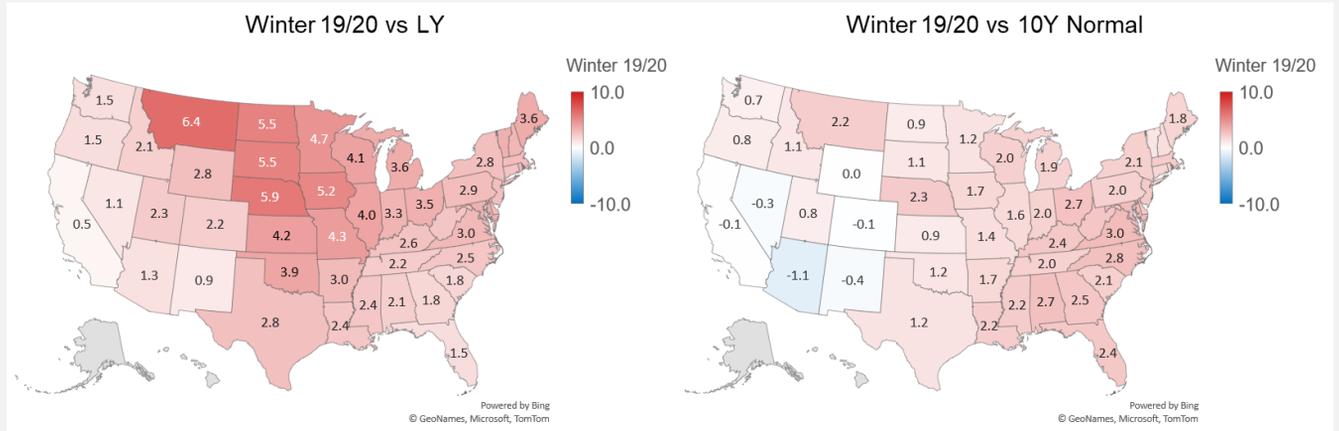


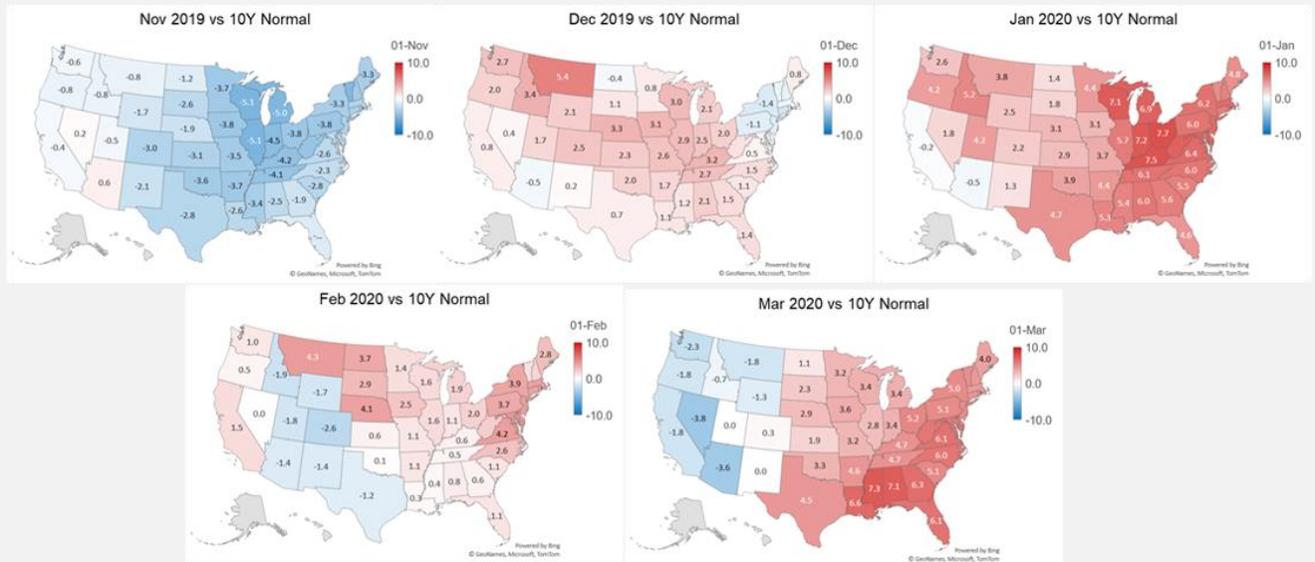
Last week, the EIA published natural gas consumption data for March. We now have a full view on how this winter stacked up against the previous year and the 10Y normal.

Let us start by reviewing the weather for this past winter. Winter 2019/2020 was warm compared to both last year and the 10Y normal. Not only did most experience the warm temps, but its validated by seeing lots of red in the maps below.



Source: analytix.ai, Bloomberg data

Notably, we had a cold start to winter but ended off with much warmer temperatures along the East coast and Midwest in Jan and Mar. Here is how each month looked this past winter looked vs the 10Y normal.

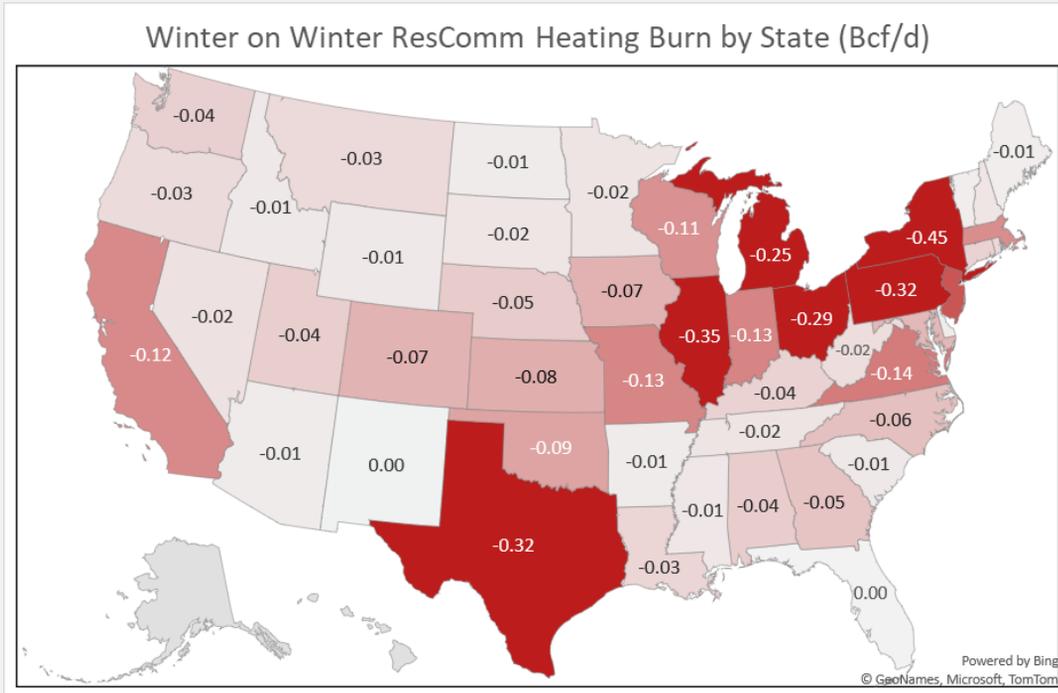


Source: analytix.ai, Bloomberg data

With the EIA data, we gained a clearer view of the different usages of natural gas in North America – specifically power, industrial and ResComm usage.

Since residential and commercial gas usage, are usually the most important for the winter, let's start there first. The warmer weather led to a lower usage of natural gas for heating across the country, especially in the Midwest and Northeast, which are heavily populated.

For the winter, L48 natural gas usage by the Rescomm sector were 3.97 Bcf/d lower than the previous year. Over the winter, that equated to 599 Bcf of less gas demand relative to the previous year. This makes sense based on the weather map above show we were a lot warmer this past winter vs winter 18/19.

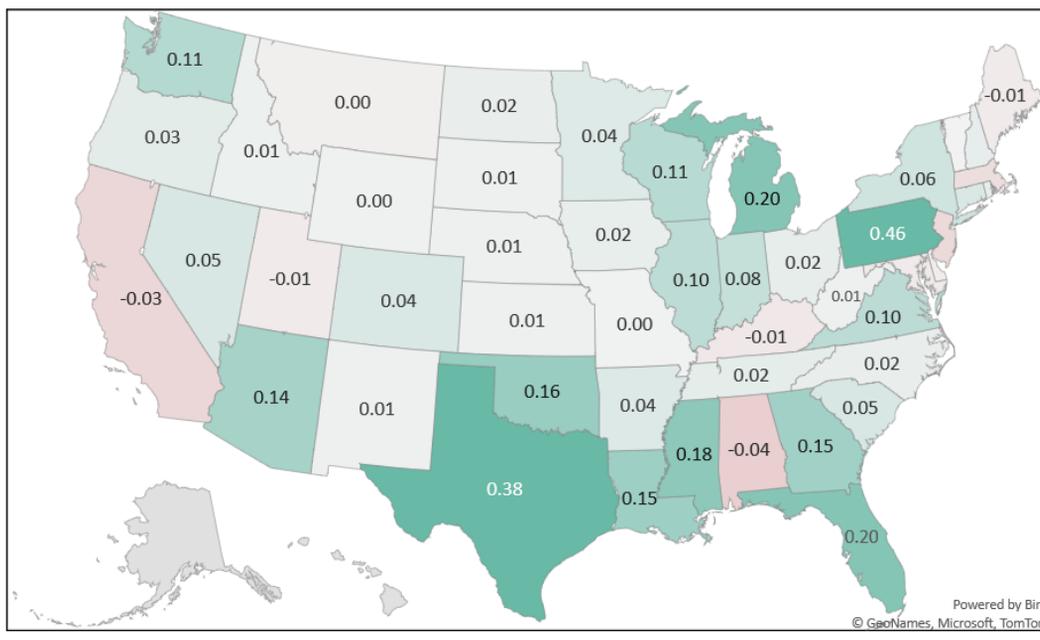


Source: analytix.ai, Bloomberg data

Next, we review power burns. The lack of demand and booming production resulted in extreme loose daily balances pushing prices to extreme lows. The lower prices (and to some degree warmer temperatures) led to high levels of power generation across the country, especially in the South Central and Southeast.

For the winter, L48 natural gas power burns were 2.88 Bcf/d higher than the previous year. Over the winter, that equated to 435 Bcf of more gas demand relative to the previous year. We see this as evidence of the system working, where prices helped keep the system balanced.

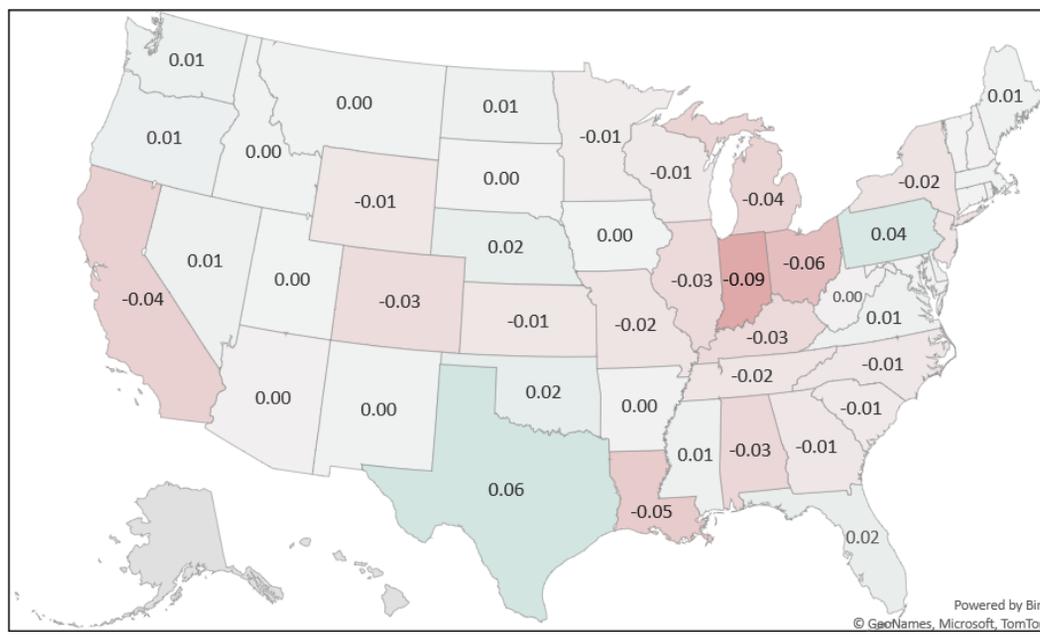
Winter on Winter Power Burns by State (Bcf/d)



Lastly, we review industrial burns. This is usually uneventful as industrial usage is base loaded. There is small variability related to weather changes, which can be seen in the map below.

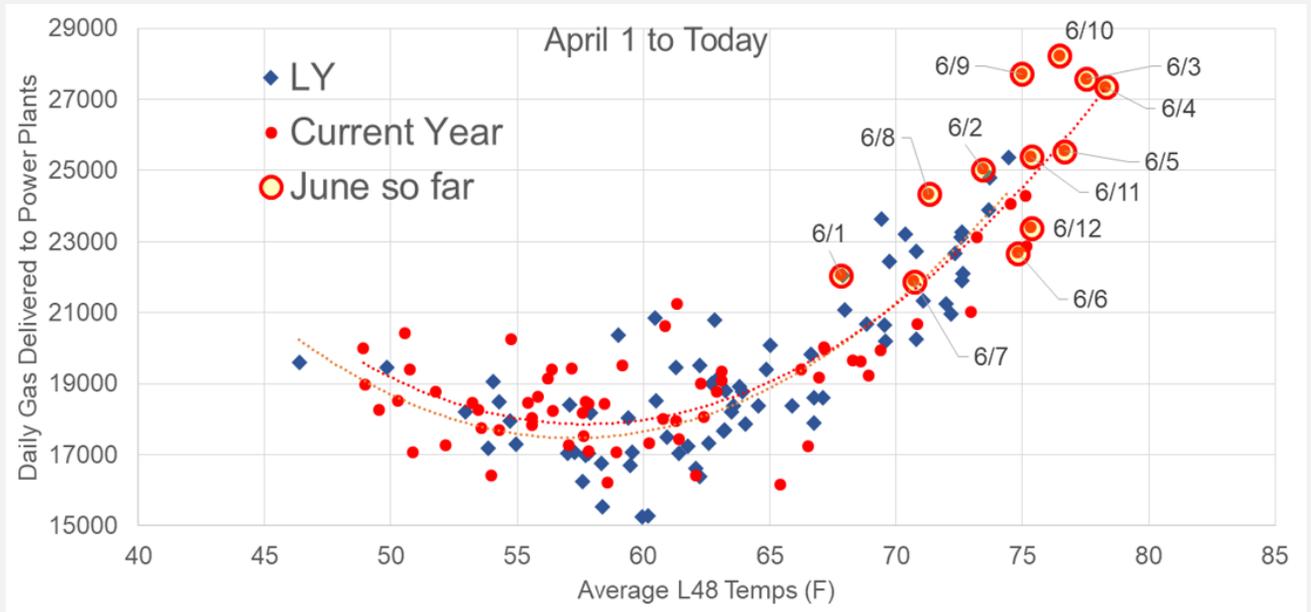
For the winter, industrial usage was 0.3 Bcf/d lower than the previous year. Over the winter, that equated to 44 Bcf of lower gas demand relative to the previous year.

Winter on Winter Industrial Usage by State (Bcf/d)



Next month's data release for April 2020 should be very interesting. We'll be able to clearly see the impacts of the COVID-19 lock downs state by state.

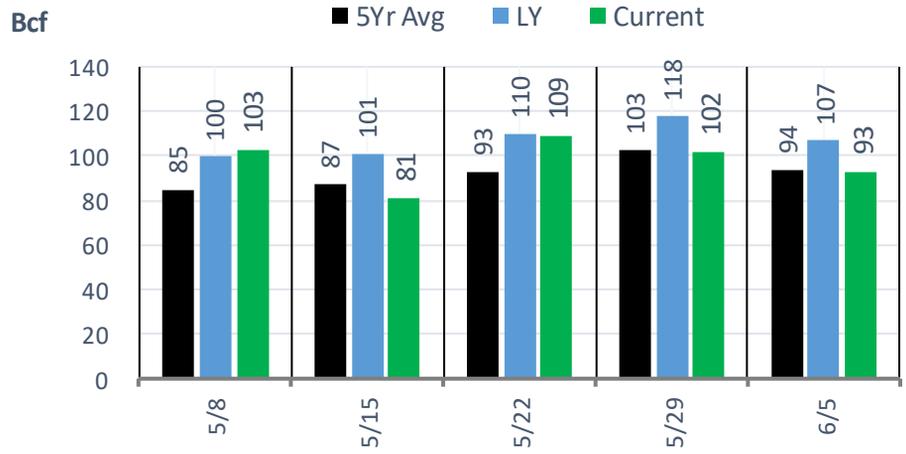
Finally, lets look at how power burns are tracking in June so far vs past months. Burns are outpacing last year with prices hovering below 1.80, and the economy starting to reopen. From the chart below it looks like burns are about 0 to 0.5 Bcf/d higher than last year so far.



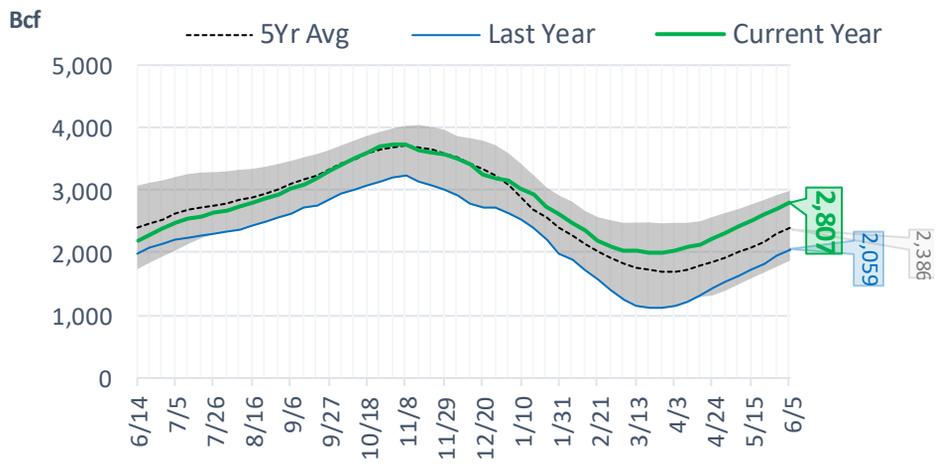
Source: analytix.ai, Bloomberg data

EIA Storage Report

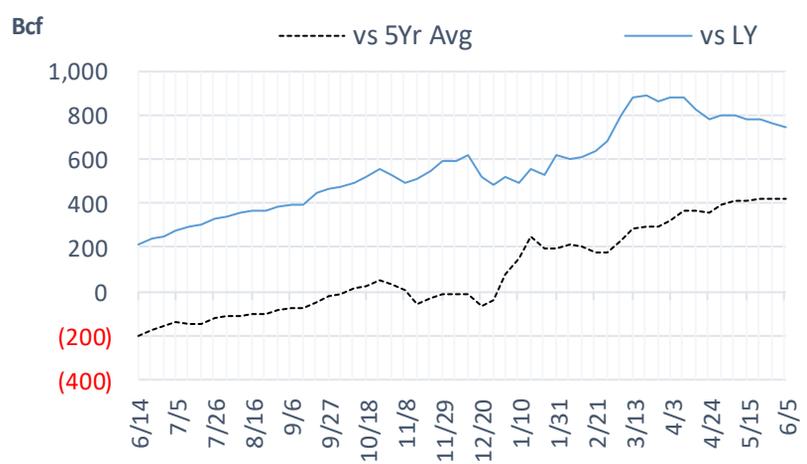
Total Lower 48 YoY Weekly Change



Total Lower 48 Storage Levels



Total Lower 48 LY Surplus/Deficit

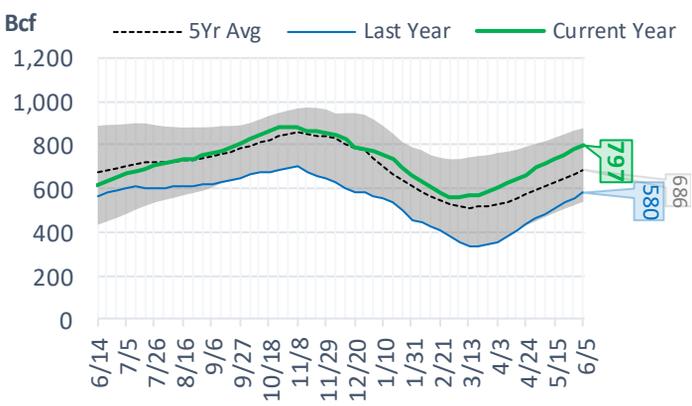


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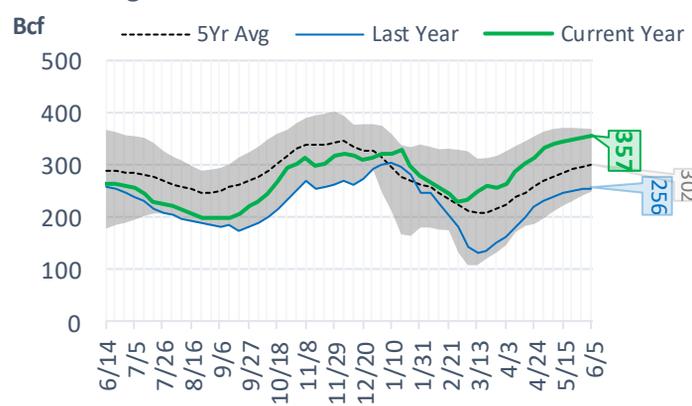
Natural Gas Storage Stats - Last 5 Weeks

Week Ending	Current 5-Jun	Week - 1 29-May	Week - 2 22-May	Week - 3 15-May	Week - 4 8-May	Week - 5 1-May
Total Lower 48 Storage Level	2807	2714	2612	2503	2422	2319
Weekly Change	+93	+102	+109	+81	+103	+109
vs LY	+748	+762	+778	+779	+799	+796
vs 5Yr Avg	+421	+422	+423	+407	+413	+395
S. Central Salt Storage Level	357	353	348	345	340	331
Weekly Change	+4	+5	+3	+5	+9	+17
vs LY	+101	+98	+96	+99	+102	+100
vs 5Yr Avg	+55	+56	+57	+59	+61	+62
S. Central NonSalt Storage Level	797	778	757	737	719	695
Weekly Change	+19	+21	+20	+18	+24	+31
vs LY	+217	+220	+225	+230	+235	+236
vs 5Yr Avg	+111	+110	+109	+110	+111	+106
Midwest Storage Level	662	634	606	576	554	530
Weekly Change	+28	+28	+30	+22	+24	+24
vs LY	+202	+209	+217	+220	+226	+226
vs 5Yr Avg	+144	+145	+147	+144	+146	+142
East Storage Level	563	536	504	469	452	424
Weekly Change	+27	+32	+35	+17	+28	+19
vs LY	+130	+131	+130	+123	+131	+131
vs 5Yr Avg	+102	+103	+101	+93	+101	+98
Mountain Storage Level	148	140	132	124	117	111
Weekly Change	+8	+8	+8	+7	+6	+8
vs LY	+40	+41	+40	+37	+36	+34
vs 5Yr Avg	+2	0	-2	-5	-7	-9
Pacific Storage Level	281	273	264	253	240	228
Weekly Change	+8	+9	+11	+13	+12	+10
vs LY	+58	+64	+69	+70	+69	+69

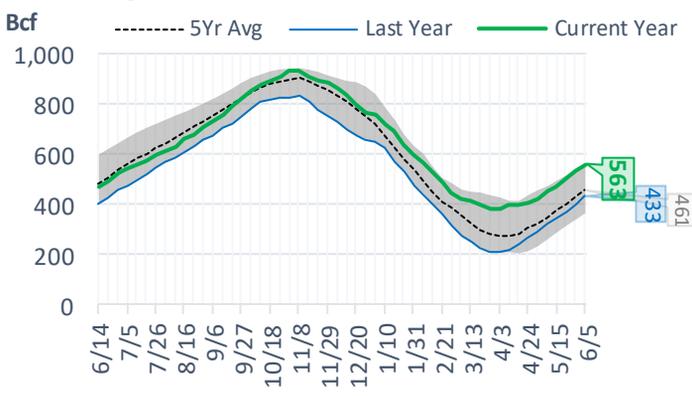
NonSalt Storage Levels



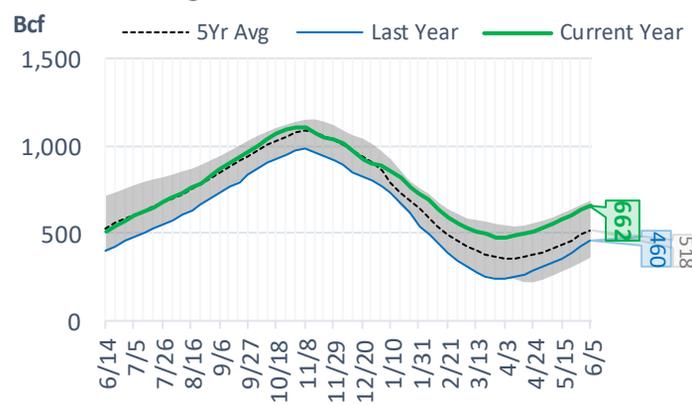
Salt Storage Levels



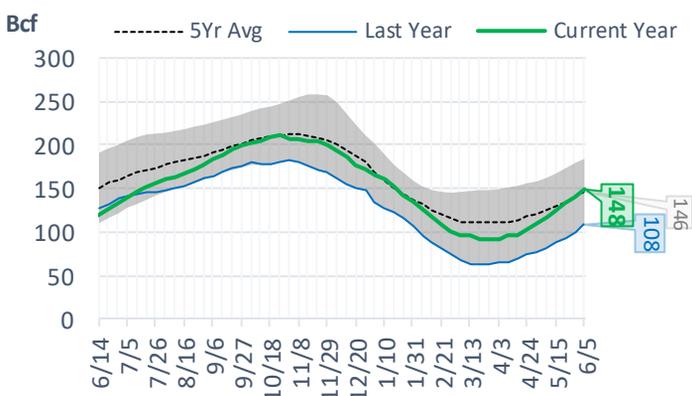
East Storage Levels



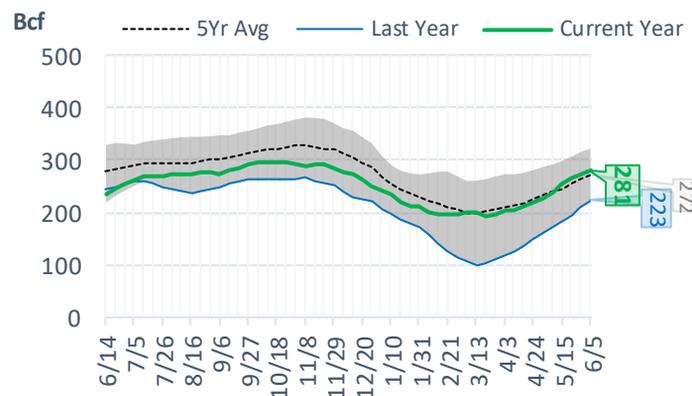
Midwest Storage Levels



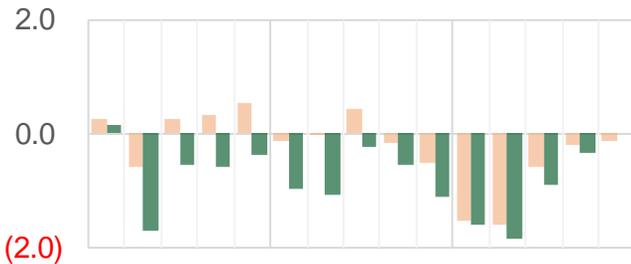
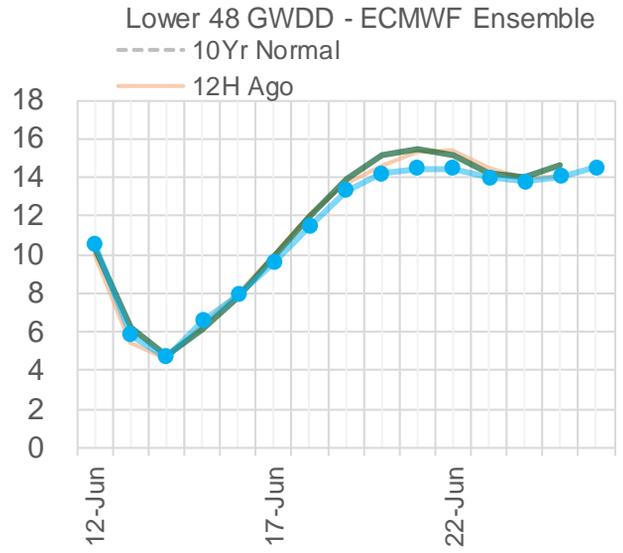
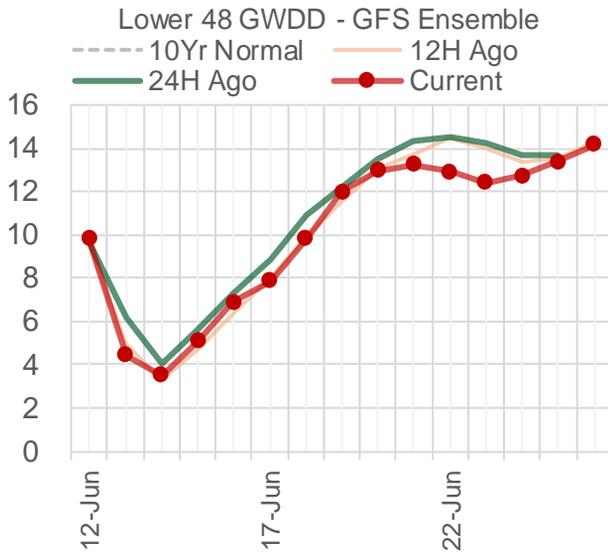
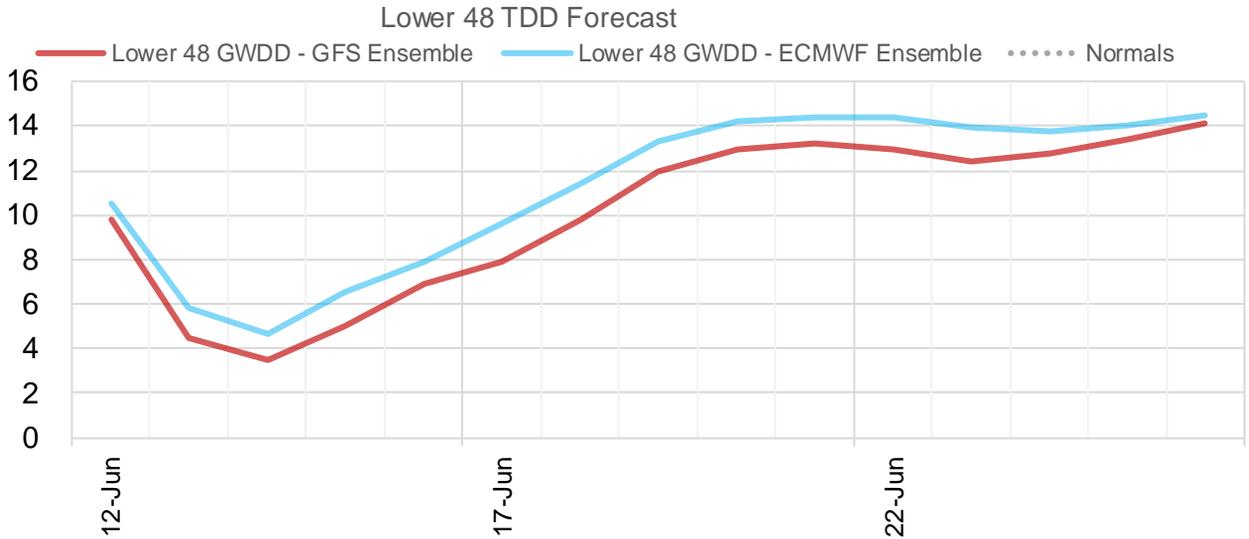
Mountain Storage Levels



Pacific Storage Levels



Current Short-term Weather Model Outlooks (00z)



Source: WSI , Bloomberg

EIA Storage Week Balances

	8-May	15-May	22-May	29-May	5-Jun	12-Jun	WoW	vs. 4W
Lower 48 Dry Production	87.0	86.5	83.9	83.9	84.5	84.3	▼ -0.3	▼ -0.5
Canadian Imports	3.6	4.0	4.1	4.1	4.2	3.8	▼ -0.4	▼ -0.3
L48 Power	24.6	25.0	26.7	30.0	32.0	33.8	▲ 1.7	▲ 5.3
L48 Residential & Commercial	14.5	19.3	10.8	8.2	8.5	8.1	▼ -0.4	▼ -3.6
L48 Industrial	18.7	17.3	18.9	19.3	19.2	18.7	▼ -0.6	▼ 0.0
L48 Lease and Plant Fuel	4.9	4.8	4.7	4.7	4.7	4.7	▼ 0.0	▲ 0.0
L48 Pipeline Distribution	1.9	2.2	1.9	1.9	2.0	2.0	▲ 0.0	▲ 0.0
L48 Regional Gas Consumption	64.6	68.7	62.9	64.1	66.5	67.3	▲ 0.8	▲ 1.8
Net LNG Exports	7.7	6.9	6.3	6.1	5.1	3.9	▼ -1.2	▼ -2.2
Total Mexican Exports	4.7	4.7	5.2	5.0	5.3	5.6	▲ 0.3	▲ 0.6
Implied Daily Storage Activity	13.5	10.2	13.7	12.9	11.8	11.2	-0.6	
EIA Reported Daily Storage Activity	14.7	11.6	15.6	14.6	13.3			
Daily Model Error	-1.2	-1.3	-1.9	-1.7	-1.5			

Monthly Balances

	2Yr Ago Jun-18	LY Jun-19	Feb-20	Mar-20	Apr-20	May-20	MTD Jun-20	MoM	vs. LY
Lower 48 Dry Production	81.6	89.6	91.8	92.2	91.2	85.3	84.2	▼ -1.1	▼ -5.3
Canadian Imports	5.6	4.7	5.2	4.1	3.9	3.9	4.0	▲ 0.0	▼ -0.8
L48 Power	31.8	33.0	30.0	28.3	25.7	26.9	33.8	▲ 7.0	▲ 0.9
L48 Residential & Commercial	8.6	9.0	39.9	27.7	21.6	12.8	8.2	▼ -4.5	▼ -0.8
L48 Industrial	21.3	21.4	24.3	21.6	18.9	18.6	18.8	▲ 0.1	▼ -2.6
L48 Lease and Plant Fuel	4.5	5.0	5.2	5.2	5.2	4.8	4.7	▼ 0.0	▼ -0.3
L48 Pipeline Distribution	1.9	2.0	3.0	2.5	2.3	2.0	2.0	▲ 0.1	▲ 0.0
L48 Regional Gas Consumption	68.2	70.4	102.3	85.4	73.6	65.0	67.6	▲ 2.6	▼ -2.7
Net LNG Exports	3.2	5.5	8.5	8.5	8.2	6.7	4.0	▼ -2.7	▼ -1.5
Total Mexican Exports	4.5	5.3	5.3	5.6	4.9	4.9	5.6	▲ 0.7	▲ 0.3
Implied Daily Storage Activity	11.3	13.1	-19.0	-3.1	8.4	12.7	11.0		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

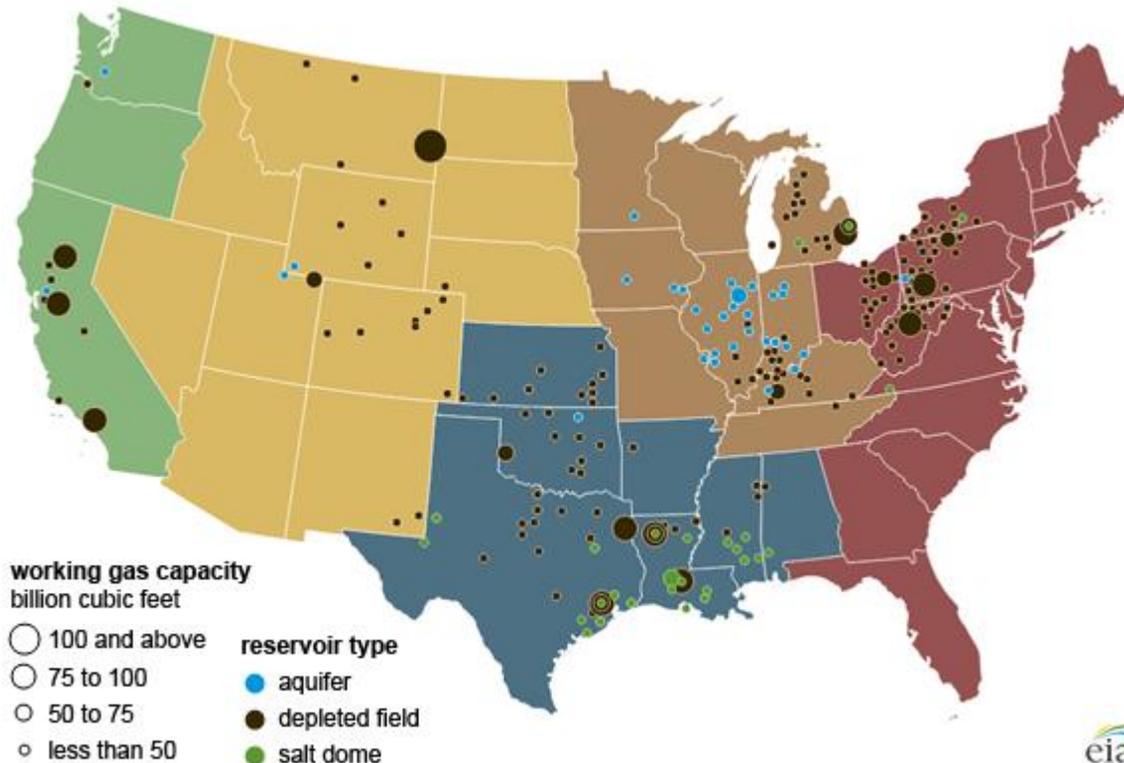
Regional S/D Models Storage Projection

Week Ending 12-Jun

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	10.9	1.8	12.8	90
East	1.6	2.2	3.8	27
Midwest	4.2	0.3	4.5	32
Mountain	2.9	-2.2	0.7	5
South Central	0.7	1.8	2.6	18
Pacific	1.5	-0.3	1.2	8

*Adjustment Factor is calculated based on historical regional deltas

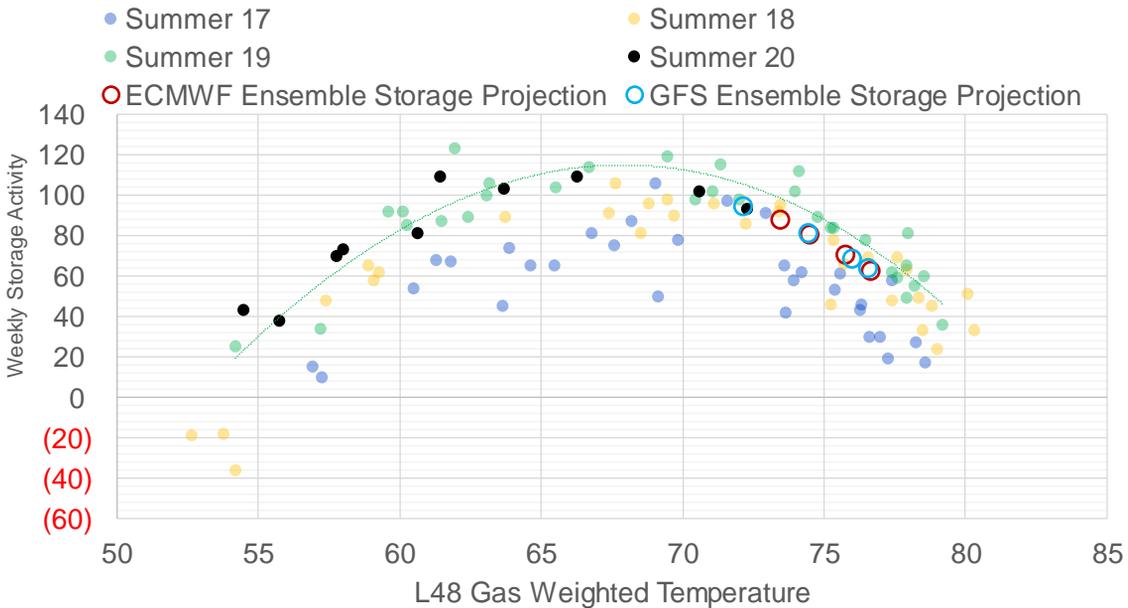
U.S. underground natural gas storage facilities by type (July 2015)



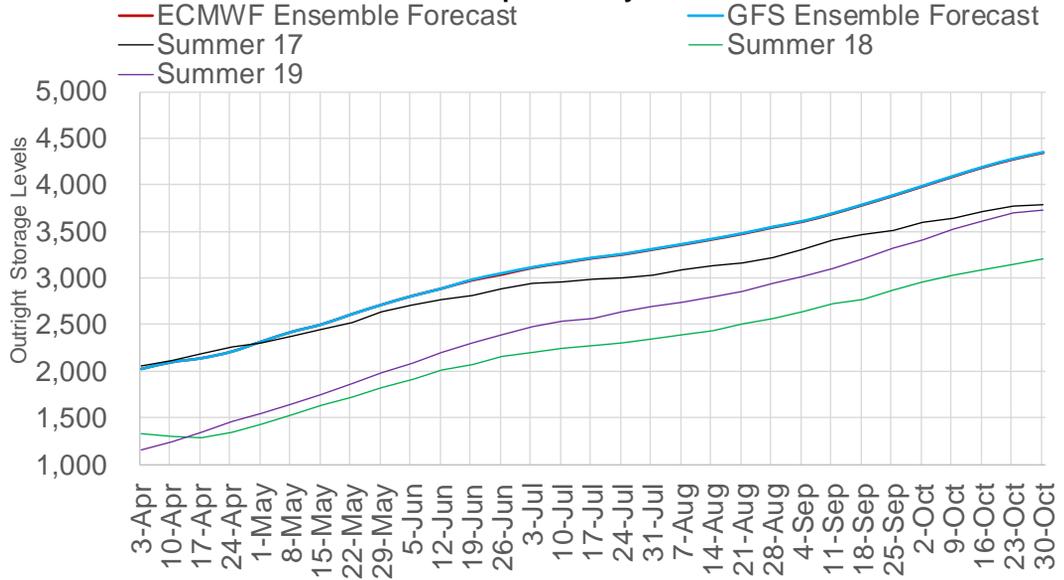
Weather Model Storage Projection

Week Ending	Week Storage Projection
12-Jun	81
19-Jun	91
26-Jun	66
3-Jul	67

Weather Storage Model - Next 4 Week Forecast



Weather Based End of Winter Projection (Bcf) 10Y normals past 15 day forecast window



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Weather Model Storage Projection to End of Season

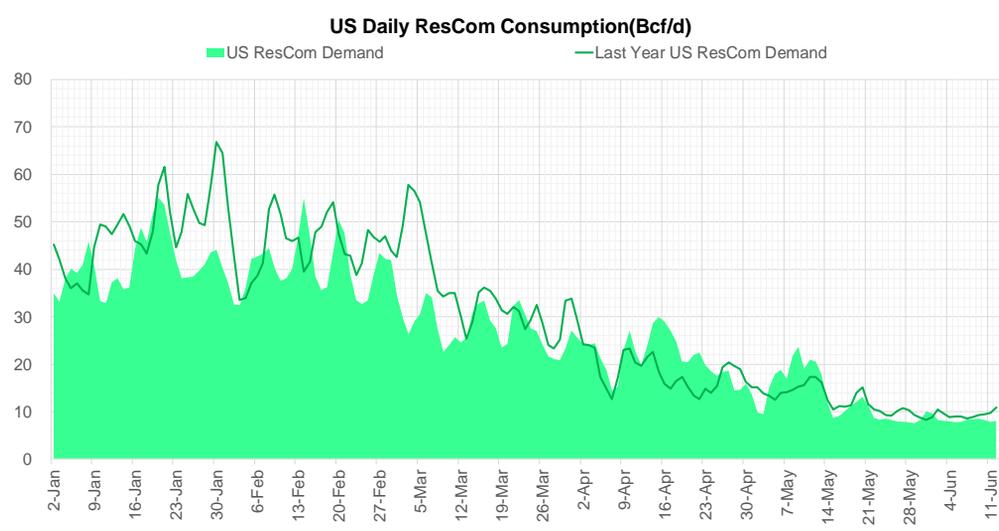
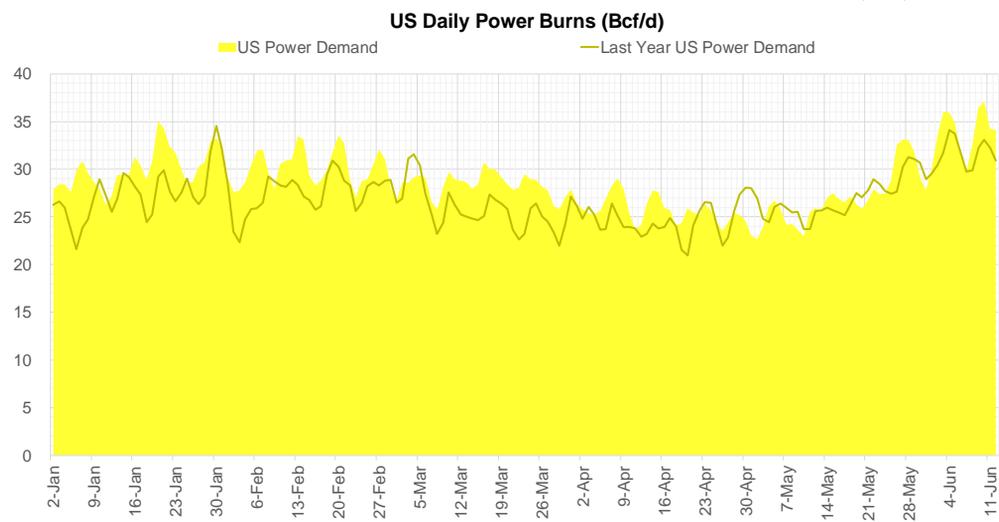
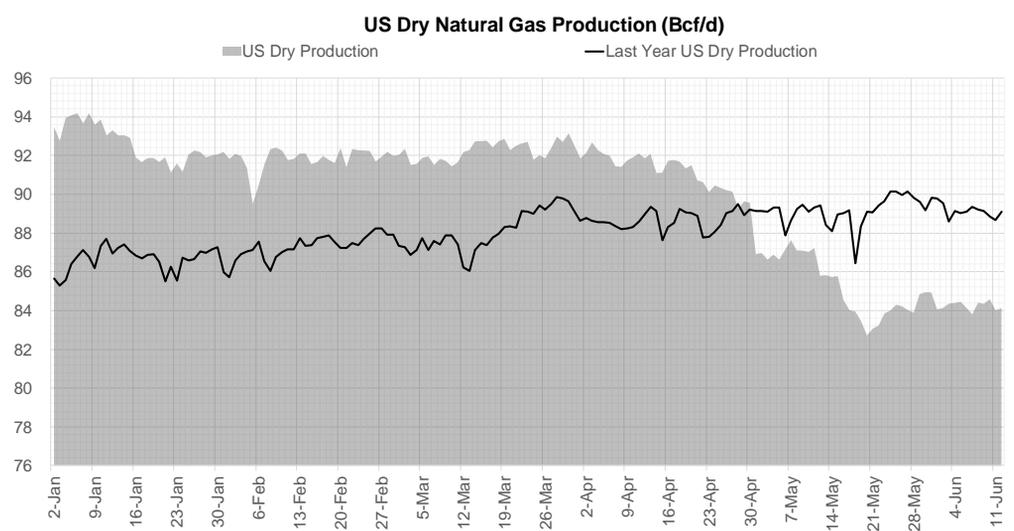
L48 Storage Trajectory from Weather Model

Forecast Storage Levels

	Report		vs 5Yr	Reported	Estimate	Forecast Storage Levels			
	Storage Level	vs. LY	Avg	Chg	Chg *	LY Chg	vs. LY	5Yr Avg Chg	vs. 5Yr
3-Apr-20	2024	876	324	38		25	13	6	32
10-Apr-20	2097	876	370	73		73	0	27	46
17-Apr-20	2140	827	364	43		92	(49)	49	(6)
24-Apr-20	2210	783	360	70		114	(44)	74	(4)
1-May-20	2319	796	395	109		96	13	74	35
8-May-20	2422	799	413	103		100	3	85	18
15-May-20	2503	779	407	81		101	(20)	87	(6)
22-May-20	2612	778	423	109		110	(1)	93	16
29-May-20	2714	762	422	102		118	(16)	103	(1)
5-Jun-20	2807	748	421	93		107	(14)	94	(1)
12-Jun-20					81	111	(30)	87	(6)
19-Jun-20					91	103	(12)	73	18
26-Jun-20					66	92	(26)	65	1
3-Jul-20					67	83	(16)	68	(1)
10-Jul-20					52	67	(15)	63	(11)
17-Jul-20					51	44	7	37	14
24-Jul-20					40	56	(16)	33	7
31-Jul-20					54	58	(4)	33	21
7-Aug-20					53	51	2	44	9
14-Aug-20					56	56	0	44	12
21-Aug-20					60	60	(0)	49	11
28-Aug-20					69	77	(8)	66	3
4-Sep-20					62	80	(18)	68	(6)
11-Sep-20					83	82	1	77	6
18-Sep-20					95	97	(2)	80	15
25-Sep-20					98	109	(11)	78	20
2-Oct-20					103	102	1	86	17
9-Oct-20					103	102	1	87	16
16-Oct-20					99	92	7	75	24
23-Oct-20					86	89	(3)	67	19
30-Oct-20					71	49	22	52	19
			2361	2596	(235)	2024	337		

* first 15D change is an average of the GFS Ensemble and ECMWF Ensemble

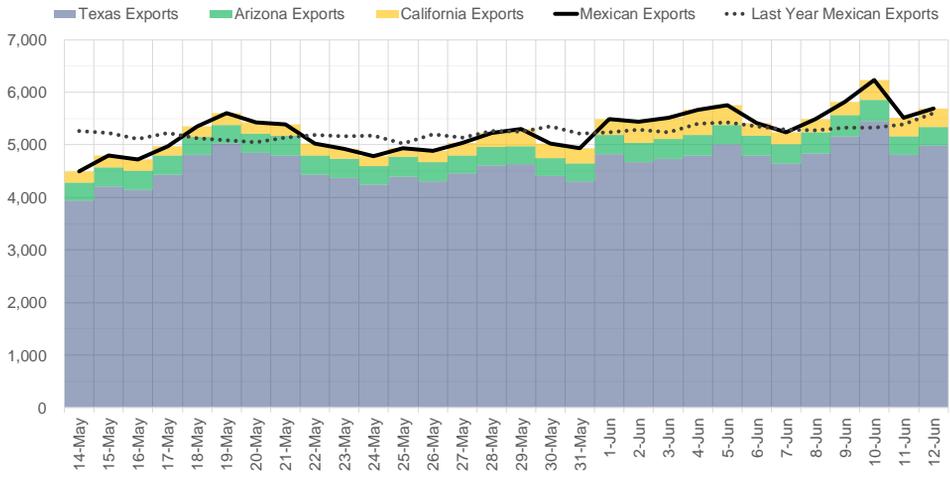
Supply – Demand Trends



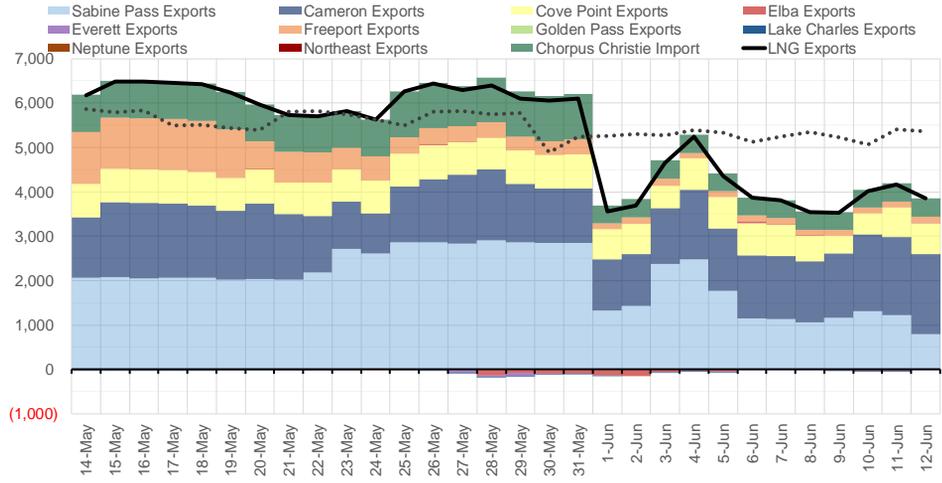
Source: Bloomberg

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Mexican Exports - Last 30 days (MMcf/d)



Net LNG Exports - Last 30 days (MMcf/d)



Source: Bloomberg

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Nat Gas Options Volume and Open Interest CME, ICE and Nasdaq Combined

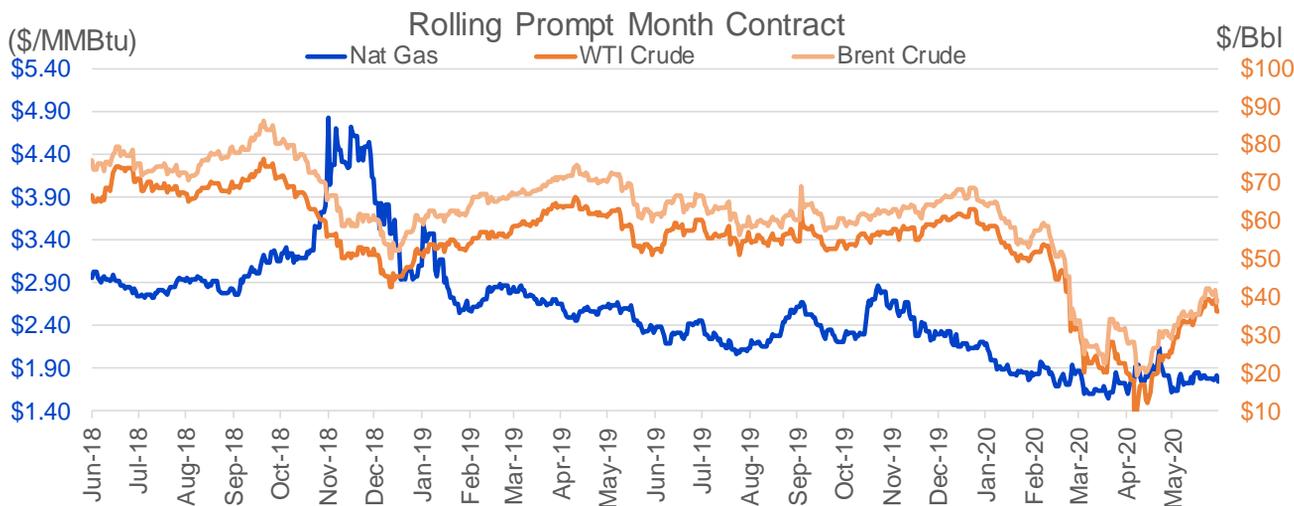
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
7	2020	P	1.70	10960	10	2020	P	1.50	41097
7	2020	C	2.25	7149	10	2020	C	2.75	36021
7	2020	P	1.65	6178	7	2020	P	1.75	35933
7	2020	P	1.75	6131	10	2020	C	3.00	35245
9	2020	P	1.20	4020	3	2021	P	2.00	32737
8	2020	P	1.20	4003	10	2020	P	1.60	32663
10	2020	P	1.20	4000	7	2020	P	1.50	29981
7	2020	P	1.50	3935	10	2020	C	2.50	29207
7	2020	C	1.95	3839	10	2020	P	2.00	27525
7	2020	P	1.60	3667	7	2020	C	2.50	25781
10	2020	C	2.75	3061	9	2020	C	2.50	25379
7	2020	C	2.00	2775	10	2020	P	1.25	25019
10	2020	P	1.75	2573	8	2020	C	2.50	24612
7	2020	C	1.85	2569	10	2020	P	1.75	22699
10	2020	P	1.50	2443	9	2020	P	1.50	22309
8	2020	P	1.30	2122	8	2020	P	1.50	22169
8	2020	P	1.10	2087	7	2020	C	2.25	20645
7	2020	C	1.80	2041	9	2020	P	1.75	20281
9	2020	P	1.30	2021	9	2020	P	1.00	20005
9	2020	P	1.10	2002	7	2020	P	2.00	19774
10	2020	P	1.10	2000	7	2020	C	2.00	19700
10	2020	P	1.30	2000	7	2020	C	3.00	19520
10	2020	C	2.40	1879	9	2020	P	1.20	19414
3	2021	C	4.00	1850	8	2020	P	1.20	19288
9	2020	P	1.60	1813	9	2020	C	2.75	19059
9	2020	P	1.00	1800	10	2020	P	1.20	18646
7	2020	C	1.90	1759	7	2020	P	1.60	18266
7	2020	P	1.80	1572	10	2020	P	2.10	18144
8	2020	P	1.75	1498	10	2020	C	2.25	18046
8	2020	P	1.50	1470	7	2020	C	2.30	17898
8	2020	C	2.25	1468	1	2021	C	3.50	17675
9	2020	P	1.50	1388	8	2020	P	1.00	17395
10	2020	P	2.00	1355	10	2020	C	3.25	16609
10	2020	C	3.25	1301	7	2020	C	2.75	16365
7	2020	P	1.45	1276	1	2021	C	3.00	16168
7	2020	C	2.10	1272	11	2020	C	4.00	16163
8	2020	P	1.60	1159	10	2020	P	1.00	16103
9	2020	C	2.75	1145	9	2020	C	3.00	15152
10	2020	P	0.75	1100	3	2021	C	3.00	15146
3	2021	C	6.00	1100	8	2020	C	3.00	14830
7	2020	P	1.35	1065	4	2021	C	3.00	14745
10	2020	C	2.50	1053	7	2020	P	1.25	14466
8	2021	C	5.00	1000	9	2020	C	2.25	14456
10	2020	C	3.50	989	3	2021	C	7.00	14393
8	2020	P	1.40	982	9	2020	P	2.00	13586
9	2020	C	2.25	908	8	2020	C	2.25	13526
9	2020	C	2.00	904	8	2020	C	2.75	13413
10	2020	C	2.35	900	8	2020	P	1.30	13293
10	2020	C	2.55	900	7	2020	P	1.00	13099
					10	2020	P	1.3	13055

Source: CME, Nasdaq, ICE

Nat Gas Futures Open Interest CME, ICE and Nasdaq Combined

CME Henry Hub Futures (10,000 MMBtu)				ICE Henry Hub Futures Contract Equivalent (10,000 MM)				NASDAQ Henry Hub Futures (10,000 MMBtu)			
	Current	Prior	Daily Change		Current	Prior	Daily Change		Current	Prior	Daily Change
JUL 20	172184	203398	-31214	JUL 20	76907	75249	1658.5	JUL 20			
AUG 20	172362	149366	22996	AUG 20	79842	80430	-587.5	AUG 20			
SEP 20	181036	174461	6575	SEP 20	67683	67769	-86.25	SEP 20			
OCT 20	114160	110237	3923	OCT 20	81982	81742	240.25	OCT 20			
NOV 20	52459	51222	1237	NOV 20	61694	60936	758.75	NOV 20			
DEC 20	61804	60637	1167	DEC 20	58138	57871	266.5	DEC 20			
JAN 21	108184	106701	1483	JAN 21	73551	72607	944.25	JAN 21			
FEB 21	37588	37599	-11	FEB 21	45523	45343	179.25	FEB 21			
MAR 21	77562	75019	2543	MAR 21	62527	62110	417	MAR 21			
APR 21	69057	69900	-843	APR 21	49445	49299	146.25	APR 21			
MAY 21	25361	25419	-58	MAY 21	46612	46512	100.75	MAY 21			
JUN 21	17826	17620	206	JUN 21	43229	43131	97.75	JUN 21			
JUL 21	14898	14620	278	JUL 21	44342	44074	267.5	JUL 21			
AUG 21	11144	11127	17	AUG 21	45022	44729	293.5	AUG 21			
SEP 21	13551	13245	306	SEP 21	42367	42272	95.5	SEP 21			
OCT 21	31440	30748	692	OCT 21	54251	54129	122	OCT 21			
NOV 21	18450	18160	290	NOV 21	36655	36488	166.5	NOV 21			
DEC 21	15517	15713	-196	DEC 21	37605	37367	238.5	DEC 21			
JAN 22	11867	11621	246	JAN 22	29523	29368	155.75	JAN 22			
FEB 22	8257	8499	-242	FEB 22	25901	25781	119.75	FEB 22			
MAR 22	15245	15217	28	MAR 22	28093	28008	84.75	MAR 22			
APR 22	11058	10856	202	APR 22	25393	24452	941	APR 22			
MAY 22	4663	4668	-5	MAY 22	22171	21990	181	MAY 22			
JUN 22	2062	2062	0	JUN 22	21553	21290	263	JUN 22			
JUL 22	1790	1790	0	JUL 22	22102	21799	303.25	JUL 22			
AUG 22	1249	1249	0	AUG 22	21171	21601	-429.25	AUG 22			
SEP 22	1317	1317	0	SEP 22	21619	21362	257.75	SEP 22			
OCT 22	1884	1884	0	OCT 22	24070	23938	131.75	OCT 22			
NOV 22	1346	1345	1	NOV 22	19316	19193	123	NOV 22			
DEC 22	1265	1264	1	DEC 22	20026	19915	110.5	DEC 22			

Source: CME, Nasdaq, ICE



(\$/MMBtu)

Nat Gas Term Structure



	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21
Current Price	\$1.743	\$1.829	\$1.879	\$1.969	\$2.349	\$2.827	\$2.965	\$2.933	\$2.820	\$2.519	\$2.489	\$2.522
Last Week	\$1.782	\$1.886	\$1.941	\$2.028	\$2.367	\$2.811	\$2.950	\$2.914	\$2.798	\$2.485	\$2.454	\$2.488
vs. Last Week	-\$0.039	-\$0.057	-\$0.062	-\$0.059	-\$0.018	\$0.016	\$0.015	\$0.019	\$0.022	\$0.034	\$0.035	\$0.034
4 Weeks Ago	\$1.646	\$1.833	\$1.935	\$2.000	\$2.098	\$2.402	\$2.808	\$2.955	\$2.915	\$2.793	\$2.519	\$2.492
vs. 4 Weeks Ago	\$0.097	-\$0.004	-\$0.056	-\$0.031	\$0.251	\$0.425	\$0.157	-\$0.022	-\$0.095	-\$0.274	-\$0.030	\$0.030
Last Year	\$2.387	\$2.381	\$2.371	\$2.413	\$2.489	\$2.680	\$2.801	\$2.778	\$2.709	\$2.513	\$2.487	\$2.523
vs. Last Year	-\$0.644	-\$0.552	-\$0.492	-\$0.444	-\$0.140	\$0.147	\$0.164	\$0.155	\$0.111	\$0.006	\$0.002	-\$0.001

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.45	▲ 0.019	▼ -0.010	▼ -0.057
NatGas Mar/Apr	\$/MMBtu	-0.301	▲ 0.012	▼ -0.575	▼ -0.550
NatGas Oct/Nov	\$/MMBtu	0.38	▲ 0.041	▲ 0.076	▲ 0.321
NatGas Oct/Jan	\$/MMBtu	1.00	▲ 0.074	▲ 0.139	▲ 0.682
WTI Crude	\$/Bbl	36.42	▼ -3.130	▲ 6.990	▼ -16.090
Brent Crude	\$/Bbl	38.87	▼ -3.430	▲ 6.370	▼ -23.140
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	111.45	▼ -3.610	▲ 19.410	▼ -71.490
Propane, Mt. Bel	cents/Gallon	0.49	▼ -0.026	▲ 0.096	▲ 0.059
Ethane, Mt. Bel	cents/Gallon	0.23	▼ -0.011	▲ 0.000	▲ 0.054
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▼ -0.050
Coal, ILB	\$/MTon	31.05	▲ 0.000	▲ 0.000	▼ -9.500

Source: CME, Bloomberg

Baker Hughes Rig Counts

This week we once again see a big change to rig counts. Oil rigs dropped by -7, while nat gas rigs increased 2. The weekly changes for the major basins are listed below.

Rotary Rig Count						Baker Hughes 
6/12/2020						
U.S. Breakout Information	This Week	+/-	Last Week	+/-	Year Ago	
Oil	199	-7	206	-589	788	
Gas	78	2	76	-103	181	
Miscellaneous	2	0	2	2	0	
Directional	22	-2	24	-46	68	
Horizontal	246	-7	253	-606	852	
Vertical	11	4	7	-38	49	
Major Basin Variances	This Week	+/-	Last Week	+/-	Year Ago	
Ardmore Woodford	1	0	1	-5	6	
Arkoma Woodford	1	0	1	-2	3	
Barnett	2	0	2	1	1	
Cana Woodford	5	0	5	-39	44	
DJ-Niobrara	5	0	5	-23	28	
Eagle Ford	13	0	13	-60	73	
Granite Wash	0	-1	1	-8	8	
Haynesville	33	2	31	-20	53	
Marcellus	28	0	28	-30	58	
Mississippian	0	0	0	-4	4	
Permian	137	-4	141	-304	441	
Utica	9	0	9	-9	18	
Williston	11	-1	12	-45	56	