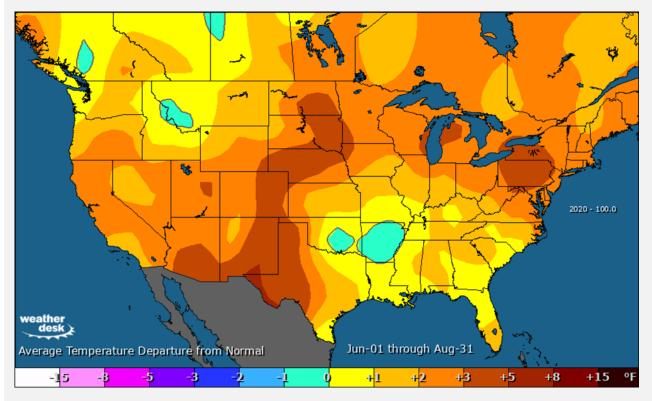


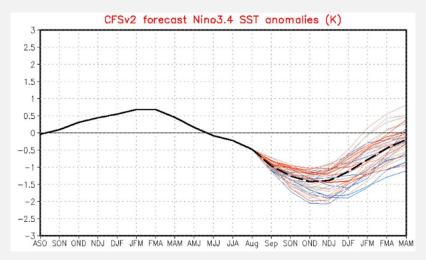
This week we review this summer's record setting heat. All of the top 10 summers on record since 1871 have occurred since 1980, and eight of 10 have happened since 2000. The general consensus is that climate change and urbanization have pushed temperatures upward.

Meteorologist were expecting this summer to be hot with the strong la nina condition going into the summer peak months.



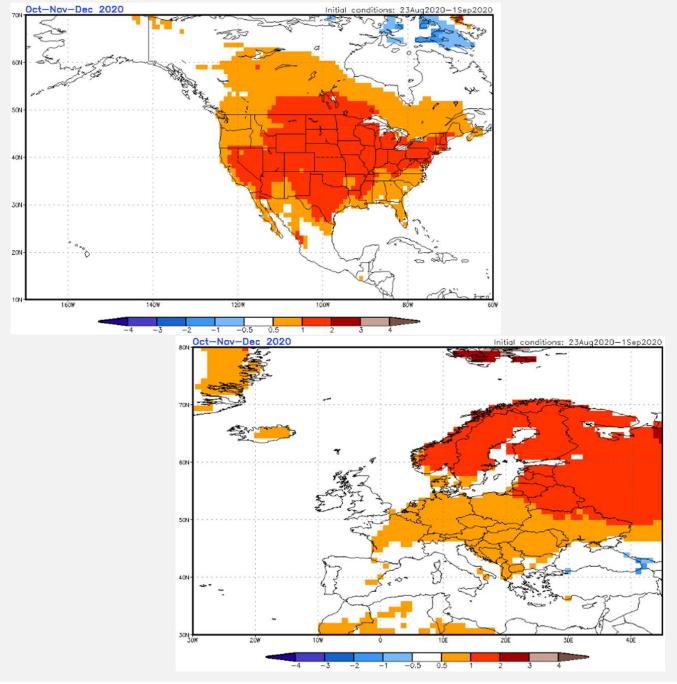
Source: Maxar Weather

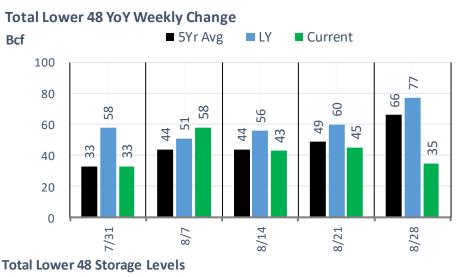
We still are still in a strong la nina state, which typically means warmer than normal ultimately wins out. Autumn temps are expected to jump back above normal, after this short cooler period in the 15D forecast. Meteorologist see the short-term weather pattern as a blip in the overall warmer state.



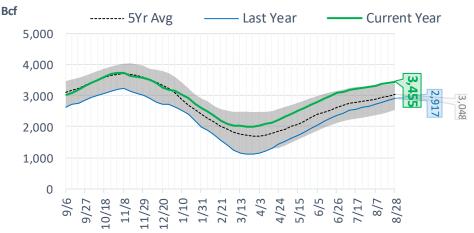
We should note that autumn heat would be bullish if it returns in late September up to first week of October. After that we would consider the heat to be a bearish case as it eats into the Res/Comm demand required for space heating.

The below is the longer-term CFS projection for North American and Europe. Many meteorologists do not put much confidence in the CFS projections, but the Australian model showed a similar forecast.

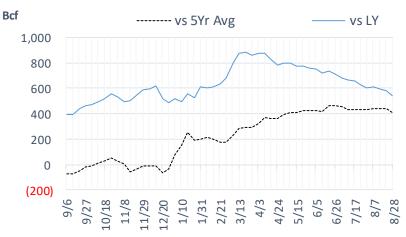




EIA Storage Report



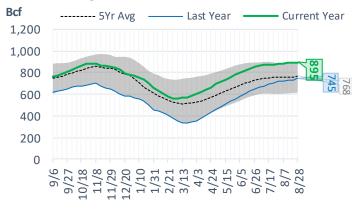


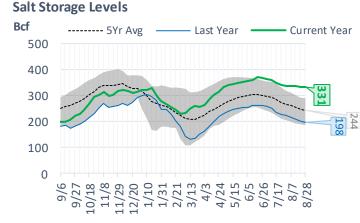


Natural Gas Storage Stats - Last 5 Weeks

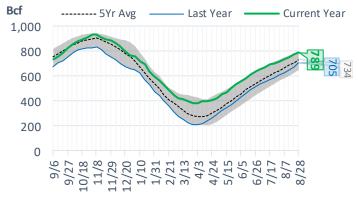
	Current	Week - 1	Week - 2	Week - 3	Week - 4	Week - 5
Week Ending	28-Aug	21-Aug	14-Aug	7-Aug	31-Jul	24-Jul
Total Lower 48 Storage Level	3455	3420	3375	3332	3274	3241
Weekly Change	+35	+45	+43	+58	+33	+26
vs LY	+538	+580	+595	+608	+601	+626
vs 5Yr Avg	+407	+438	+442	+443	+429	+429
S. Central Salt Storage Level	331	334	335	337	336	339
Weekly Change	-3	-1	-2	+1	-3	-10
vs LY	+133	+133	+127	+121	+114	+112
vs 5Yr Avg	+87	+87	+82	+76	+70	+65
S. Central NonSalt Storage Level	895	889	888	883	878	872
Weekly Change	+6	+1	+5	+5	+6	0
vs LY	+150	+155	+159	+160	+162	+169
vs 5Yr Avg	+127	+127	+130	+126	+124	+118
Midwest Storage Level	924	904	880	856	830	815
Weekly Change	+20	+24	+24	+26	+15	+16
vs LY	+108	+123	+129	+135	+136	+146
vs 5Yr Avg	+107	+121	+123	+124	+123	+128
East Storage Level	789	775	750	738	718	706
Weekly Change	+14	+25	+12	+20	+12	+13
vs LY	+84	+99	+97	+110	+110	+115
vs 5Yr Avg	+55	+66	+62	+72	+73	+80
Mountain Storage Level	212	212	209	206	202	196
Weekly Change	0	+3	+3	+4	+6	+6
vs LY	+36	+40	+42	+43	+42	+41
vs 5Yr Avg	+22	+25	+25	+25	+23	+20
Pacific Storage Level	304	306	313	314	311	313
Weekly Change	-2	-7	-1	+3	-2	+2
vs LY	+27	+29	+40	+42	+40	+43

NonSalt Storage Levels

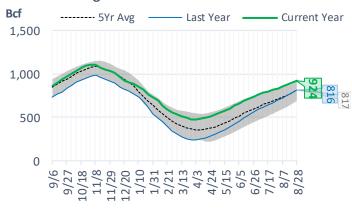


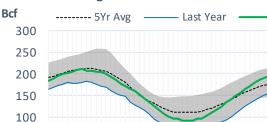


East Storage Levels



Midwest Storage Levels





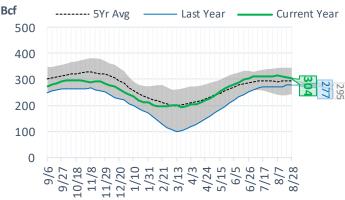
9/6 9/27 11/8 11/8 11/29 12/20 12/20 1/10 1/10 1/10 2/21 5/15 6/5 6/5 6/5 8/7 8/7 8/28

Mountain Storage Levels

50

0



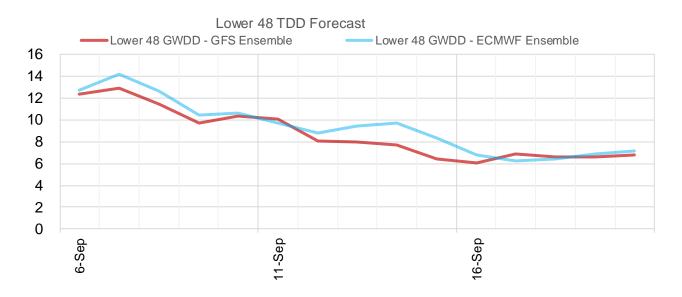


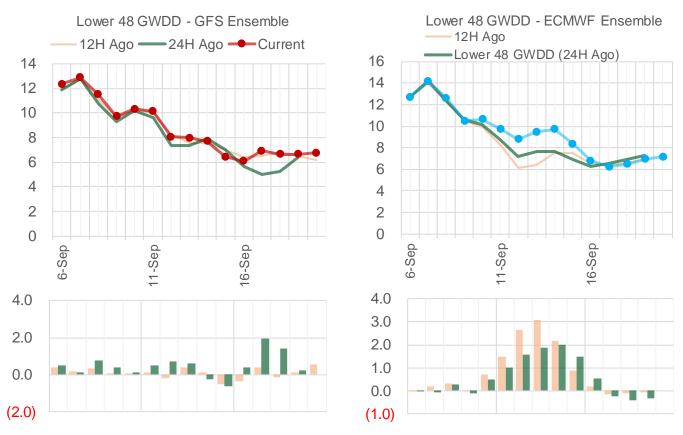
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Current Year



Current Short-term Weather Model Outlooks (00z)





Source: WSI , Bloomberg

EIA Storage Week Balances

	31-Jul	7-Aug	14-Aug	21-Aug	28-Aug	4-Sep	WoW	vs. 4W
Lower 48 Dry Production	87.2	87.3	87.4	87.2	86.0	86.3	a 0.3	▼ -0.7
Canadian Imports	4.5	4.6	5.0	4.7	5.2	4.4	▼ -0.8	▼ -0.5
L48 Power	45.5	40.7	42.9	40.0	41.6	37.2	▼ -4.4	▼ -4.0
L48 Residential & Commercial	8.7	8.1	8.1	8.2	8.3	7.8	▼ -0.5	▼ -0.4
L48 Industrial	17.4	18.8	19.0	20.4	19.6	19.8	a 0.1	a 0.3
L48 Lease and Plant Fuel	4.9	4.9	4.9	4.8	4.8	4.8	A 0.0	▼ 0.0
L48 Pipeline Distribution	2.5	2.2	2.3	2.2	2.3	2.1	▼ -0.2	▼ -0.2
L48 Regional Gas Consumption	78.9	74.7	77.2	75.6	76.6	71.7	▼ -4.9	▼ -4.4
Net LNG Exports	3.1	3.9	4.4	4.7	3.9	3.0	▼ -0.8	▼ -1.2
Total Mexican Exports	6.2	6.1	6.0	6.2	6.6	6.5	▼ -0.1	0.3
Implied Daily Storage Activity	3.5	7.2	4.8	5.3	4.1	9.4	5.4	
EIA Reported Daily Storage Activity Daily Model Error	4.7 -1.2	8.3 -1.1	6.1 -1.3	6.4 -1.1	5.0 -0.9			
	1.2				0.0			

Monthly Balances

	2Yr Aqo	LY					MTD		
	Sep-18	Sep-19	May-20	Jun-20	Jul-20	Aug-20	Sep-20	МоМ	vs. LY
Lower 48 Dry Production	85.2	93.5	85.8	85.1	86.6	86.9	87.1	a 0.2	▼ -6.4
Canadian Imports	4.5	4.7	3.9	4.0	4.4	4.9	3.9	▼ -1.0	▼ -0.8
L48 Power	34.2	36.4	26.9	34.8	43.8	40.6	36.9	▼ -3.6	A 0.6
L48 Residential & Commercial	8.5	8.3	12.9	9.0	8.6	8.1	7.7	▼ -0.4	▼ -0.6
L48 Industrial	21.6	22.3	18.9	18.3	17.8	19.6	19.6	A 0.1	▼ -2.6
L48 Lease and Plant Fuel	4.8	5.2	4.8	4.9	4.9	4.8	4.9	a 0.0	▼ -0.4
L48 Pipeline Distribution	2.0	2.1	1.9	2.0	2.4	2.2	2.1	▼ -0.1	▼ 0.0
L48 Regional Gas Consumption	71.2	74.3	65.5	69.1	77.5	75.3	71.2	▼ -4.1	▼ -3.0
Net LNG Exports	3.1	6.2	6.7	4.0	3.3	4.0	3.7	▼ -0.4	▼ -2.5
Total Mexican Exports	5.1	5.4	4.9	5.7	6.1	6.3	6.7	a 0.5	1.3
Implied Daily Storage Activity EIA Reported Daily Storage Activity Daily Model Error	10.3	12.4	12.6	10.2	4.1	6.1	9.3		

Source: Bloomberg, analytix.ai

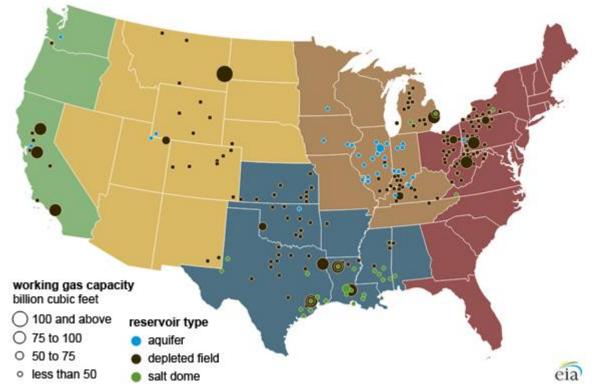


Regional S/D Models Storage Projection

Week Ending	4-Sep			
			Daily	
			Average	Weekly
		Daily	Storage	Adjusted
	Daily Raw	Adjustment	Activity	Storage
	Storage	Factor	(Adjusted) *	Activity
L48	9.2	1.2	10.4	72
East	1.2	1.8	3.0	20
Midwest	4.0	0.5	4.5	31
Mountain	3.4	-2.9	0.5	4
South Central	-0.3	2.3	2.0	14
Pacific	1.0	-0.6	0.4	3

*Adjustment Factor is calcuated based on historical regional deltas

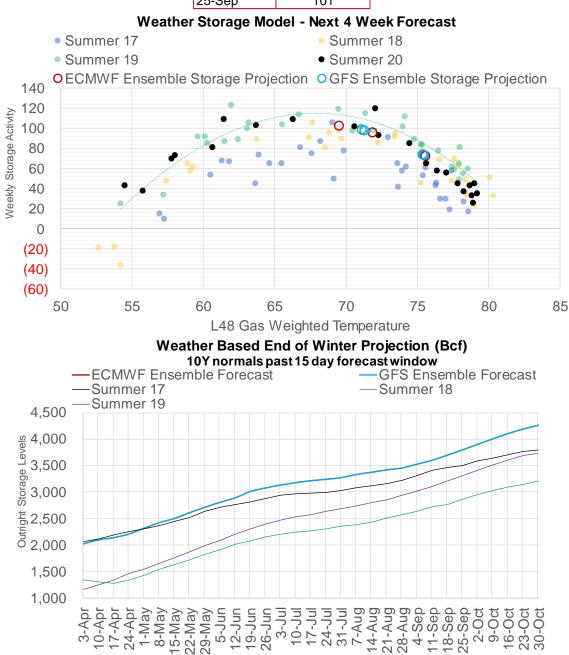
U.S. underground natural gas storage facilities by type (July 2015)





Weather Model Storage Projection

Next report and beyond								
	Week Storage							
Week Ending	Projection							
11-Sep	73							
18-Sep	97							
25-Sep	101							



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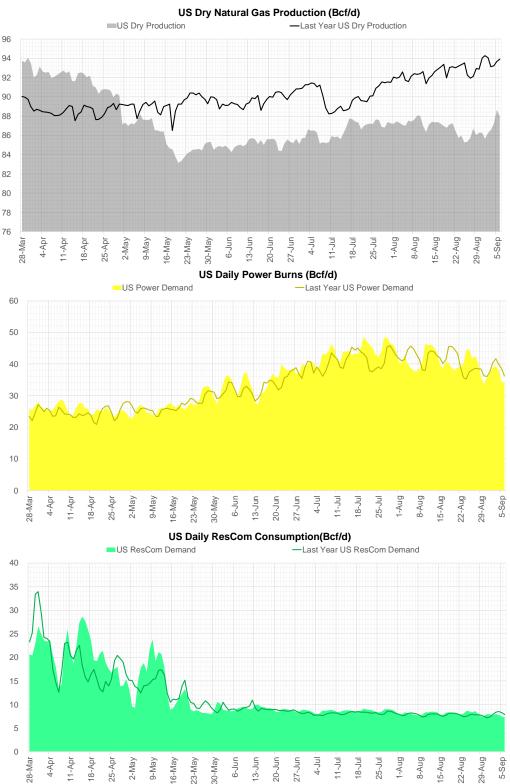
Weather Model Storage Projection to End of Season

L48 Storage Trajecto	L48 Storage Trajectory from Weather Model					Forecast Storage Levels				
	Report		vs 5Yr	Reported	Estimate		5Yr Avg			
	Storage Level	vs. LY	Avg	Chg	Chg *	LY Chg	vs. LY	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	2892	722	419	85		111	(26)	87	(2)	
19-Jun-20	3012	739	466	120		103	17	73	47	
26-Jun-20	3077	712	466	65		92	(27)	65	0	
3-Jul-20	3133	685	454	56		83	(27)	68	(12)	
10-Jul-20	3178	663	436	45		67	(22)	63	(18)	
17-Jul-20	3215	656	436	37		44	(7)	37	0	
24-Jul-20	3241	626	429	26		56	(30)	33	(7)	
31-Jul-20	3274	601	429	33		58	(25)	33	0	
7-Aug-20	3332	608	443	58		51	7	44	14	
14-Aug-20	3375	595	442	43		56	(13)	44	(1)	
21-Aug-20	3420	580	438	45		60	(15)	49	(4)	
28-Aug-20	3455	538	407	35		77	(42)	66	(31)	
4-Sep-20					74	80	(6)	68	6	
11-Sep-20					73	82	(9)	77	(4)	
18-Sep-20					97	97	(0)	80	17	
25-Sep-20					101	109	(8)	78	23	
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	
			2276	2596	(320)	2024	252			

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



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Supply – Demand Trends

Source: Bloomberg

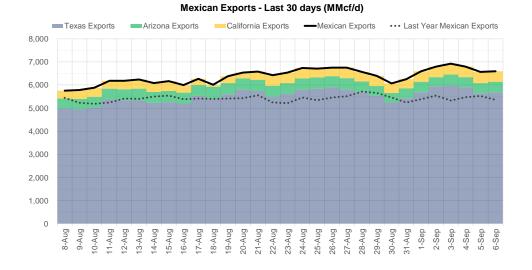
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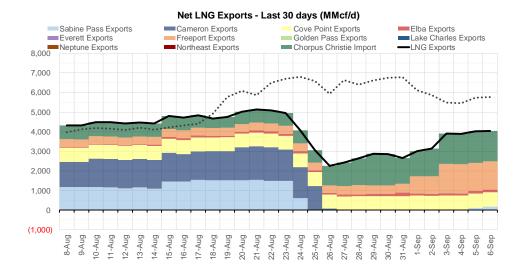
In-Jul 18-Jul 25-Jul

6-May 23-May 30-May

4-Apr

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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	2020	Р	2.00	13554	10	2020	Р	2.00	48534
10	2020	С	2.75	11597	10	2020	Р	1.50	44773
10	2020	Р	2.25	9287	10	2020	С	3.00	44118
10	2020	С	3.00	9048	10	2020	С	2.75	42713
4	2021	С	5.00	7695	10	2020	С	2.50	34205
10	2020	С	3.25	6661	10	2020	Р	1.60	34024
10	2020	Р	1.90	5306	3	2021	Р	2.00	32639
11	2020	С	5.00	5010	10	2020	Р	1.75	30569
10	2020	С	2.50	3728	10	2020	Р	1.25	28900
10	2020	C	2.80	3160	4	2021	С	5.00	27737
10	2020	P	2.10	3139	3	2021	С	3.25	25873
10	2020	Р	2.05	2845	3	2021	С	4.00	24679
10	2020	P	2.15	2845	10	2020	Р	1.00	24016
10	2020	C	2.70	2811	11	2020	С	3.50	23884
10	2020	P	1.85	2522	10	2020	Р	2.25	23637
11	2020	C	4.50	2501	1	2021	С	4.50	23116
10	2020	P	2.40	2427	10	2020	С	3.25	22754
10	2020	P	2.20	2307	12	2020	Р	2.00	22653
10	2020	C	2.55	2172	11	2020	Р	2.00	22325
10	2020	c	3.10	2097	3	2021	С	3.00	22261
2	2020	c	5.00	2000	10	2020	Р	2.10	22174
10	2020	c	2.65	1877	1	2021	С	3.50	22012
10	2020	P	2.50	1802	10	2020	С	2.10	21985
3	2020	P	2.00	1775	3	2021	С	3.50	20231
4	2021	C	4.00	1772	3	2021	С	6.00	20080
4 11	2021	c	3.00	1559	10	2020	С	3.50	19504
11	2020	P	2.25	1559	1	2021	С	5.00	19306
10	2020	C	2.25	1531	1	2021	С	3.75	19295
10	2020	c	2.85	1384	10	2020	Р	1.30	19133
10	2020	P	2.90	1335	10	2020	С	2.00	18664
10	2020	P	2.50 1.80	1283	10	2020	Р	1.80	18494
		P			11	2020	Р	2.25	18352
11	2020		1.50	1272	2	2021	С	5.00	17295
12	2020	С	4.00	1240	10	2020	С	2.25	17293
12	2020	С	3.75	1200	11	2020	С	3.00	16887
10	2020	С	3.50	1193	1	2021	С	3.00	16783
10	2020	P	1.95	1115	11	2020	Р	2.50	16364
5	2021	С	3.50	1100	11	2020	С	5.00	15470
11	2020	С	3.30	1060	11	2020	С	3.25	15233
5	2021	С	5.00	1050	12	2020	С	4.00	15165
11	2020	С	2.90	1017	11	2020	С	2.75	14928
3	2021	С	4.00	1000	1	2021	Р	2.25	14314
6	2021	С	5.00	1000	4	2021	С	3.00	14222
7	2021	С	5.00	1000	10	2020	Р	2.20	14055
8	2021	С	5.00	1000	12	2020	С	3.75	14048
9	2021	С	5.00	1000	10	2020	Р	1.40	13894
10	2021	С	5.00	1000	10	2020	С	2.40	13892
10	2020	С	3.20	972	10	2020	С	2.70	13774
5	2021	С	4.00	900	4	2021	Р	2.00	13744
11	2020	Р	1.75	876	10	2020	Р	1.7	13735

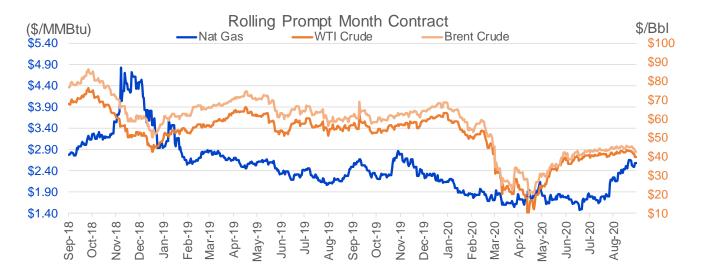
Source: CME, Nasdaq, ICE

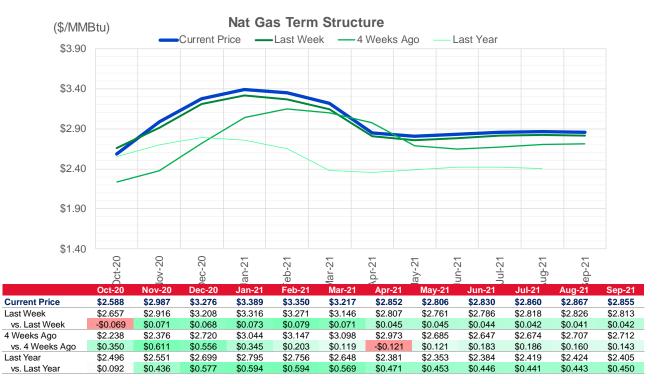


Nat Gas Futures Open Interest CME, ICE and Nasdaq Combined

CME Henry H	ub Futures (1	0,000 MMBtu)		ICE Henry Hub	Futures Co	ontract Equiva	lent (10,000 MM
	Current	Prior	Daily Change	FOR JUNE 26	Current	Prior	Daily Change
OCT 20	211587	217559	-5972	OCT 20	89158	91880	-2721.5
NOV 20	204150	204561	-411	NOV 20	82217	81908	309.25
DEC 20	103808	105620	-1812	DEC 20	73661	72839	821.5
JAN 21	127740	129141	-1401	JAN 21	85225	85000	225.25
FEB 21	48657	47471	1186	FEB 21	57047	56652	395.25
MAR 21	98185	97311	874	MAR 21	75890	75657	233.5
APR 21	78605	79020	-415	APR 21	63856	63371	484.5
MAY 21	46389	46408	-19	MAY 21	53916	53953	-36.5
JUN 21	27368	27301	67	JUN 21	50023	50036	-13
JUL 21	20167	19925	242	JUL 21	52282	52197	85
AUG 21	20973	20540	433	AUG 21	52474	52529	-55.5
SEP 21	26774	26970	-196	SEP 21	48834	48896	-62.25
OCT 21	65255	64901	354	OCT 21	72925	72660	265
NOV 21	27248	27533	-285	NOV 21	42196	42057	138.75
DEC 21	23554	23472	82	DEC 21	42566	42354	212.25
JAN 22	21920	21779	141	JAN 22	36554	36158	396
FEB 22	11736	11777	-41	FEB 22	31614	31635	-21.5
MAR 22	17742	17485	257	MAR 22	33577	33686	-109.25
APR 22	20667	20462	205	APR 22	33880	34060	-179.75
MAY 22	6029	6008	21	MAY 22	24633	24663	-30.25
JUN 22	3133	3145	-12	JUN 22	23799	23888	-89.75
JUL 22	2714	2727	-13	JUL 22	24358	24404	-45.75
AUG 22	1963	1950	13	AUG 22	24129	24222	-92.5
SEP 22	2120	2132	-12	SEP 22	23271	23346	-74.75
OCT 22	3161	3165	-4	OCT 22	24533	24476	56.25
NOV 22	2207	2104	103	NOV 22	21866	21961	-95.25
DEC 22	2202	2200	2	DEC 22	23057	23040	17.25
JAN 23	2868	2868	0	JAN 23	12549	12545	3.5
FEB 23	858	858	0	FEB 23	11423	11419	3.5
MAR 23	900	898	2	MAR 23	11757	11897	-140

Source: CME, ICE





					VS	s. 4 Weeks		
	Units	Current Price	VS.	Last Week		Ago	٧	s. Last Year
NatGas Jan/Apr	\$/MMBtu	-0.54	\checkmark	-0.028	$\mathbf{\nabla}$	-0.075	$\mathbf{\nabla}$	-0.118
NatGas Mar/Apr	\$/MMBtu	-0.365	$\mathbf{\nabla}$	-0.026	$\mathbf{\nabla}$	-0.653	$\mathbf{\nabla}$	-0.632
NatGas Oct/Nov	\$/MMBtu	0.40		0.140		0.055		0.345
NatGas Oct/Jan	\$/MMBtu	0.80		0.142		0.030		0.480
WTI Crude	\$/Bbl	39.77	\bigtriangledown	-3.200	\bigtriangledown	-1.450	\bigtriangledown	-16.750
Brent Crude	\$/Bbl	42.66	$\mathbf{\nabla}$	-2.390	$\mathbf{\nabla}$	-1.740	$\mathbf{\nabla}$	-18.880
Fuel Oil, NY Harbour 1%	\$/Bbl	98.03		0.000		0.000		0.000
Heating Oil	cents/Gallon	115.15	$\mathbf{\nabla}$	-6.470	$\mathbf{\nabla}$	-6.840	$\mathbf{\nabla}$	-74.880
Propane, Mt. Bel	cents/Gallon	0.48	$\mathbf{\nabla}$	-0.023	$\mathbf{\nabla}$	-0.018		0.049
Ethane, Mt. Bel	cents/Gallon	0.20	$\mathbf{\nabla}$	-0.045	$\mathbf{\nabla}$	-0.031	$\mathbf{\nabla}$	-0.020
Coal, PRB	\$/MTon	12.30		0.000		0.000		0.150
Coal, ILB	\$/MTon	31.05		0.000		0.000		-4.500

Source: CME, Bloomberg



Baker Hughes Rig Counts

Oil rigs increased by 1, while nat gas rigs stayed flat The weekly changes for the major basins are listed below.

	Baker	Hughes S							
U.S. Breakout Information	J.S. Breakout Information This Week +/- Last Week								
					Year Ago				
Oil	181	1	180	-557	738				
Gas	72	0	72	-88	160				
Miscellaneous	3	1	2	3	0				
Discutional	00			47	07				
Directional	20	0	20	-47	67				
Horizontal	220	-1	221	-563	783				
Vertical	16	3	13	-32	48				
Canada Breakout	This Week	+/-	Last Week	+/-	Year Ago				
Oil	19	0	19	-83	102				
Gas	33	-2	35	-12	45				
Major Basin Variances	This Week	+/-	Last Week	+/-	Year Ago				
Ardmore Woodford	0	0	0	-3	3				
Arkoma Woodford	1	0	1	-3	4				
Barnett	0	0	0	-1	1				
Cana Woodford	6	0	6	-36	42				
DJ-Niobrara	4	0	4	-19	23				
Eagle Ford	9	0	9	-58	67				
Granite Wash	1	0	1	-2	3				
Haynesville	36	1	35	-13	49				
Marcellus	26	0	26	-26	52				
Mississippian	0	0	0	-2	2				
Permian	125	0	125	-302	427				
Utica	5	0	5	-8	13				
Williston	9	-1	10	-45	54				