

Rockies 2017 - Week #12

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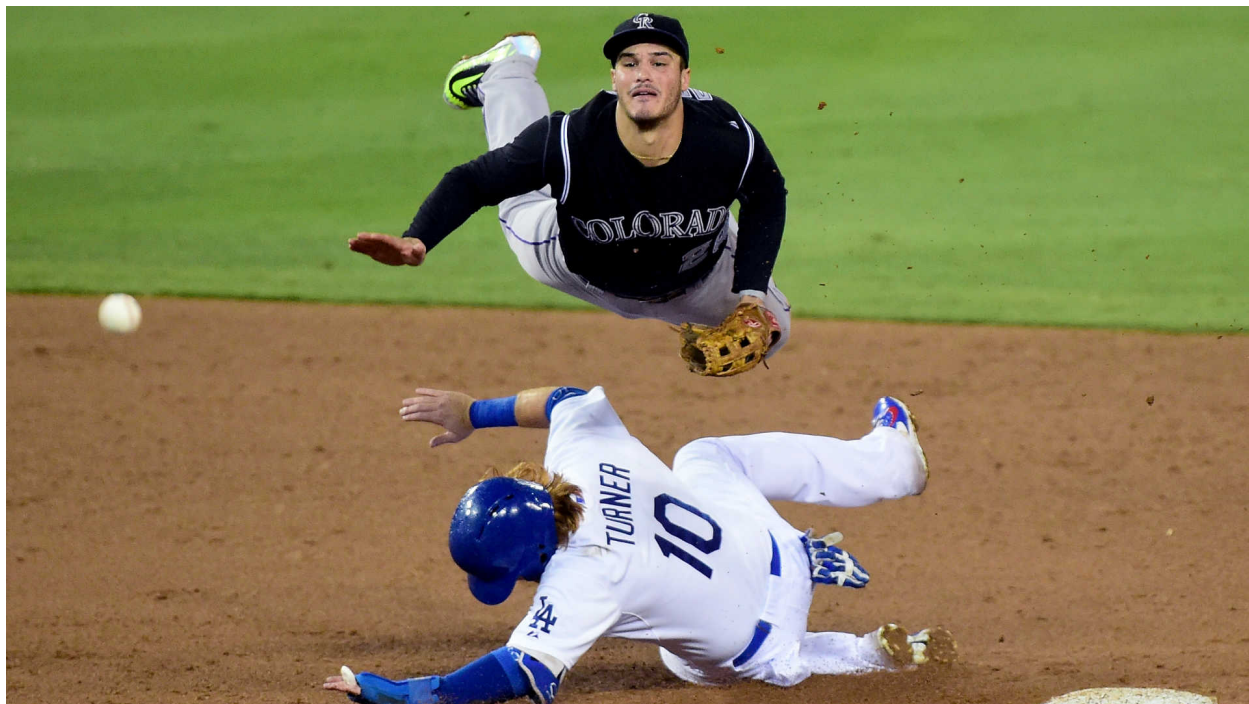


Figure 1: Justin Turner slides into Nolan Arenado. Nolan's WAR rating is 3.2, currently highest on the Rockies squad.

“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	50	26	.658	–
Arizona Diamondbacks	47	28	.627	2.5
Colorado Rockies	47	30	.610	3.5
San Diego Padres	31	44	.413	18.5
San Francisco Giants	27	50	.351	23.5

Table 2: Current Rockies Results as of 2017-06-25

Wins	Losses	Win.Pct	Runs	Runs.Ag	Predicted Season Wins
47	30	61.039	396	347	92



Week #12

The Rox had a mixed week, however, remaining on top of the NL West division. They started the week away, losing twice to the Pirates and then winning against them in the last game of the series. The Rockies then started a home stand against the Giants on Thursday, winning four.

Here is an interesting fact, **the Rockies have been first place in their division 58 days out 65 days of the season** (counts all days of the season including off days).

Here is a synopsis of what is included this week.

- **Featured Article**
 - What is “Wins Above Replacement” and How is it Calculated
- 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

What is “Wins Above Replacement” and How is it Calculated

The Sabermetrician’s Holy Grail is to develop more and better statistics to measure the effectiveness of players and teams. The goals are to better define the essence of a winning team and define the most comprehensive metric to compare each player against all others, past and present.

Since the early work by Bill James, there has been an evolution of metrics to measure batting, base running, fielding, and pitching. We have moved on from just stating a ballplayer’s batting average (BA) to measuring his effectiveness of getting on base (OBP) and his ability to get extra-base hits (SLG). And, of course, we combine OBP and SLG to represent (OPS) a player’s overall effectiveness as a batter. However, this does not tell the whole story of a position-player or pitcher’s effectiveness. What’s missing are measurements that take into account of his fielding or pitching.

An attempt to take all of these factors into account has gone into the development **WAR**, Wins Above Replacement. The basis of WAR is to estimate the number of runs contributed by a player. This number of runs is translated into wins by roughly ten runs being equivalent to one win.

For example, Rockies third-baseman, Nolan Arenado has a WAR rating of 3.1, which makes him the Rockies highest-rated WAR player.

WAR is a measure of a players offensive performance (batting and base running) and defensive effectiveness in denying runs by opposing teams by fielding or pitching.

There is no agreed upon standard calculation for WAR values. Three primary sources of WAR calculations are **Baseball Prospectus**, **Baseball Reference** and **FanGraphs**. The Baseball Reference version of WAR is named **bWAR** or **rWAR**. FanGraphs uses the abbreviation **fWAR** for their particular formulation of the WAR statistic.

WAR is not recognized as an official statistic by **Major League Baseball** or by the **Elias Sports Bureau**. Although flawed and often miss-applied, WAR is the most comprehensive statistic for measuring a player’s value. I consider it a work in progress. As it is refined and standardized, it will become more commonly used and referenced.

Following is a table of Rockies players and their Baseball Reference **bWAR** values.

Table 3: Baseball Reference bWAR Values of Top Twelve Colorado Rockies Players

Rank	Player	bWAR
1	Nolan Arenado	3.1
2	Kyle Freeland	2.9
3	Charlie Blackmon	2.4
4	Tyler Chatwood	2.2
5	Antonio Senzatela	2.2
6	Greg Holland	1.5
7	DJ LaMahieu	1.5
8	Jeff Hoffman	1.4
9	Mark Reynolds	1.3
10	Chris Rusin	1.2
11	Jake McGee	1.2
12	German Marquez	1.2

To be continued.

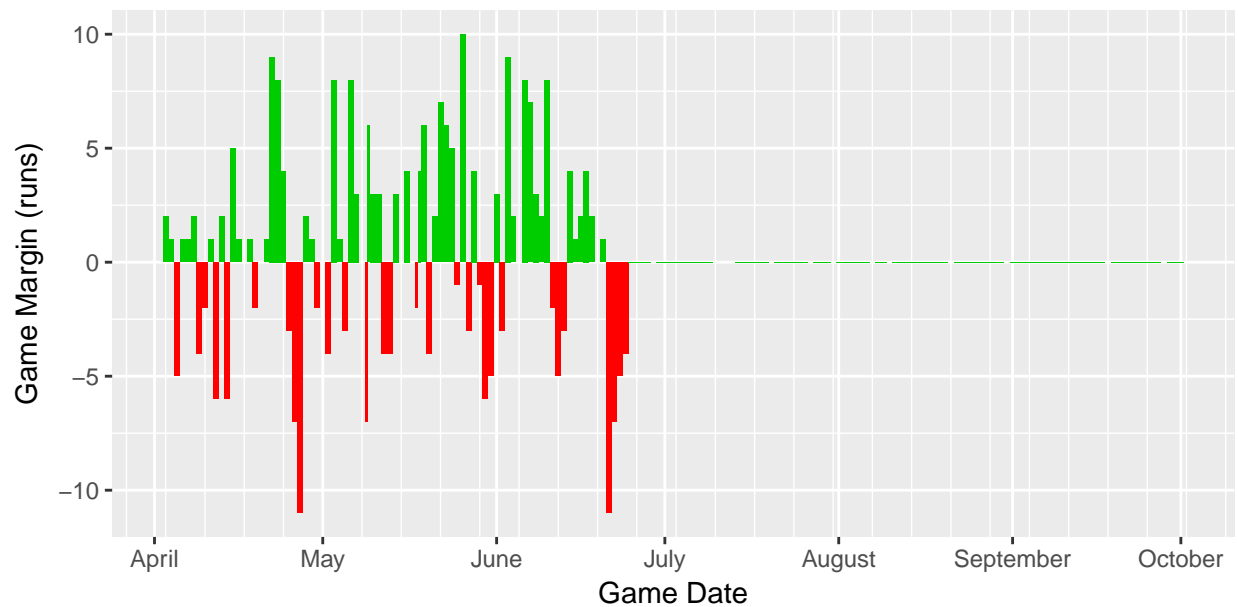
Rockies Dashboard

Win Loss Margin

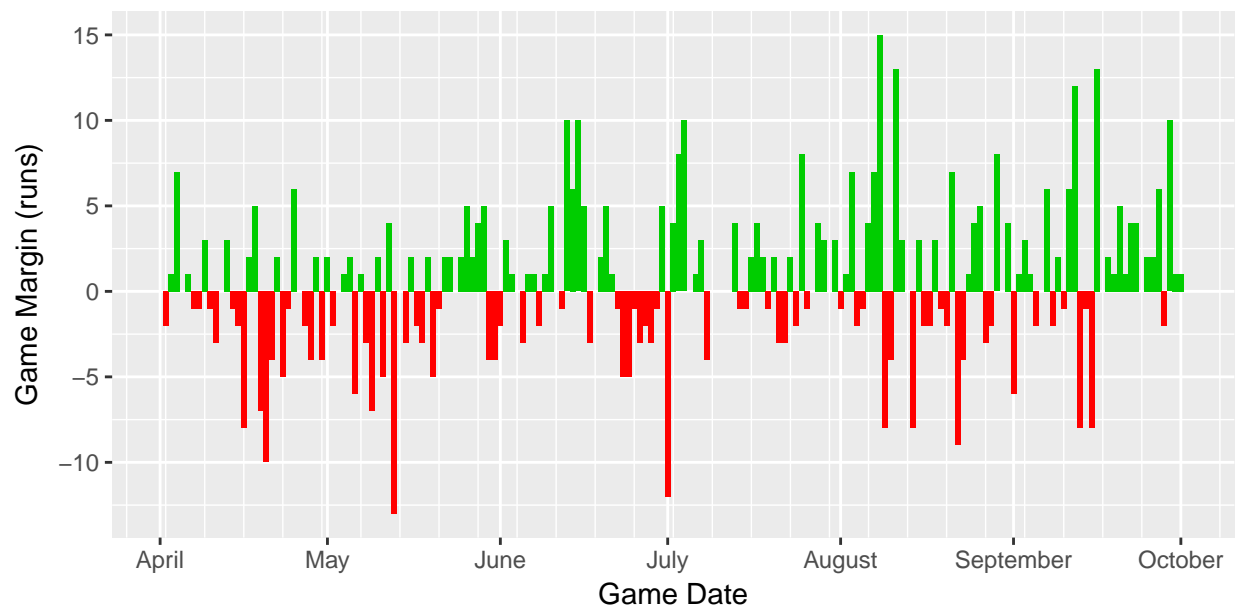
One of the many ways to visualize a teams performance is to show wins and losses as the margin of the win (positive) or loss (negative). In the graphs below, we show the current season performance. For emphasis, wins are displayed in green (above the zero) and losses in red (below the zero).

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 4: NL East Standings

Tm	W	L	W-L%	GB
Washington Nationals	45	29	.608	–
Atlanta Braves	36	38	.486	9.0
Miami Marlins	33	40	.452	11.5
New York Mets	33	41	.446	12.0
Philadelphia Phillies	24	49	.329	20.5

Table 5: NL Central Standings

Tm	W	L	W-L%	GB
Milwaukee Brewers	40	37	.519	–
Chicago Cubs	38	36	.514	0.5
Pittsburgh Pirates	35	40	.467	4.0
St. Louis Cardinals	33	40	.452	5.0
Cincinnati Reds	30	43	.411	8.0

Table 6: NL West Standings

Tm	W	L	W-L%	GB
Los Angeles Dodgers	50	26	.658	–
Arizona Diamondbacks	47	28	.627	2.5
Colorado Rockies	47	30	.610	3.5
San Diego Padres	31	44	.413	18.5
San Francisco Giants	27	50	.351	23.5

American League Standings

Table 7: AL East Standings

Tm	W	L	W-L%	GB
New York Yankees	40	32	.556	–
Boston Red Sox	41	33	.554	–
Tampa Bay Rays	40	37	.519	2.5
Baltimore Orioles	36	38	.486	5.0
Toronto Blue Jays	35	39	.473	6.0

Table 8: AL Central Standings

Tm	W	L	W-L%	GB
Cleveland Indians	39	34	.534	–
Minnesota Twins	38	34	.528	0.5
Kansas City Royals	37	36	.507	2.0
Chicago White Sox	32	41	.438	7.0
Detroit Tigers	32	42	.432	7.5

Table 9: AL West Standings

Tm	W	L	W-L%	GB
Houston Astros	51	25	.671	–
Seattle Mariners	39	38	.506	12.5
Los Angeles Angels of Anaheim	39	39	.500	13.0
Texas Rangers	37	37	.500	13.0
Oakland Athletics	33	42	.440	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	—

The Rockies current record is 47 Wins and 30 Losses. So far, the Rockies have scored 396 runs and have had 347 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 11: Predicted Wins for Entire 2017 Season

Wins (k=1.81)	Wins (k=1.83)	Wins (k=2.00)
91	91	92

Batting Statistics (non-pitchers)

Table 12: 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	48	140	27	41	6	1	0	11	0	1	22
2	1B	Reynolds	33	71	255	41	75	10	0	18	56	1	1	35
3	2B	LeMahieu	28	77	307	42	93	14	1	3	38	4	4	26
4	SS	Story	24	62	210	30	47	10	0	10	28	2	0	26
5	3B	Arenado	26	76	300	47	89	27	4	15	59	2	1	22
6	LF	Desmond	31	50	196	28	52	6	1	5	25	7	3	7
7	CF	Blackmon*	30	75	307	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	41	87	12	26	7	0	2	16	0	0	1
11	UT	Valaika	24	46	78	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	23	51	11	15	2	1	0	3	1	2	3
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 13: 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	28	.293	.396	.350	.746	86	49	7	2	1	0	6
2	1B	Reynolds	33	76	.294	.380	.545	.925	123	139	6	1	0	1	0
3	2B	LeMahieu	28	46	.303	.363	.384	.747	84	118	8	3	2	0	0
4	SS	Story	24	81	.224	.309	.414	.724	76	87	3	0	0	0	1
5	3B	Arenado	26	55	.297	.347	.563	.910	118	169	12	3	0	4	2
6	LF	Desmond	31	58	.265	.295	.383	.677	65	75	7	2	2	2	1
7	CF	Blackmon*	30	70	.326	.377	.603	.979	135	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	.307	.448	.755	82	39	1	0	1	0	0
11	UT	Valaika	24	22	.244	.268	.538	.807	90	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	.294	.345	.373	.718	77	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_{lg} for OPS+ does not include pitchers.

Pitching Statistics

Table 14: 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	5.75	12	11	1	0	0	0	61.0	70	41
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	1.63	29	0	29	0	0	25	27.2	14	5
8	RP	Oberg	27	0	1	.000	4.94	34	0	5	0	0	0	31.0	36	19
9	RP	McGee*	30	0	0		2.67	31	0	8	0	0	1	30.1	22	9
10	RP	Ottavino	31	1	1	.500	3.08	29	0	0	0	0	0	26.1	19	9
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	7.22	24	0	10	0	0	0	33.2	42	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 15: 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*	39	13	21	0	62	2	2	2	268	89	5.01	1.492
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	36	0	0	4	107	318	2.52	1.012
8	RP	Oberg	17	2	13	2	34	2	0	3	139	105	3.23	1.581
9	RP	McGee*	9	3	8	0	35	0	0	2	121	194	2.91	0.989
10	RP	Ottavino	9	3	16	1	33	3	0	3	114	168	4.28	1.329
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	7	0	23	2	0	1	147	72	5.66	1.455
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 16: 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	5.70	74	2925	2617	422	729	149	14	116	413	52	17	260	576
ARI	32	28.2	5.31	75	2894	2596	398	691	146	19	100	380	58	19	249	653
LAD	37	28.0	5.18	76	2932	2554	394	652	152	7	103	369	40	12	313	664
COL	34	28.4	5.14	77	2921	2632	396	712	137	18	90	382	23	20	217	665
CIN	38	27.3	4.89	73	2842	2544	357	662	130	23	104	345	64	16	227	591
NYM	40	29.7	4.84	74	2875	2550	358	639	139	13	110	345	22	6	258	572
ATL	36	29.4	4.76	74	2870	2576	352	693	130	9	79	340	31	15	216	557
MIL	36	27.1	4.73	77	2939	2628	364	660	145	15	108	348	65	21	253	738
CHC	36	27.0	4.70	74	2854	2496	348	599	127	13	101	326	21	9	287	628
LgAvg	36	28.2	4.65	75	2862	2555	347	650	131	14	93	332	40	15	243	615
MIA	38	28.4	4.62	73	2777	2506	337	659	108	11	88	322	43	10	195	563
STL	34	28.6	4.30	73	2795	2476	314	622	128	11	88	297	36	17	253	591
PIT	38	28.2	4.27	75	2882	2552	320	625	117	18	74	295	35	24	259	552
PHI	36	27.3	3.88	73	2750	2497	283	607	134	13	73	271	29	17	213	621
SFG	41	29.7	3.78	77	2928	2639	291	636	127	13	64	280	41	13	223	559
SDP	39	26.2	3.59	75	2748	2467	269	557	93	11	92	263	43	16	220	697

Table 17: 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	5.70	0	0.344	0.479	0.823	112	1254	53	10	19	19	32	525
ARI	32	28.2	5.31	0	0.334	0.453	0.787	97	1175	46	22	17	10	21	508
LAD	37	28.0	5.18	0	0.341	0.441	0.782	106	1127	61	28	17	19	16	535
COL	34	28.4	5.14	0	0.329	0.439	0.768	86	1155	55	20	35	17	16	486
CIN	38	27.3	4.89	0	0.327	0.452	0.779	100	1150	43	34	19	18	12	518
NYM	40	29.7	4.84	0	0.323	0.445	0.768	101	1134	57	27	18	22	17	510
ATL	36	29.4	4.76	0	0.333	0.418	0.751	95	1078	73	38	25	15	32	518
MIL	36	27.1	4.73	0	0.323	0.441	0.764	97	1159	52	29	22	7	15	510
CHC	36	27.0	4.70	0	0.327	0.423	0.749	96	1055	64	39	20	11	25	517
LgAvg	36	28.2	4.65	0	0.324	0.425	0.749	94	1086	57	27	20	17	18	508
MIA	38	28.4	4.62	0	0.322	0.420	0.743	98	1053	60	34	21	20	16	487
STL	34	28.6	4.30	0	0.324	0.418	0.743	95	1036	65	25	19	22	16	486
PIT	38	28.2	4.27	0	0.323	0.392	0.714	87	1000	60	39	20	11	18	537
PHI	36	27.3	3.88	0	0.306	0.395	0.700	84	986	58	18	8	14	14	474
SFG	41	29.7	3.78	0	0.302	0.372	0.674	79	981	61	20	16	30	13	526
SDP	39	26.2	3.59	0	0.294	0.384	0.678	78	948	45	22	26	13	10	478

Current Injuries

	Name	Updated	Type	Details
1	Tyler Anderson	June 12 2017	Knee	Anderson has been placed on the 10-day disabled list with knee inflammation but is likely to return to the starting rotation before the end of June.
2	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.
3	David Dahl	June 11 2017	Ribs	Dahl is on the 10-day disabled list with a stress reaction of his sixth rib and is likely to remain sidelined until sometime in June.
4	Jon Gray	June 16 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 during the end of June.
5	Gerardo Parra	June 07 2017	Quadriцеп	Parra has landed on the 10-day disabled list with a strained right quadriceps and is likely to be sidelined until the end of June.
6	Chad Qualls	June 18 2017	Back	Qualls has been placed on the 10-day disabled list with lower back spasms and it is unclear how much time he is expected to miss.

Table 18: 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.

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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