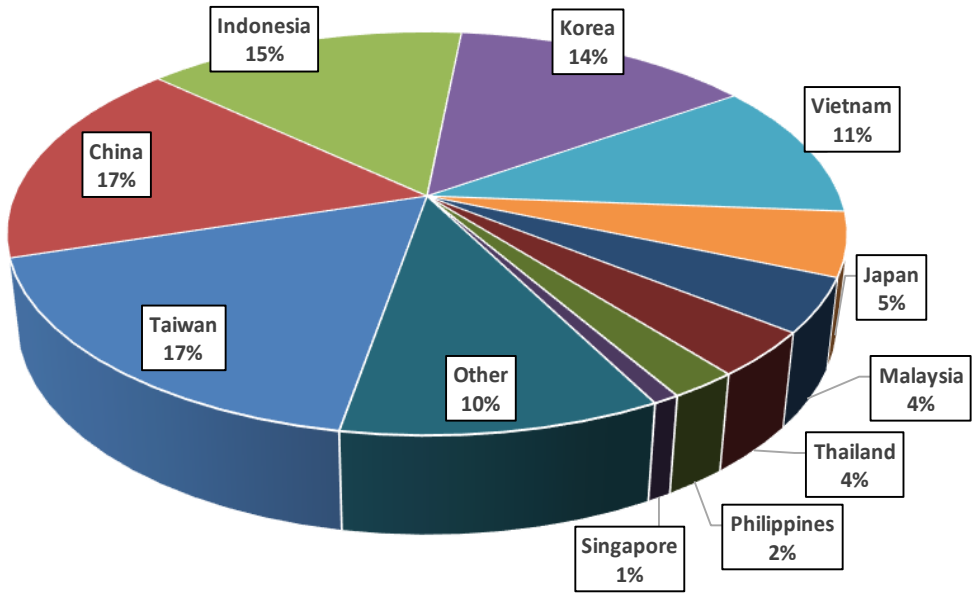
*50 percent of food aid from the United States is required to be shipped on U.S.-flag vessels.

Note: Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), free on board (F.O.B), except where otherwise indicated; op = option.

Source: Maritime Research, Inc.

In 2020, containers were used to transport 10 percent of total U.S. waterborne grain exports. Approximately 66 percent of U.S. waterborne grain exports in 2020 went to Asia, of which 14 percent were moved in containers. Approximately 95 percent of U.S. waterborne containerized grain exports were destined for Asia.

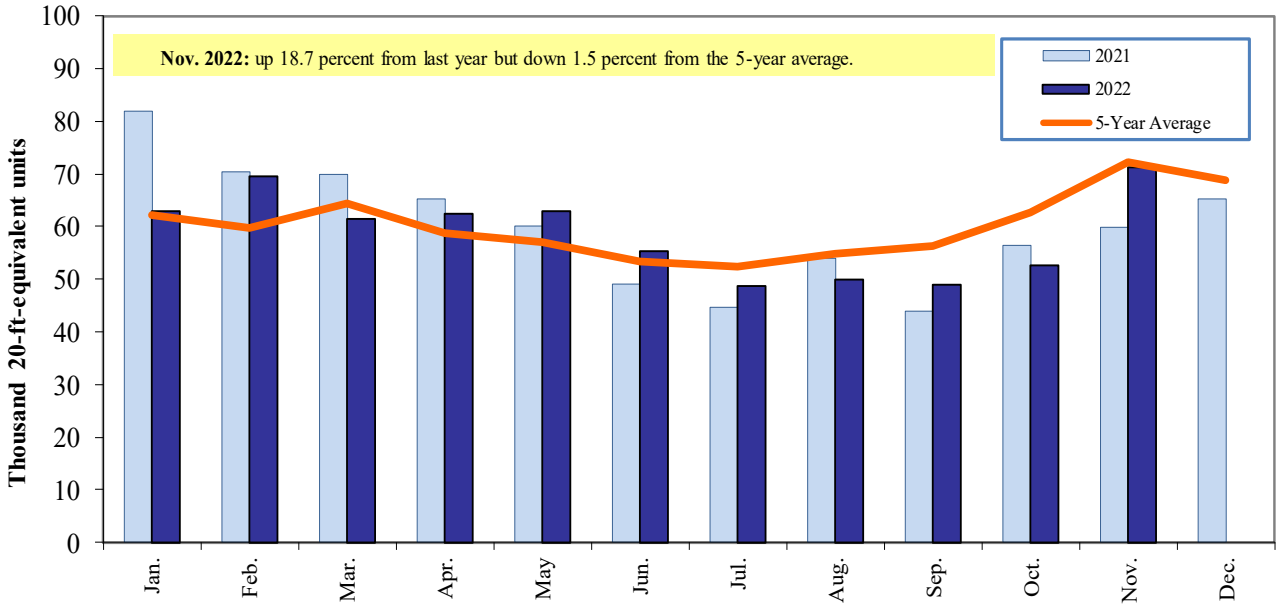
Figure 17
Top 10 destination markets for U.S. containerized grain exports, Jan-Nov 2022



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: '1001', '100190', '1002', '100200', '1003', '100300', '1004', '100400', '1005', '100590', '1007', '100700', '110100', '1102', '110220', '110290', '1201', '120100', '120190', '120810', '230210', '230310', '230330', '2304', and '230990'.

Source: USDA, Agricultural Marketing Service, Transportation Services Division analysis of PIERS data.

Figure 18
Monthly shipments of U.S. containerized grain exports



Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: '1001', '100190', '1002', '100200', '1003', '100300', '1004', '100400', '1005', '100590', '1007', '100700', '110100', '1102', '110220', '110290', '1201', '120100', '120190', '120810', '230210', '230310', '230330', '2304', and '230990'.

Source: USDA, Agricultural Marketing Service, Transportation Services Division analysis of PIERS data.

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