

# Rockies 2017 - Week #18

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*Monday, August 7, 2017*

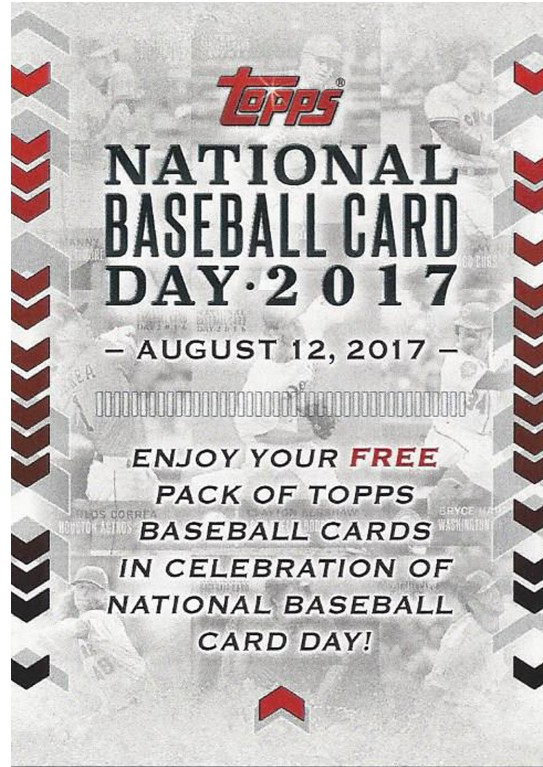


Figure 1: National Baseball Card Day, August 12, 2017

**Breaking News: AUSTIN, Texas – Don Baylor, the first manager in Rockies history, died Monday of cancer. He was 68.**

Table 1: NL West Standings

Tm	W	L	W-L%	GB
Los Angeles Dodgers	79	32	.712	–
Colorado Rockies	64	48	.571	15.5
Arizona Diamondbacks	63	48	.568	16.0
San Diego Padres	49	61	.445	29.5
San Francisco Giants	44	69	.389	36.0

Table 2: Current Rockies Results as of 2017-08-07

Wins	Losses	Win.Pct	Runs	Runs.Ag	Predicted Season Wins
64	48	57.143	593	543	88

*Breaking News: AUSTIN, Texas – Don Baylor, the first manager in Rockies history, died Monday of cancer. He was 68.*

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Wins	Losses	Win.Pct	Runs	Runs.Ag	Predicted Season Wins
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## Week #18

The Rockies had a successful week winning four of six games. The Rockies remain in second place in the NL West, 15.5 games behind Los Angeles Dodgers.

Saturday evening, the Colorado Rockies played the Philadelphia Phillies. Coors Field was awash with Phillies fans and, by the way, a bit of rain. Nonetheless, the Rockies persevered, winning 8 to 5 in eight and half innings.

My family and close relations from Wyoming, attended the game (8/5). As luck would have it, Saturday was the Rockies promotional day for the National baseball Card Day. As all of you who have attended a Rockies game in the past know, there are often promotional giveaways presented to the first number of fans attending. This particular game, we each received a small packet of Topps Rockies Baseball cards. The graphic on the title page of this document is all I felt I could legally produce without trade mark infringement.

The player cards themselves are of high graphics quality and low on information (statistics) content. Instead of the usual year-by-year batting statistics as in days of old, there is an interesting fun fact, sometimes related to some obscure statistic. As an example, here is the interesting tidbit on the obverse side of the new Topps card for **Nolan Arenado**:

More than 80 years ago, Hall of Famers Chuck Klein and Jimmie Foxx achieved 40-HR/130-RBI seasons back-to-back before they turned 26. No one else has been able to do that until Nolan Arenado in 2015 and '16.

National Baseball Card Day is officially “celebrated” on **August 12, 2017**.

- **Featured Article**
  - Top 12 Lists for Batting and Pitching
- Colorado Rockies Dashboard
  - Rockies Win/Loss Graphs for 2017 and 2007
  - National and American League Standings
  - Game-by-Game Results
  - **Pythagorean Theorem** prediction of the number of wins.
  - Batting Statistics (for non-pitchers)
  - Pitching Statistics
  - National League Team Standard Batting **New**
  - Current Injuries **Updated**
- Topics for Future Articles
- Glossary
  - Batting Statistics
  - Pitching Statistics
  - Fielding Statistics

Most of the source data for this article can be found at URL <http://baseball-reference.com>.

Let me know what other special interest statistics you might like to see. Remember to refer to the Glossaries at the end of the document if unfamiliar with one or more of the statistic abbreviations in the tables.

## Featured Article

### Top Twelve Rockies Players as Measured by WAR

Following is a table of the top twelve Colorado Rockies players as measured by the most recent WAR assessment for pitchers and position players. Week after week Nolan Arenado is at the top of this list. You may be surprised by some of the others on the list.

Table 3: Rockies Top 12 Players (WAR)

Rank	Name	Age	WAR	Salary.M
1	Nolan Arenado	26	5.0	11.750
2	Kyle Freeland	24	4.0	0.535
3	Charlie Blackmon	30	3.6	7.300
4	German Marquez	22	3.0	0.535
5	Greg Holland	31	2.4	6.000
6	DJ LeMahieu	28	2.0	4.800
7	Antonio Senzatela	22	1.9	0.535
8	Chris Rusin	30	1.8	0.535
9	Jake McGee	30	1.3	5.900
10	Tyler Chatwood	27	1.2	4.400
11	Jeff Hoffman	24	1.2	0.535
12	Gerardo Parra	30	1.2	8.000

## Top Twelve Batters in Each League

The tables below show the top batters in each league as measured by their WAR values. These values are updated each day and posted by Baseball-Reference.

Table 4: WAR Top 12 NL Players (Batting)

Rank	Name	Age	Team	WAR
1	Paul Goldschmidt	29	ARI	5.48
2	Nolan Arenado	26	COL	5.04
3	Anthony Rendon	27	WSN	5.01
4	Corey Seager	23	LAD	4.73
5	Joey Votto	33	CIN	4.73
6	Bryce Harper	24	WSN	4.50
7	Justin Turner	32	LAD	4.39
8	Marcell Ozuna	26	MIA	4.28
9	Buster Posey	30	SFG	4.14
10	Giancarlo Stanton	27	MIA	4.10
11	Chris Taylor	26	LAD	3.92
12	Tommy Pham	29	STL	3.86

Table 5: WAR Top 12 AL Players (Batting)

Rank	Name	Age	Team	WAR
1	Jose Altuve	27	HOU	6.26
2	Andrelton Simmons	27	LAA	5.73
3	Aaron Judge	25	NYN	5.34
4	Mookie Betts	24	BOS	5.21
5	Carlos Correa	22	HOU	4.86
6	Mike Trout	25	LAA	4.65
7	George Springer	27	HOU	4.43
8	Justin Upton	29	DET	4.32
9	Jose Ramirez	24	CLE	3.95
10	Lorenzo Cain	31	KCR	3.85
11	Jonathan Schoop	25	BAL	3.84
12	Evan Longoria	31	TBR	3.65

## Top Twelve Pitchers in the American and National Leagues

The following tables list the top twelve pitchers in each league. The Rockies have two members of the National League top twelve: Kyle Freeland (#5) and German Marquez (#12).

Table 6: WAR Top 12 NL Players (Pitching)

Rank	Name	Age	Team	WAR
1	Max Scherzer	32	WSN	5.53
2	Gio Gonzalez	31	WSN	5.08
3	Clayton Kershaw	29	LAD	4.39
4	Zack Greinke	33	ARI	4.01
5	Kyle Freeland	24	COL	3.67
6	Robbie Ray	25	ARI	3.60
7	Aaron Nola	24	PHI	3.55
8	Jacob deGrom	29	NYM	3.50
9	Zack Godley	27	ARI	3.27
10	Jimmy Nelson	28	MIL	3.11
11	Stephen Strasburg	28	WSN	3.08
12	German Marquez	22	COL	2.94

Table 7: WAR Top 12 AL Players (Pitching)

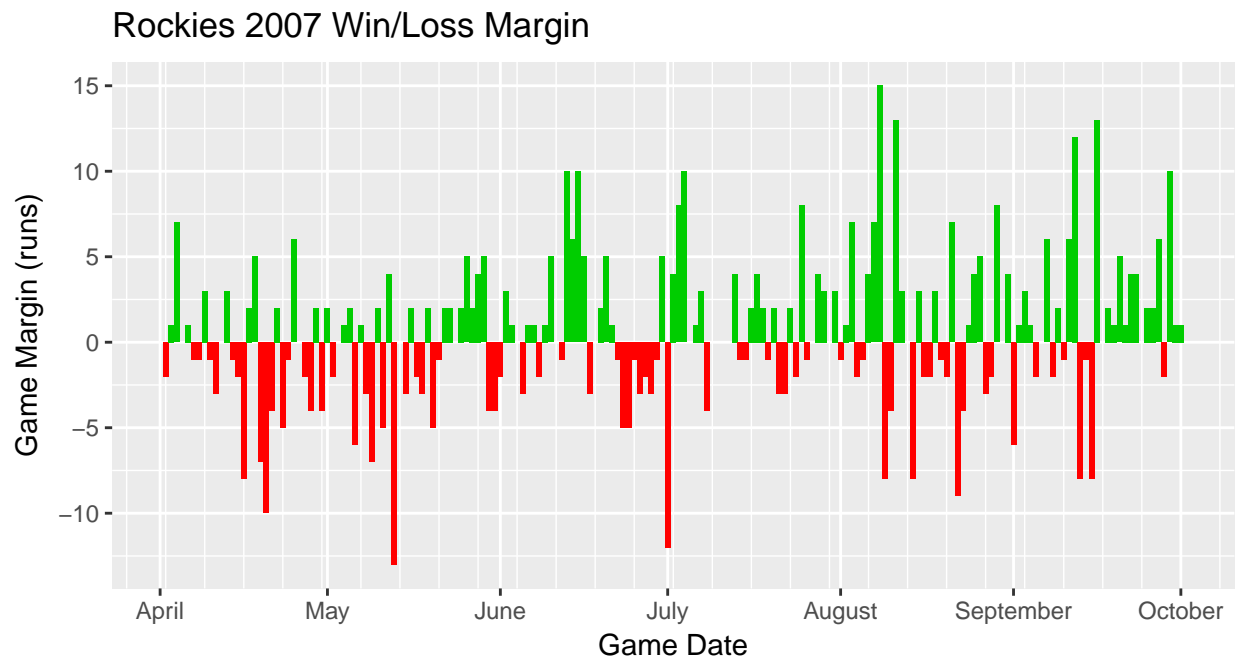
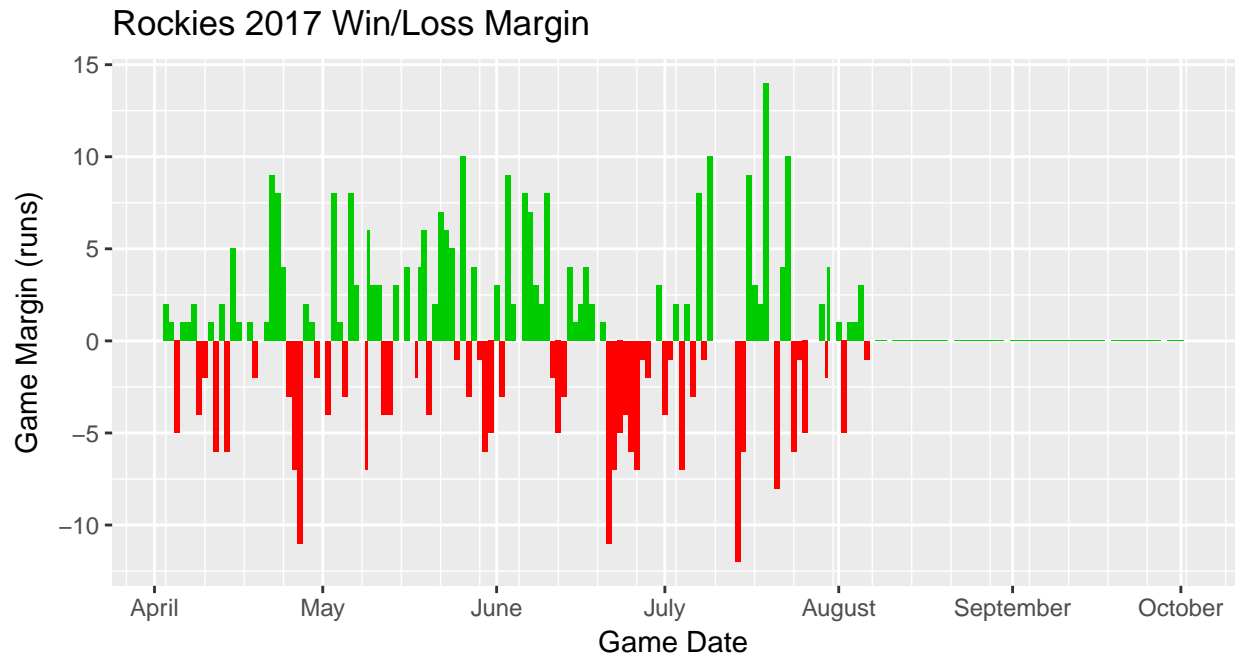
Rank	Name	Age	Team	WAR
1	Chris Sale	28	BOS	4.70
2	Luis Severino	23	NYN	4.64
3	Marcus Stroman	26	TOR	4.64
4	Corey Kluber	31	CLE	4.51
5	Jason Vargas	34	KCR	4.01
6	Ervin Santana	34	MIN	3.80
7	James Paxton	28	SEA	3.69
8	Dallas Keuchel	29	HOU	3.15
9	Andrew Cashner	30	TEX	3.06
10	Yu Darvish	30	TEX	3.01
11	Danny Duffy	28	KCR	2.85
12	Andrew Miller	32	CLE	2.72

## Colorado Rockies Dashboard

### Win Loss Margin

One of the many ways to visualize a teams performance is to show wins and losses as the margin of the win (positive) or loss (negative). In the graphs below, we show the current season performance. For emphasis, wins are displayed in green (above the zero) and losses in red (below).

Following the current season's graph, I have included the Win/Loss margin chart for our benchmark season of 2007 when the Rockies won the National League pennant.



## National League Standings

Table 8: NL East Standings

Tm	W	L	W-L%	GB
Washington Nationals	65	44	.596	–
Miami Marlins	52	57	.477	13.0
Atlanta Braves	51	59	.464	14.5
New York Mets	49	60	.450	16.0
Philadelphia Phillies	40	69	.367	25.0

Table 9: NL Central Standings

Tm	W	L	W-L%	GB
Chicago Cubs	58	52	.527	–
Milwaukee Brewers	59	54	.522	0.5
St. Louis Cardinals	55	56	.495	3.5
Pittsburgh Pirates	54	57	.486	4.5
Cincinnati Reds	45	66	.405	13.5

Table 10: NL West Standings

Tm	W	L	W-L%	GB
Los Angeles Dodgers	79	32	.712	–
Colorado Rockies	64	48	.571	15.5
Arizona Diamondbacks	63	48	.568	16.0
San Diego Padres	49	61	.445	29.5
San Francisco Giants	44	69	.389	36.0



**American League Standings**

Table 11: AL East Standings

Tm	W	L	W-L%	GB
Boston Red Sox	63	49	.563	–
New York Yankees	59	51	.536	3.0
Tampa Bay Rays	58	55	.513	5.5
Baltimore Orioles	55	56	.495	7.5
Toronto Blue Jays	52	59	.468	10.5

Table 12: AL Central Standings

Tm	W	L	W-L%	GB
Cleveland Indians	59	50	.541	–
Kansas City Royals	57	53	.518	2.5
Minnesota Twins	53	56	.486	6.0
Detroit Tigers	51	59	.464	8.5
Chicago White Sox	41	68	.376	18.0

Table 13: AL West Standings

Tm	W	L	W-L%	GB
Houston Astros	71	40	.640	–
Seattle Mariners	57	56	.504	15.0
Los Angeles Angels	55	57	.491	16.5
Texas Rangers	53	58	.477	18.0
Oakland Athletics	50	62	.446	21.5

## Rockies Game-by-Game Schedule/Results

Gm#	Day	Date	H/A	Opp	W/L	R	RA	Win	Loss	Save	D/N	Streak
1	Mon	Apr 3	A	MIL	W	7	5	Estevez	Marinez	Holland	D	+
2	Tue	Apr 4	A	MIL	W	6	5	Anderson	Davies	Holland	N	++
3	Wed	Apr 5	A	MIL	L	1	6	Peralta	Chatwood	Feliz	N	-
4	Thu	Apr 6	A	MIL	W	2	1	Dunn	Feliz	Holland	D	+
5	Fri	Apr 7	H	LAD	W	2	1	Freeland	Ryu	McGee	D	++
6	Sat	Apr 8	H	LAD	W	4	2	Dunn	Kershaw	Holland	N	+++
7	Sun	Apr 9	H	LAD	L	6	10	Maeda	Anderson		D	-
8	Mon	Apr 10	H	SDP	L	3	5	Diaz	Chatwood		N	-
9	Tue	Apr 11	H	SDP	W	3	2	Senzatela	Diaz	Holland	N	+
10	Wed	Apr 12	H	SDP	L	0	6	Lee	Freeland		D	-
11	Thu	Apr 13	A	SFG	W	3	1	Rusin	Bumgarner	Holland	N	+
12	Fri	Apr 14	A	SFG	L	2	8	Cueto	Anderson		N	-
13	Sat	Apr 15	A	SFG	W	5	0	Chatwood	Moore		D	+
14	Sun	Apr 16	A	SFG	W	4	3	Senzatela	Samardzija	Holland	D	++
15	Tue	Apr 18	A	LAD	W	4	3	Rusin	Ryu	Holland	N	+++
16	Wed	Apr 19	A	LAD	L	2	4	Kershaw	Anderson	Jansen	N	-
17	Fri	Apr 21	H	SFG	W	6	5	Chatwood	Cueto	Holland	N	+
18	Sat	Apr 22	H	SFG	W	12	3	Senzatela	Moore		N	++
19	Sun	Apr 23	H	SFG	W	8	0	Freeland	Samardzija		D	+++
20	Mon	Apr 24	H	WSN	W	8	4	Estevez	Romero		N	++++
21	Tue	Apr 25	H	WSN	L	12	15	Romero	Marquez		N	-
22	Wed	Apr 26	H	WSN	L	4	11	Roark	Chatwood		N	-
23	Thu	Apr 27	H	WSN	L	5	16	Gonzalez	Senzatela		D	—
24	Fri	Apr 28	A	ARI	W	3	1	Freeland	Ray	Holland	N	+
25	Sat	Apr 29	A	ARI	W	7	6	Estevez	Rodney	Holland	N	++
26	Sun	Apr 30	A	ARI	L-wo	0	2	Delgado	Lyles		D	-
27	Tue	May 2	A	SDP	L	2	6	Cahill	Chatwood		N	-
28	Wed	May 3	A	SDP	W	11	3	Senzatela	Weaver		N	+
29	Thu	May 4	A	SDP	W	3	2	Qualls	Hand	Holland	D	++
30	Fri	May 5	H	ARI	L	3	6	Greinke	Marquez	Rodney	N	-
31	Sat	May 6	H	ARI	W	9	1	Anderson	Corbin	Rusin	N	+
32	Sun	May 7	H	ARI	W	5	2	Chatwood	Walker	Holland	D	++
33	Tue	May 9 (1)	H	CHC	W	10	4	Senzatela	Arrieta		D	+++
34	Tue	May 9 (2)	H	CHC	L	1	8	Lackey	Freeland		N	-
35	Wed	May 10	H	CHC	W	3	0	Marquez	Hendricks	Holland	D	+
36	Thu	May 11	H	LAD	W	10	7	Hoffman	Ryu	Holland	N	++
37	Fri	May 12	H	LAD	L	2	6	Kershaw	Chatwood		N	-
38	Sat	May 13	H	LAD	L	0	4	Wood	Anderson		N	-
39	Sun	May 14	H	LAD	W	9	6	Senzatela	Urias	Holland	D	+
40	Tue	May 16	A	MIN	W	7	3	Freeland	Hughes	Holland	N	++
41	Thu	May 18 (1)	A	MIN	W	5	1	Marquez	Santana	Holland	D	+++
42	Thu	May 18 (2)	A	MIN	L	0	2	Berrios	Chatwood	Kintzler	N	-
43	Fri	May 19	A	CIN	W	12	6	Anderson	Bonilla		N	+
44	Sat	May 20	A	CIN	L	8	12	Wojciechowski	Dunn		D	-
45	Sun	May 21	A	CIN	W	6	4	Freeland	Arroyo	Holland	D	+
46	Mon	May 22	A	PHI	W	8	1	Hoffman	Eickhoff		N	++
47	Tue	May 23	A	PHI	W	8	2	Marquez	Efin		N	+++
48	Wed	May 24	A	PHI	W	7	2	Chatwood	Hellickson		N	++++
49	Thu	May 25	A	PHI	L-wo	1	2	Gomez	Oberg		D	-
50	Fri	May 26	H	STL	W	10	0	Senzatela	Martinez		N	+

Gm#	Day	Date	H/A	Opp	W/L	R	RA	Win	Loss	Save	D/N	Streak
51	Sat	May 27	H	STL	L	0	3	Wainwright	Freeland	Oh	N	-
52	Sun	May 28	H	STL	W	8	4	Marquez	Lynn		D	+
53	Mon	May 29	H	SEA	L	5	6	Gaviglio	Chatwood	Diaz	D	-
54	Tue	May 30	H	SEA	L	4	10	Miranda	Anderson		N	-
55	Wed	May 31	A	SEA	L	0	5	Paxton	Senzatela		N	—
56	Thu	Jun 1	A	SEA	W	6	3	Freeland	Gallardo	Holland	D	+
57	Fri	Jun 2	A	SDP	L	5	8	Richard	Marquez	Maurer	N	-
58	Sat	Jun 3	A	SDP	W	10	1	Chatwood	Chacin		D	+
59	Sun	Jun 4	A	SDP	W	3	1	Hoffman	Cosart	Holland	D	++
60	Tue	Jun 6	H	CLE	W	11	3	Senzatela	Clevinger		N	+++
61	Wed	Jun 7	H	CLE	W	8	1	Freeland	Bauer		D	++++
62	Thu	Jun 8	A	CHC	W	4	1	Chatwood	Lester	Holland	N	++++
63	Fri	Jun 9	A	CHC	W	5	3	Rusin	Frankoff	Holland	D	++++
64	Sat	Jun 10	A	CHC	W	9	1	Hoffman	Butler		D	++++
65	Sun	Jun 11	A	CHC	L	5	7	Edwards	Lyles	Davis	D	-
66	Mon	Jun 12	A	PIT	L	2	7	Taillon	Freeland		N	-
67	Tue	Jun 13	A	PIT	L	2	5	Cole	Ottavino		N	—
68	Wed	Jun 14	A	PIT	W	5	1	Marquez	Kuhl		N	+
69	Thu	Jun 15	H	SFG	W-wo	10	9	Holland	Strickland		N	++
70	Fri	Jun 16	H	SFG	W	10	8	Senzatela	Samardzija	Holland	N	+++
71	Sat	Jun 17	H	SFG	W	5	1	Freeland	Cain		D	++++
72	Sun	Jun 18	H	SFG	W-wo	7	5	Estevez	Melancon		D	++++
73	Tue	Jun 20	H	ARI	W	4	3	Ottavino	Greinke	Holland	N	++++
74	Wed	Jun 21	H	ARI	L	5	16	Walker	Hoffman		N	-
75	Thu	Jun 22	H	ARI	L	3	10	Godley	Senzatela		D	-
76	Fri	Jun 23	A	LAD	L	1	6	Wood	Freeland		N	—
77	Sat	Jun 24	A	LAD	L	0	4	Kershaw	Chatwood		N	—
78	Sun	Jun 25	A	LAD	L	6	12	Baez	Ottavino	Jansen	D	—
79	Mon	Jun 26	A	SFG	L	2	9	Samardzija	Marquez		N	—
80	Tue	Jun 27	A	SFG	L-wo	3	4	Gerrin	Qualls		N	—
81	Wed	Jun 28	A	SFG	L	3	5	Blach	Freeland	Strickland	D	—
82	Fri	Jun 30	A	ARI	W	6	3	Gray	Ray	Holland	N	+
83	Sat	Jul 1	A	ARI	L	2	6	Greinke	Chatwood	Rodney	N	-
84	Sun	Jul 2	A	ARI	L-wo	3	4	Rodney	Ottavino		D	-
85	Mon	Jul 3	H	CIN	W	5	3	Hoffman	Castillo	Holland	N	+
86	Tue	Jul 4	H	CIN	L	1	8	Bailey	Freeland		N	-
87	Wed	Jul 5	H	CIN	W	5	3	Gray	Feldman	Holland	N	+
88	Thu	Jul 6	H	CIN	L	3	6	Romano	Chatwood		D	-
89	Fri	Jul 7	H	CHW	W	12	4	Marquez	Holland		N	+
90	Sat	Jul 8	H	CHW	L	4	5	Kahnle	Holland	Robertson	N	-
91	Sun	Jul 9	H	CHW	W	10	0	Freeland	Rodon		D	+
92	Fri	Jul 14	A	NYM	L	2	14	deGrom	Gray		N	-
93	Sat	Jul 15	A	NYM	L	3	9	Lugo	Chatwood		N	-
94	Sun	Jul 16	A	NYM	W	13	4	Hoffman	Matz		D	+
95	Mon	Jul 17	H	SDP	W	9	6	Marquez	Perdomo	Holland	N	++
96	Tue	Jul 18	H	SDP	W	9	7	Senzatela	Lamet	Holland	N	+++
97	Wed	Jul 19	H	SDP	W	18	4	Gray	Richard		D	++++
98	Fri	Jul 21	H	PIT	L	5	13	Williams	Hoffman		N	-
99	Sat	Jul 22	H	PIT	W	7	3	Marquez	Kuhl	Holland	N	+
100	Sun	Jul 23	H	PIT	W	13	3	Freeland	Nova		D	++
101	Mon	Jul 24	A	STL	L	2	8	Leake	Senzatela		N	-
102	Tue	Jul 25	A	STL	L-wo	2	3	Rosenthal	McGee		N	-

Gm#	Day	Date	H/A	Opp	W/L	R	RA	Win	Loss	Save	D/N	Streak
103	Wed	Jul 26	A	STL	L	5	10	Martinez	Hoffman		N	—
104	Sat	Jul 29	A	WSN	W	4	2	Marquez	Roark	Holland	N	+
105	Sun	Jul 30 (1)	A	WSN	W	10	6	Freeland	Fedde	Holland	D	++
106	Sun	Jul 30 (2)	A	WSN	L	1	3	Jackson	Gray	Doolittle	N	-
107	Tue	Aug 1	H	NYM	W-wo	5	4	Dunn	Robles		N	+
108	Wed	Aug 2	H	NYM	L	5	10	Bradford	Chatwood		N	-
109	Thu	Aug 3	H	NYM	W-wo	5	4	Holland	Robles		D	+
110	Fri	Aug 4	H	PHI	W	4	3	Dunn	Garcia	Holland	N	++
111	Sat	Aug 5	H	PHI	W	8	5	Gray	Pivetta		N	+++
112	Sun	Aug 6	H	PHI	L	2	3	Ramos	Holland	Neris	D	-

The Rockies current record is 64 Wins and 48 Losses. So far, the Rockies have scored 593 runs and have had 543 runs scored against them.

## Pythagorean Win-Loss Theorem

$$predictedW\% = \frac{R^k}{R^k + RA^k}$$

Using the commonly used values of k, the Rockies predicted wins for the 2017 are shown in the table below. Remember this statistic will vary widely over the course of the season.

Table 15: Predicted Wins for Entire 2017 Season

Wins (k=1.81)	Wins (k=1.83)	Wins (k=2.00)
87	88	88

## Batting Statistics (non-pitchers)

Table 16: Rockies Batting Statistics (1 of 2).

Rk	Pos	Name	Age	G	AB	R	H	2B	3B	HR	RBI	SB	CS	BB
1	C	Wolters*	25	67	202	30	50	8	1	0	14	0	1	28
2	1B	Reynolds	33	105	380	65	107	17	1	23	74	2	1	52
3	2B	LeMahieu	28	105	411	68	131	22	1	4	49	5	4	40
4	SS	Story	24	95	326	45	74	14	1	15	49	5	0	34
5	3B	Arenado	26	109	435	73	138	34	6	25	98	2	1	33
6	LF	Desmond	31	65	242	33	69	8	1	5	32	10	4	14
7	CF	Blackmon*	30	110	453	100	150	24	13	25	72	9	6	39
8	RF	Gonzalez*	31	92	329	44	75	17	0	7	32	2	0	34
9	LF	Parra*	30	71	231	38	82	17	0	8	50	0	4	11
10	IF	Valaika	24	76	130	24	34	10	0	10	31	0	0	6
11	UT	Amarista*	28	70	134	16	33	9	0	2	18	1	0	5
12	OF	Tapia*	23	46	114	22	34	8	2	2	10	4	2	8
13	C	Hanigan	36	27	91	8	24	2	0	2	12	0	0	7
14	C	Garneau	29	22	68	5	14	7	0	1	6	0	0	4
15	OF	Cardullo	29	15	28	2	4	0	0	0	3	0	0	3
16	C	Murphy	26	8	20	1	1	1	0	0	1	0	0	2
17	IF	Adames#	25	12	13	1	0	0	0	0	0	0	0	1
18	C	Lucroy	31	4	9	1	3	1	0	0	1	0	0	1
19	OF	Tauchman*	26	7	9	0	2	0	0	0	1	0	0	3

Table 17: Rockies Batting Statistics (2 of 2).

Rk	Pos	Name	Age	SO	BA	OBP	SLG	OPS	OPS+	TB	GDP	HBP	SH	SF	IBB
1	C	Wolters*	25	49	.248	.345	.297	.642	61	60	9	2	2	0	9
2	1B	Reynolds	33	126	.282	.369	.513	.882	114	195	10	1	0	1	0
3	2B	LeMahieu	28	56	.319	.383	.406	.789	95	167	13	5	2	4	0
4	SS	Story	24	130	.227	.302	.414	.716	74	135	6	1	0	0	2
5	3B	Arenado	26	79	.317	.366	.595	.961	130	259	17	3	1	5	5
6	LF	Desmond	31	65	.285	.328	.388	.717	76	94	8	3	2	3	1
7	CF	Blackmon*	30	95	.331	.388	.607	.995	139	275	3	5	3	3	4
8	RF	Gonzalez*	31	79	.228	.298	.343	.642	57	113	4	1	0	5	3
9	LF	Parra*	30	37	.355	.380	.532	.912	121	123	7	2	0	6	0
10	IF	Valaika	24	36	.262	.292	.569	.861	104	74	0	0	4	1	0
11	UT	Amarista*	28	28	.246	.273	.358	.632	54	48	3	0	1	0	0
12	OF	Tapia*	23	25	.298	.355	.456	.811	98	52	0	2	1	0	1
13	C	Hanigan	36	25	.264	.320	.352	.672	65	32	3	1	1	1	1
14	C	Garneau	29	24	.206	.260	.353	.613	49	24	1	1	1	0	0
15	OF	Cardullo	29	7	.143	.250	.143	.393	1	4	0	1	0	0	0
16	C	Murphy	26	7	.050	.136	.100	.236	-40	2	0	0	0	0	1
17	IF	Adames#	25	6	.000	.071	.000	.071	-80	0	0	0	0	0	0
18	C	Lucroy	31	1	.333	.462	.444	.906	125	4	0	2	0	1	0
19	OF	Tauchman*	26	1	.222	.417	.222	.639	65	2	0	0	0	0	0

- \* - bats left-handed, # - bats both, else - bats right, ? - unknown; OPS<sub>lg</sub> for OPS+ does not include pitchers.

## Pitching Statistics

Table 18: Rockies pitching statistics (1 of 2).

Rk	Pos	Name	Age	W	L	W-L%	ERA	G	GS	GF	CG	SHO	SV	IP	H	R
1	SP	Freeland*	24	11	7	.611	3.70	22	21	0	0	0	0	121.2	125	54
2	SP	Chatwood	27	6	12	.333	5.11	21	20	0	1	1	0	112.2	102	67
3	SP	Senzatela	22	10	4	.714	4.78	22	17	2	0	0	0	107.1	100	59
4	SP	Marquez	22	9	4	.692	4.11	18	18	0	0	0	0	103.0	101	48
5	SP	Hoffman	24	6	3	.667	5.03	15	14	1	0	0	0	82.1	81	47
6	SP	Anderson*	27	3	5	.375	6.11	13	12	1	0	0	0	63.1	75	45
7	CL	Holland	31	2	2	.500	1.96	43	0	42	0	0	34	41.1	26	9
8	RP	Oberg	27	0	1	.000	5.91	49	0	7	0	0	0	42.2	57	30
9	RP	McGee*	30	0	1	.000	3.27	43	0	9	0	0	1	41.1	33	15
10	RP	Dunn*	32	4	1	.800	4.23	48	0	7	0	0	0	38.1	34	18
11	RP	Ottavino	31	1	3	.250	5.17	44	0	4	0	0	0	38.1	36	22
12		Rusin*	30	3	0	1.000	2.78	39	0	5	0	0	1	58.1	49	22
13		Gray	25	4	2	.667	4.94	10	10	0	0	0	0	51.0	60	29
14		Lyles	26	0	2	.000	6.94	33	0	12	0	0	0	46.2	61	37
15		Estevez	24	4	0	1.000	8.10	18	0	6	0	0	0	16.2	25	16
16		Qualls	38	1	1	.500	5.40	19	0	9	0	0	0	16.2	17	11
17		Neshek	36	0	0		5.40	6	0	1	0	0	0	5.0	8	4
18		Diaz	26	0	0		9.00	4	0	3	0	0	0	5.0	12	6
19		Rosscup*	29	0	0		10.80	3	0	1	0	0	0	3.1	7	4
20		Carle	25	0	0		0.00	1	0	1	0	0	0	1.0	0	0

Table 19: Rockies pitching statistics (2 of 2).

Rk	Pos	Name	ER	HR	BB	IBB	SO	HBP	BK	WP	BF	ERA+	FIP	WHIP
1	SP	Freeland*	50	15	44	2	77	8	1	0	527	136	4.76	1.389
2	SP	Chatwood	64	17	63	2	90	2	2	8	482	98	5.24	1.464
3	SP	Senzatela	57	17	36	1	79	4	2	1	447	105	4.85	1.267
4	SP	Marquez	47	11	33	2	100	6	0	3	440	122	3.73	1.301
5	SP	Hoffman	46	9	28	1	71	4	0	0	352	100	4.01	1.324
6	SP	Anderson*	43	15	23	0	63	2	2	3	281	82	5.42	1.547
7	CL	Holland	9	2	18	1	53	0	0	6	162	257	2.51	1.065
8	RP	Oberg	28	3	18	2	40	2	0	3	201	85	3.59	1.758
9	RP	McGee*	15	4	12	0	47	0	0	5	165	154	3.00	1.089
10	RP	Dunn*	18	7	21	0	48	0	0	2	167	119	4.66	1.435
11	RP	Ottavino	22	7	27	1	44	4	0	7	176	98	5.65	1.643
12		Rusin*	18	7	15	1	48	1	0	2	234	181	3.88	1.097
13		Gray	28	6	16	0	50	0	0	2	224	102	3.65	1.490
14		Lyles	36	11	12	1	33	4	0	2	211	73	5.82	1.564
15		Estevez	15	1	6	1	18	1	1	1	82	63	3.02	1.860
16		Qualls	10	3	5	0	11	0	0	0	72	94	5.06	1.320
17		Neshek	3	1	0	0	6	0	0	0	23	98	3.34	1.600
18		Diaz	5	0	5	0	2	1	0	0	30	59	5.94	3.400
19		Rosscup*	4	2	0	0	5	0	0	0	17	51	7.94	2.100
20		Carle	0	0	0	0	1	0	0	1	4		1.14	0.000

\* - throws left-handed



## National League Team Standard Batting

Table 20: NL Team Batting statistics (1 of 2).

Tm	#Bat	BatAge	R/G	G	PA	AB	R	H	2B	3B	HR	RBI	SB	CS	BB	SO
WSN	46	29.1	5.49	109	4253	3808	598	1042	221	19	165	583	72	21	373	867
COL	39	28.3	5.29	112	4274	3842	593	1059	204	26	131	569	40	23	328	982
LAD	43	27.8	5.13	111	4261	3720	569	962	217	15	163	534	55	20	452	966
ARI	40	28.2	4.99	111	4293	3816	554	976	223	30	139	530	73	23	392	1014
CHC	41	26.9	4.74	110	4233	3717	521	915	187	20	158	497	41	19	415	938
MIA	40	28.4	4.72	109	4164	3752	514	995	184	17	133	492	58	20	310	850
NYM	44	29.7	4.70	109	4171	3738	512	931	195	21	160	494	28	10	350	855
MIL	45	27.2	4.62	113	4291	3840	522	956	193	16	162	499	94	30	370	1109
LgAvg	42	28.1	4.62	111	4230	3776	511	961	196	21	136	489	57	22	360	922
ATL	43	29.3	4.58	110	4220	3801	504	988	204	12	116	483	49	17	311	828
CIN	40	27.2	4.50	111	4260	3791	500	959	175	30	150	482	83	24	359	897
STL	41	28.3	4.47	111	4243	3749	496	960	198	14	127	473	54	23	391	923
PIT	43	28.2	4.25	111	4266	3776	472	934	178	25	106	443	50	27	377	800
PHI	42	27.1	4.01	109	4126	3727	437	927	199	26	112	416	44	20	329	939
SFG	47	29.6	4.01	113	4329	3913	453	961	206	20	89	436	56	23	328	830
SDP	46	26.2	3.82	110	4064	3654	420	856	153	24	134	407	55	25	318	1029

Table 21: NL Team Batting statistics (2 of 2).

Tm	#Bat	BatAge	R/G	BA	OBP	SLG	OPS	OPS+	TB	GDP	HBP	SH	SF	IBB	LOB
WSN	46	29.1	5.49	0	0.338	0.472	0.810	107	1796	76	15	25	32	38	753
COL	39	28.3	5.29	0	0.335	0.445	0.780	89	1708	87	30	44	30	27	720
LAD	43	27.8	5.13	0	0.343	0.456	0.799	108	1698	85	38	24	26	28	780
ARI	40	28.2	4.99	0	0.330	0.439	0.769	92	1676	61	39	27	19	31	783
CHC	41	26.9	4.74	0	0.330	0.435	0.764	98	1616	98	56	26	18	37	766
MIA	40	28.4	4.72	0	0.327	0.430	0.756	101	1612	84	45	30	26	30	738
NYM	44	29.7	4.70	0	0.317	0.441	0.758	97	1648	78	36	21	26	23	727
MIL	45	27.2	4.62	0	0.320	0.434	0.754	95	1667	73	40	27	14	22	753
LgAvg	42	28.1	4.62	0	0.324	0.426	0.750	94	1608	83	40	29	25	28	754
ATL	43	29.3	4.58	0	0.322	0.411	0.734	91	1564	100	50	37	21	44	741
CIN	40	27.2	4.50	0	0.324	0.434	0.757	95	1644	77	49	35	26	22	781
STL	41	28.3	4.47	0	0.330	0.418	0.748	95	1567	94	39	31	33	25	760
PIT	43	28.2	4.25	0	0.324	0.392	0.716	88	1480	86	62	29	21	30	804
PHI	42	27.1	4.01	0	0.313	0.406	0.719	89	1514	90	30	16	24	19	734
SFG	47	29.6	4.01	0	0.306	0.377	0.682	80	1474	89	28	22	38	28	766
SDP	46	26.2	3.82	0	0.300	0.399	0.700	84	1459	70	36	35	21	13	703

**Current Injuries**

	Name	Updated	Type	Details
1	Tyler Anderson	July 27 2017	Knee	Anderson has been transferred to the 60-day disabled list due to arthroscopic left knee surgery and is expected to be sidelined until the end of August.
2	Ian Desmond	July 28 2017	Calf	Desmond has been placed on the 10-day disabled due to a right calf strain. A timetable for his recovery has yet to be established.
3	Kyle Freeland	August 05 2017	Groin	Freeland is on the 10-day disabled list with a left groin strain and is expected to need three-to-four weeks to recover.
4	Jake McGee	August 03 2017	Back	McGee is on the 10-day disabled list with a mid-back strain. It is unknown if he will be activated for the upcoming series against the Indians that begins Tuesday.

Table 22: Current Injuries

## Topics for Future Articles

Here are a few suggestions, but I would prefer to hear from you, dear reader, on what interests you.

- Player Value - There is much more to cover here. Perhaps we can rank some of the past greats based on their modern day WAR rating?
- What is the OPS+ statistic and how is it calculated.
- Survey MLB ticket prices.
- Are WAR ratings a good indicator of past season's playoff and World Series teams?
- A suggestion from a work colleague that we investigate what budding talent we have in the Rockies farm system. I will look into this and see what I can find.

Let me know what you would like to see in future articles. Send me an email at [jdreed@q.com](mailto:jdreed@q.com).

Yours truly,

Jim Reed

## Appendix

### Glossary

#### Batting Statistics

Statistic Abbreviation	Definition
<i>G</i>	number of games (participated)
<i>PA</i>	plate appearances
<i>AB</i>	at bats
<i>R</i>	runs scored by player or team
<i>RA</i>	runs allowed
<i>H</i>	hits
<i>2B</i>	doubles
<i>3B</i>	triples
<i>HR</i>	home runs
<i>RBI</i>	runs batted in
<i>BA</i>	batting average
<i>OBP</i>	on-base percentage
<i>SLG</i>	slugging percentage
<i>OPS</i>	on-base percentage plus slugging percentage
<i>OPS+</i>	This statistic normalizes a player's OPS. It adjusts for small variables that might affect OPS scores (e.g., park effects).

## Pitching Statistics

Pitching Statistic	Definition
<i>Rk</i>	Rank This is a count of the rows from top to bottom. It is recalculated following the sorting of a column.
<i>Pos</i>	Position
<i>Name</i>	Player Name
<i>Age</i>	Player's age at midnight of June 30th of that year
<i>W</i>	Wins
<i>L</i>	Losses
<i>W-L%</i>	Win-Loss Percentage $W / (W + L)$ For players, leaders need one decision for every ten team games. For managers, minimum to qualify for leading is 320 games.
<i>ERA</i>	$9 * ER / IP$
<i>G</i>	Games Played or Pitched
<i>GS</i>	Games Started
<i>GF</i>	Games Finished
<i>CG</i>	Complete Game
<i>SHO</i>	Shutouts No runs allowed and a complete game.
<i>SV</i>	Saves
<i>IP</i>	Innings Pitched
<i>H</i>	Hits/Hits Allowed
<i>R</i>	Runs Scored/Allowed
<i>ER</i>	Earned Runs Allowed
<i>HR</i>	Home Runs Hit/Allowed
<i>BB</i>	Bases on Balls/Walks
<i>IBB</i>	Intentional Bases on Balls First tracked in 1955.
<i>SO</i>	Strikeouts
<i>HBP</i>	Times Hit by a Pitch.
<i>BK</i>	Balks
<i>WP</i>	Wild Pitches
<i>BF</i>	Batters Faced
<i>ERA+</i>	$ERA+ 100*[lgERA/ERA]$ Adjusted to the player's ballpark(s).
<i>FIP</i>	Fielding Independent Pitching
<i>WHIP</i>	$(BB + H)/IP$ For recent years, leaders need 1 IP per team game played
<i>H9</i>	$9 \times H / IP$ For recent years, leaders need 1 IP per team game played
<i>HR9</i>	$9 \times HR / IP$ For recent years, leaders need 1 IP per team game played
<i>BB9</i>	$9 \times BB / IP$ For recent years, leaders need 1 IP per team game played
<i>SO9</i>	$9 \times SO / IP$ For recent years, leaders need 1 IP per team game played
<i>SO/W</i>	SO/W or SO/BB For recent years, pitching leaders need 1 IP per team game played.

## Fielding Statistics

Fielding Statistic	Definition
<i>Name</i>	Player Name Bold can mean player is active for this team or player has appeared in MLB * means LHP or LHB, \# means switch hitter, + can mean HOFer.
<i>Age</i>	Player's age at midnight of June 30th of that year
<i>G</i>	Games Played or Pitched
<i>GS</i>	– Games Started
<i>CG</i>	– Complete Game
<i>Inn</i>	– Innings Played in Field
<i>Ch</i>	– Defensive Chances Putouts + Assists + Errors
<i>PO</i>	– Putouts
<i>A</i>	– Assists
<i>E</i>	– Errors Committed
<i>DP</i>	– Double Plays Turned
<i>Fld%</i>	– Fielding Percentage (Putouts + Assists) / (Putouts + Assists + Errors)
<i>Rtot</i>	– Total Zone Total Fielding Runs Above Avg The number of runs above or below average the player was worth based on the number of plays made. This number combines the Rtz, Rdp, Rof, Rcatch numbers into a total defensive contribution. See the glossary section for a more complete explanation. Provided by BaseballProjection.com
<i>Rtot/yr</i>	– Total Zone Total Fielding Runs Above Avg per 1,200 Inn The number of runs above or below average the fielder was worth per 1,200 Innings (approx 135 games). This number combines the Rtz, Rdp, Rof, Rcatch numbers into a total defensive contribution. See the glossary section for a more complete explanation. Provided by BaseballProjection.com
<i>Rdrs</i>	– BIS Defensive Runs Saved Above Avg The number of runs above or below average the player was worth based on the number of plays made. This number combines the Rpm, Rbdp, Rbof, Rbcatch numbers into a total defensive contribution. Provided by Baseball Info Solutions
<i>Rdrs/yr</i>	– BIS Defensive Runs Saved Above Avg per 1,200 Inn The number of runs above or below average the fielder was worth per 1,200 Innings (approx 135 games). This number combines the Rpm, Rbdp, Rbof, Rbcatch numbers into a total defensive contribution. For pitchers, this is set to 200 Innings. Provided by Baseball Info Solutions
<i>RF/9</i>	– Range Factor per 9 Inn $9 * (\text{Putouts} + \text{Assists}) / \text{Innings Played}$
<i>RF/G</i>	– Range Factor per Game $(\text{Putouts} + \text{Assists}) / \text{Games Played}$
<i>PB</i>	– Passed Balls
<i>WP</i>	– Wild Pitches
<i>SB</i>	– Stolen Bases
<i>CS</i>	– Caught Stealing

Fielding Statistic	Definition
<i>CS%</i>	– Caught Stealing Percentage $CS / (SB + CS)$
<i>lgCS%</i>	– League Caught Stealing Percentage League Expected $CS / \text{Players } SB + \text{Players } CS$
<i>PO</i>	– Pickoffs Runner picked off a base. May include cases they were safe on an error. Also includes Pickoff Caught Stealing plays.
<i>Pos</i>	Summary – Positions Played The positions either followed by the games played at that position or in order of games or innings played. For a single season, * indicates they played at least 2/3rds of the team games there Positions after / indicate less than ten games played at those positions. For career, a + sign means more than 300 games at that position and a - sign means less than 30 games.

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