USDA United States Department of Agriculture

Grain Transportation Report

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

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January 4, 2018

Contents

The next release is January 11, 2018

WEEKLY HIGHLIGHTS

Ice Formations Disrupting Barge Traffic

Extremely cold weather throughout the central U.S. has caused ice accumulations on portions of the rivers and at locks and dams. For the week ending December 30, downbound grain barge tonnages at Mississippi River Locks 27 (near St. Louis) were down 27 percent, mostly due to a decrease in soybean movements. However, due to better navigation conditions and no repair delays, downbound grain tonnages at Ohio River Locks and Dam 52 were up 24 percent for the same period. With the cold temperatures and icy conditions, grain barge rates, as of January 2, rose 15 percent for export grain on the Illinois River and 9 percent on the Mississippi River at St. Louis as compared to last week. As of January 3, barge operators have reported that all operations on the Illinois River have ceased due to heavy ice.

Grain Inspections Decline, but Trends are in Line with Recent Years

For the week ending December 28, total inspections of grain (corn, wheat, and soybeans) for export from all major U.S. export regions fell to 2.16 million metric tons (mmt), down 14 percent from the previous week, down 18 percent from the same time last year, and down 23 percent from the 3-year average. Compared to the previous week, wheat and soybean inspections declined 47 and 11 percent, respectively, while corn inspections rose by 10 percent. Pacific Northwest grain inspections fell by 25 percent, while Mississippi Gulf inspections rose by 9 percent.

STB Seeks Candidates for Railroad-Shipper Transportation Advisory Council

The Surface Transportation Board (STB) is seeking nominations for candidates to fill vacancies on the Railroad-Shipper Transportation Advisory Council (RSTAC). RSTAC was established to advise the STB's Chairman, the Secretary of Transportation, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Transportation and Infrastructure of the House of Representatives with respect to rail transportation policy issues. RSTAC focuses on developing private-sector mechanisms to maintain an effective and efficient transportation system. Members focus on issues relevant to small shippers and small railroads, such as car supply, rates, competition, and procedures for addressing claims. There are currently 19 members, but vacancies exist for two small shipper representatives, one large shipper representative, two small railroad representatives, and two large railroad representatives. Candidate suggestions should be filed with STB by January 22. For more information, see the STB Notice.

Snapshots by Sector

Export Sales

For the week ending December 21, **unshipped balances** of wheat, corn, and soybeans totaled 35.7 mmt, down 16 percent from the same time last year. Net weekly **wheat export sales** were .478 mmt, down 40 percent from the previous week. Net **corn export sales** were 1.25 mmt, down 20 percent from the previous week, and net **soybean export sales** were 0.975 mmt for the same period, down 44 percent from the previous week.

Rail

U.S. Class I railroads originated 22,424 **grain carloads** for the week ending December 23, down 5 percent from the previous week, down 1 percent from last year, and up 2 percent from the 3-year average.

Average January shuttle **secondary railcar** bids/offers per car were $133 above tariff for the week ending December 28, up $160 from last week, and $409 lower than last year. There were no non-shuttle bids/offers this week.

Barge

For the week ending December 30, **barge grain movements** totaled 616,062 tons, 2.2 percent lower than the previous week, and down 20 percent from the same period last year.

For the week ending December 30, 398 grain barges **moved down river**, up 1 percent from last week, 895 grain barges were **unloaded in New Orleans**, 23 percent higher than the previous week.

Ocean

For the week ending December 28, 35 **ocean-going grain vessels** were loaded in the Gulf, 22 percent less than the same period last year. Forty-eight vessels are expected to be loaded within the next 10 days, 38 percent less than the same period last year.

Fuel

During the week ending January 1, average **diesel fuel prices** increased 7 cents from the previous week at $2.97 per gallon, 39 cents above the same week last year.

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Feature Article/Calendar

Update on Rail Trends for Grain

Since the partial deregulation of railroads in the 1980s, railroads have been continuously innovating ways to reduce costs by scaling up the size of operations and capturing cost benefits through economies of scale. Some of the methods used for grain[1] hauled by rail include increasing the number of cars per shipment, increasing the average shipment distance, and using larger car types. This article expands previous analysis[2] on the use of longer and larger shipments to reduce operating costs by: (1) looking at the most recent data from the 2015 Carload Waybill Sample to assess the extent to which these trends have persisted, and (2) highlighting differences in these trends across specific grain commodities.

Grain Cars per Shipment

Railroads have increasingly combined more cars per shipment to reduce costs per ton. For all grain commodities, bigger shipments, in terms of the number of cars, have accounted for a growing share of tonnage moved. However, some individual commodities stand out—like corn, soybeans, and sorghum—because their shipments are predominately and increasingly 75+ cars. Because the trends for the three commodities are so similar, Figure 1 shows the combined tonnage for corn, soybean, and sorghum by the number of cars per shipment. The figure shows the tonnage share for 75+ car shipments grew in 2015, continuing a trend that has been happening for decades. In the mid-1990s, 75+ car shipments of corn, soybeans, and sorghum made up 20, 11, and 28 percent of tonnage, respectively. In 2015, 75+ car shipments for these commodities accounted for 71, 70, and 91 percent of tonnage. At the same time, all three of these commodities show a continued decline in the less-than-75-car categories. In contrast, Figure 2 shows how wheat shipments are more closely split between 75+ cars and 6-49 cars. Additionally, the share of 75+ car shipments of wheat tonnage has fallen in recent years. Between 2013 and 2015, 75+ car wheat shipments fell from their peak share of 45 percent down to 38 percent, while 6-49 car shipments rose from 40 to 48 percent (Figure 2). The relative switch between these two categories may be due in part to reduced wheat exports in recent years.[3]

Figure 1: Combined Corn, Soybean, and Sorghum Tonnage Share, by Cars Per Shipment.

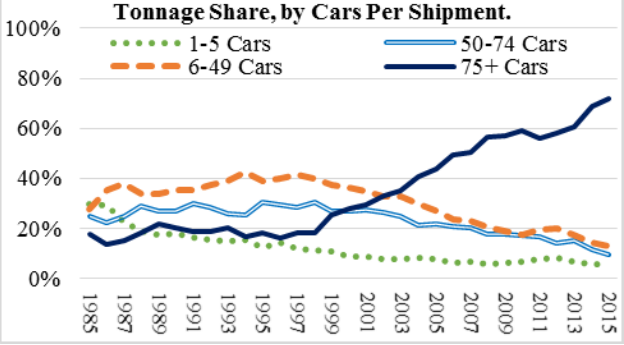
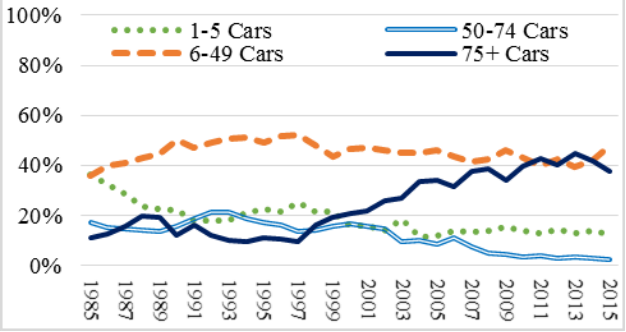


Figure 2: Wheat Tonnage Share, by Cars Per Shipment.



Distance Hauled

Grain continues to travel by rail over longer distances, with the average distance increasing almost every year since 1994. The average shipment distance for all grain commodities was 747 miles in 1995 and 1,311 miles in 2015. Shares of rail grain shipments of 1,001 to 1,500 miles and 1,500+ miles have generally increased over the years, while the share of 20 to 500 mile shipments has fallen. However, this aggregate view does not reveal key commodity-level differences.

Figure 3 shows the share of soybeans moved over 1,500 miles by rail increased substantially in the late 1990s and 2000s. While that growth has steadied in recent years, the share of soybean shipments in the

[1] Grain includes corn, soybeans, wheat, grain sorghum, barley, oats, rye, and other minor grains; Standard Transportation Commodity Codes (STCCs) 01131-01139 and 01144.

[2] For previous analyses on the subject, see the March 31, 2016 *GTR*, which provided updated data to AMS' study, *Grain and Oilseed Shipment Sizes and Distance Hauled by Rail* (December 2013). This article also expands AMS' research discussed in *The Shift to Larger Railcars for the Shipment of Grain* (August 2013).

[3] According to USDA-FAS data, U.S. wheat production was down 3 percent in 2015 compared to 2013, and wheat exports were down 34 percent over the same period.

1,001 to 1,500 mile category increased slightly in 2015 compared to 2014. Similarly, the trip length for wheat shipments has increased, with more shipments traveling over 1,000 miles (Figure 4). Wheat shipments of 501 to 1,000 miles are still the most prevalent, but its share—which averaged almost 50 percent in the 2000s—fell to 42 percent in 2015.

Figure 3: Soybean Tonnage Share, by Distance.

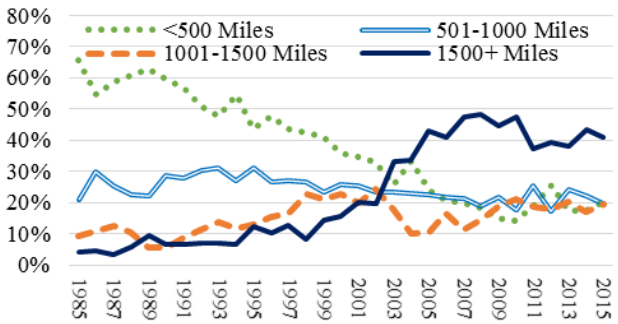
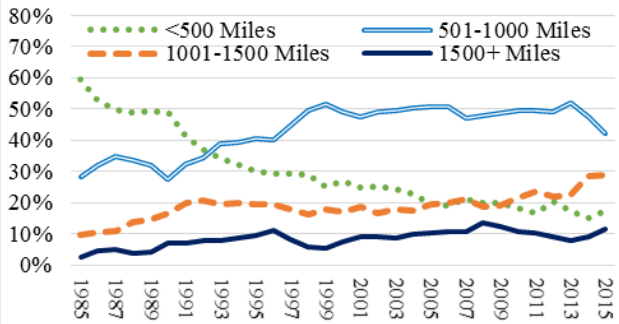


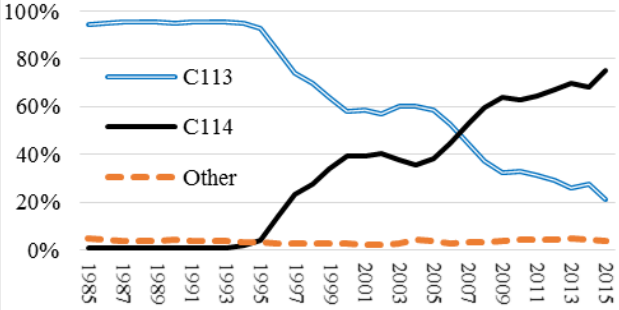
Figure 4: Wheat Tonnage Share, by Distance.



Grain Car Types

Not only has railed grain tended to move in longer shipments and over longer distances, it has increasingly moved in larger cars. In the past few decades, grain by rail has relied primarily on two car types—C-113 covered hopper cars and C-114 covered hopper cars, where the former car type holds 263,000 pounds when loaded and the latter holds 286,000 pounds. The use of larger hopper cars has resulted in reduced costs to railroads and some savings to shippers by improving labor and locomotive efficiencies, and reducing rail congestion through the use of fewer cars. Since 1994, the use of larger C-114 cars has increased; its share exceeded the proportion of C-113 grain shipments by 2007 (Figure 5). However, the adoption pattern has differed among crops. For instance, corn shipments saw relatively rapid growth in the use of C-114 cars in the 1990s, where wheat adoption has been more gradual. The shift to larger grain cars has been the most gradual for small grains produced in relatively low volumes, such as barley, oats, and rye. The share of barley and oat shipments using C-114 cars did not exceed C-113 cars until 2013 and 2015, respectively. Rye still predominantly moves by rail in C-113 hopper cars, with its share averaging 80 percent of shipments from 2011 to 2015.

Figure 5: Grain Tonnage Share, by Car Type.



Conclusion

The trend of railroads capturing economies of scale through larger shipments, greater distances, and bigger cars has generally persisted through 2015, though there is variation across grain commodities. Soybean shipments have generally used more cars and bigger cars to the greatest degree because they tend to involve larger volumes, both in total and because soybeans are consolidated on fewer routes. Wheat, in contrast, has some large volume routes, like from origins in northern plains States to destinations in Washington, but it also has many smaller volume routes, such as shipments to the South and East via Chicago. In these cases, wheat tends to travel in shipments made up of fewer cars. Trends in car types follow a similar pattern, where smaller volume commodities were slower to adopt bigger cars (e.g., barley and oats), or have not adopted them at all (e.g., rye). For all grains, rail service is very different than it was only a decade or two ago. At the same time, grain volumes continue to grow. Given increasing volumes in grain production, it is possible these trends in grain rail service will persist.

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Grain Transportation Indicators

Table 1

Grain Transport Cost Indicators[1]

	Truck	Rail		Barge	Ocean	
For the week ending		Unit Train	Shuttle		Gulf	Pacific
01/03/18	199	272	219	188	n/a	n/a
12/27/17	195	272	212	163	198	176

[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); and ocean = routes to Japan ($/metric ton)
Source: Transportation & Marketing Programs/AMS/USDA

Table 2

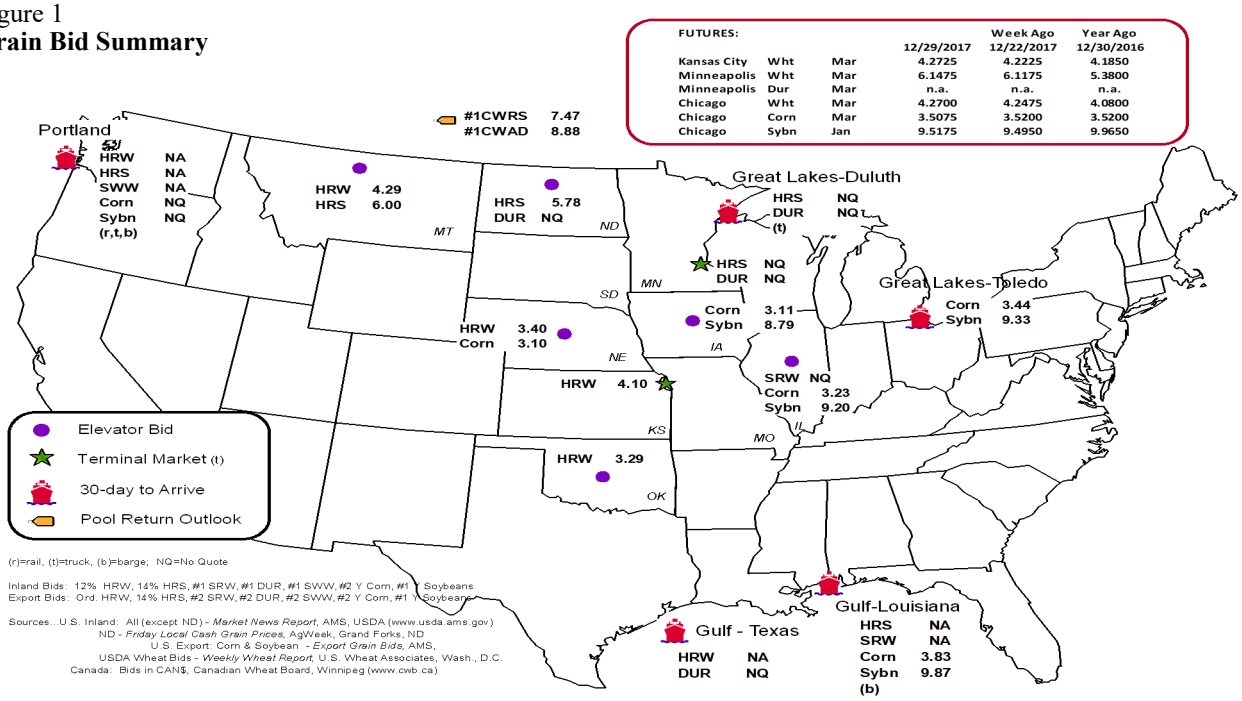
Market Update: U.S. Origins to Export Position Price Spreads ($/bushel)

Commodity	Origin--Destination	12/29/2017	12/22/2017
Corn	IL--Gulf	-0.60	-0.57
Corn	NE--Gulf	-0.73	-0.71
Soybean	IA--Gulf	-1.08	-1.03
HRW	KS--Gulf	n/a	n/a
HRS	ND--Portland	n/a	n/a

Note: nq = no quote; n/a = not available
Source: Transportation & Marketing Programs/AMS/USDA

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

Rail Deliveries to Port (carloads)[1]

For the Week Ending	Mississippi Gulf	Texas Gulf	Pacific Northwest	Atlantic & East Gulf	Total	Week ending	Cross-Border Mexico[3]
12/27/2017[p]	194	355	5,419	276	6,244	12/23/2017	2,173
12/20/2017[r]	518	1,447	6,794	413	9,172	12/16/2017	2,264
2017 YTD[r]	28,766	75,784	289,178	21,999	415,727	2017 YTD	119,661
2016 YTD[r]	36,925	86,992	299,932	28,728	452,577	2016 YTD	106,716
2017 YTD as % of 2016 YTD	78	87	96	77	92	% change YTD	112
Last 4 weeks as % of 2016[2]	51	44	107	36	83	Last 4wks % 2016	120
Last 4 weeks as % of 4-year avg.[2]	37	58	119	37	91	Last 4wks % 4 yr	120
Total 2016	36,925	86,992	299,932	28,728	452,577	Total 2016	92,982
Total 2015	29,054	60,819	239,029	26,730	355,632	Total 2015	97,736

[1] Data is incomplete as it is voluntarily provided

[2] Compared with same 4-weeks in 2016 and prior 4-year average.

[3] Cross-border weekly data is approximately 15 percent below the Association of American Railroads' reported weekly carloads received by Mexican railroads to reflect switching between KCSM and FerroMex.

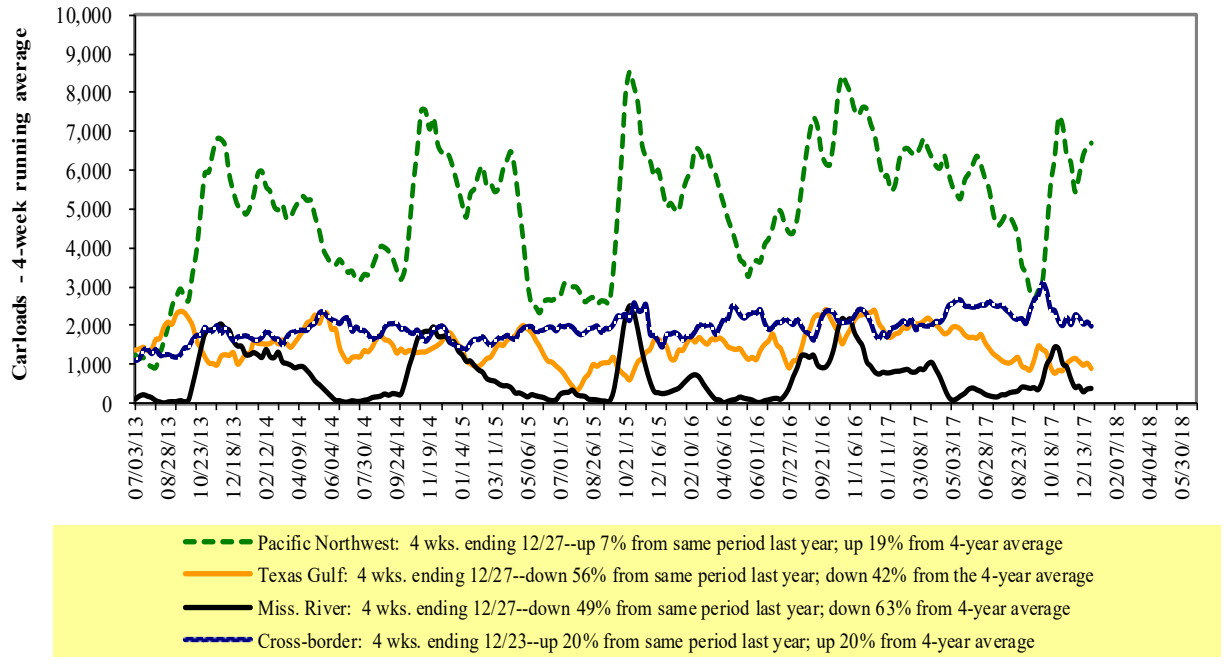
YTD = year-to-date; p = preliminary data; r = revised data; n/a = not available

Source: Transportation & Marketing Programs/AMS/USDA

Railroads originate approximately 24 percent of U.S. grain shipments. Trends in these loadings are indicative of market conditions and expectations.

Figure 2

Rail Deliveries to Port



Source: Transportation & Marketing Programs/AMS/USDA

Table 4

Class I Rail Carrier Grain Car Bulletin (grain carloads originated)

For the week ending:	East		West			U.S. total	Canada	
12/23/2017	CSXT	NS	BNSF	KCS	UP		CN	CP
This week	1,879	2,698	11,968	643	5,236	22,424	3,708	4,974
This week last year	2,011	2,999	10,342	1,065	6,191	22,608	3,725	4,403
2017 YTD	88,206	140,974	570,669	49,743	285,640	1,135,232	195,729	241,696
2016 YTD	93,504	148,757	580,108	44,836	296,236	1,163,441	190,415	230,777
2017 YTD as % of 2016 YTD	94	95	98	111	96	98	103	105
Last 4 weeks as % of 2016*	99	89	107	102	88	99	86	108
Last 4 weeks as % of 3-yr avg.**	91	91	111	109	95	103	81	107
Total 2016	95,179	151,047	590,779	45,246	300,836	1,183,087	193,536	234,884

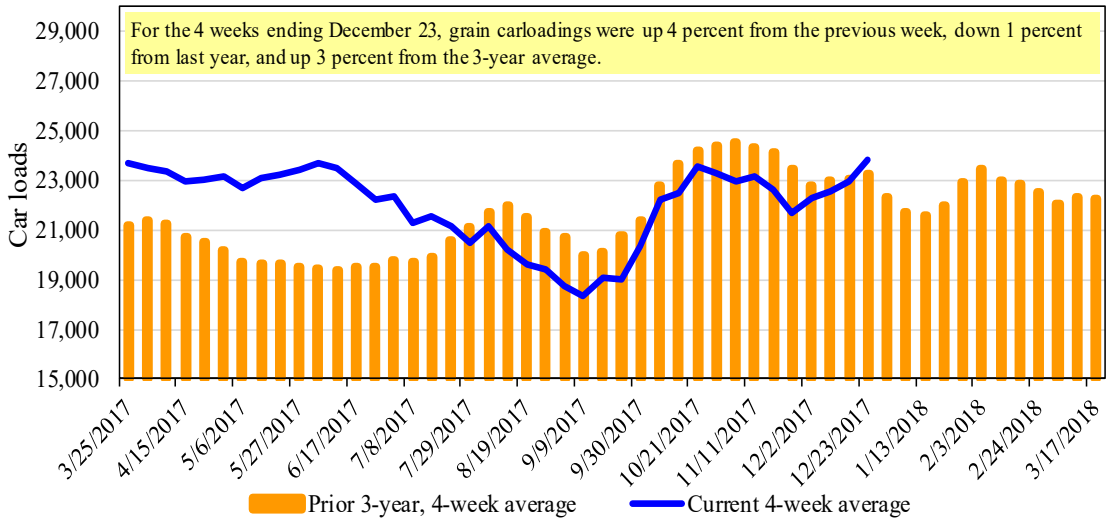
*The past 4 weeks of this year as a percent of the same 4 weeks last year.

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

Source: Association of American Railroads (www.aar.org)

Figure 3

Total Weekly U.S. Class I Railroad Grain Car Loadings



Source: Association of American Railroads

Table 5

Railcar Auction Offerings[1] ($/car)[2]

For the week ending:		Delivery period							
12/28/2017		Jan-18	Jan-17	Feb-18	Feb-17	Mar-18	Mar-17	Apr-18	Apr-17
BNSF[3]	COT grain units	n/a	no bids	n/a	0	n/a	0	n/a	no bids
	COT grain single-car[5]	n/a	136	n/a	50	n/a	35	n/a	3
UP[4]	GCAS/Region 1	no bids	no bids	no bids	no bids	no bids	no bids	n/a	n/a
	GCAS/Region 2	10	no bids	no bids	no bids	no bids	no bids	n/a	n/a

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

[2]Average premium/discount to tariff, last auction

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

[4]UP - GCAS = 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.

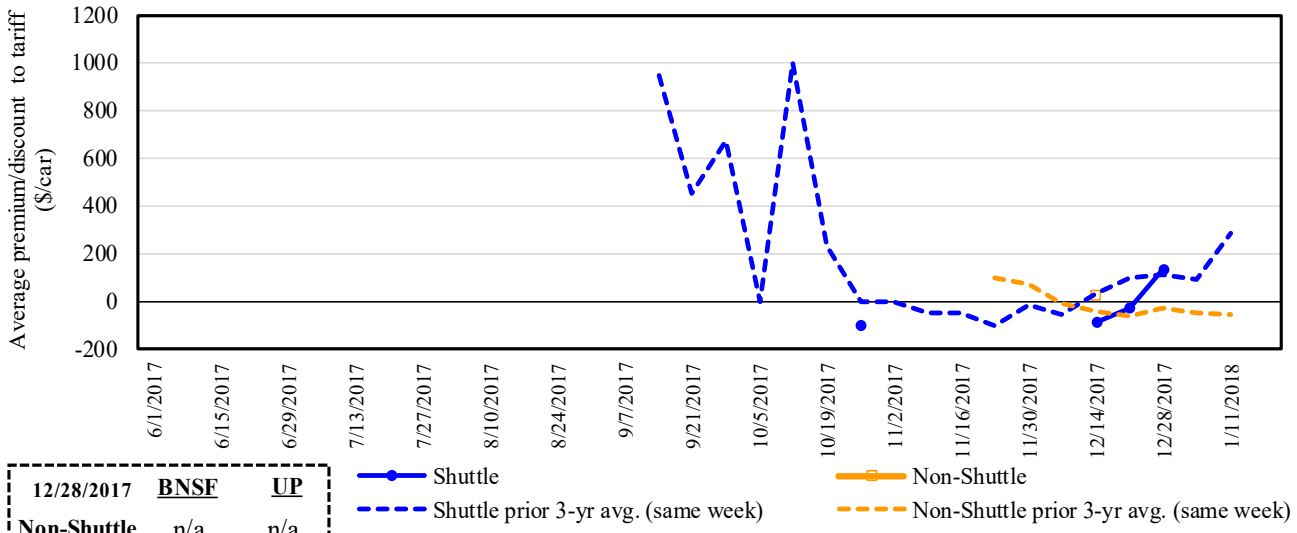
[5]Range is shown because average is not available. Not available = n/a.

Source: Transportation & Marketing Programs/AMS/USDA.

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 4

Bids/Offers for Railcars to be Delivered in January 2018, Secondary Market



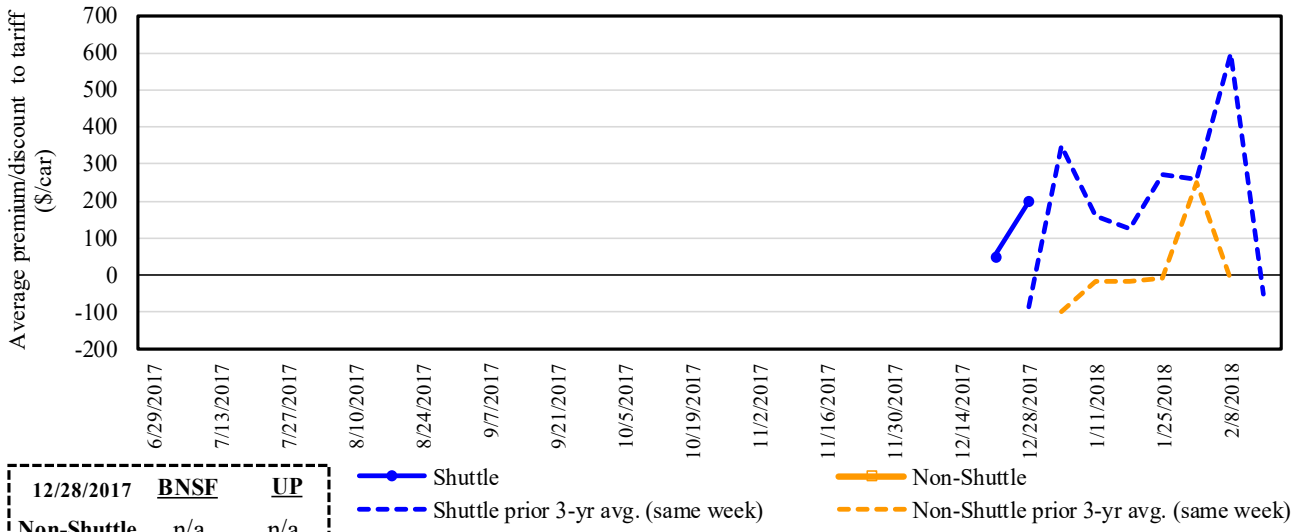
12/28/2017	BNSF	UP
Non-Shuttle	n/a	n/a
Shuttle	$225	$42

There were no Non-Shuttle bids/offers this week.
Average Shuttle bids/offers rose $160 this week and are at the peak.

Non-shuttle bids include unit-train and single-car bids. n/a = not available.
Source: Transportation & Marketing Programs/AMS/USDA

Figure 5

Bids/Offers for Railcars to be Delivered in February 2018, Secondary Market



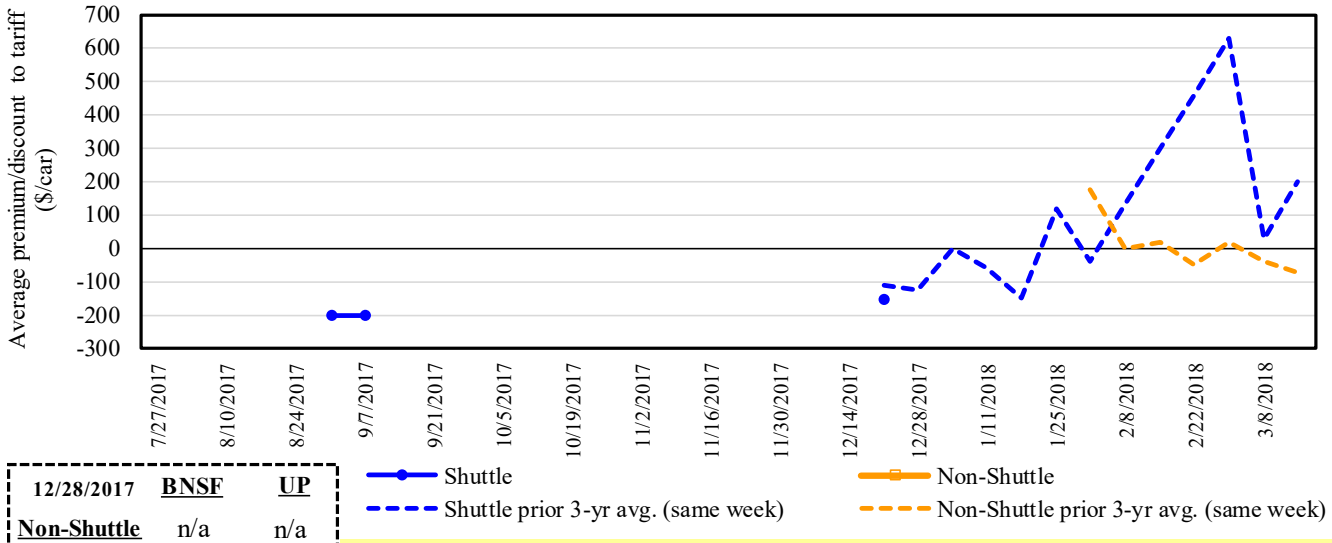
12/28/2017	BNSF	UP
Non-Shuttle	n/a	n/a
Shuttle	$200	n/a

There were no Non-Shuttle bids/offers this week.
Average Shuttle bids/offers rose $150 this week and are at the peak.

Non-shuttle bids include unit-train and single-car bids. n/a = not available.
Source: Transportation & Marketing Programs/AMS/USDA

Figure 6

Bids/Offers for Railcars to be Delivered in March 2018, Secondary Market



12/28/2017	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.

Non-shuttle bids include unit-train and single-car bids. n/a = not available.
Source: Transportation & Marketing Programs/AMS/USDA

Table 6

Weekly Secondary Railcar Market ($/car)[1]

	For the week ending: 12/28/2017	Delivery period					
		Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18
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 2016	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 2016	n/a	n/a	n/a	n/a	n/a	n/a
Shuttle	**BNSF-GF**	**225**	**200**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	142	150	n/a	n/a	n/a	n/a
	Change from same week 2016	(892)	n/a	n/a	n/a	n/a	n/a
	UP-Pool	**42**	**n/a**	**n/a**	**n/a**	**n/a**	**n/a**
	Change from last week	180	n/a	n/a	n/a	n/a	n/a
	Change from same week 2016	73	n/a	n/a	n/a	n/a	n/a

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

Note: Bids listed are market INDICATORS only & are NOT guaranteed prices,

n/a = not available; GF = guaranteed freight; Pool = guaranteed pool

Sources: Transportation and Marketing Programs/AMS/USDA

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

The **tariff rail rate** is the base price of freight rail service, and together with **fuel surcharges** and any **auction and secondary rail** values constitute 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. High auction and secondary rail values, during times of high rail demand or short supply, can exceed the cost of the tariff rate plus fuel surcharge.

Table 7

Tariff Rail Rates for Unit and Shuttle Train Shipments[1]

January, 2018	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	$3,883	$86	$39.41	$1.07	4
	Grand Forks, ND	Duluth-Superior, MN	$4,143	$0	$41.14	$1.12	0
	Wichita, KS	Los Angeles, CA	$7,050	$0	$70.01	$1.91	1
	Wichita, KS	New Orleans, LA	$4,540	$151	$46.59	$1.27	5
	Sioux Falls, SD	Galveston-Houston, TX	$6,786	$0	$67.39	$1.83	1
	Northwest KS	Galveston-Houston, TX	$4,816	$166	$49.47	$1.35	5
	Amarillo, TX	Los Angeles, CA	$5,021	$231	$52.15	$1.42	6
Corn	Champaign-Urbana, IL	New Orleans, LA	$3,931	$171	$40.74	$1.03	9
	Toledo, OH	Raleigh, NC	$6,344	$0	$63.00	$1.60	5
	Des Moines, IA	Davenport, IA	$2,258	$36	$22.78	$0.58	1
	Indianapolis, IN	Atlanta, GA	$5,446	$0	$54.08	$1.37	5
	Indianapolis, IN	Knoxville, TN	$4,540	$0	$45.08	$1.15	5
	Des Moines, IA	Little Rock, AR	$3,609	$106	$36.90	$0.94	4
	Des Moines, IA	Los Angeles, CA	$5,327	$310	$55.98	$1.42	6
Soybeans	Minneapolis, MN	New Orleans, LA	$3,631	$156	$37.61	$1.02	3
	Toledo, OH	Huntsville, AL	$5,287	$0	$52.50	$1.43	5
	Indianapolis, IN	Raleigh, NC	$6,460	$0	$64.15	$1.75	5
	Indianapolis, IN	Huntsville, AL	$4,764	$0	$47.31	$1.29	5
	Champaign-Urbana, IL	New Orleans, LA	$4,745	$171	$48.82	$1.33	8
Shuttle Train							
Wheat	Great Falls, MT	Portland, OR	$3,953	$0	$39.26	$1.07	0
	Wichita, KS	Galveston-Houston, TX	$4,171	$0	$41.42	$1.13	2
	Chicago, IL	Albany, NY	$5,663	$0	$56.24	$1.53	3
	Grand Forks, ND	Portland, OR	$5,611	$0	$55.72	$1.52	0
	Grand Forks, ND	Galveston-Houston, TX	$5,931	$0	$58.90	$1.60	0
	Northwest KS	Portland, OR	$5,812	$272	$60.42	$1.64	6
Corn	Minneapolis, MN	Portland, OR	$5,000	$0	$49.65	$1.26	0
	Sioux Falls, SD	Tacoma, WA	$4,960	$0	$49.26	$1.25	0
	Champaign-Urbana, IL	New Orleans, LA	$3,731	$171	$38.75	$0.98	10
	Lincoln, NE	Galveston-Houston, TX	$3,700	$0	$36.74	$0.93	0
	Des Moines, IA	Amarillo, TX	$3,970	$134	$40.75	$1.04	4
	Minneapolis, MN	Tacoma, WA	$5,000	$0	$49.65	$1.26	0
	Council Bluffs, IA	Stockton, CA	$4,820	$0	$47.86	$1.22	2
Soybeans	Sioux Falls, SD	Tacoma, WA	$5,600	$0	$55.61	$1.51	0
	Minneapolis, MN	Portland, OR	$5,650	$0	$56.11	$1.53	0
	Fargo, ND	Tacoma, WA	$5,500	$0	$54.62	$1.49	0
	Council Bluffs, IA	New Orleans, LA	$4,775	$197	$49.38	$1.34	8
	Toledo, OH	Huntsville, AL	$4,352	$0	$43.22	$1.18	3
	Grand Island, NE	Portland, OR	$5,710	$278	$59.47	$1.62	7

[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 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 calculated using tariff rate plus fuel surcharge

Table 8

Tariff Rail Rates for U.S. Bulk Grain Shipments to Mexico

Date: January, 2018							
Commodity	Origin state	Destination region	Tariff rate/car[1]	Fuel surcharge per car[2]	Tariff plus surcharge per: metric ton[3]	Tariff plus surcharge per: bushel[3]	Percent change[4] Y/Y
Wheat	MT	Chihuahua, CI	$7,459	$0	$76.21	$2.07	0
	OK	Cuautitlan, EM	$6,631	$118	$68.96	$1.87	1
	KS	Guadalajara, JA	$7,309	$269	$77.42	$2.10	2
	TX	Salinas Victoria, NL	$4,292	$72	$44.59	$1.21	2
Corn	IA	Guadalajara, JA	$8,313	$248	$87.47	$2.22	2
	SD	Celaya, GJ	$7,700	$0	$78.68	$2.00	2
	NE	Queretaro, QA	$8,013	$244	$84.38	$2.14	3
	SD	Salinas Victoria, NL	$6,743	$0	$68.90	$1.75	2
	MO	Tlalnepantla, EM	$7,379	$238	$77.83	$1.98	3
	SD	Torreon, CU	$7,300	$0	$74.59	$1.89	2
Soybeans	MO	Bojay (Tula), HG	$8,134	$230	$85.47	$2.32	-6
	NE	Guadalajara, JA	$8,692	$253	$91.39	$2.48	-2
	IA	El Castillo, JA	$8,960	$0	$91.55	$2.49	0
	KS	Torreon, CU	$7,489	$188	$78.43	$2.13	1
Sorghum	NE	Celaya, GJ	$7,345	$231	$77.40	$1.96	3
	KS	Queretaro, QA	$7,819	$148	$81.40	$2.07	4
	NE	Salinas Victoria, NL	$6,452	$119	$67.13	$1.70	5
	NE	Torreon, CU	$6,790	$182	$71.23	$1.81	4

[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

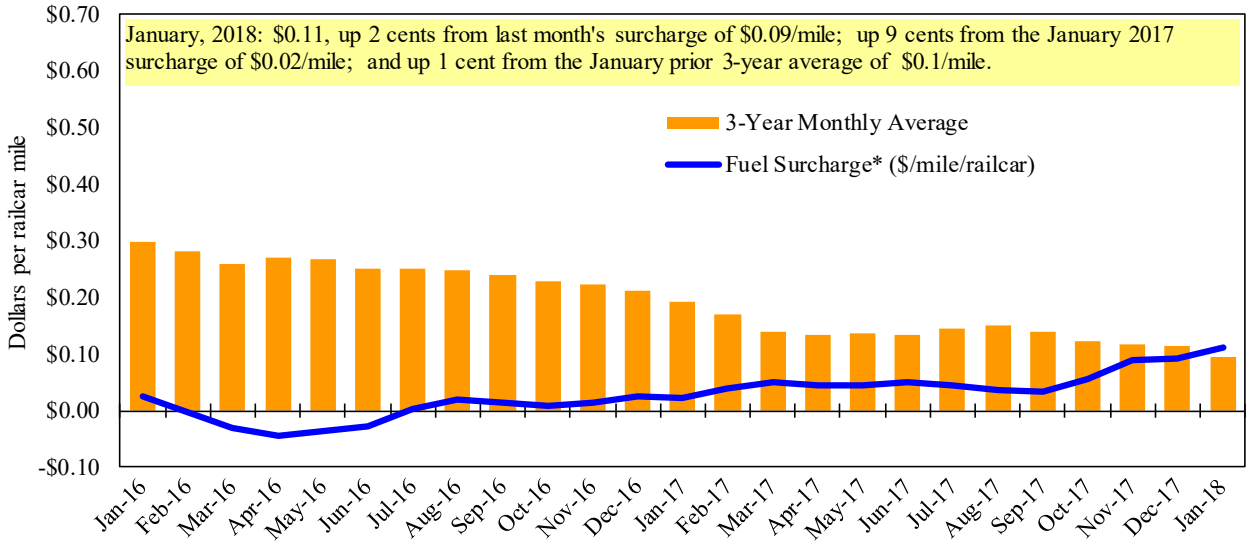
[3]Approximate load per car = 97.87 metric tons: Corn & Sorghum 56 lbs/bu, Wheat & Soybeans 60 lbs/bu

[4]Percentage change calculated using tariff rate plus fuel surchage

Sources: www.bnsf.com, www.uprr.com, www.kcsouthern.com

Figure 7

Railroad Fuel Surcharges, North American Weighted Average[1]



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

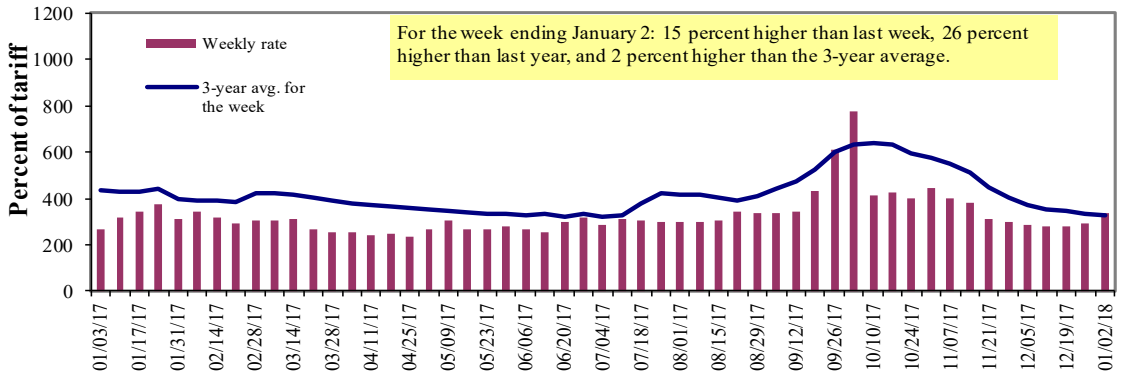
* Beginning January 2009, the Canadian Pacific fuel surcharge is computed by a monthly average of the bi-weekly fuel surcharge.

**CSX strike price changed from $2.00/gal. to $3.75/gal. starting January 1, 2015.

Sources: www.bnsf.com, www.cn.ca, www.cpr.ca, www.csx.com, www.kcsi.com, www.nscorp.com, www.uprr.com

Barge Transportation

Figure 8
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: Transportation & Marketing Programs/AMS/USDA

Table 9
Weekly Barge Freight Rates: Southbound Only

		Twin Cities	Mid-Mississippi	Lower Illinois River	St. Louis	Cincinnati	Lower Ohio	Cairo-Memphis
Rate[1]	1/2/2018	-	-	338	243	263	263	185
	12/26/2017	-	-	293	223	266	266	193
$/ton	1/2/2018	-	-	15.68	9.70	12.33	10.63	5.81
	12/26/2017	-	-	13.60	8.90	12.48	10.75	6.06
Current week % change from the same week:								
	Last year	-	-	26	31	27	27	16
	3-year avg. [2]	-	-	2	13	-8	-8	-2
Rate[1]	February	-	-	317	230	240	240	180
	April	363	305	288	215	217	217	183

[1]Rate = percent of 1976 tariff benchmark index (1976 = 100 percent); [2]4-week moving average; ton = 2,000 pounds; "-" = closed

Source: Transportation & Marketing Programs/AMS/USDA

Figure 9
Benchmark tariff rates

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

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

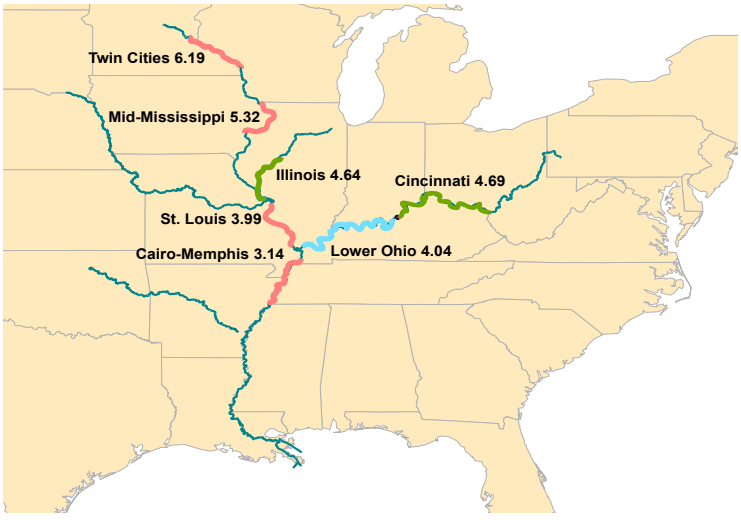
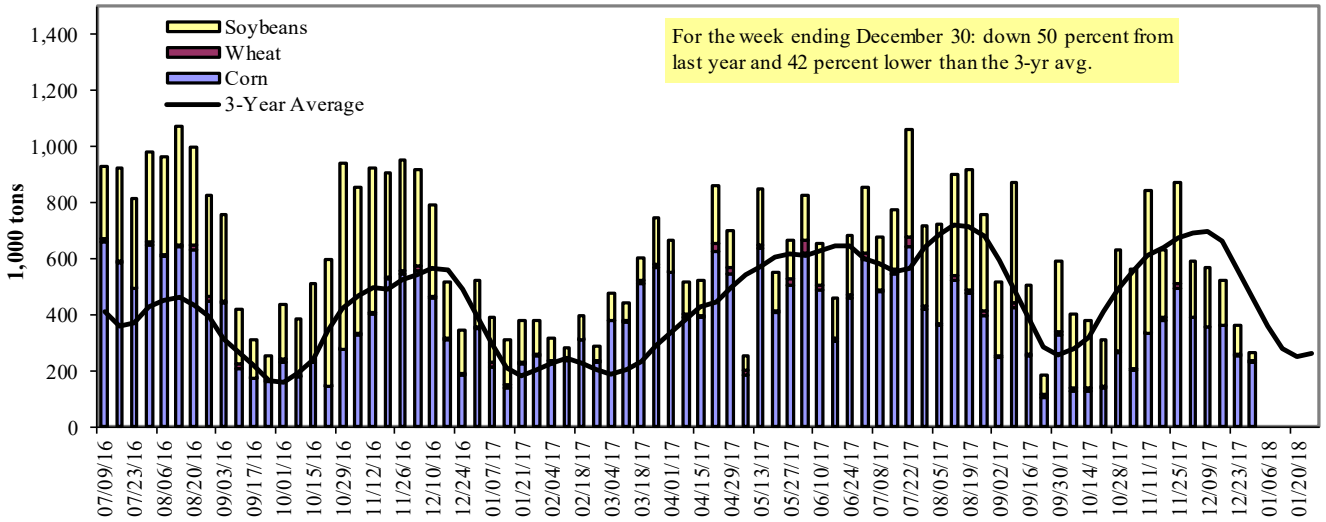


Figure 10

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



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

Source: U.S. Army Corps of Engineers

Table 10

Barge Grain Movements (1,000 tons)

For the week ending 12/30/2017	Corn	Wheat	Soybeans	Other	Total
Mississippi River					
Rock Island, IL (L15)	0	0	0	0	0
Winfield, MO (L25)	18	2	6	0	26
Alton, IL (L26)	214	5	32	0	251
Granite City, IL (L27)	229	5	31	0	264
Illinois River (L8)	165	2	23	0	189
Ohio River (L52)	93	2	191	2	288
Arkansas River (L1)	0	21	43	0	64
Weekly total - 2017	322	28	265	2	616
Weekly total - 2016	415	32	326	0	773
2017 YTD[1]	22,242	2,210	16,123	360	40,936
2016 YTD	24,136	2,030	16,668	344	43,178
2017 as % of 2016 YTD	92	109	97	105	95
Last 4 weeks as % of 2016[2]	93	85	84	135	89
Total 2016	24,136	2,030	16,668	344	43,178

[1] Weekly total, YTD (year-to-date) and calendar year total includes Miss/27, Ohio/52, and Ark/1; "Other" refers to oats, barley, sorghum, and rye.

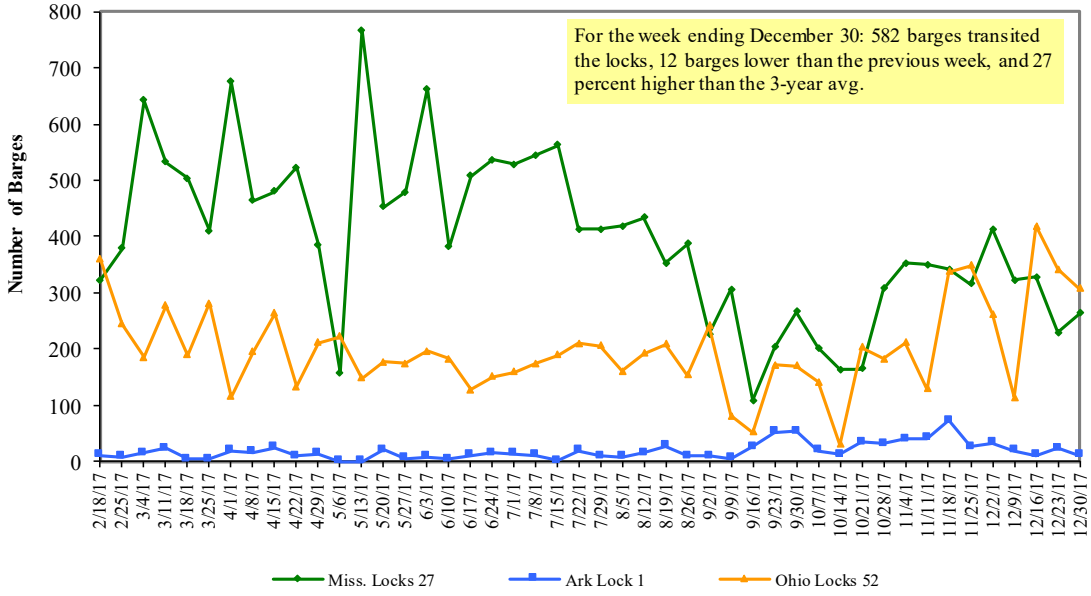
[2] As a percent of same period in 2016.

Note: Total may not add exactly, due to rounding

Source: U.S. Army Corps of Engineers

Figure 11

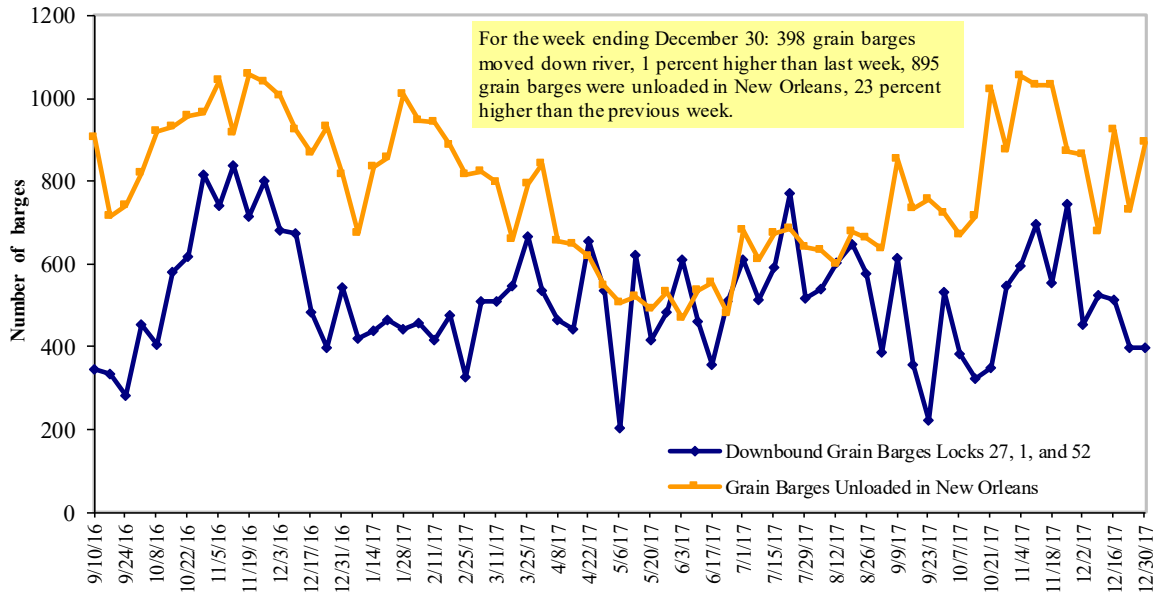
Upbound Empty Barges Transiting Mississippi River Locks 27, Arkansas River Lock and Dam 1, and Ohio River Locks and Dam 52



Source: U.S. Army Corps of Engineers

Figure 12

Grain Barges for Export in New Orleans Region



Source: U.S. Army Corps of Engineers and GIPSA

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 11

Retail on-Highway Diesel Prices, Week Ending 01/1/2018 (US $/gallon)

Region	Location	Price	Change from Week ago	Change from Year ago
I	East Coast	2.980	0.076	0.353
	New England	3.01	0.067	0.345
	Central Atlantic	3.151	0.083	0.375
	Lower Atlantic	2.854	0.072	0.340
II	Midwest[2]	2.935	0.081	0.395
III	Gulf Coast[3]	2.774	0.066	0.323
IV	Rocky Mountain	2.981	0.033	0.446
V	West Coast	3.361	0.049	0.514
	West Coast less California	3.073	0.047	0.316
	California	3.59	0.051	0.669
Total	U.S.	2.973	0.070	0.387

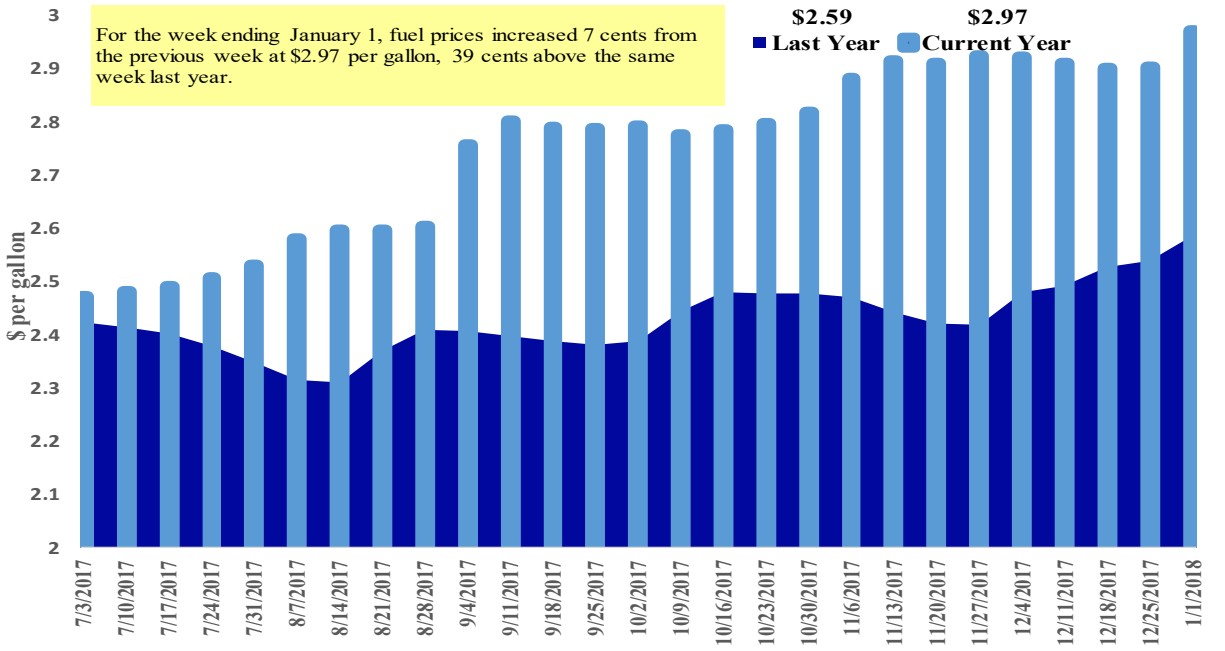
[1]Diesel fuel prices include all taxes. Prices represent an average of all types of diesel fuel.

[2]Same as North Central [3]Same as South Central

Source: Energy Information Administration/U.S. Department of Energy (www.eia.doe.gov)

Figure 13

Weekly Diesel Fuel Prices, U.S. Average



Source: Retail On-Highway Diesel Prices, Energy Information Administration, Dept. of Energy

Grain Exports

Table 12

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]									
12/21/2017	2,295	731	1,610	1,217	58	5,910	16,570	13,261	35,741
This week year ago	2,050	598	2,478	1,147	129	6,402	19,601	16,372	42,374
Cumulative exports-marketing year[2]									
2017/18 YTD	5,487	1,192	3,485	3,061	214	13,439	10,000	27,251	50,691
2016/17 YTD	6,350	1,210	4,250	2,325	230	14,364	15,703	31,513	61,580
YTD 2017/18 as % of 2016/17	86	99	82	132	93	94	64	86	82
Last 4 wks as % of same period 2016/17	106	107	66	110	45	90	79	82	82
2016/17 Total	11,096	2,285	7,923	4,254	484	26,042	41,864	51,156	119,062
2015/16 Total	5,538	3,057	6,285	3,551	670	19,101	45,564	49,821	114,486

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

[2] Shipped export sales to date; new marketing year now in effect for wheat, corn, and soybeans

Note: YTD = year-to-date. Marketing Year: wheat = 6/01-5/31, corn & soybeans = 9/01-8/31

Source: Foreign Agricultural Service/USDA (www.fas.usda.gov)

Table 13

Top 5 Importers[1] of U.S. Corn

For the week ending 12/21/2017	2017/18 Current MY	2016/17 Last MY	% change current MY from last MY	Exports[3] 3-year avg 2014-2016
				- 1,000 mt -
Mexico	9,645	9,946	(3)	12,297
Japan	4,279	5,064	(16)	11,450
Korea	1,092	3,085	(65)	4,494
Colombia	1,951	2,126	(8)	4,179
Peru	1,524	1,596	(5)	2,693
Top 5 Importers	**18,491**	**21,817**	**(15)**	**35,113**
Total US corn export sales	**26,570**	**35,304**	**(25)**	**49,308**
% of Projected	54%	61%		
Change from prior week[2]	**1,246**	**959**		
Top 5 importers' share of U.S. corn export sales	70%	62%		71%
USDA forecast, December 2017	**48,982**	**58,346**	**(16)**	
Corn Use for Ethanol USDA forecast, December 2017	**140,335**	**138,151**	**2**	

[1]Based on FAS Marketing Year Ranking Reports for 2015/16 - www.fas.usda.gov; Marketing year (MY) = Sep 1 - Aug 31.

[2]Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--http://www.fas.usda.gov/esrquery/. 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 - http://apps.fas.usda.gov/export-sales/myrkaug.htm; 3-yr average

Table 14

Top 5 Importers[1] of U.S. Soybeans

For the week ending 12/21/2017	Commitments[2] 2017/18 Current MY	Commitments[2] 2016/17 Last MY	% change current MY from last MY	Exports[3] 3-yr avg. 2014-2016
		- 1,000 mt -		- 1,000 mt -
China	24,035	30,869	(22)	31,881
Mexico	2,103	1,980	6	3,452
Indonesia	892	998	(11)	1,987
Japan	1,170	1,296	(10)	2,067
Netherlands	810	609	0	2,098
Top 5 importers	**29,010**	**35,751**	**(19)**	**41,486**
Total US soybean export sales	**40,512**	**47,885**	**(15)**	**52,919**
% of Projected	66%	81%		
Change from prior week[2]	**975**	**974**		
Top 5 importers' share of U.S. soybean export sales	72%	75%		**78%**
USDA forecast, December 2017	**61,308**	**59,237**	**103**	

(n) indicates negative number.

[1]Based on FAS Marketing Year Ranking Reports for 2015/16 - www.fas.usda.gov; Marketing year (MY) = Sep 1 - Aug 31.

[2]Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--http://www.fas.usda.gov/esrquery/. The total commitments change (net sales) from prior week could include reivisions from previous week's outstanding sales and/or accumulated sales

[3] FAS Marketing Year Final Reports - www.fas.usda.gov/export-sales/myfi_rpt.htm. (Carryover plus Accumulated Exports)

Table 15

Top 10 Importers[1] of All U.S. Wheat

For the week ending 12/21/2017	Total Commitments[2] 2017/18 Current MY	Total Commitments[2] 2016/17 Last MY	% change current MY from last MY	Exports[3] 3-yr avg 2014-2016
	- 1,000 mt -			- 1,000 mt -
Japan	2,140	1,946	10	2,620
Mexico	2,306	2,060	12	2,743
Philippines	2,100	1,946	8	2,395
Brazil	111	1,107	(90)	862
Nigeria	957	1,051	(9)	1,254
Korea	1,305	1,098	19	1,104
China	817	963	(15)	1,623
Taiwan	852	775	10	768
Indonesia	977	699	40	726
Colombia	511	631	(19)	635
Top 10 importers	**12,076**	**12,277**	(2)	**14,729**
Total US wheat export sales	**18,871**	**20,198**	**(7)**	**22,804**
% of Projected	71%	70%		
Change from prior week[2]	**478**	**568**		
Top 10 importers' share of U.S. wheat export sales	64%	61%		65%
USDA forecast, December 2017	**26,567**	**28,747**	**(8)**	

(n) indicates negative number.

[1] Based on FAS Marketing Year Ranking Reports for 2015/16 - www.fas.usda.gov; Marketing year = Jun 1 - May 31.

[2] Cumulative Exports (shipped) + Outstanding Sales (unshipped), FAS Weekly Export Sales Report, or Export Sales Query--http://www.fas.usda.gov/esrquery/. 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 - www.fas.usda.gov/export-sales/myfi_rpt.htm.

Table 16

Grain Inspections for Export by U.S. Port Region (1,000 metric tons)

Port Regions	For the Week Ending 12/28/17	Previous Week*	Current Week as % of Previous	2017 YTD*	2016 YTD*	2017 YTD as % of 2016 YTD	Last 4-weeks as % of: Last Year	Last 4-weeks as % of: Prior 3-yr. avg.	2016 Total*
Pacific Northwest									
Wheat	177	296	60	14,805	12,325	120	133	135	12,325
Corn	248	200	124	10,928	12,009	91	101	226	12,009
Soybeans	200	341	59	13,246	14,447	92	73	73	14,447
Total	**625**	**837**	**75**	**38,978**	**38,782**	**101**	**93**	**105**	**38,782**
Mississippi Gulf									
Wheat	13	63	20	4,198	3,480	121	84	95	3,480
Corn	329	279	118	28,690	31,420	91	68	73	31,420
Soybeans	868	763	114	32,911	35,278	93	83	84	35,278
Total	**1,210**	**1,105**	**109**	**65,800**	**70,178**	**94**	**78**	**81**	**70,178**
Texas Gulf									
Wheat	69	142	49	6,354	6,019	106	60	86	6,019
Corn	0	0	n/a	733	1,669	44	28	59	1,669
Soybeans	0	0	n/a	292	1,105	26	51	52	1,105
Total	**69**	**142**	**49**	**7,379**	**8,792**	**84**	**55**	**76**	**8,792**
Interior									
Wheat	30	20	148	1,727	1,543	112	109	125	1,543
Corn	96	131	73	8,758	7,197	122	121	134	7,197
Soybeans	89	111	81	5,508	4,577	120	121	128	4,577
Total	**215**	**262**	**82**	**15,993**	**13,317**	**120**	**119**	**131**	**13,317**
Great Lakes									
Wheat	0	25	0	711	1,186	60	38	54	1,186
Corn	0	0	n/a	192	584	33	12	29	584
Soybeans	0	43	0	890	910	98	61	41	910
Total	**0**	**68**	**0**	**1,793**	**2,681**	**67**	**44**	**46**	**2,681**
Atlantic									
Wheat	0	0	n/a	46	315	15	0	0	315
Corn	0	0	n/a	32	294	11	0	0	294
Soybeans	41	92	45	2,001	2,269	88	86	80	2,269
Total	**41**	**92**	**45**	**2,079**	**2,878**	**72**	**79**	**76**	**2,878**
U.S. total from ports*									
Wheat	289	547	53	27,841	24,867	112	95	111	24,867
Corn	672	609	110	49,333	53,173	93	81	100	53,173
Soybeans	1,199	1,350	89	54,847	58,587	94	81	81	58,587
Total	**2,160**	**2,506**	**86**	**132,021**	**136,627**	**97**	**83**	**90**	**136,627**

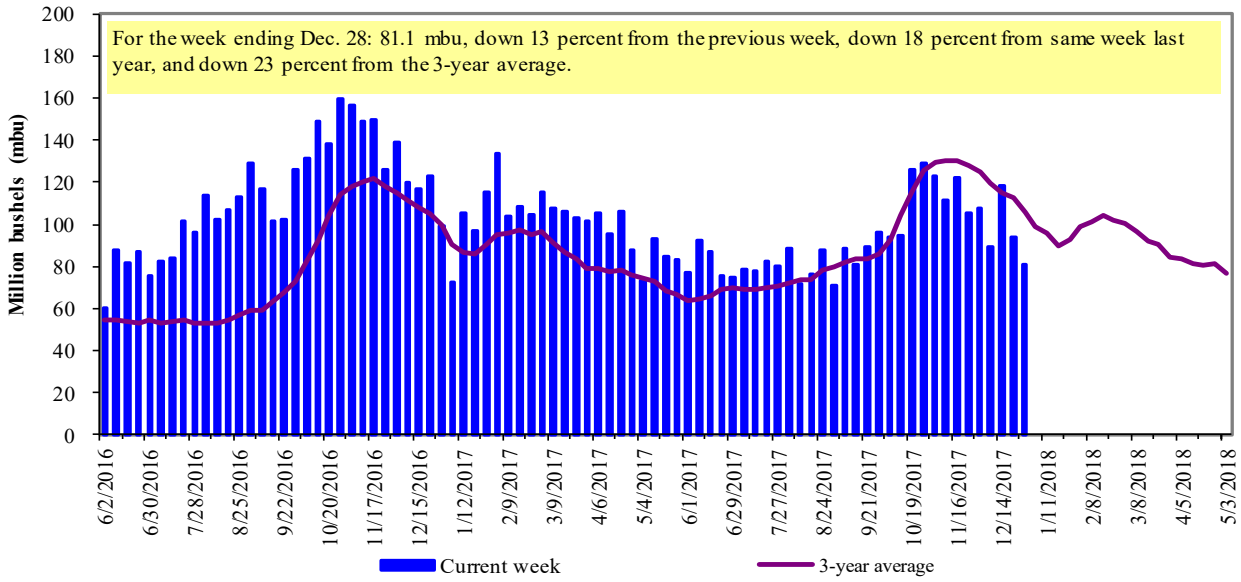
*Data includes revisions from prior weeks; some regional totals may not add exactly due to rounding.

Source: Grain Inspection, Packers and Stockyards Administration/USDA (www.gipsa.usda.gov); YTD= year-to-date; n/a = not applicable

The United States exports approximately one-quarter of the grain it produces. On average, this includes nearly 45 percent of U.S.-grown wheat, 35 percent of U.S.-grown soybeans, and 20 percent of the U.S.-grown corn. Approximately 58 percent of the U.S. export grain shipments departed through the U.S. Gulf region in 2016.

Figure 14

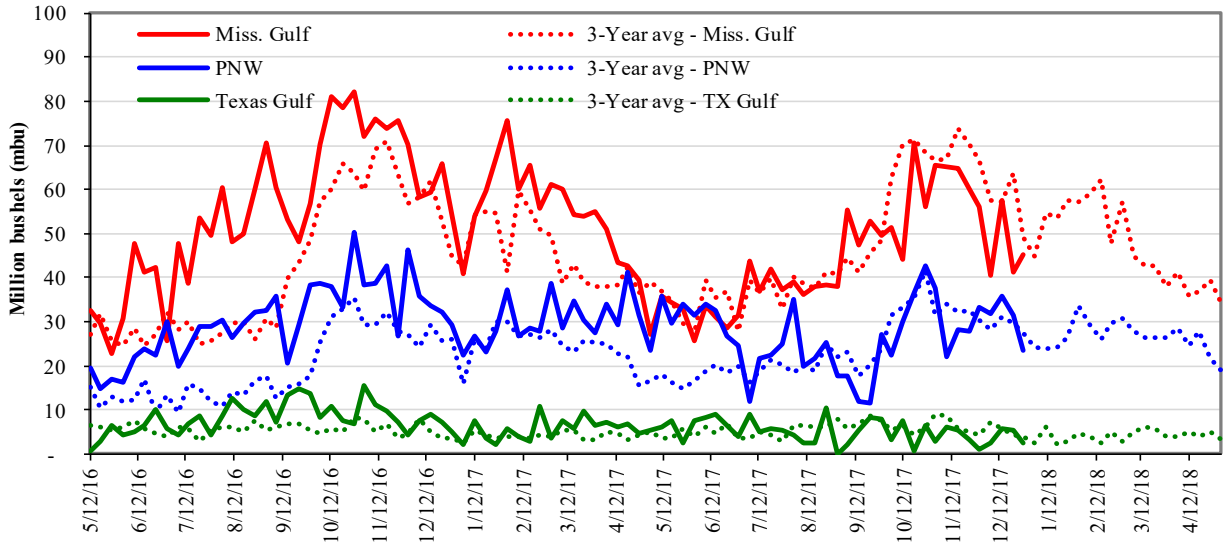
U.S. grain inspected for export (wheat, corn, and soybeans)



Source: Grain Inspection, Packers and Stockyards Administration/USDA (www.gipsa.usda.gov)
Note: 3-year average consists of 4-week running average

Figure 15

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



Week ending 12/28/17 inspections (mbu):	
Mississippi Gulf:	45.3
PNW:	23.6
Texas Gulf:	2.5

Percent change from:	MS Gulf	TX Gulf	U.S. Gulf	PNW
Last Week:	up 10	down 51	up 3	down 25
Last Year (same week):	down 17	down 51	down 20	down 19
3-yr avg. (4-wk. mov. Avg):	down 21	down 52	down 23	down 19

Source: Grain Inspection, Packers and Stockyards Administration/USDA (www.gipsa.usda.gov)

Ocean Transportation

Table 17

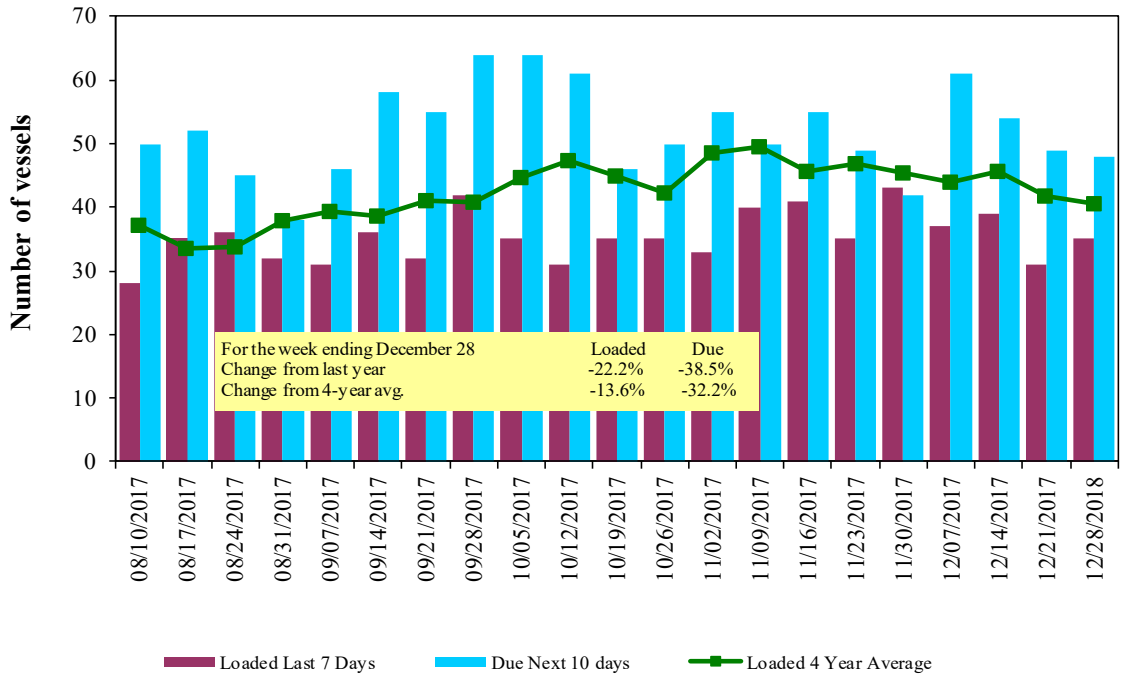
Weekly Port Region Grain Ocean Vessel Activity (number of vessels)

	Gulf			Pacific Northwest
Date	In port	Loaded 7-days	Due next 10-days	In port
12/28/2017	53	35	48	7
12/21/2017	52	31	49	12
2016 range	(21..62)	(27..55)	(40..87)	(6..27)
2016 avg.	43	40	62	15

Source: Transportation & Marketing Programs/AMS/USDA

Figure 16

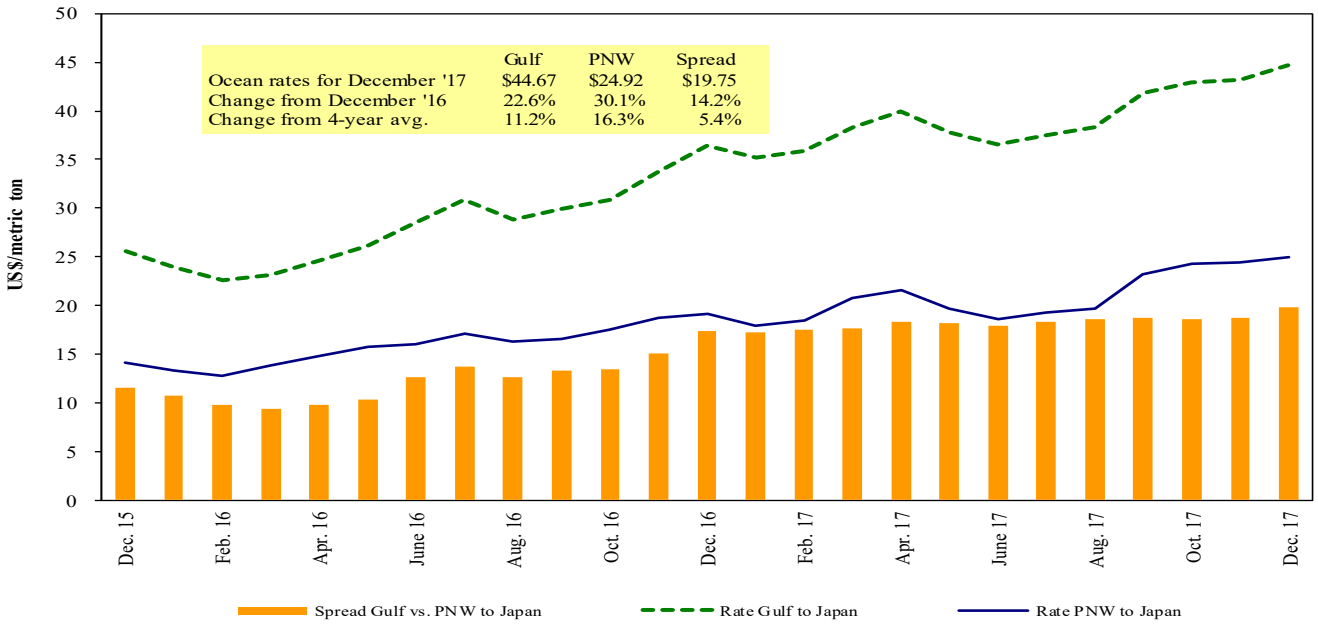
U.S. Gulf Vessel Loading Activity



Source:Transportation & Marketing Programs/AMS/USDA
[1]U.S. Gulf includes Mississippi, Texas, and East Gulf.

Figure 17

Grain Vessel Rates, U.S. to Japan



Data Source: O'Neil Commodity Consulting

Table 18

Ocean Freight Rates For Selected Shipments, Week Ending 12/30/2017

Export region	Import region	Grain types	Loading date	Volume loads (metric tons)	Freight rate (US$/metric ton)
U.S. Gulf	China	Heavy Grain	Jan 1/10	60,000	45.50
U.S. Gulf	China	Heavy Grain	Dec 15/20	60,000	44.00
U.S. Gulf	China	Heavy Grain	Dec 10/20	60,000	43.25
U.S. Gulf	China	Heavy Grain	Nov 27/Dec 5	47,700	40.50
U.S. Gulf	China	Heavy Grain	Nov 20/30	66,000	41.25
U.S. Gulf	China	Heavy Grain	Nov 20/30	66,000	42.00
U.S. Gulf	China	Heavy Grain	Nov 15/25	65,000	43.85
U.S. Gulf	China	Heavy Grain	Nov 10/20	66,000	43.75
U.S. Gulf	China	Heavy Grain	Nov 10/15	66,000	40.25
U.S. Gulf	China	Heavy Grain	Nov 1/10	66,000	42.00
U.S. Gulf	China	Heavy Grain	Nov 1/10	66,000	41.75
U.S. Gulf	China	Heavy Grain	Nov 1/10	66,000	41.25
U.S. Gulf	China	Heavy Grain	Nov 1/10	66,000	42.00
U.S. Gulf	China	Heavy Grain	Nov 1/10	66,000	41.50
U.S. Gulf	Dakar	Wheat	Nov 20/30	7,500	73.89*
U.S. Gulf	Somali	Sorghum	Dec 1/10	10,640	192.10*
PNW	China	Heavy Grain	Dec 23/30	60,000	22.25
PNW	China	Heavy Grain	Dec 15/24	60,000	23.75
PNW	South Korea	Heavy Grain	Dec 14/20	60,000	24.00
Brazil	China	Heavy Grain	Dec 1/10	60,000	31.90
Brazil	China	Heavy Grain	Nov 20/30	60,000	33.75
Brazil	China	Heavy Grain	Nov 1/10	60,000	31.90
Brazil	China	Heavy Grain	Oct 25/Nov 10	60,000	32.50
Brazil	S. Korea	Heavy Grain	Nov 22/29	63,000	33.25

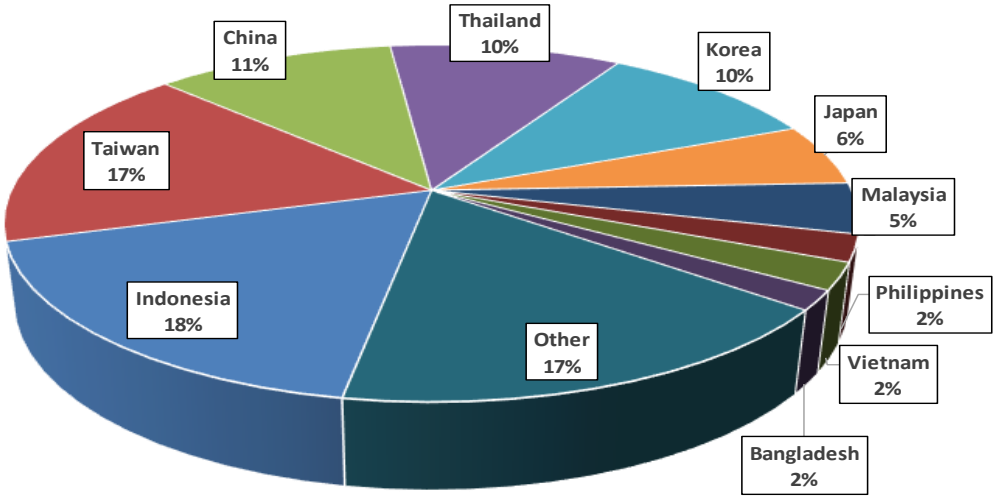
Rates shown are per metric ton (2,204.62 lbs. = 1 metric ton), F.O.B., except where otherwise indicated; op = option

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

Source: Maritime Research Inc. (www.maritime-research.com)

In 2015, containers were used to transport 8 percent of total U.S. waterborne grain exports. Approximately 64 percent of U.S. waterborne grain exports in 2015 went to Asia, of which 12 percent were moved in containers. Approximately 94 percent of U.S. waterborne containerized grain exports were destined for Asia.

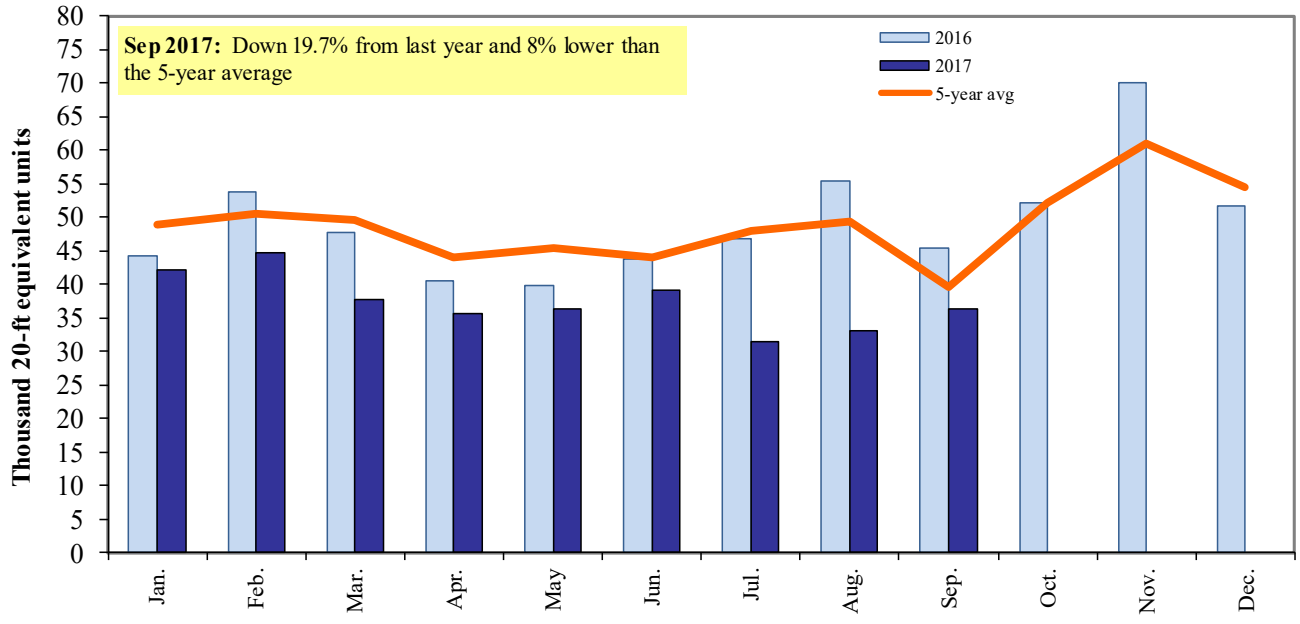
Figure 18
Top 10 Destination Markets for U.S. Containerized Grain Exports, January-September 2017



Source: USDA/Agricultural Marketing Service/Transportation Services Division analysis of Port Import Export Reporting Service (PIERS) data

Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: 100190, 100200, 100300, 100400, 100590, 100700, 110100, 230310, 110220, 110290, 120100, 230210, 230990, 230330, and 120810.

Figure 19
Monthly Shipments of Containerized Grain to Asia



Source: USDA/Agricultural Marketing Service/Transportation Services Division analysis of Port Import Export Reporting Service (PIERS) data.

Note: The following Harmonized Tariff Codes are used to calculate containerized grains movements: 100190, 100200, 100300, 100400, 100590, 100700, 110100, 110220, 110290, 120100, 120810, 230210, 230310, 230330, and 230990.

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