

MARKET INTELLIGENCE

Produced Jointly By PCA's Market Intelligence Group & NRMCA's Financial Reporting Group
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Consumption Trends Summary - March 2020

Current Month

According to PCA's dues data, cement consumption increased 3.3% in March compared to a year prior. Three divisions saw decreases, while six saw increases from the same month last year. The West North Central and the Mountain divisions saw the largest increases, rising 32.7% and 17.6%, respectively. The Pacific and the East South Central regions saw the largest decreases this month, falling 10.2% and 9.6% from the same month last year.

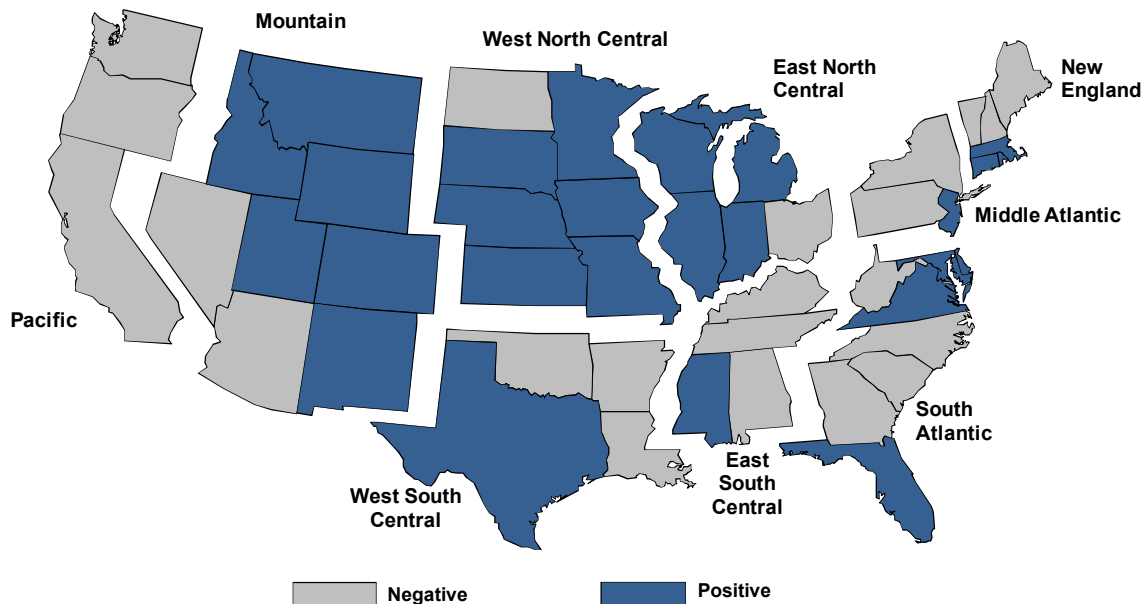
Weather Impact

Moving forward, the Consumption Trend report will include weather impact analysis. The analysis aims to quantify the effect of weather on cement consumption as cement is unable to be poured during inclement weather. Our model captures this effect by combining PCA's Dues data with robust AccuWeather data sets to produce a state-level weather adjusted annual growth rate, count of monthly/YTD pouring days and an index that represents the deviation from the average count of pouring days.

Year-to-Date

Based off of PCA's dues, the implied year-to-date growth rate through March was 7.5%. Starting to cool from the strong start to the year, March drove the national growth rate down 1.7% from February. The West and East North Central divisions continued to increase, posting the largest year-to-date increases at 29.9% and 23.4%, respectively. New England and the Mountain divisions also saw sizable increases to start 2020 at 22.4% and 17.9%. The East South Central saw the only year-to-date decline compared to 2019 with a decline of 2.9%.

Portland Cement Consumption March Shipments Projections (Y/Y % Change)



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March 2020

U.S. Regional Cement Shipments

<u>Year-Year % Change</u> <u>Current Month</u>		<u>Year-Year % Change</u> <u>Current Month</u>	
New England	16.2%	West North Central	32.7%
Connecticut	31.9%	Iowa	102.6%
Maine	(1)	Kansas	22.2%
Massachusetts	19.7%	Minnesota	22.1%
New Hampshire	-45.0%	Missouri	8.3%
Rhode Island	24.8%	Nebraska	97.3%
Vermont	-48.7%	North Dakota	-28.6%
Middle Atlantic	-1.4%	South Dakota	39.7%
New Jersey	18.2%	West South Central	0.2%
New York	-4.2%	Arkansas	-1.0%
Pennsylvania	-9.5%	Louisiana	-13.9%
South Atlantic	2.4%	Oklahoma	-21.1%
Delaware	27.7%	Texas	4.0%
District of Columbia	(1)	Mountain	17.6%
Florida	8.0%	Arizona	-1.2%
Georgia	-3.0%	Colorado	34.7%
Maryland (2)	2.8%	Idaho	84.1%
North Carolina	-0.9%	Montana	(1)
South Carolina	-12.2%	Nevada	-5.0%
Virginia	7.9%	New Mexico	52.6%
West Virginia	-26.0%	Utah	28.3%
East North Central	14.9%	Wyoming	116.9%
Illinois	21.0%	Pacific	-10.2%
Indiana	23.9%	California	-7.8%
Michigan	30.0%	Hawaii	(1)
Ohio	-3.0%	Oregon	-3.6%
Wisconsin	19.7%	Washington	-32.9%
East South Central	-9.6%		
Alabama	-9.2%		
Kentucky	-30.5%		
Mississippi	5.9%		
Tennessee	-5.5%		
		U.S. Total	3.3%

States With Negative Growth

21

States With Positive Growth

25

(1) Data withheld due to disclosure restrictions but included in division and U.S. totals.

(2) Includes District of Columbia.

These estimates provide a preliminary view of state and district monthly cement consumption trends, pending confirmation of those trends by the U.S. Geological Survey (USGS). Estimates are based upon shipments by destination data which PCA member companies normally submit both to PCA and to the USGS. Where PCA has not received data from a member company as of the publication date, that company's shipments are excluded from these estimates. These estimates are also adjusted to account for changes in PCA reporting membership. Estimates are reported in such a manner as to protect the confidentiality of individual company data, which is maintained by PCA in the strictest confidence.

The accuracy of these estimates cannot be guaranteed. Coverage may be incomplete and revisions may occur. Portland Cement Association assumes no legal responsibility for the outcome of decisions or commitments made on the basis of this information.

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March 2020

U.S. Regional Cement Shipments ⁽³⁾

<u>Year-Year % Change</u> <u>Implied Year-to-Date</u>		<u>Year-Year % Change</u> <u>Implied Year-to-Date</u>	
New England	22.4%	West North Central	29.9%
Connecticut	26.7%	Iowa	63.7%
Maine	⁽¹⁾	Kansas	29.7%
Massachusetts	19.9%	Minnesota	17.7%
New Hampshire	-31.4%	Missouri	19.6%
Rhode Island	33.1%	Nebraska	67.8%
Vermont	-34.0%	North Dakota	-12.1%
Middle Atlantic	9.6%	South Dakota	23.3%
New Jersey	25.4%	West South Central	2.4%
New York	2.5%	Arkansas	10.4%
Pennsylvania	8.8%	Louisiana	-11.0%
South Atlantic	1.3%	Oklahoma	-17.2%
Delaware	21.9%	Texas	5.5%
District of Columbia	⁽¹⁾	Mountain	17.9%
Florida	5.7%	Arizona	7.0%
Georgia	-5.0%	Colorado	24.5%
Maryland ⁽²⁾	10.6%	Idaho	61.1%
North Carolina	-4.2%	Montana	⁽¹⁾
South Carolina	-12.5%	Nevada	2.2%
Virginia	10.3%	New Mexico	52.7%
West Virginia	-29.4%	Utah	21.8%
East North Central	23.4%	Wyoming	53.7%
Illinois	35.9%	Pacific	1.7%
Indiana	23.1%	California	10.1%
Michigan	36.0%	Hawaii	⁽¹⁾
Ohio	9.0%	Oregon	1.3%
Wisconsin	27.8%	Washington	-7.4%
East South Central	-2.9%		
Alabama	-11.6%		
Kentucky	-4.1%		
Mississippi	2.4%		
Tennessee	2.4%		
		U.S. Total	7.5%

States With Negative Growth 12
States With Positive Growth 34

⁽¹⁾ Data withheld due to disclosure restrictions but included in division and U.S. totals.

⁽²⁾ Includes District of Columbia.

Implied YTD estimates are calculated by appending PCA member data for the current month to actual USGS data if available for the previous months in the year and comparing against the same YTD period of the previous year. If USGS data is delayed, two previous months will be estimated and noted.

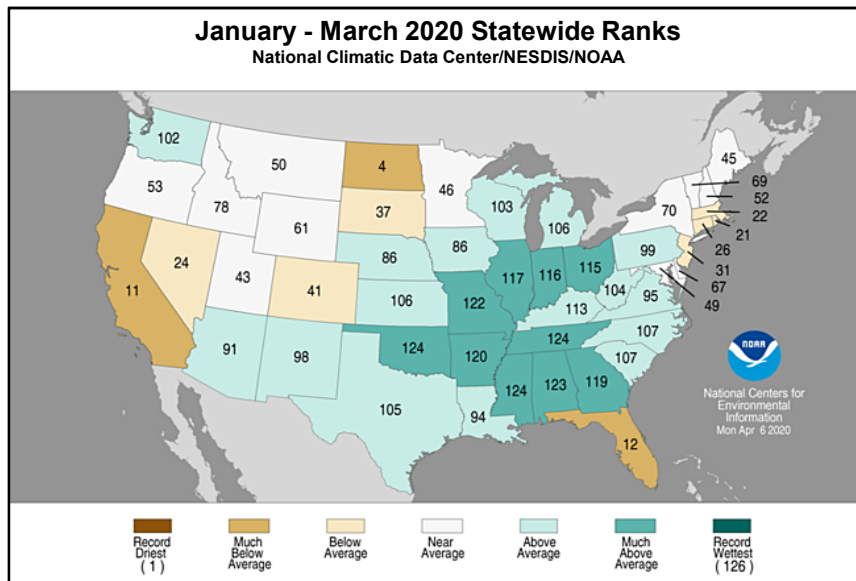
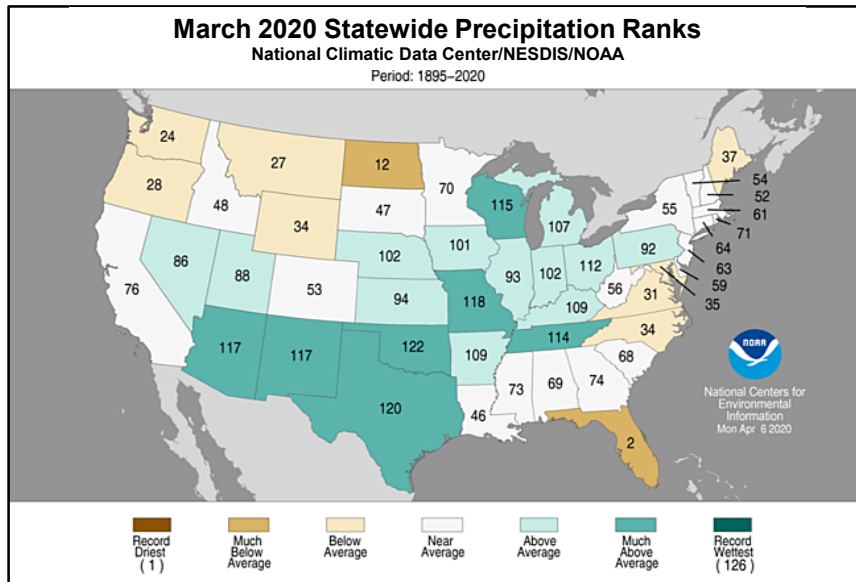
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Based on PCA's February and March shipment's data.

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Consumption Trends Summary - March 2020

Weather can have a significant impact on cement/concrete consumption and can temporarily distort sales trends. The following National Oceanic Atmospheric Administration (NOAA) precipitation maps may provide some regional and state-by-state insight into monthly and year-to-date trend distortions in consumption activity caused by weather anomalies. Extreme weather such as tornadoes and hurricanes are not necessarily included in these maps and could indicate a much larger impact on cement consumption in their occurrence.



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March 2020 Weather Adjusted Annual Growth Rate

	Unadjusted Growth Rate	Adjusted Growth Rate		Unadjusted Growth Rate	Adjusted Growth Rate
New England	16.2%	27.9%	West North Central	32.7%	34.0%
Connecticut	31.9%	26.5%	Iowa	102.6%	96.3%
Maine	(1)	(1)	Kansas	22.2%	18.3%
Massachusetts	19.7%	36.0%	Minnesota	22.1%	38.3%
New Hampshire	-45.0%	-24.7%	Missouri	8.3%	3.1%
Rhode Island	24.8%	36.3%	Nebraska	97.3%	79.4%
Vermont	-48.7%	-25.1%	North Dakota	-28.6%	9.6%
Middle Atlantic	-1.4%	-1.1%	South Dakota	39.7%	47.7%
New Jersey	18.2%	13.8%	West South Central	0.2%	-3.6%
New York	-4.2%	0.2%	Arkansas	-0.1%	-1.2%
Pennsylvania	-9.5%	-11.1%	Louisiana	-13.9%	-25.2%
South Atlantic	2.4%	-9.6%	Oklahoma	-21.1%	-25.6%
Delaware	27.7%	40.9%	Texas	4.0%	1.1%
District of Columbia	(1)	(1)	Mountain	19.0%	9.7%
Florida	8.0%	-5.5%	Arizona	-1.2%	-23.7%
Georgia	-3.0%	-1.6%	Colorado	34.7%	21.7%
Maryland	-1.8%	-35.5%	Idaho	83.9%	79.1%
North Carolina	-0.9%	-23.4%	Montana	(1)	(1)
South Carolina	-12.2%	-20.9%	Nevada	-5.0%	-3.7%
Virginia	7.9%	0.9%	New Mexico	52.6%	48.6%
West Virginia	-26.0%	-20.9%	Utah	28.3%	16.3%
East North Central	14.9%	12.7%	Wyoming	116.9%	141.0%
Illinois	21.0%	22.1%	Pacific	-10.1%	-13.9%
Indiana	23.9%	17.6%	California	-7.8%	-14.4%
Michigan	30.0%	34.2%	Hawaii	(1)	(1)
Ohio	-3.0%	-13.9%	Oregon	-3.6%	-7.4%
Wisconsin	19.7%	24.3%	Washington	-32.9%	-24.1%
East South Central	-9.6%	-5.3%			
Alabama	-9.2%	-15.1%	United States	3.3%	-0.8%
Kentucky	-30.5%	-31.1%			
Mississippi	5.9%	4.2%			
Tennessee	-5.5%	12.2%			

(1) Data withheld due to disclosure restrictions but included in division and U.S. totals

The adjusted annual growth rate can be interpreted as the yearly change in cement consumption while taking into consideration weather variability. Meaning, that these growth rates represent year-over-year consumption growth if weather was averagely adequate. The adjusted growth rate is calculated taking the difference of year-over-year percent change of membership dues and the percent deviation from the mean in monthly pouring days. Mean pouring days is calculated using internally placed thresholds and a 20-year period of daily weather metrics.

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March 2020 YTD Weather Adjusted Annual Growth Rate

	Unadjusted Growth Rate	Adjusted Growth Rate		Unadjusted Growth Rate	Adjusted Growth Rate
New England	22.4%	-5.4%	West North Central	29.9%	12.0%
Connecticut	26.7%	49.1%	Iowa	63.7%	79.1%
Maine	(1)	(1)	Kansas	29.7%	16.5%
Massachusetts	19.9%	-8.1%	Minnesota	17.7%	-27.0%
New Hampshire	-31.4%	-84.4%	Missouri	19.6%	19.3%
Rhode Island	33.1%	0.3%	Nebraska	67.8%	102.4%
Vermont	-34.0%	-92.6%	North Dakota	-12.1%	-89.7%
Middle Atlantic	9.6%	-2.6%	South Dakota	23.3%	-2.8%
New Jersey	25.4%	30.5%	West South Central	2.4%	16.9%
New York	2.5%	-11.8%	Arkansas	10.4%	12.5%
Pennsylvania	8.8%	-10.2%	Louisiana	-11.0%	1.3%
South Atlantic	1.3%	19.8%	Oklahoma	-17.2%	-0.6%
Delaware	21.9%	10.5%	Texas	5.5%	20.7%
District of Columbia	(1)	(1)	Mountain	17.9%	22.1%
Florida	5.7%	30.3%	Arizona	7.0%	41.3%
Georgia	-5.0%	-7.9%	Colorado	24.5%	22.8%
Maryland	10.6%	58.3%	Idaho	61.1%	96.7%
North Carolina	-4.2%	35.1%	Montana	(1)	(1)
South Carolina	-12.5%	7.8%	Nevada	2.2%	-5.0%
Virginia	10.3%	17.0%	New Mexico	52.7%	56.4%
West Virginia	-29.4%	-36.3%	Utah	21.8%	30.2%
East North Central	23.4%	11.6%	Wyoming	53.7%	66.7%
Illinois	35.9%	7.5%	Pacific	1.7%	3.6%
Indiana	23.1%	25.8%	California	10.1%	13.8%
Michigan	36.0%	22.6%	Hawaii	(1)	(1)
Ohio	9.0%	24.7%	Oregon	1.3%	7.8%
Wisconsin	27.8%	-7.0%	Washington	-7.4%	-49.8%
East South Central	-2.9%	-12.3%	United States	7.5%	9.1%
Alabama	-11.6%	0.3%			
Kentucky	-4.1%	-30.2%			
Mississippi	2.4%	15.1%			
Tennessee	2.4%	-21.7%			

(1) Data withheld due to disclosure restrictions but included in division and U.S. totals

The YTD adjusted annual growth rate can be interpreted as the yearly change in cement consumption while taking into consideration weather variability. Meaning, that these growth rates represent year-over-year consumption growth if weather was averagely adequate. The adjusted growth rate is calculated taking the difference of year-over-year percent change of YTD membership dues and the YTD percent deviation from the mean in monthly pouring days. Mean pouring days is calculated using internally placed thresholds and a 20-year period of daily weather metrics.

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Cement Weighted Pouring Days, Historical Average and Y-Y Change

Maximum Pouring Days: 22	Pouring Days	Avg Pouring Days	Year/Year % Change		Pouring Days	Avg Pouring Days	Year/Year % Change
New England	17.8	20.2	-12.5%	West North Central	18.4	17.7	0.0%
Connecticut	19.0	18.0	-7.4%	Iowa	20.3	19.1	10.1%
Maine	14.9	19.1	-22.4%	Kansas	20.6	19.8	4.3%
Massachusetts	18.3	21.8	-11.1%	Minnesota	16.5	19.7	-4.4%
New Hampshire	15.8	19.8	-21.6%	Missouri	19.3	18.4	1.0%
Rhode Island	18.7	21.2	-6.2%	Nebraska	19.4	16.4	3.0%
Vermont	14.8	19.4	-24.3%	North Dakota	11.4	18.4	-33.9%
Middle Atlantic	19.3	19.4	-1.7%	South Dakota	17.6	19.2	3.9%
New Jersey	19.9	19.0	3.4%	West South Central	20.0	19.3	-6.5%
New York	19.4	20.3	-1.3%	Arkansas	18.4	18.2	-9.1%
Pennsylvania	18.9	18.6	-4.6%	Louisiana	20.9	18.8	-1.8%
South Atlantic	20.4	18.6	-1.1%	Oklahoma	19.2	18.4	-8.2%
Delaware	19.2	22.1	-2.7%	Texas	20.1	19.5	-6.8%
District of Columbia	20.8	16.2	7.8%	Mountain	19.9	18.3	-5.6%
Florida	21.6	19.1	1.5%	Arizona	21.2	17.3	-2.8%
Georgia	18.8	19.9	-9.0%	Colorado	19.4	17.2	-6.4%
Maryland	20.4	15.3	5.3%	Idaho	19.3	18.4	-10.7%
North Carolina	19.8	16.2	-0.3%	Montana	14.2	19.8	-23.1%
South Carolina	19.9	18.3	-4.9%	Nevada	19.6	19.9	-9.9%
Virginia	19.9	20.3	1.5%	New Mexico	20.8	20.0	-2.4%
West Virginia	19.3	18.6	-9.3%	Utah	21.3	19.0	4.9%
East North Central	19.0	18.7	-1.0%	Wyoming	14.5	19.0	-27.8%
Illinois	20.2	20.4	3.3%	Pacific	20.2	19.5	-4.4%
Indiana	20.4	19.2	8.8%	California	20.4	19.1	-2.6%
Michigan	18.3	19.1	-5.5%	Hawaii	19.8	21.7	-8.9%
Ohio	18.0	16.2	-6.5%	Oregon	19.9	19.2	-4.9%
Wisconsin	18.1	19.0	-2.9%	Washington	19.5	21.3	-12.5%
East South Central	18.2	19.1	-10.4%	United States	19.6	18.9	-3.8%
Alabama	19.4	18.3	-5.3%				
Kentucky	18.4	18.3	-8.7%				
Mississippi	19.1	18.8	-9.6%				
Tennessee	16.8	20.4	-15.7%				

U.S. Pouring days are counted and defined as any day that falls between 20-100 degrees Fahrenheit and has less than 0.3 inches of rain. Days with 0.3-0.6 inches of rain are considered half a pouring day. Weekends and federal holidays are excluded. Once county pouring days are calculated, they are weighted by average cement consumption to build state level pouring days.

Historical Average Pouring Days are calculated using daily weather data from 1/1/2000-12/31/2019.

Year/Year % change column reflects change in pouring days for the month.

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YTD Cement Weighted Pouring Days, Historical Average and Y-Y Change

Maximum Pouring Days: 62	Pouring Days	Avg Pouring Days	Year/Year % Change		Pouring Days	Avg Pouring Days	Year/Year % Change
New England	43.9	56.0	-14.4%	West North Central	38.0	46.7	-17.7%
Connecticut	50.2	42.8	-6.9%	Iowa	38.4	50.1	-18.4%
Maine	29.4	51.1	-32.2%	Kansas	49.3	52.2	-14.8%
Massachusetts	46.4	64.2	-12.5%	Minnesota	26.7	52.5	-26.4%
New Hampshire	34.7	57.2	-26.2%	Missouri	50.1	45.1	-9.6%
Rhode Island	47.1	62.3	-11.0%	Nebraska	40.3	38.3	-19.7%
Vermont	28.7	51.2	-31.6%	North Dakota	18.2	32.8	-24.0%
Middle Atlantic	50.7	48.3	-4.8%	South Dakota	28.9	50.3	-25.5%
New Jersey	54.6	33.3	1.2%	West South Central	58.0	49.7	0.8%
New York	50.2	54.4	-5.9%	Arkansas	52.3	46.0	-0.7%
Pennsylvania	49.3	49.6	-6.9%	Louisiana	56.4	49.0	-0.6%
South Atlantic	56.9	46.9	0.9%	Oklahoma	55.2	45.8	-2.9%
Delaware	54.8	66.1	0.9%	Texas	58.8	50.4	1.4%
District of Columbia	56.5	43.6	-0.4%	Mountain	48.1	46.0	-16.8%
Florida	61.1	50.0	4.6%	Arizona	60.7	42.6	0.0%
Georgia	51.9	54.6	-4.1%	Colorado	36.3	41.2	-36.9%
Maryland	57.7	37.1	1.4%	Idaho	48.4	42.9	-13.6%
North Carolina	55.0	28.7	-0.2%	Montana	32.2	55.3	-18.2%
South Carolina	55.5	46.2	-2.0%	Nevada	52.4	52.4	-9.2%
Virginia	55.3	50.7	-0.3%	New Mexico	55.6	53.6	-7.8%
West Virginia	49.6	55.3	-6.7%	Utah	49.7	48.8	-17.6%
East North Central	45.9	47.5	-9.4%	Wyoming	24.2	48.7	-48.7%
Illinois	47.6	55.0	-9.7%	Pacific	58.8	51.7	6.2%
Indiana	50.5	49.6	-5.5%	California	60.7	49.9	9.8%
Michigan	44.6	48.2	-11.2%	Hawaii	58.1	63.2	0.3%
Ohio	48.3	37.8	-5.9%	Oregon	55.5	49.8	-0.5%
Wisconsin	36.3	49.5	-18.5%	Washington	49.6	59.7	-9.2%
East South Central	49.4	50.8	-2.9%	United States	52.1	48.6	-1.3%
Alabama	50.6	46.2	-6.2%				
Kentucky	48.5	48.4	-5.2%				
Mississippi	53.3	48.8	0.2%				
Tennessee	47.4	56.6	-0.1%				

YTD U.S. Pouring days are counted and defined as any day that falls between 20-100 degrees Fahrenheit and has less than 0.3 inches of rain. Days with 0.3-0.6 inches of rain are considered half a pouring day. Weekends and federal holidays are excluded. Once county pouring days are calculated, they are weighted by average cement consumption to build state level pouring days.

Historical Average Pouring Days are calculated by summing monthly average pouring days using daily weather data from 1/1/2000-12/31/2019.

Year/Year % change column reflects change in YTD pouring days.

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Historical Accuracy February 2019 - January 2020

New England		West North Central	
Connecticut	85.7%	Iowa	92.0%
Maine	(1)	Kansas	96.0%
Massachusetts	97.4%	Minnesota	97.5%
New Hampshire	80.5%	Missouri	94.1%
Rhode Island	86.6%	Nebraska	91.6%
Vermont	81.7%	North Dakota	94.1%
Middle Atlantic		South Dakota	
New Jersey	96.3%		99.5%
New York	95.0%	West South Central	
Pennsylvania	96.4%	Arkansas	95.6%
South Atlantic		Louisiana	98.2%
Delaware	95.9%	Oklahoma	92.7%
District of Columbia	(1)	Texas	97.6%
Florida	99.0%	Mountain	
Georgia	97.3%	Arizona	96.3%
Maryland (2)	97.4%	Colorado	97.8%
North Carolina	93.2%	Idaho	90.0%
South Carolina	95.8%	Montana	(1)
Virginia	99.2%	Nevada	94.8%
West Virginia	88.4%	New Mexico	99.4%
East North Central		Utah	96.3%
Illinois	96.8%	Wyoming	90.5%
Indiana	98.5%	Pacific	
Michigan	95.7%	California	99.0%
Ohio	97.0%	Hawaii	(1)
Wisconsin	96.0%	Oregon	95.2%
East South Central		Washington	88.2%
Alabama	90.3%	Historical Accuracy	
Kentucky	96.0%	U.S. Total	99.1%
Mississippi	97.5%		
Tennessee	96.6%		

(1) Data withheld due to disclosure restrictions but included in District and U.S. totals.

(2) Includes District of Columbia.

These estimates provide an indication of the risks associated with using PCA's preliminary data. Historical accuracy rating is based on an average of absolute differences in percent growth between data reported by the USGS and estimates generated by PCA using the methodology described previously. A 99% accuracy rating, for example, indicates that recent estimates using the PCA methodology were incorrect by an average plus or minus one percent swing in percentage growth rates. The accuracy rating is based on a 12 month rolling average of historical data.

The accuracy of these estimates cannot be guaranteed. Coverage may be incomplete and revisions may occur. Portland Cement

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Directional Accuracy February 2019 - January 2020

New England		West North Central	
Connecticut	58.3%	Iowa	75.0%
Maine	(1)	Kansas	100.0%
Massachusetts	100.0%	Minnesota	83.3%
New Hampshire	58.3%	Missouri	91.7%
Rhode Island	66.7%	Nebraska	91.7%
Vermont	58.3%	North Dakota	100.0%
Middle Atlantic		South Dakota	
New Jersey	83.3%	100.0%	
New York	83.3%	West South Central	
Pennsylvania	91.7%	Arkansas	100.0%
South Atlantic		Louisiana	100.0%
Delaware	91.7%	Oklahoma	91.7%
District of Columbia	(1)	Texas	91.7%
Florida	100.0%	Mountain	
Georgia	91.7%	Arizona	91.7%
Maryland (2)	83.3%	Colorado	100.0%
North Carolina	75.0%	Idaho	91.7%
South Carolina	100.0%	Montana	(1)
Virginia	91.7%	Nevada	100.0%
West Virginia	75.0%	New Mexico	100.0%
East North Central		Utah	91.7%
Illinois	91.7%	Wyoming	100.0%
Indiana	100.0%	Pacific	
Michigan	83.3%	California	91.7%
Ohio	75.0%	Hawaii	(1)
Wisconsin	91.7%	Oregon	91.7%
East South Central		Washington	41.7%
Alabama	100.0%	Directional Accuracy	
Kentucky	91.7%	U.S. Total	100.0%
Mississippi	100.0%		
Tennessee	91.7%		

(1) Data withheld due to disclosure restrictions but included in District and U.S. totals.

(2) Includes District of Columbia

Directional accuracy determines how accurate PCA member data correctly matches the directional movement to monthly USGS actual on a percent change basis only. A 90% accuracy rating, for example, means that PCA member data correctly indicated the direction of change (either negative or positive) as later reported by USGS in 9 out of 10 instances. The accuracy rating is based on an analysis of the monthly direction of change for the most recent 12 months for which USGS has reported data.

The accuracy of the estimates presented in this report cannot be guaranteed. Coverage may be incomplete and revisions may occur. Portland Cement Association assumes no legal responsibility for the outcome of decisions or commitments made on the basis of this information.

MARKET INTELLIGENCE

Explanatory Notes

Current Month Growth Rates

These estimates provide a preliminary view of state and district monthly cement consumption trends, pending confirmation of those trends by the U.S. Geological Survey (USGS). Estimates are based upon shipments by destination data which PCA member companies normally submit both to PCA and to the USGS. Where PCA has not received data from a member company as of the publication date, that company's shipments are excluded from these estimates. These estimates are also adjusted to account for changes in PCA reporting membership. Estimates are reported in such a manner as to protect the confidentiality of individual company data, which is maintained by PCA in the strictest confidence.

Implied Year-to-Date Growth Rates

These estimates provide a preliminary view of YTD data on a state and district basis. Implied YTD estimates are calculated by appending PCA member data for the current month onto actual USGS data, for the previous months in the year. If USGS data is delayed, two previous months will be estimated and noted.

Historical Accuracy

These estimates provide an indication of the risks associated with using PCA's preliminary data. Historical accuracy rating is based on an average of absolute differences in percent growth between data reported by the USGS and estimates generated by PCA using the methodology described previously.

A 99% accuracy rating, for example, indicates that recent estimates using the PCA methodology were incorrect by an average plus or minus one percent swing in percentage growth rates. The accuracy rating is based on a 12 month rolling average of historical data.

Directional Accuracy

Directional accuracy determines how accurate PCA member data correctly matches the directional movement to monthly USGS actuals on a percent change basis only.

A 90% accuracy rating, for example, means that PCA member data correctly indicated the direction of change (either negative or positive) as later reported by USGS in 9 out of 10 instances. The accuracy rating is based on an analysis of the monthly direction of change for the most recent 12 months for which USGS has reported data.

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