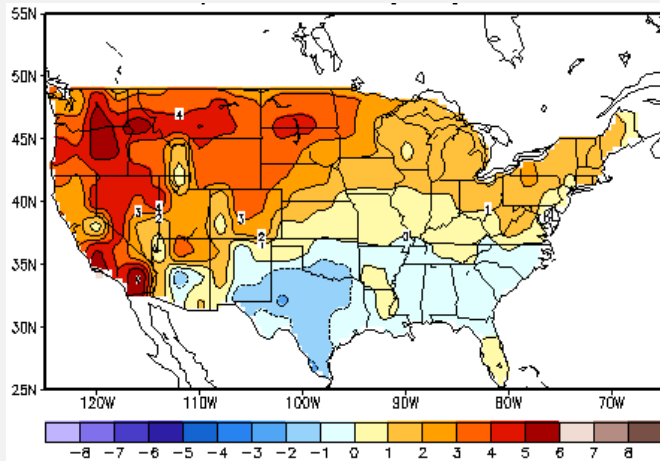


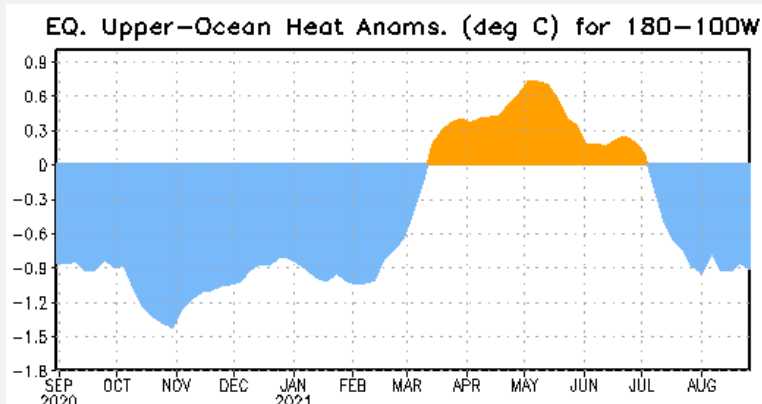
This weekend's commentary starts a medium-term weather update from Brian Lovern at Bespoke Weather.

Summer (June to August) is in the books, and it wound up another hotter-than-normal one for the nation as a whole, totaling 970 GWDDs, though not as hot as last year, and not hot, relative to normal, in the South. The West was the hottest region, rather easily. In terms of the monthly breakdown, we had a hot June and August surrounding a cooler July.

Summer (June to August) Temperature Anomalies

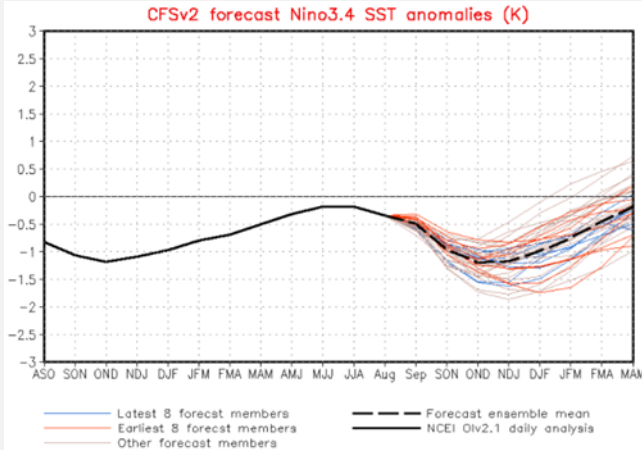


Attention now turns to the upcoming Fall (September to November) season. Over the last several weeks, we have seen the return of the La Niña base state, which is a large part of why August turned back hotter in the wake of the cooler July. Upper oceanic heat content anomalies across the tropical Pacific are strongly negative (cool-sided), telling us that the La Niña state likely remains intact this Fall.



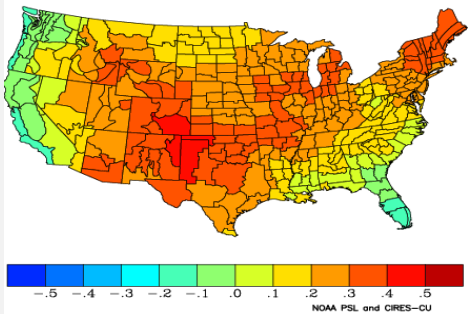
Climate models support this idea as well, showing negative anomalies across ENSO region 3.4 over the next several months, all the way through the winter season.

Latest CFS ENSO Projection



What does this mean in terms of temperatures across the U.S, and therefore, natural gas demand? Typically, a La Niña state increases warmer risks across much of the nation in the Fall season. This has been especially true over the last 30 years.

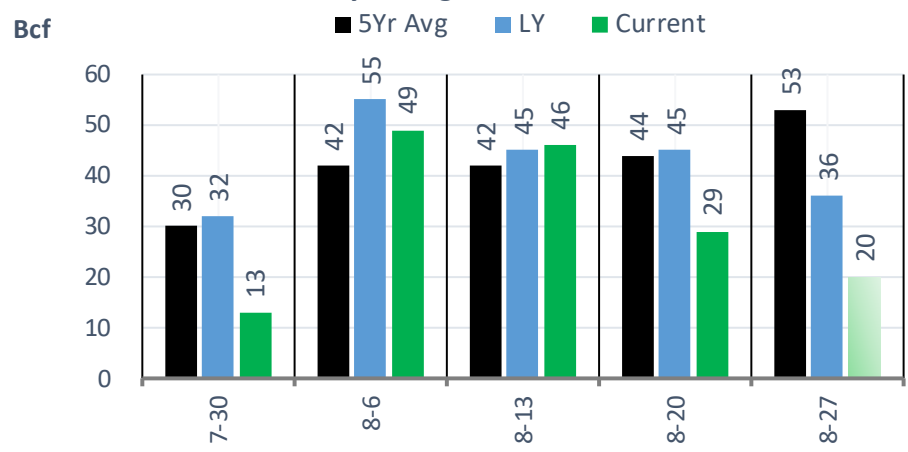
La Niña Correlation With Fall Temperature Anomalies (1991-2020)



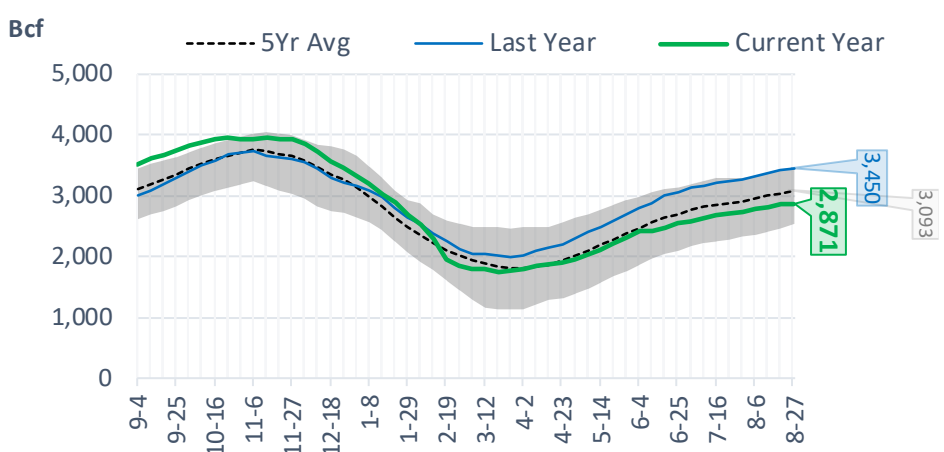
This implies that the current cooler pattern we are seeing here for the first part of September will not stick around. That can still be mildly bullish (speaking strictly from the weather perspective) into the back half of September, pushing CDDs back above normal, though warmth sticking around into October and November would quickly turn the demand picture bearish. Given the current state of the natural gas market, weather will carry even more importance over the next few months, so we will be watching the trends very closely. We stray away from looking too much at the upcoming winter at this early stage, preferring to take one step at a time. We will offer a mention that La Niña winters typically favor a colder north / warmer south regime, but, for now, will leave it at that. The October-November pattern will have a large impact on price action, regardless of what ultimately happens as we move into the winter months.

EIA Storage Report

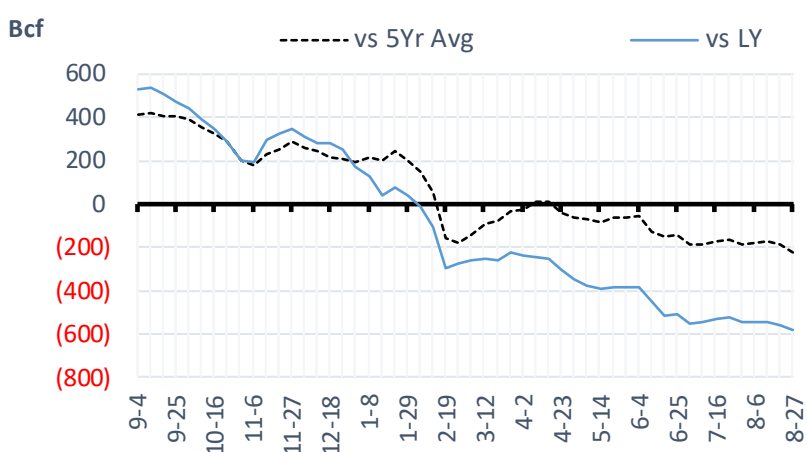
Total Lower 48 YoY Weekly Change



Total Lower 48 Storage Levels



Total Lower 48 LY Surplus/Deficit

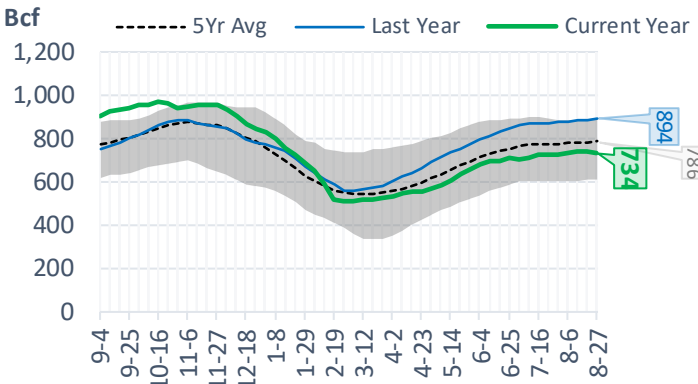


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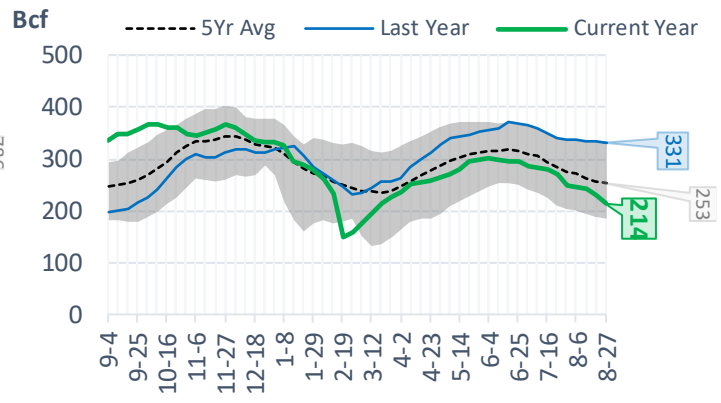
Natural Gas Storage Stats - Last 5 Weeks

Week Ending	Current 27-Aug	Week - 1 20-Aug	Week - 2 13-Aug	Week - 3 6-Aug	Week - 4 30-Jul	Week - 5 23-Jul
Total Lower 48 Storage Level	2871	2851	2822	2776	2727	2714
Weekly Change	+20	+29	+46	+49	+13	+36
vs LY	-579	-563	-547	-548	-542	-523
vs 5Yr Avg	-222	-189	-174	-178	-185	-168
S. Central Salt Storage Level	214	229	244	247	250	269
Weekly Change	-15	-15	-3	-3	-19	-10
vs LY	-117	-105	-91	-90	-86	-71
vs 5Yr Avg	-39	-28	-20	-24	-26	-14
S. Central NonSalt Storage Level	734	742	741	732	726	729
Weekly Change	-8	+1	+9	+6	-3	+6
vs LY	-160	-147	-146	-150	-151	-143
vs 5Yr Avg	-52	-40	-40	-47	-51	-47
Midwest Storage Level	812	790	765	741	719	702
Weekly Change	+22	+25	+24	+22	+17	+19
vs LY	-109	-111	-112	-111	-109	-111
vs 5Yr Avg	-22	-16	-16	-16	-15	-13
East Storage Level	678	661	645	629	604	583
Weekly Change	+17	+16	+16	+25	+21	+21
vs LY	-109	-110	-103	-106	-112	-121
vs 5Yr Avg	-60	-55	-49	-45	-51	-53
Mountain Storage Level	190	188	188	185	184	184
Weekly Change	+2	0	+3	+1	0	+1
vs LY	-22	-24	-21	-20	-17	-11
vs 5Yr Avg	-5	-4	-2	-2	0	+3
Pacific Storage Level	243	241	240	241	244	246
Weekly Change	+2	+1	-1	-3	-2	-1
vs LY	-61	-66	-73	-73	-67	-67
vs 5Yr Avg	-44	-45	-46	-45	-43	-43

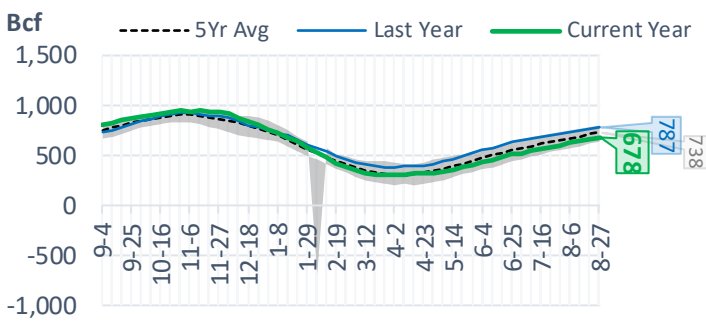
NonSalt Storage Levels



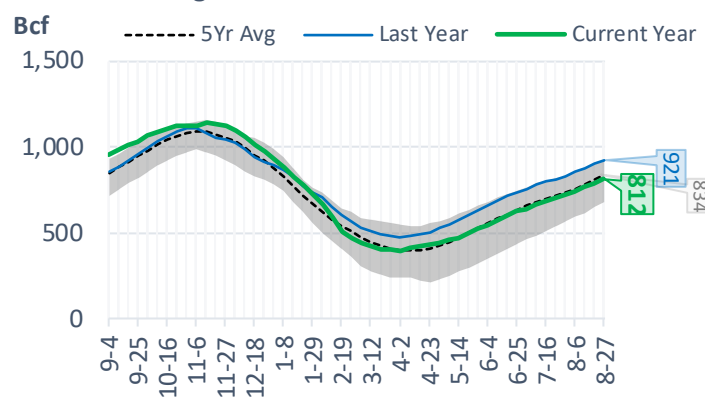
Salt Storage Levels



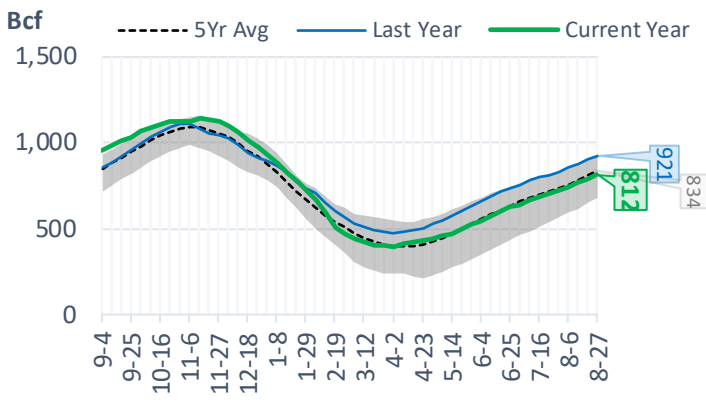
East Storage Levels



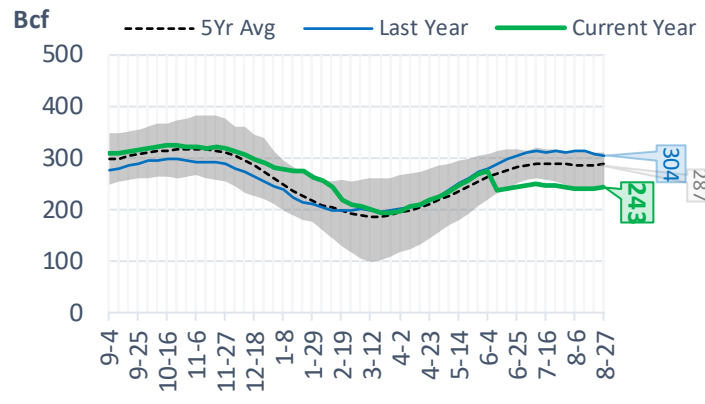
Midwest Storage Levels



Midwest Storage Levels



Pacific Storage Levels



EIA Storage Week Balances

	30-Jul	6-Aug	13-Aug	20-Aug	27-Aug	3-Sep	WoW	vs. 4W
Lower 48 Dry Production	92.6	91.9	92.4	92.4	93.0	90.8	▼-2.2	▼-1.6
Canadian Imports	5.5	5.0	5.2	5.0	5.3	5.0	▼-0.3	▼-0.2
L48 Power	42.1	38.3	41.1	39.7	41.9	38.0	▼-3.9	▼-2.3
L48 Residential & Commercial	8.6	8.0	7.8	7.6	7.8	7.5	▼-0.3	▼-0.3
L48 Industrial	20.5	20.1	19.2	20.9	21.1	19.9	▼-1.2	▼-0.4
L48 Lease and Plant Fuel	5.1	5.1	5.1	5.1	5.1	5.0	▼-0.1	▼-0.1
L48 Pipeline Distribution	2.4	2.2	2.4	2.3	2.4	2.2	▼-0.2	▼-0.1
L48 Regional Gas Consumption	78.6	73.7	75.6	75.6	78.3	72.6	▼-5.7	▼-3.2
Net LNG Exports	10.8	10.6	9.9	10.9	10.6	10.5	▼-0.1	▼ 0.0
Total Mexican Exports	7.0	6.9	6.8	6.8	6.8	7.0	▲ 0.2	▲ 0.1
Implied Daily Storage Activity	1.7	5.7	5.2	4.2	2.6	5.8	3.2	
EIA Reported Daily Storage Activity	1.9	7.0	6.6	4.1	2.9			
Daily Model Error	-0.1	-1.3	-1.4	0.0	-0.2			

Monthly Balances

	2Yr Ago Sep-18	LY Sep-18	May-21	Jun-21	Jul-21	Aug-21	MTD Sep-21	MoM	vs. LY
Lower 48 Dry Production	86.6	86.6	93.1	93.4	92.4	92.2	90.3	▼-1.8	▲ 3.7
Canadian Imports	4.5	4.5	4.5	4.8	5.2	5.1	4.5	▼-0.6	▲ 0.0
L48 Power	34.3	34.3	26.8	35.9	39.6	40.2	33.6	▼-6.5	▼-0.7
L48 Residential & Commercial	8.5	8.5	12.8	8.9	8.6	7.7	7.7	▼0.0	▼-0.8
L48 Industrial	22.6	22.6	20.8	20.6	19.6	20.3	19.0	▼-1.3	▼-3.6
L48 Lease and Plant Fuel	4.8	4.8	5.1	5.1	5.1	5.1	5.0	▼-0.1	▲ 0.2
L48 Pipeline Distribution	2.1	2.1	2.1	2.2	2.3	2.3	2.1	▼-0.2	▲ 0.0
L48 Regional Gas Consumption	72.3	72.3	67.6	72.7	75.1	75.6	67.4	▼-8.2	▼-4.9
Net LNG Exports	3.1	3.1	10.8	10.2	10.8	10.5	10.3	▼-0.1	▲ 7.2
Total Mexican Exports	5.0	5.0	6.8	7.4	7.0	6.9	7.1	▲ 0.2	▲ 2.1
Implied Daily Storage Activity	10.7	10.7	12.4	8.0	4.6	4.3	10.0		
EIA Reported Daily Storage Activity									
Daily Model Error									

Source: Bloomberg, analytix.ai

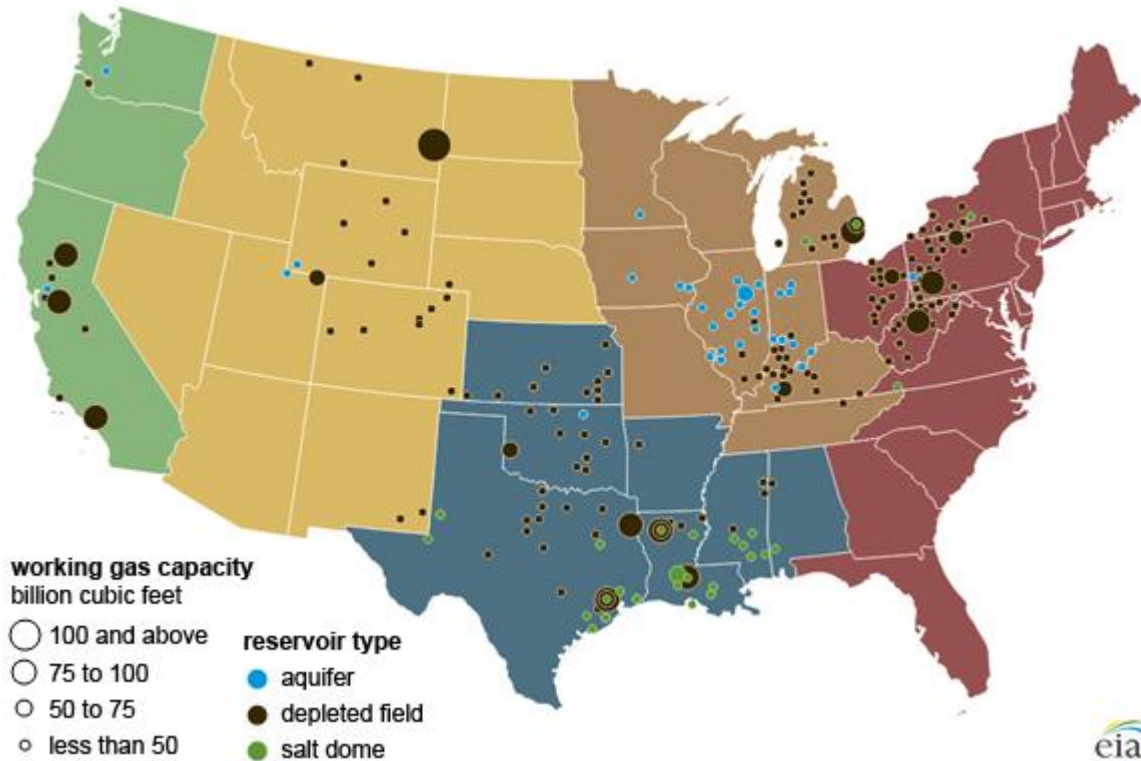
Regional S/D Models Storage Projection

Week Ending 3-Sep

	Daily Raw Storage	Daily Adjustment Factor	Daily Average Storage Activity (Adjusted) *	Weekly Adjusted Storage Activity
L48	5.5	0.9	6.3	44
East	2.1	1.1	3.1	22
Midwest	4.3	-0.2	4.1	29
Mountain	3.3	-3.4	-0.1	-1
South Central	-4.6	3.7	-0.8	-6
Pacific	0.4	-0.3	0.0	0

*Adjustment Factor is calculated based on historical regional deltas

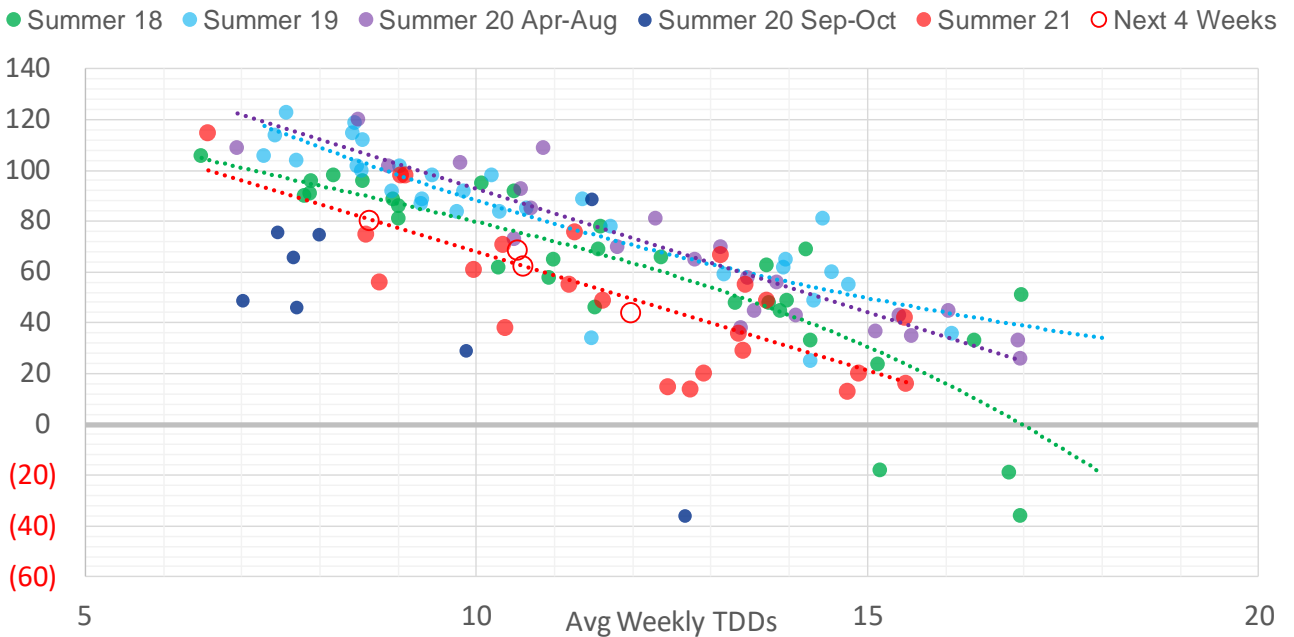
U.S. underground natural gas storage facilities by type (July 2015)



Weather Model Storage Projection

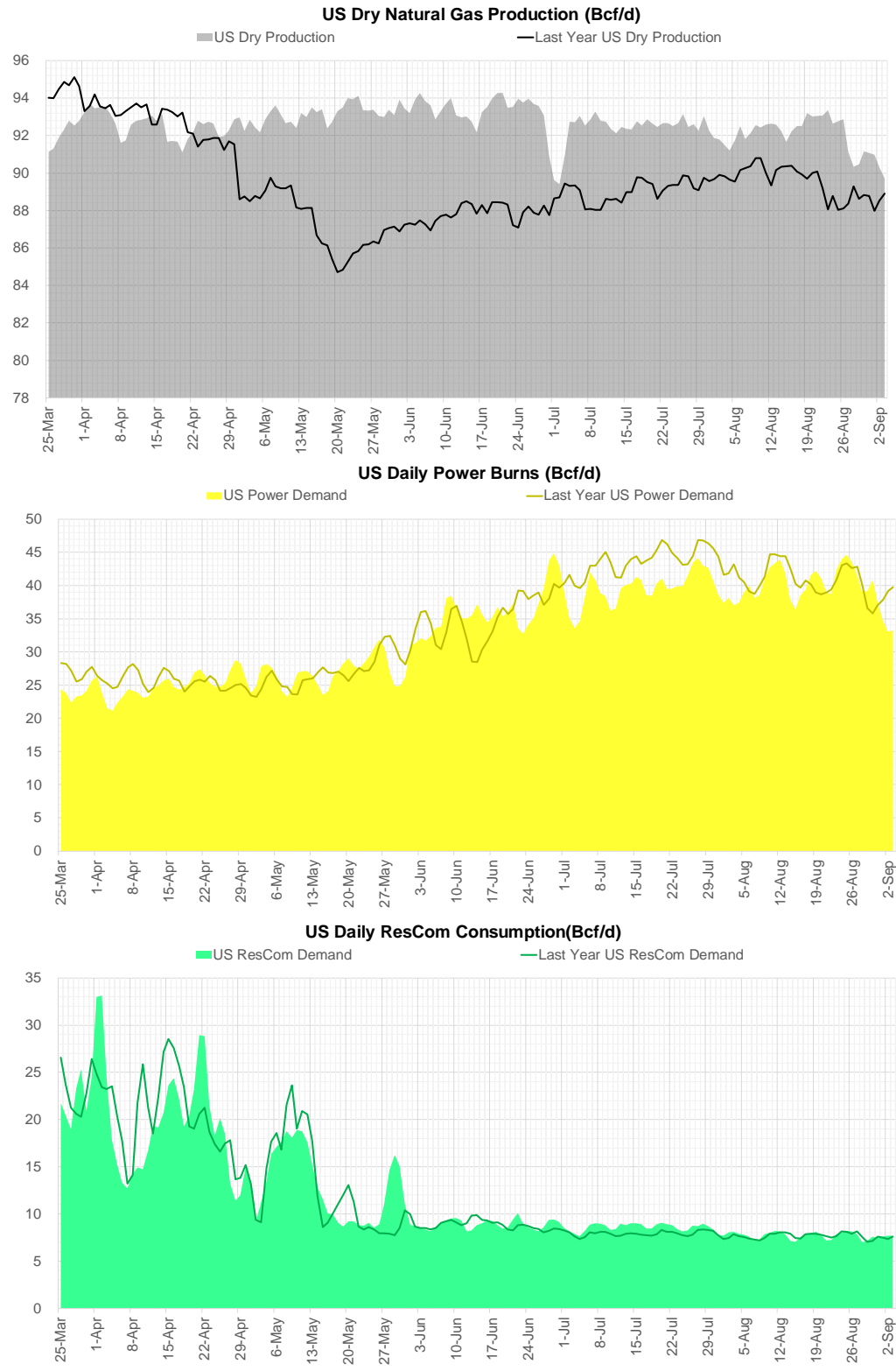
Next report and beyond		
Week Ending	Temp	Week Storage Projection
10-Sep	10.5	69
17-Sep	10.6	63
24-Sep	8.6	81

Weather Storage Model - Next 4 Week Forecast



Note: this is not our official end of season forecast. This chart signifies where storage levels end with 10-year normal weather and current market tightness relative to last year

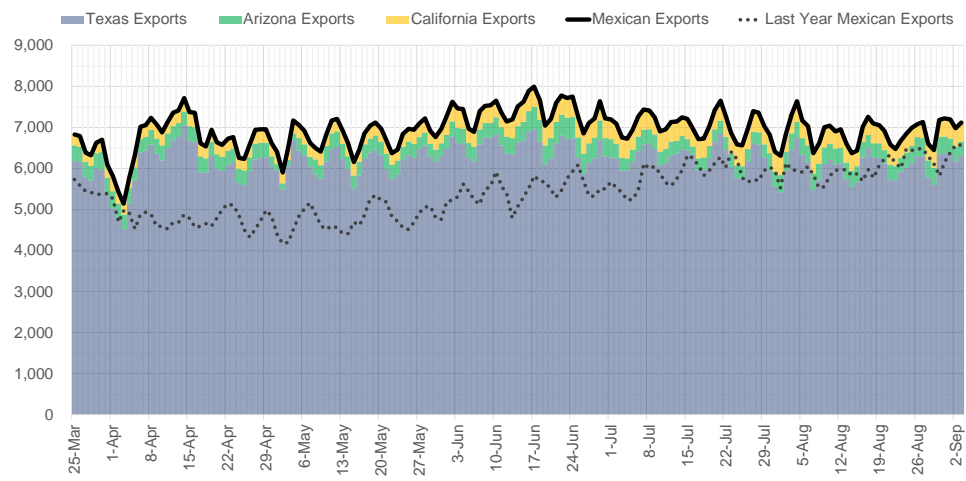
Supply – Demand Trends



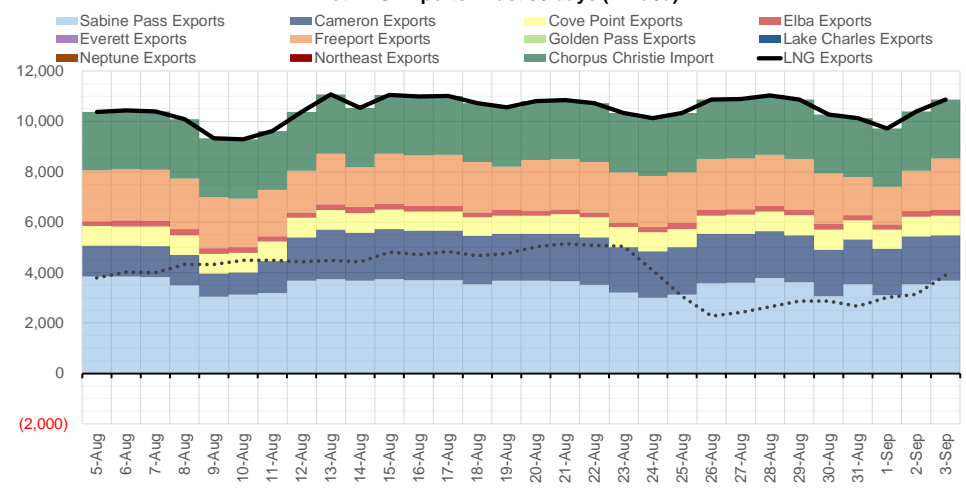
Source: Bloomberg

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Mexican Exports (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

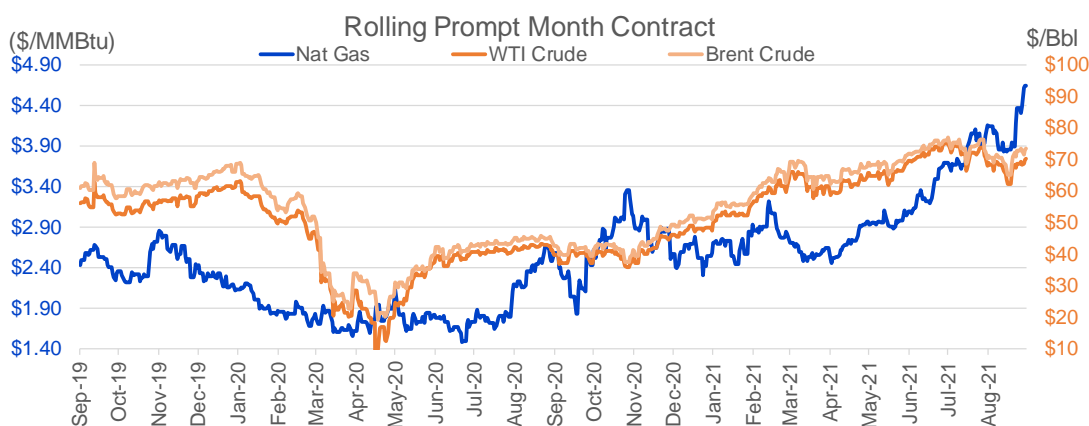
CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE VOL	CONTRACT MONTH	CONTRACT YEAR	PUT/CALL	STRIKE	CUMULATIVE OI
10	2021	C	5.00	9793	10	2021	C	5.00	54271
10	2021	C	5.50	8952	10	2021	C	4.00	43375
10	2021	C	6.00	4905	10	2021	P	3.50	42497
10	2021	C	4.75	4681	12	2021	P	2.75	42059
11	2021	P	4.00	4481	10	2021	C	4.50	41077
10	2021	P	4.00	4019	12	2021	P	2.50	38552
11	2021	C	7.00	3730	10	2021	C	3.50	32999
10	2021	C	5.75	3721	10	2021	C	4.25	32037
11	2021	C	4.75	3669	10	2021	P	3.00	31767
3	2022	C	10.00	3266	11	2021	P	3.00	30694
10	2021	P	4.25	3213	10	2021	P	2.50	29995
10	2021	P	4.50	2913	10	2021	P	2.00	28650
10	2021	C	5.25	2798	10	2021	C	3.25	28194
3	2022	C	6.00	2771	10	2021	P	2.75	26887
11	2021	P	3.50	2728	10	2021	C	6.00	25882
10	2021	C	3.90	2562	12	2021	P	3.00	24617
1	2022	P	3.25	2553	10	2021	P	3.75	23841
10	2021	C	4.90	2048	11	2021	C	4.00	23281
1	2022	P	2.75	2000	10	2021	P	4.00	23104
11	2021	C	4.60	1990	12	2021	C	4.00	22646
12	2021	P	4.00	1855	11	2021	P	3.50	20069
11	2021	C	6.00	1799	10	2021	P	2.25	19900
10	2021	C	5.10	1789	4	2022	C	3.00	19760
10	2021	P	3.75	1720	11	2021	C	5.00	19603
2	2022	P	3.50	1587	10	2021	C	3.00	18494
1	2022	P	4.00	1584	11	2021	P	4.00	18368
11	2021	P	3.75	1537	10	2021	P	3.25	17958
11	2021	C	5.10	1520	3	2022	C	5.00	17528
10	2021	C	4.65	1518	1	2022	C	5.00	17235
10	2021	P	4.60	1505	3	2022	P	2.50	17199
11	2021	P	4.50	1497	10	2021	C	3.75	16981
1	2022	P	3.50	1488	2	2022	C	5.00	16475
11	2021	C	7.50	1464	12	2021	P	4.00	16077
4	2022	C	6.00	1400	2	2022	C	4.00	15828
11	2021	C	5.00	1398	3	2022	C	10.00	15826
2	2022	P	4.00	1369	1	2022	C	6.00	15785
12	2021	C	6.00	1343	3	2022	C	4.00	15774
5	2022	C	6.00	1300	3	2022	C	8.00	15527
11	2021	C	5.75	1296	11	2021	C	7.00	15225
10	2021	C	5.15	1239	11	2021	C	4.50	15222
12	2021	C	9.00	1201	10	2021	C	5.50	15037
11	2021	C	5.50	1153	1	2022	C	4.00	14503
10	2021	P	4.40	1090	11	2021	P	2.50	14486
10	2021	C	5.40	1058	11	2021	C	3.75	14481
3	2022	P	3.50	1035	4	2022	P	2.50	14479
11	2021	P	3.25	1004	3	2022	C	3.00	14448
10	2021	C	4.50	1001	10	2021	C	5.25	14101
3	2022	C	4.60	1000	12	2021	P	2.00	13889
3	2022	C	4.60	1000	11	2021	C	4.25	13578
3	2022	C	5.50	1000	10	2021	C	4.35	13401

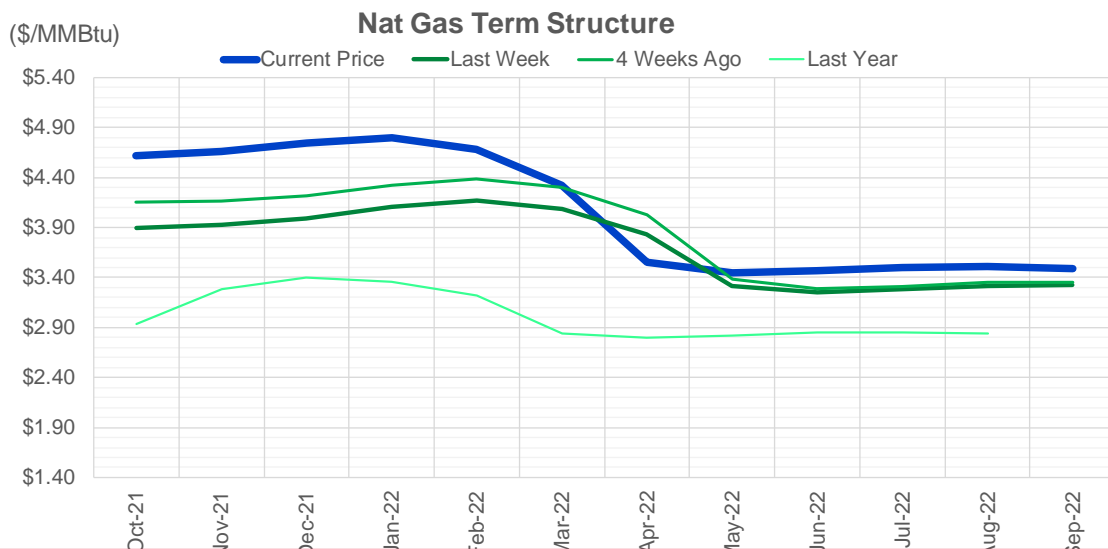
Source: CME, Nasdaq, ICE

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			
	Current	Prior	Daily Change		Current	Prior	Daily Change
OCT 21	235526	244057	-8531	OCT 21	107699	108716	-1018
NOV 21	207215	202377	4838	NOV 21	74621	73606	1015
DEC 21	90319	91850	-1531	DEC 21	76800	76938	-138
JAN 22	148912	147411	1501	JAN 22	87169	83623	3546
FEB 22	56564	55980	584	FEB 22	67388	66943	445
MAR 22	114633	113678	955	MAR 22	71420	71626	-206
APR 22	118413	118255	158	APR 22	67380	67282	99
MAY 22	111918	111096	822	MAY 22	67463	67284	178
JUN 22	36211	35251	960	JUN 22	51107	51062	45
JUL 22	29101	29471	-370	JUL 22	52360	52383	-23
AUG 22	30172	30345	-173	AUG 22	52344	52368	-24
SEP 22	33460	33085	375	SEP 22	52459	52385	74
OCT 22	83913	83607	306	OCT 22	60575	60611	-36
NOV 22	31413	31213	200	NOV 22	46437	46350	88
DEC 22	24762	24729	33	DEC 22	49512	49195	317
JAN 23	20218	19983	235	JAN 23	35514	35455	59
FEB 23	7886	7846	40	FEB 23	29748	29740	9
MAR 23	10162	9765	397	MAR 23	31793	31687	106
APR 23	10929	10277	652	APR 23	27577	27784	-207
MAY 23	6534	6289	245	MAY 23	28508	28539	-31
JUN 23	5230	5202	28	JUN 23	26566	26598	-32
JUL 23	4036	4009	27	JUL 23	26561	26516	45
AUG 23	3236	3229	7	AUG 23	26412	26422	-10
SEP 23	4177	4146	31	SEP 23	25720	25722	-2
OCT 23	5763	4875	888	OCT 23	27693	27718	-25
NOV 23	1956	1750	206	NOV 23	27756	27824	-69
DEC 23	1795	1766	29	DEC 23	24932	25073	-141
JAN 24	1117	1090	27	JAN 24	14052	13952	101
FEB 24	880	880	0	FEB 24	11802	11708	94
MAR 24	3308	3282	26	MAR 24	15738	15637	101

Source: CME, ICE






	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22
Current Price	\$4.615	\$4.663	\$4.749	\$4.798	\$4.683	\$4.321	\$3.553	\$3.442	\$3.467	\$3.499	\$3.506	\$3.492
Last Week	\$3.897	\$3.925	\$3.995	\$4.105	\$4.166	\$4.089	\$3.836	\$3.320	\$3.251	\$3.281	\$3.315	\$3.323
vs. Last Week	\$0.718	\$0.738	\$0.754	\$0.693	\$0.517	\$0.232	-\$0.283	\$0.122	\$0.216	\$0.218	\$0.191	\$0.169
4 Weeks Ago	\$4.158	\$4.163	\$4.221	\$4.320	\$4.386	\$4.298	\$4.025	\$3.381	\$3.285	\$3.313	\$3.348	\$3.355
vs. 4 Weeks Ago	\$0.457	\$0.500	\$0.528	\$0.478	\$0.297	\$0.023	-\$0.472	\$0.061	\$0.182	\$0.186	\$0.158	\$0.137
Last Year	\$2.486	\$2.931	\$3.288	\$3.399	\$3.357	\$3.216	\$2.844	\$2.794	\$2.817	\$2.847	\$2.854	\$2.842
vs. Last Year	\$2.129	\$1.732	\$1.461	\$1.399	\$1.326	\$1.105	\$0.709	\$0.648	\$0.650	\$0.652	\$0.652	\$0.650

	Units	Current Price	vs. Last Week	vs. 4 Weeks Ago	vs. Last Year
NatGas Jul21/Oct21	\$/MMBtu	1.024	▲ 0.430	▲ 0.493	▲ 1.006
NatGas Oct21/Nov21	\$/MMBtu	0.051	▲ 0.001	▼ -0.011	▲ 0.003
NatGas Oct21/Jan22	\$/MMBtu	0.191	▼ -0.017	▼ -0.044	▼ -0.085
NatGas Apr22/Oct22	\$/MMBtu	-0.030	▼ -0.031	▼ -0.009	▼ -0.053
WTI Crude	\$/Bbl	69.99	▲ 2.570	▲ 0.900	▲ 28.620
Brent Crude	\$/Bbl	73.03	▲ 1.960	▲ 1.740	▲ 28.960
Fuel Oil, NY Harbour 1%	\$/Bbl	97.18	▲ 0.000	▲ 0.000	▲ 0.000
Heating Oil	cents/Gallon	216.77	▲ 8.450	▲ 6.170	▲ 100.000
Propane, Mt. Bel	cents/Gallon	1.19	▲ 0.075	▲ 0.096	▲ 0.690
Ethane, Mt. Bel	cents/Gallon	0.36	▲ 0.025	▲ 0.017	▲ 0.169
Coal, PRB	\$/MTon	12.30	▲ 0.000	▲ 0.000	▲ 0.000
Coal, PRB	\$/MMBtu	0.70			

Source: CME, Bloomberg

Baker Hughes Rig Counts

Rotary Rig Count					
9/3/2021					
Baker Hughes 					
U.S. Breakout Information	This Week	+/-	Last Week	+/-	Year Ago
Oil	394	-16	410	213	181
Gas	102	5	97	30	72
Miscellaneous	1	0	1	-2	3
Directional	11	-17	28	-9	20
Horizontal	463	4	459	243	220
Vertical	23	2	21	7	16
Canada Breakout	This Week	+/-	Last Week	+/-	Year Ago
Oil	92	7	85	73	19
Gas	60	-2	62	27	33
Major Basin Variances	This Week	+/-	Last Week	+/-	Year Ago
Ardmore Woodford	4	0	4	4	0
Arkoma Woodford	1	0	1	0	1
Cana Woodford	17	-1	18	11	6
DJ-Niobrara	12	0	12	8	4
Eagle Ford	35	0	35	26	9
Granite Wash	4	-1	5	3	1
Haynesville	48	3	45	12	36
Marcellus	28	0	28	2	26
Permian	250	1	249	125	125
Utica	12	0	12	7	5
Williston	23	0	23	14	9