

# Rockies 2017 - Week #12

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Figure 1: Justin Turner slides into Nolan Arenado. Nolan's WAR (based on BASEBALL-REFERENCE calculation) rating is 3.2, currently highest on the Rockies squad.

"Love is the most important thing in the world, but baseball is pretty good, too." – Yogi Berra

Table 1: NL West Standings

Tm	W	L	W-L%	GB
Los Angeles Dodgers	51	26	.662	–
Arizona Diamondbacks	48	28	.632	2.5
Colorado Rockies	47	31	.603	4.5
San Diego Padres	31	45	.408	19.5
San Francisco Giants	27	51	.346	24.5

Table 2: Current Rockies Results as of 2017-06-26

Wins	Losses	Win.Pct	Runs	Runs.Ag	Predicted Season Wins
47	31	60.256	402	359	90



## Week #12

In any season, a little rain must fall. So it has been for the Rockies this past week. For the first time this season, they have lost five in a row. Nick Groke of the Denver Post writes in a June 24, 2017 editorial regarding the Rockies reliance on a largely rookie pitching squad,

“But a chill has overcome the Rockies’ progress. Not because of the losses, exactly, but the potential for weariness. Are we seeing the warning signs of fatigue in pitchers playing their first big-league season?”

Perhaps the All Star break will help the Rockies pitchers revive their fatigued arms. The break for the Rockies starts on July 10 and ends on July 14 with the Rockies playing the New York Mets, away.

Here is a synopsis of what is included this week.

- **Featured Article**
  - Example WAR Values from FANGRAPHS.
- Colorado Rockies Dashboards
  - 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

### Example WAR Values from FANGRAPHS.

As the careful, diligent reader will recall, last week we learned about the **Wins Above Replacement** (WAR) statistic. Also, remember that the WAR statistic is computed differently among the websites that provide WAR. The following tables were sourced from <http://www.FanGraphs.com>. There are comprehensive tables available at FANGRAPHS. A few of the tables are presented here as examples.

The first table lists Colorado Rockies players in rank-order based on their FANGRAPHS-calculated WAR values.

Table 3: FANGRAPHS Leaderboard Rockies-Players (25Jun2017)

Name	Pos	PA	IP	WAR
Charlie Blackmon	CF	340		2.6
Nolan Arenado	3B	329		2.6
German Marquez	P		59.2	1.3
Jeff Hoffman	P		35.2	1.2
Kyle Freeland	P		87.2	1.1
Greg Holland	P		27.2	1.0
Mark Reynolds	1B	292		0.9
Antonio Senzatela	P		88.1	0.8
DJ LeMahieu	2B	338		0.8
Jake McGee	P		30.1	0.8
Tyler Chatwood	P		93.2	0.7
Tony Wolters	C	165		0.6
Gerardo Parra	LF	158		0.6
Tyler Anderson	P		61	0.6
Chris Rusin	P		41	0.5
Scott Oberg	P		31	0.5
Pat Valaika	SS	84		0.4
Trevor Story	SS	236		0.3
Carlos Estevez	P		16.2	0.3
Adam Ottavino	P		26.1	0.3
Jon Gray	P		12.1	0.2
Shane Carle	P		1	0.0
Dustin Garneau	C	74		0.0
Ryan Hanigan	C	46		0.0
Chad Qualls	P		15.2	-0.1
Raimel Tapia	RF/LF	55		-0.1
Mike Dunn	P		24.2	-0.1
Alexi Amarista	SS	89		-0.2
Jordan Lyles	P		33.2	-0.2
Cristhian Adames	1B/2B/SS	14		-0.3
Stephen Cardullo	RF/LF	32		-0.3
Tom Murphy	C	17		-0.4
Ian Desmond	LF	209		-0.6
Carlos Gonzalez	RF	277		-1.2

The second FANGRAPHS example is a list of all the teams in MLB. Each **team's** cumulative WAR value is calculated by summing up the WAR value for each position, including starting and replacement pitchers. To say the least, it is disappointing that the Rockies are currently ranked 21 based on this cumulative WAR value.

Table 4: FANGRAPHS Leaderboard Team-Combined (25Jun2017)

Team	C	1B	2B	SS	3B	LF	CF	RF	DH	SP	RP	Bat	Pit	WAR
Dodgers	2.1	0.8	1.3	2.9	2.6	1.2	1.6	1.9	0.5	9.9	3.0	14.8	12.9	27.7
Indians	1.1	1.5	1.6	2.9	2.3	0.9	1.2	0.8	1.6	9.1	3.0	13.9	12.1	26.0
Cubs	1.6	2.9	1.4	2.0	3.2	0.9	0.9	1.4	0.6	7.4	2.8	14.8	10.2	25.0
Astros	1.7	0.7	2.6	2.9	1.6	0.5	2.3	1.6	0.4	7.6	2.5	14.3	10.1	24.4
Red Sox	1.0	0.7	1.5	2.1	0.0	1.0	2.1	3.0	0.7	10.0	2.2	12.1	12.2	24.3
Yankees	2.3	0.7	1.1	1.5	1.2	1.5	1.4	2.2	1.1	7.7	3.3	13.0	11.0	24.0
Nationals	0.9	0.9	1.9	2.2	2.6	0.4	0.6	3.2	0.3	9.2	1.5	12.9	10.7	23.6
Blue Jays	1.9	1.0	0.2	1.7	3.4	0.5	1.6	1.6	0.8	7.5	2.1	12.7	9.6	22.3
Cardinals	1.6	1.6	1.3	1.4	1.6	0.7	1.5	1.1	0.5	7.4	2.2	11.2	9.6	20.8
Mets	1.2	1.4	1.7	0.8	0.6	2.1	1.4	1.3	0.6	7.7	1.7	11.1	9.5	20.5
Mariners	1.4	0.3	1.9	1.3	2.1	0.5	1.6	1.2	1.5	5.6	2.0	11.8	7.5	19.3
Giants	2.7	1.8	1.5	1.8	0.9	0.3	0.9	1.0	0.1	6.8	1.2	11.0	8.0	19.1
Tigers	1.6	1.8	1.8	1.0	0.7	1.5	0.2	1.2	0.6	6.9	0.8	10.4	7.7	18.1
Orioles	1.2	1.4	1.4	0.3	3.1	0.9	1.2	0.9	0.7	4.4	2.3	11.2	6.7	17.8
Pirates	1.2	0.8	1.0	1.0	1.2	0.8	2.1	1.3	0.4	6.6	1.5	9.8	8.1	17.8
Rays	1.1	0.8	0.8	1.0	1.9	1.4	1.3	1.2	0.4	7.0	0.9	9.9	7.9	17.7
Rangers	2.1	0.6	1.0	1.1	2.2	0.6	1.5	1.1	0.6	5.6	1.1	10.8	6.8	17.6
Diamondbacks	0.3	2.9	0.6	0.6	1.5	0.0	1.7	0.9	0.1	7.6	1.2	8.7	8.8	17.5
Angels	1.2	0.4	0.2	2.0	0.9	0.5	3.4	1.5	0.3	5.2	1.8	10.4	7.1	17.4
Marlins	1.6	0.9	1.1	0.3	1.2	1.7	2.2	2.3	0.2	4.1	1.4	11.5	5.5	17.0
Rockies	0.5	0.6	1.0	1.0	2.6	0.5	1.4	0.6	0.0	5.5	2.0	8.3	7.5	15.8
Athletics	1.3	1.1	0.9	1.1	1.0	1.0	0.3	0.8	0.3	6.2	1.7	7.8	7.9	15.7
Reds	1.4	2.8	0.6	1.8	1.4	0.9	1.1	0.9	0.2	3.4	1.2	11.1	4.6	15.7
Twins	1.2	0.8	2.0	1.1	1.9	0.5	1.4	1.1	0.5	4.2	0.9	10.4	5.1	15.6
Royals	1.8	1.0	0.6	0.2	1.7	1.1	2.1	0.1	0.0	5.3	1.4	8.5	6.7	15.2
Brewers	0.9	1.2	0.6	0.7	1.2	0.8	0.7	0.6	0.3	5.5	1.8	7.0	7.2	14.3
Phillies	0.8	0.7	1.1	0.8	1.1	0.6	1.5	0.5	0.3	5.5	1.4	7.3	6.8	14.1
Braves	1.0	1.4	0.7	1.0	0.0	0.4	1.7	0.3	0.1	4.2	0.8	6.6	5.1	11.7
White Sox	0.6	1.3	0.6	0.6	1.5	0.3	0.4	0.7	-0.4	4.4	1.6	5.7	6.1	11.7
Padres	1.0	1.2	1.2	0.0	0.8	0.1	0.7	0.0	0.2	4.6	1.8	5.2	6.3	11.5
Free Agents	1.2	-0.6	-0.4	-0.3	1.0	-0.2	0.3	-0.4	0.2	4.0	-0.8	0.9	3.2	4.1

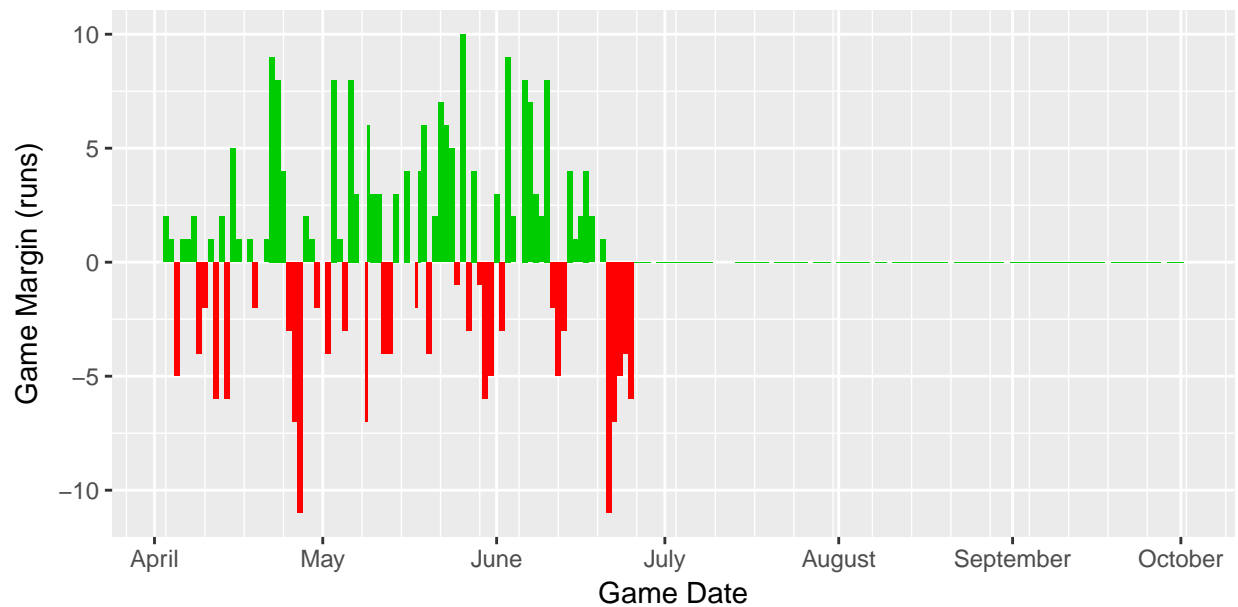
# Rockies Dashboard

## Win Loss Margin

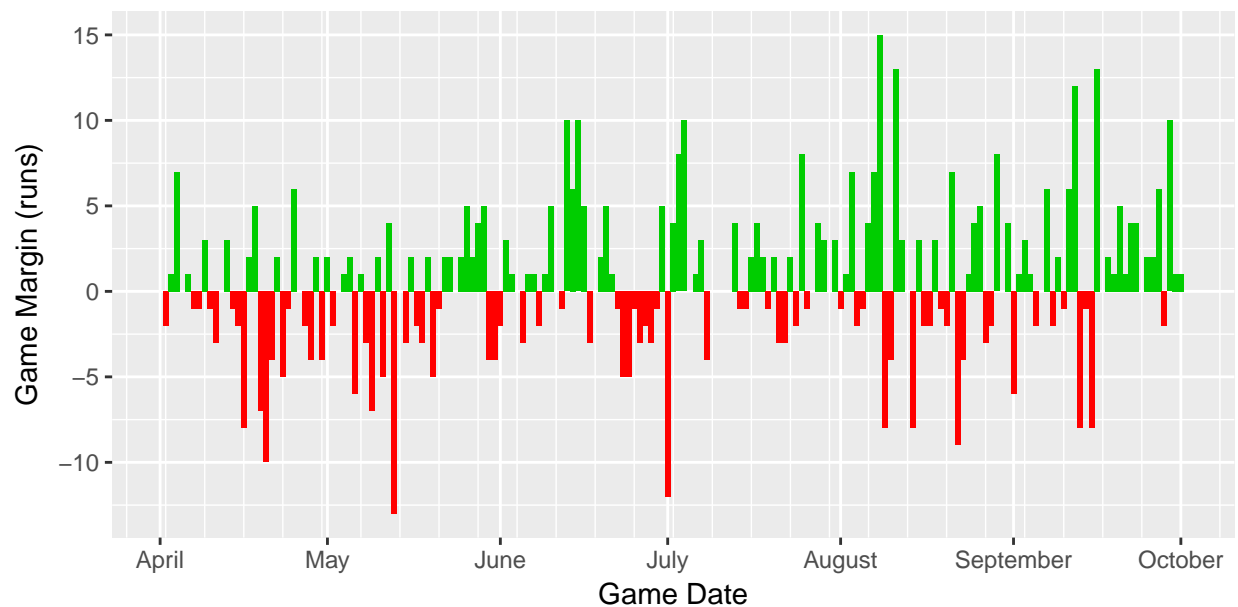
One of the many ways to visualize a teams performance is to show wins and losses as the margin of the win (positive) or loss (negative). In the graphs below, we show the current season performance. For emphasis, wins are displayed in green (above the zero) and losses in red (below the zero).

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.

Rockies 2017 Win/Loss Margin



Rockies 2007 Win/Loss Margin



## National League Standings

Table 5: NL East Standings

Tm	W	L	W-L%	GB
Washington Nationals	45	30	.600	–
Atlanta Braves	36	39	.480	9.0
Miami Marlins	34	40	.459	10.5
New York Mets	34	41	.453	11.0
Philadelphia Phillies	24	50	.324	20.5

Table 6: NL Central Standings

Tm	W	L	W-L%	GB
Milwaukee Brewers	41	37	.526	–
Chicago Cubs	38	37	.507	1.5
Pittsburgh Pirates	35	41	.461	5.0
St. Louis Cardinals	34	40	.459	5.0
Cincinnati Reds	31	43	.419	8.0

Table 7: NL West Standings

Tm	W	L	W-L%	GB
Los Angeles Dodgers	51	26	.662	–
Arizona Diamondbacks	48	28	.632	2.5
Colorado Rockies	47	31	.603	4.5
San Diego Padres	31	45	.408	19.5
San Francisco Giants	27	51	.346	24.5

## American League Standings

Table 8: AL East Standings

Tm	W	L	W-L%	GB
New York Yankees	40	33	.548	–
Boston Red Sox	41	34	.547	–
Tampa Bay Rays	40	38	.513	2.5
Baltimore Orioles	37	38	.493	4.0
Toronto Blue Jays	36	39	.480	5.0

Table 9: AL Central Standings

Tm	W	L	W-L%	GB
Minnesota Twins	39	34	.534	–
Cleveland Indians	39	35	.527	0.5
Kansas City Royals	37	37	.500	2.5
Detroit Tigers	33	42	.440	7.0
Chicago White Sox	32	42	.432	7.5

Table 10: AL West Standings

Tm	W	L	W-L%	GB
Houston Astros	52	25	.675	–
Texas Rangers	38	37	.507	13.0
Los Angeles Angels of Anaheim	40	39	.506	13.0
Seattle Mariners	39	39	.500	13.5
Oakland Athletics	34	42	.447	17.5

## 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	Eflin		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	—

The Rockies current record is 47 Wins and 31 Losses. So far, the Rockies have scored 402 runs and have had 359 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 12: Predicted Wins for Entire 2017 Season

Wins (k=1.81)	Wins (k=1.83)	Wins (k=2.00)
89	89	90

## Batting Statistics (non-pitchers)

Table 13: 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	49	144	27	42	6	1	0	12	0	1	22
2	1B	Reynolds	33	72	257	42	76	10	0	18	57	1	1	38
3	2B	LeMahieu	28	78	312	43	95	14	1	3	38	4	4	26
4	SS	Story	24	63	211	30	47	10	0	10	28	2	0	26
5	3B	Arenado	26	77	304	49	90	27	4	15	59	2	1	23
6	LF	Desmond	31	51	200	29	55	6	1	5	26	8	3	7
7	CF	Blackmon*	30	76	312	62	100	17	10	16	56	5	4	23
8	RF	Gonzalez*	31	68	244	36	54	13	0	6	20	1	0	29
9	LF	Parra*	30	49	148	23	47	6	0	6	28	0	4	6
10	UT	Amarista*	28	42	87	12	26	7	0	2	16	0	0	2
11	UT	Valaika	24	47	82	14	19	8	0	5	14	0	0	3
12	C	Garneau	29	22	68	5	14	7	0	1	6	0	0	4
13	OF	Tapia*	23	24	55	12	15	2	1	0	4	1	2	4
14	C	Hanigan	36	13	43	4	11	0	0	2	8	0	0	3
15	OF	Cardullo	29	15	28	2	4	0	0	0	3	0	0	3
16	C	Murphy	26	6	16	1	1	1	0	0	1	0	0	1
17	IF	Adames#	25	12	13	1	0	0	0	0	0	0	0	1

Table 14: 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	29	.292	.393	.347	.740	85	50	7	2	1	0	6
2	1B	Reynolds	33	77	.296	.387	.545	.932	125	140	6	1	0	1	0
3	2B	LeMahieu	28	46	.304	.364	.385	.748	85	120	8	3	2	0	0
4	SS	Story	24	82	.223	.308	.412	.720	75	87	3	0	0	0	1
5	3B	Arenado	26	57	.296	.347	.559	.907	117	170	12	3	0	4	2
6	LF	Desmond	31	58	.275	.303	.390	.693	69	78	7	2	2	2	1
7	CF	Blackmon*	30	70	.321	.371	.593	.964	131	185	1	4	3	3	2
8	RF	Gonzalez*	31	58	.221	.300	.348	.648	59	85	2	0	0	4	3
9	LF	Parra*	30	27	.318	.348	.480	.828	100	71	4	2	0	2	0
10	UT	Amarista*	28	18	.299	.315	.448	.763	84	39	1	0	1	0	0
11	UT	Valaika	24	23	.232	.256	.512	.768	81	42	0	0	2	1	0
12	C	Garneau	29	24	.206	.260	.353	.613	49	24	1	1	1	0	0
13	OF	Tapia*	23	10	.273	.333	.345	.679	68	19	0	1	0	0	0
14	C	Hanigan	36	10	.256	.304	.395	.700	70	17	1	0	0	0	0
15	OF	Cardullo	29	7	.143	.250	.143	.393	1	4	0	1	0	0	0
16	C	Murphy	26	6	.063	.118	.125	.243	-40	2	0	0	0	0	1
17	IF	Adames#	25	6	.000	.071	.000	.071	-80	0	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 15: 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	Chatwood	27	6	8	.429	4.32	16	16	0	1	1	0	93.2	78	45
2	SP	Senzatela	22	9	3	.750	4.79	15	15	0	0	0	0	88.1	85	48
3	SP	Freeland*	24	8	5	.615	3.70	15	15	0	0	0	0	87.2	93	39
4	SP	Anderson*	27	3	5	.375	6.11	13	12	1	0	0	0	63.1	75	45
5	SP	Marquez	22	5	3	.625	3.92	11	11	0	0	0	0	59.2	60	27
6	SP	Hoffman	24	4	1	.800	4.29	7	6	1	0	0	0	35.2	32	17
7	CL	Holland	31	1	0	1.000	1.61	30	0	30	0	0	25	28.0	15	5
8	RP	Oberg	27	0	1	.000	4.73	35	0	5	0	0	0	32.1	36	19
9	RP	McGee*	30	0	0		3.09	32	0	8	0	0	1	32.0	24	11
10	RP	Ottavino	31	1	2	.333	4.94	30	0	0	0	0	0	27.1	22	15
11	RP	Dunn*	32	2	1	.667	5.84	31	0	3	0	0	0	24.2	27	16
12		Rusin*	30	3	0	1.000	2.63	28	0	4	0	0	1	41.0	30	13
13		Lyles	26	0	2	.000	6.94	25	0	10	0	0	0	35.0	44	28
14		Estevez	24	4	0	1.000	8.10	18	0	6	0	0	0	16.2	25	16
15		Qualls	38	1	0	1.000	4.60	17	0	8	0	0	0	15.2	13	9
16		Gray	25	0	0		4.38	3	3	0	0	0	0	12.1	11	6
17		Carle	25	0	0		0.00	1	0	1	0	0	0	1.0	0	0

Table 16: Rockies pitching statistics (2 of 2).

Rk	Pos	Name	ER	HR	BB	IBB	SO	HBP	BK	WP	BF	ERA+	FIP	WHIP
1	SP	Chatwood	45	14	50	1	77	2	2	4	390	119	5.10	1.367
2	SP	Senzatela	47	15	27	0	63	4	2	1	367	107	4.97	1.268
3	SP	Freeland*	36	9	35	2	53	7	1	0	385	139	4.70	1.460
4	SP	Anderson*	43	15	23	0	63	2	2	3	281	84	5.41	1.547
5	SP	Marquez	26	6	21	2	54	4	0	3	261	131	3.89	1.358
6	SP	Hoffman	17	3	8	1	38	1	0	0	148	120	2.86	1.121
7	CL	Holland	5	1	14	1	37	0	0	4	109	322	2.46	1.036
8	RP	Oberg	17	2	13	2	35	2	0	3	143	109	3.17	1.515
9	RP	McGee*	11	3	8	0	39	0	0	2	128	167	2.67	1.000
10	RP	Ottavino	15	4	19	1	35	3	0	7	123	105	4.89	1.500
11	RP	Dunn*	16	6	15	0	33	0	0	2	113	89	5.45	1.703
12		Rusin*	12	3	12	1	30	1	0	1	162	196	3.58	1.024
13		Lyles	27	8	9	0	24	2	0	1	155	74	5.68	1.514
14		Estevez	15	1	6	1	18	1	1	1	82	64	3.02	1.860
15		Qualls	8	3	5	0	9	0	0	0	65	114	5.43	1.149
16		Gray	6	1	7	0	9	0	0	1	53	120	4.43	1.459
17		Carle	0	0	0	0	1	0	0	1	4		1.14	0.000

\* - throws left-handed

# National League Team Standard Batting

Table 17: 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	36	29.2	5.65	75	2961	2651	424	737	150	14	117	415	52	17	262	582
LAD	38	28.0	5.27	77	2975	2590	406	665	157	7	106	376	42	12	320	674
ARI	32	28.2	5.26	76	2935	2634	400	698	149	19	100	382	58	19	252	666
COL	34	28.3	5.15	78	2962	2667	402	720	137	18	90	386	24	20	223	673
CIN	38	27.3	4.91	74	2881	2581	363	674	133	23	105	350	64	16	229	600
NYM	41	29.7	4.88	75	2925	2591	366	653	141	13	114	353	22	6	265	583
MIL	36	27.1	4.76	78	2979	2664	371	671	149	15	110	355	66	21	255	746
ATL	36	29.4	4.69	75	2904	2606	352	698	130	9	79	340	31	15	219	558
CHC	36	27.0	4.67	75	2894	2526	350	607	127	13	101	328	22	10	294	635
LgAvg	36	28.2	4.64	76	2901	2590	351	658	133	14	94	336	41	16	247	624
MIA	38	28.4	4.61	74	2810	2536	341	664	109	11	89	326	43	10	197	571
STL	35	28.6	4.35	74	2835	2510	322	633	130	11	89	305	36	17	257	601
PIT	38	28.2	4.26	76	2917	2583	324	632	119	19	74	299	35	24	261	555
PHI	36	27.3	3.84	74	2792	2536	284	616	135	14	73	272	29	17	216	629
SFG	41	29.7	3.76	78	2965	2672	293	645	128	13	64	282	41	14	226	571
SDP	39	26.2	3.61	76	2785	2498	274	564	94	12	94	268	43	18	225	709

Table 18: 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	36	29.2	5.65	0	0.343	0.478	0.821	110	1266	53	10	19	19	32	532
LAD	38	28.0	5.27	0	0.343	0.446	0.788	107	1154	61	28	17	19	16	542
ARI	32	28.2	5.26	0	0.333	0.450	0.783	96	1185	46	22	17	10	22	515
COL	34	28.3	5.15	0	0.329	0.436	0.765	86	1163	55	20	35	17	16	494
CIN	38	27.3	4.91	0	0.327	0.453	0.780	101	1168	45	34	19	18	12	524
NYM	41	29.7	4.88	0	0.326	0.448	0.774	103	1162	58	29	18	22	18	525
MIL	36	27.1	4.76	0	0.323	0.443	0.766	97	1180	53	29	23	8	15	516
ATL	36	29.4	4.69	0	0.332	0.416	0.747	95	1083	74	38	26	15	32	525
CHC	36	27.0	4.67	0	0.327	0.421	0.748	96	1063	65	39	21	13	25	528
LgAvg	36	28.2	4.64	0	0.324	0.425	0.749	94	1100	58	27	20	17	18	515
MIA	38	28.4	4.61	0	0.321	0.419	0.740	97	1062	60	35	21	20	16	492
STL	35	28.6	4.35	0	0.325	0.419	0.745	96	1052	66	26	20	22	17	494
PIT	38	28.2	4.26	0	0.322	0.391	0.713	87	1011	61	39	20	13	18	541
PHI	36	27.3	3.84	0	0.305	0.394	0.699	84	998	60	18	8	14	14	482
SFG	41	29.7	3.76	0	0.302	0.371	0.673	79	991	61	20	16	31	13	534
SDP	39	26.2	3.61	0	0.294	0.386	0.680	79	964	46	22	27	13	10	483

## Current Injuries

	Name	Updated	Type	Details
1	Chad Bettis	June 06 2017	Illness	Bettis is on the 60-day disabled list while recovering from testicular cancer but is expected to make his season debut sometime around the All-Star break.
2	David Dahl	June 23 2017	Ribs	Dahl is on the 10-day disabled list with a stress reaction of his sixth rib. It is unknown as to when he will be ready to join the lineup.
3	Carlos Gonzalez	June 25 2017	Shoulder	Gonzalez has missed the last two games with a sore right shoulder and his status is uncertain for Sunday's game against the Dodgers.
4	Jon Gray	June 20 2017	Toe	Gray was placed on the 10-day disabled list with a stress fracture in his left foot. He is on a rehab assignment and is expected to rejoin the rotation before the beginning of July.
5	Gerardo Parra	June 20 2017	Quadriцеп	Parra has landed on the 10-day disabled list with a strained right quadriceps and is likely to be sidelined until the start of July.
6	Chad Qualls	June 21 2017	Back	Qualls has been placed on the 10-day disabled list with lower back spasms and it is unclear as to if he will return for Monday's game against the Giants.

Table 19: 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 - We finally got started on this one this week. I will continue to explore WAR values in coming weeks.
- What is the OPS+ statistic and how is it calculated.
- Survey MLB ticket prices.
- 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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