Rockies 2017 - Week #20

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Monday, August 21, 2017



Figure 1: August 21st, North America will experience a full eclipse of the Sun.

Slump? I ain't in no slump... I just ain't hitting. – Yogi Berra (1925-2015)

Table 1: NL West Standings

Tm	W	L	W-L%	GB
Los Angeles Dodgers	87	35	.713	_
Colorado Rockies	68	56	.548	20.0
Arizona Diamondbacks	67	57	.540	21.0
San Diego Padres	55	69	.444	33.0
San Francisco Giants	50	76	.397	39.0

Table 2: Current Rockies Results as of 2017-08-21

Wins	Losses	Win.Pct	Runs	Runs.Ag	Predicted Season Wins
68	56	54.839	648	598	87



Week #20

The Rockies won three of seven this past week, winning two of four against Atlanta Braves and one of three against the Milwaukee Brewers. Still hanging onto second place in the NL West, the Rockies will need more wins in the thirty-nine remaining games. Twenty more wins would put the Rox right on track for the Pythagorean estimate for winning eighty-eight games.

We continue to build on the WAR and top twenty players (pitchers and position). Adding some famous favorites of some of you readers, as well as an interesting sidebar from 1951, Mr. Eddie Gaedel. Read on for the "rest of the story."

If you would like to see an in-depth explanation and the history of WAR, see the following URL:

https://www.baseball-reference.com/about/war_explained.shtml.

- Featured Article
 - Top Twenty MLB Pitchers of All Time and Others
 - Top Twenty MLB Position Players of All Time and Others
- Colorado Rockies Dashboard
 - Rockies Win/Loss Graphs for 2017 and 2007
 - Top Twelve Rockies Players as Measured by WAR
 - 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
 - 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 Twenty MLB Pitchers of All Time

The tables below show the top pitchers of all time. As before, these WAR values are from Baseball-Reference.com.

Table 3: All-Time Best Pitchers (WAR)

Rank	Player	Career Start	Career End	Years	Games	IPouts	WAR
1	Cy Young	1890	1911	22	918	22068	170.28
2	Walter Johnson	1907	1927	21	936	17746	152.33
3	Roger Clemens	1984	2007	24	709	14750	139.36
4	Pete Alexander	1911	1930	20	703	15559	116.98
5	Kid Nichols	1890	1906	17	650	15202	116.56
6	Lefty Grove	1925	1941	17	619	11818	109.93
7	Tom Seaver	1967	1986	20	677	14349	106.26
8	Greg Maddux	1986	2008	23	759	15025	104.60
9	Randy Johnson	1988	2009	22	619	12406	104.28
10	Phil Niekro	1964	1987	24	866	16212	97.39
11	Bert Blyleven	1970	1992	23	699	14910	96.49
12	Christy Mathewson	1900	1916	17	647	14363	95.30
13	Gaylord Perry	1962	1983	22	787	16050	93.70
14	Warren Spahn	1942	1965	24	783	15731	92.58
15	Tim Keefe	1880	1893	14	618	15149	88.89
16	Eddie Plank	1901	1917	17	630	13480	86.48
17	Pedro Martinez	1992	2009	18	477	8482	86.01
18	John Clarkson	1882	1894	13	546	13609	85.69
19	Steve Carlton	1965	1988	24	745	15653	84.13
20	Nolan Ryan	1966	1993	28	807	16158	83.85

Other Great MLB Pitchers (WAR)

Several notable pitchers in this selection, including Rich "Goose" Gossage, who was born in Colorado Springs, Colorado on July 5, 1951. In his prime, Gossage could throw fastballs in the range of 95-102 mph with pinpoint accuracy.

Only one pitcher is currently active, Clayton Kershaw. He is in his tenth season and already achieved a WAR value of 57.26. Assuming Kershaw has a long career, he is on track to enter the list of top ten pitchers after twenty years.

Table 4: Other Great Pitchers (WAR)

Rank	Player	Career Start	Career End	Years	Games	IPouts	WAR
25	Bob Gibson	1959	1975	17	597	11653	81.93
26	Curt Schilling	1988	2007	20	571	9783	80.74
30	Don Sutton	1966	1988	23	785	15847	68.67
35	Jim Palmer	1965	1984	20	576	11844	68.13
42	Bob Feller	1936	1956	21	570	11481	65.24
67	Clayton Kershaw	2008	2017	10	292	5704	57.26
80	Whitey Ford	1950	1967	18	500	9511	53.89
84	Sandy Koufax	1955	1966	12	397	6973	53.17
160	Rich Gossage	1972	1994	23	1003	5428	41.79

Top Twenty MLB Position Players of All Time

The following table lists the top twenty position players of all time. There aren't any past or present Rockies on the list yet, but maybe someday!

Table 5: All-Time Best Position Players (WAR)

Rank	Player	Career Start	Career End	Years	Games	PA	WAR
1	Babe Ruth	1914	1935	22	2504	10622	163.06
2	Barry Bonds	1986	2007	22	2986	12606	162.43
3	Willie Mays	1951	1973	23	2992	12496	156.22
4	Ty Cobb	1905	1928	24	3034	13084	151.00
5	Hank Aaron	1954	1976	23	3298	13941	142.57
6	Tris Speaker	1907	1928	22	2792	11992	133.72
7	Honus Wagner	1897	1917	21	2795	11748	131.00
8	Stan Musial	1941	1963	23	3026	12717	128.13
9	Rogers Hornsby	1915	1937	23	2259	9480	126.99
10	Eddie Collins	1906	1930	25	2825	12044	123.89
11	Ted Williams	1939	1960	19	2292	9788	123.13
12	Alex Rodriguez	1994	2016	23	2784	12207	117.71
13	Lou Gehrig	1923	1939	17	2164	9663	112.36
14	Rickey Henderson	1979	2003	25	3081	13346	110.81
15	Mickey Mantle	1951	1968	18	2401	9907	109.72
16	Mel Ott	1926	1947	22	2730	11348	107.77
17	Nap Lajoie	1896	1916	21	2480	10461	107.39
18	Frank Robinson	1956	1976	21	2808	11742	107.21
19	Mike Schmidt	1972	1989	18	2404	10062	106.49
20	Joe Morgan	1963	1984	22	2649	11329	100.26

Other Great MLB Position Players (WAR)

The position players shown here are a combination of some the reader's requested and those of yours truly. You probably recognize most these names. The exception for most will be **Eddie Gaedel**. Eddie had exactly one plate appearance at which he walked on four straight balls. At the time, Eddie was 26 years old and stood 3 feet, 7 inches. **Bill Veeck** was searching for ways to boost lagging attendance for the St. Louis Browns. Bill signed Eddie to a year contract and outfitted him with a uniform belonging to the nine-year old bat boy. Gaedel was given the number 1/8. Eddie being something of a showman himself, participated willingly in the publicity stunt. Upon receiving the fourth ball, Eddie proceeded to first base, bowing twice to the crowd along the way.

Days later, Eddie Gaedel's contract was voided by American League President, Will Harridge.



Figure 2: August 19, 1951, Eddie Gaedel batting for the St. Louis Browns. This would be his one and only plate appearance.

Table 6: Other Great Position Players (WAR)

Rank	Player	Career Start	Career End	Years	Games	PA	WAR
25	Cal Ripken	1981	2001	21	3001	12883	95.48
26	Roberto Clemente	1955	1972	18	2433	10211	94.48
36	Rod Carew	1967	1985	19	2469	10550	81.06
40	Pete Rose	1963	1986	24	3562	15890	79.07
41	Brooks Robinson	1955	1977	23	2896	11782	78.36
42	Joe DiMaggio	1936	1951	16	1736	7673	78.06
48	Johnny Bench	1967	1983	17	2158	8674	74.99
51	Reggie Jackson	1967	1987	21	2820	11418	73.77
58	Derek Jeter	1995	2014	20	2747	12602	71.83
74	Tony Gwynn	1982	2001	20	2440	10232	68.80
84	Ernie Banks	1953	1971	19	2528	10394	67.44
99	Dave Winfield	1973	1995	23	2973	12358	63.83
112	Jackie Robinson	1947	1956	10	1382	5804	61.45
116	Harmon Killebrew	1954	1975	22	2435	9833	60.35
122	Yogi Berra	1946	1965	20	2120	8359	59.47
342	Boog Powell	1961	1977	17	2042	7809	39.03
360	Roger Maris	1957	1968	12	1463	5847	38.16
7938	Eddie Gaedel	1951	1951	1	1	1	0.03

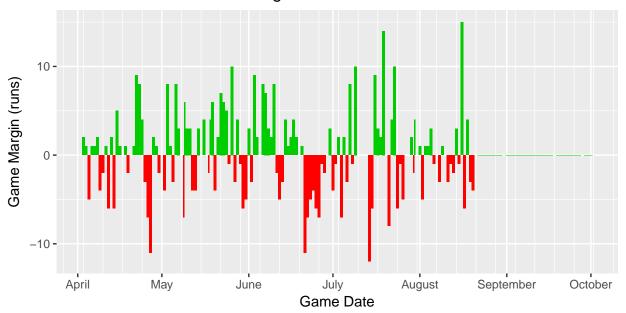
Colorado Rockies Dashboard

Win Loss Margin

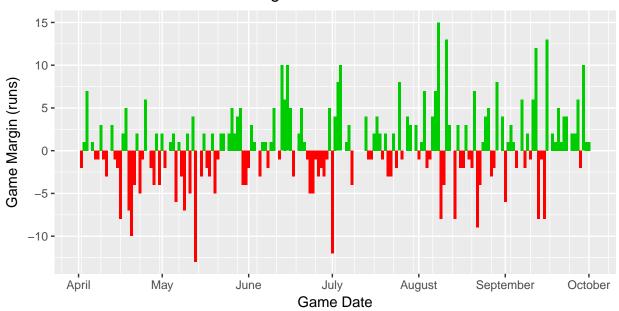
One of the many ways to visualize a teams performance is to show wins and losses as the margin of the win (positive) or loss (negative). In the graphs below, we show the current season performance. For emphasis, wins are displayed in green (above the zero) and losses in red (below).

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.

Rockies 2017 Win/Loss Margin



Rockies 2007 Win/Loss Margin



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 7: Rockies Top 12 Players (WAR)

Rank	Name	Age	WAR	Salary.M
1	Nolan Arenado	26	5.8	11.750
2	Charlie Blackmon	30	4.4	7.300
3	Kyle Freeland	24	4.1	0.535
4	German Marquez	22	3.2	0.535
5	Chris Rusin	30	2.3	0.535
6	Antonio Senzatela	22	2.1	0.535
7	Greg Holland	31	1.7	6.000
8	DJ LeMahieu	28	1.7	4.800
9	Trevor Story	24	1.6	0.535
10	Gerardo Parra	30	1.4	8.000
11	Tyler Chatwood	27	1.2	4.400
12	Jon Gray	25	1.2	0.535

National League Standings

Table 8: NL East Standings

Tm	W	L	W-L $%$	GB
Washington Nationals	74	48	.607	_
Miami Marlins	60	62	.492	14.0
Atlanta Braves	55	67	.451	19.0
New York Mets	54	68	.443	20.0
Philadelphia Phillies	45	77	.369	29.0

Table 9: NL Central Standings

Tm	W	L	W-L%	GB
Chicago Cubs	66	57	.537	_
Milwaukee Brewers	65	60	.520	2.0
St. Louis Cardinals	63	61	.508	3.5
Pittsburgh Pirates	60	64	.484	6.5
Cincinnati Reds	53	72	.424	14.0

Table 10: NL West Standings

Tm	W	L	W-L%	GB
Los Angeles Dodgers	87	35	.713	_
Colorado Rockies	68	56	.548	20.0
Arizona Diamondbacks	67	57	.540	21.0
San Diego Padres	55	69	.444	33.0
San Francisco Giants	50	76	.397	39.0

American League Standings

Table 11: AL East Standings

$\overline{\mathrm{Tm}}$	W	L	W-L%	GB
Boston Red Sox	71	52	.577	_
New York Yankees	66	57	.537	5.0
Baltimore Orioles	60	64	.484	11.5
Tampa Bay Rays	61	65	.484	11.5
Toronto Blue Jays	59	65	.476	12.5

Table 12: AL Central Standings

$\overline{\mathrm{Tm}}$	W	L	W-L%	GB
Cleveland Indians	68	54	.557	_
Minnesota Twins	63	59	.516	5.0
Kansas City Royals	62	61	.504	6.5
Detroit Tigers	54	69	.439	14.5
Chicago White Sox	47	74	.388	20.5

Table 13: AL West Standings

Tm	W	L	W-L%	GB
Houston Astros	76	48	.613	_
Los Angeles Angels	64	60	.516	12.0
Seattle Mariners	63	62	.504	13.5
Texas Rangers	61	62	.496	14.5
Oakland Athletics	54	70	.435	22.0

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	\mathbf{L}	1	6	Peralta	Chatwood	Feliz	N	-
4	Thu	Apr 6	A	MIL	W	2	1	Dunn	Feliz	Holland	D	+
5	Fri	Apr 7	Η	LAD	\mathbf{W}	2	1	Freeland	Ryu	McGee	D	++
6	Sat	Apr 8	Η	LAD	W	4	2	Dunn	Kershaw	Holland	N	++++
7	Sun	Apr 9	Η	LAD	${ m L}$	6	10	Maeda	Anderson		D	-
8	Mon	Apr 10	Η	SDP	\mathbf{L}	3	5	Diaz	Chatwood		N	_
9	Tue	Apr 11	Η	SDP	W	3	2	Senzatela	Diaz	Holland	N	+
10	Wed	Apr 12	Η	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	\mathbf{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	Η	SFG	W	6	5	Chatwood	Cueto	Holland	N	+
18	Sat	Apr 22	Η	SFG	W	12	3	Senzatela	Moore		N	++
19	Sun	Apr 23	Η	SFG	W	8	0	Freeland	Samardzija		D	+++
20	Mon	Apr 24	\mathbf{H}	WSN	W	8	4	Estevez	Romero		N	++++
21	Tue	Apr 25	\mathbf{H}	WSN	L	12	15	Romero	Marquez		N	-
22	Wed	Apr 26	\mathbf{H}	WSN	L	4	11	Roark	Chatwood		N	_
23	Thu	Apr 27	\mathbf{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	\mathbf{H}	ARI	L	3	6	Greinke	Marquez	Rodney	N	-
31	Sat	May 6	\mathbf{H}	ARI	W	9	1	Anderson	Corbin	Rusin	N	+
32	Sun	May 7	\mathbf{H}	ARI	W	5	2	Chatwood	Walker	Holland	D	++
33	Tue	May 9 (1)	\mathbf{H}	CHC	W	10	4	Senzatela	Arrieta		D	+++
34	Tue	May 9 (2)	\mathbf{H}	CHC	L	1	8	Lackey	Freeland		N	-
35	Wed	May 10	\mathbf{H}	CHC	W	3	0	Marquez	Hendricks	Holland	D	+
36	Thu	May 11	Η	LAD	\mathbf{W}	10	7	Hoffman	Ryu	Holland	N	++
37	Fri	May 12	Η	LAD	${ m L}$	2	6	Kershaw	Chatwood		N	-
38	Sat	May 13	Η	LAD	${ m L}$	0	4	Wood	Anderson		N	_
39	Sun	May 14	Η	LAD	\mathbf{W}	9	6	Senzatela	Urias	Holland	D	+
40	Tue	May 16	A	MIN	\mathbf{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	${ m L}$	0	2	Berrios	Chatwood	Kintzler	N	-
43	Fri	May 19	A	CIN	W	12	6	Anderson	Bonilla		N	+
44	Sat	May 20	A	CIN	${ m L}$	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	Η	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	Н	STL	L	0	3	Wainwright	Freeland	Oh	N	-
52	Sun	May 28	Η	STL	W	8	4	Marquez	Lynn		D	+
53	Mon	May 29	Η	SEA	L	5	6	Gaviglio	Chatwood	Diaz	D	-
54	Tue	May 30	Н	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	$\operatorname{Jun} 4$	A	SDP	W	3	1	Hoffman	Cosart	Holland	D	++
60	Tue	Jun 6	Н	CLE	W	11	3	Senzatela	Clevinger		N	+++
61	Wed	Jun 7	Н	CLE	W	8	1	Freeland	Bauer		D	++++
62	Thu	Jun 8	A	CHC	\mathbf{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	Н	SFG	W	10	8	Senzatela	Samardzija	Holland	N	+++
71	Sat	Jun 17	Н	SFG	W	5	1	Freeland	Cain		D	++++
72	Sun	Jun 18	Н	SFG	W-wo	7	5	Estevez	Melancon		D	++++
73	Tue	Jun 20	Н	ARI	W	4	3	Ottavino	Greinke	Holland	N	++++
74	Wed	Jun 21	Н	ARI	L	5	16	Walker	Hoffman		N	-
75	Thu	Jun 22	Н	ARI	$^{-}$	3	10	Godley	Senzatela		D	_
76	Fri	Jun 23	A	LAD	${ m L}$	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	$\overline{12}$	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	Gearrin	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	J	D	_
85	Mon	Jul 3	Н	CIN	W	5	3	Hoffman	Castillo	Holland	N	+
86	Tue	Jul 4	Н	CIN	L	1	8	Bailey	Freeland		N	
87	Wed	Jul 5	Н	CIN	W	5	3	Gray	Feldman	Holland	N	+
88	Thu	Jul 6	Н	CIN	L	3	6	Romano	Chatwood		D	_
89	Fri	Jul 7	Н	CHW	W	12	4	Marquez	Holland		N	+
90	Sat	Jul 8	Н	CHW	L	4	5	Kahnle	Holland	Robertson	N	_
91	Sun	Jul 9	Н	CHW	W	10	0	Freeland	Rodon	100001	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	$\frac{3}{4}$	Hoffman	Matz		D	+
9 5	Mon	Jul 17	H	SDP	W	9	6	Marquez	Perdomo	Holland	N	++
96	Tue	Jul 18	Н	SDP	W	9	7	Senzatela	Lamet	Holland	N	+++
90 97	Wed	Jul 19	H	SDP	W	18	4	Gray	Richard	manu	D	++++
98	Fri	Jul 19 Jul 21	H	PIT	L L	5	13	Williams	Hoffman		N	++++
98 99	Sat	Jul 21 Jul 22	H	PIT	W	5 7	3	Marquez	Kuhl	Holland	N	+
	Sun	Jul 22 Jul 23	п Н	PIT	W	13	3	Freeland	Nova	Honand	D	
100		Jul 23 Jul 24		STL	vv L			Leake			D N	++
101	Mon		A			2	8		Senzatela MaCaa			-
102	Tue	Jul 25	A	STL	L-wo	2	3	Rosenthal	McGee		N	_

$\mathrm{Gm}\#$	Day	Date	H/A	Opp	W/L	R	RA	Win	Loss	Save	$\mathrm{D/N}$	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	\mathbf{H}	NYM	W-wo	5	4	Dunn	Robles		N	+
108	Wed	Aug 2	Η	NYM	L	5	10	Bradford	Chatwood		N	-
109	Thu	Aug 3	Η	NYM	W-wo	5	4	Holland	Robles		D	+
110	Fri	Aug 4	Η	PHI	W	4	3	Dunn	Garcia	Holland	N	++
111	Sat	Aug 5	Η	PHI	W	8	5	Gray	Pivetta		N	+++
112	Sun	Aug 6	Η	PHI	L	2	3	Ramos	Holland	Neris	D	-
113	Tue	Aug 8	A	CLE	L-wo	1	4	Kluber	Holland		N	_
114	Wed	Aug 9	A	CLE	W	3	2	Estevez	McAllister	Chatwood	D	+
115	Fri	Aug 11	A	MIA	L	3	6	Tazawa	McGee	Ziegler	N	-
116	Sat	Aug 12	A	MIA	L	3	4	Nicolino	Hoffman	Ziegler	N	_
117	Sun	Aug 13	A	MIA	L	3	5	Guerra	Marquez	Despaigne	D	
118	Mon	Aug 14	Η	ATL	W	3	0	Dunn	Brothers	Holland	N	+
119	Tue	Aug 15	Η	ATL	L	3	4	Freeman	Neshek	Vizcaino	N	-
120	Wed	Aug 16	Η	ATL	W	17	2	Gray	Foltynewicz		N	+
121	Thu	Aug 17	Η	ATL	L	4	10	Sims	Hoffman		D	-
122	Fri	Aug 18	Η	MIL	W	8	4	Marquez	Garza		N	+
123	Sat	Aug 19	Η	MIL	L	3	6	Swarzak	Holland	Knebel	N	-
124	Sun	Aug 20	Н	MIL	L	4	8	Anderson	Freeland	Knebel	D	_

The Rockies current record is 68 Wins and 56 Losses. So far, the Rockies have scored 648 runs and have had 598 runs scored against them.

Pythagorean Win-Loss Theorem

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

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	87	87

Batting Statistics (non-pitchers)

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

Rk	Pos	Name	Age	G	AB	R	Н	2B	3B	HR	RBI	SB	CS	BB
1	С	Wolters*	25	67	202	30	50	8	1	0	14	0	1	28
2	1B	Reynolds	33	117	415	71	116	17	1	26	84	2	1	58
3	2B	LeMahieu	28	117	461	74	144	23	1	4	52	6	5	45
4	SS	Story	24	107	365	50	82	16	1	18	56	5	0	39
5	3B	Arenado	26	121	475	79	148	38	7	27	105	3	2	40
6	$_{ m LF}$	Parra*	30	83	277	45	95	19	0	10	59	0	4	14
7	CF	Blackmon*	30	122	500	115	168	27	14	29	78	12	8	47
8	RF	$Gonzalez^*$	31	104	372	48	91	21	0	8	40	3	0	38
9	$_{ m LF}$	Desmond	31	65	242	33	69	8	1	5	32	10	4	14
10	$_{ m IF}$	Valaika	24	85	145	24	39	10	0	10	31	0	0	6
11	UT	Amarista*	28	78	148	17	35	9	0	3	19	1	0	6
12	OF	Tapia*	23	48	122	22	35	8	2	2	10	5	2	8
13	\mathbf{C}	Hanigan	36	29	96	8	24	2	0	2	12	0	0	8
14	\mathbf{C}	Garneau	29	22	68	5	14	7	0	1	6	0	0	4
15	\mathbf{C}	Lucroy	31	15	44	4	14	5	0	0	3	0	0	8
16	OF	Cardullo	29	15	28	2	4	0	0	0	3	0	0	3
17	\mathbf{C}	Murphy	26	8	20	1	1	1	0	0	1	0	0	2
18	OF	Tauchman*	26	10	11	0	2	0	0	0	1	0	1	4
19	IF	Adames#	25	12	13	1	0	0	0	0	0	0	0	1
20	IF	McMahon*	22	4	9	1	2	1	0	0	1	0	0	2

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

Rk	Pos	Name	Age	SO	BA	OBP	SLG	OPS	OPS+	ТВ	GDP	HBP	SH	SF	IBB
1	С	Wolters*	25	49	.248	.345	.297	.642	61	60	9	2	2	0	9
2	1B	Reynolds	33	137	.280	.367	.513	.880	113	213	10	1	0	3	0
3	2B	LeMahieu	28	63	.312	.376	.393	.769	90	181	18	5	2	5	1
4	SS	Story	24	147	.225	.303	.422	.725	76	154	6	2	0	0	4
5	3B	Arenado	26	85	.312	.366	.592	.958	130	281	18	4	1	5	5
6	$_{ m LF}$	Parra*	30	47	.343	.373	.520	.893	117	144	8	3	0	6	0
7	CF	Blackmon*	30	102	.336	.399	.620	1.019	145	310	4	7	3	3	5
8	RF	Gonzalez*	31	89	.245	.313	.366	.678	66	136	6	1	0	5	3
9	$_{ m LF}$	Desmond	31	65	.285	.328	.388	.717	76	94	8	3	2	3	1
10	IF	Valaika	24	40	.269	.296	.545	.841	100	79	1	0	4	1	0
11	UT	Amarista*	28	31	.236	.266	.358	.624	52	53	3	0	1	0	0
12	OF	Tapia*	23	28	.287	.341	.434	.775	89	53	0	2	1	0	1
13	\mathbf{C}	Hanigan	36	25	.250	.311	.333	.645	59	32	4	1	1	1	2
14	\mathbf{C}	Garneau	29	24	.206	.260	.353	.613	49	24	1	1	1	0	0
15	\mathbf{C}	Lucroy	31	4	.318	.456	.432	.888	121	19	3	4	0	1	0
16	OF	Cardullo	29	7	.143	.250	.143	.393	1	4	0	1	0	0	0
17	\mathbf{C}	Murphy	26	7	.050	.136	.100	.236	-40	2	0	0	0	0	1
18	OF	Tauchman*	26	3	.182	.400	.182	.582	52	2	0	0	0	0	0
19	IF	Adames#	25	6	.000	.071	.000	.071	-80	0	0	0	0	0	0
20	IF	McMahon*	22	1	.222	.364	.333	.697	74	3	1	0	0	0	0

- * - bats left-handed, # - bats both, else - bats right, ? - unknown; OPS_lg 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	$\overline{\text{CG}}$	SHO	SV	IP	Н	R
1	SP	Freeland*	24	11	8	.579	3.71	24	23	0	0	0	0	133.1	133	60
2	SP	Marquez	22	10	5	.667	4.24	21	21	0	0	0	0	119.0	117	57
3	SP	Chatwood	27	6	12	.333	5.17	24	20	2	1	1	1	116.2	107	69
4	SP	Senzatela	22	10	4	.714	4.56	25	18	3	0	0	0	116.1	105	61
5	SP	Hoffman	24	6	5	.545	5.30	17	16	1	0	0	0	91.2	94	55
6	$_{ m SP}$	Anderson*	27	3	5	.375	6.11	13	12	1	0	0	0	63.1	75	45
7	CL	Holland	31	2	4	.333	3.22	47	0	45	0	0	35	44.2	31	16
8	RP	McGee*	30	0	2	.000	3.55	47	0	10	0	0	1	45.2	37	18
9	RP	Oberg	27	0	1	.000	5.93	51	0	9	0	0	0	44.0	59	32
10	RP	Ottavino	31	1	3	.250	5.36	50	0	5	0	0	0	42.0	42	25
11	RP	Dunn*	32	5	1	.833	4.54	53	0	7	0	0	0	41.2	37	21
12		Rusin*	30	3	0	1.000	2.54	45	0	5	0	0	1	67.1	56	23
13		Gray	25	5	2	.714	4.74	12	12	0	0	0	0	62.2	73	34
14		Lyles	26	0	2	.000	6.94	33	0	12	0	0	0	46.2	61	37
15		Estevez	24	5	0	1.000	6.53	21	0	8	0	0	0	20.2	27	16
16		Qualls	38	1	1	.500	5.40	19	0	9	0	0	0	16.2	17	11
17		Bettis	28	0	0		1.93	2	2	0	0	0	0	14.0	14	3
18		Neshek	36	0	1	.000	3.38	11	0	1	0	0	0	8.0	11	5
19		Diaz	26	0	0		9.00	4	0	3	0	0	0	5.0	12	6
20		Rosscup*	29	0	0		10.80	3	0	1	0	0	0	3.1	7	4
21		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*	55	17	51	2	89	8	2	0	577	135	4.79	1.380
2	$_{ m SP}$	Marquez	56	15	38	2	113	7	0	3	511	118	4.01	1.303
3	$_{ m SP}$	Chatwood	67	18	64	2	96	2	2	9	498	97	5.19	1.466
4	$_{ m SP}$	Senzatela	59	18	39	1	89	4	2	1	481	110	4.73	1.238
5	$_{ m SP}$	Hoffman	54	14	33	1	73	4	0	2	398	95	4.74	1.385
6	$_{ m SP}$	Anderson*	43	15	23	0	63	2	2	3	281	82	5.41	1.547
7	CL	Holland	16	4	23	1	57	1	0	6	183	156	3.36	1.209
8	RP	McGee*	18	4	13	0	52	1	0	5	183	142	2.92	1.095
9	RP	Oberg	29	3	19	2	41	2	0	3	208	85	3.59	1.773
10	RP	Ottavino	25	7	28	1	47	4	0	7	194	94	5.35	1.667
11	RP	Dunn*	21	7	23	0	49	0	0	2	182	111	4.63	1.440
12		Rusin*	19	7	17	1	53	1	0	2	265	198	3.72	1.084
13		Gray	33	7	20	0	60	0	1	3	272	106	3.63	1.484
14		Lyles	36	11	12	1	33	4	0	2	211	73	5.82	1.564
15		Estevez	15	1	8	1	19	1	1	1	97	78	3.23	1.694
16		Qualls	10	3	5	0	11	0	0	0	72	94	5.06	1.320
17		Bettis	3	1	1	0	8	0	0	1	55	265	3.14	1.071
18		Neshek	3	1	0	0	9	0	0	0	36	154	2.51	1.375
19		Diaz	5	0	5	0	2	1	0	0	30	59	5.94	3.400
20		Rosscup*	4	2	0	0	5	0	0	0	17	51	7.94	2.100
21		Carle	0	0	0	0	1	0	0	1	4		1.14	0.000

 \ast - throws left-handed

National League Team Standard Batting

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

$\overline{\mathrm{Tm}}$	#Bat	BatAge	R/G	G	PA	AB	R	Н	2B	3B	HR	RBI	SB	CS	ВВ	SO
WSN	47	29.1	5.30	122	4732	4225	647	1146	241	19	178	630	79	23	417	978
COL	41	28.3	5.23	124	4746	4251	648	1169	226	28	147	623	47	28	379	1080
LAD	44	27.8	5.09	122	4665	4071	621	1045	239	15	175	583	60	22	495	1040
ARI	41	28.3	4.85	124	4762	4240	602	1075	249	31	158	576	79	24	431	1144
CHC	42	27.0	4.85	123	4753	4173	597	1044	207	23	177	568	47	21	458	1057
CIN	40	27.2	4.76	125	4838	4271	595	1092	195	31	177	570	94	29	440	1005
STL	42	28.2	4.73	124	4767	4204	587	1100	231	19	147	560	59	25	442	1028
MIA	41	28.4	4.68	122	4649	4173	571	1106	200	19	146	547	65	22	354	935
MIL	47	27.2	4.66	125	4758	4253	583	1071	211	20	184	555	105	32	408	1226
NYM	45	29.4	4.66	122	4642	4166	569	1030	211	21	184	550	31	15	384	974
LgAvg	42	28.1	4.63	123	4716	4206	572	1073	217	23	153	547	64	24	403	1026
ATL	44	29.1	4.58	122	4679	4219	559	1100	224	18	130	535	55	20	345	905
PIT	44	28.3	4.28	124	4748	4210	531	1044	196	30	119	501	56	28	413	889
SFG	47	29.5	4.06	126	4822	4360	511	1084	229	21	99	489	67	26	367	915
PHI	44	27.0	3.99	122	4613	4171	487	1031	221	29	124	462	48	20	365	1049
SDP	47	26.1	3.80	124	4567	4107	471	959	173	25	152	452	67	26	354	1160

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

$\overline{\mathrm{Tm}}$	#Bat	BatAge	R/G	BA	OBP	SLG	OPS	OPS+	ТВ	GDP	НВР	SH	SF	IBB	LOB
WSN	47	29.1	5.30	0	0.337	0.464	0.800	104	1959	86	19	33	38	44	844
COL	41	28.3	5.23	0	0.337	0.445	0.782	90	1892	103	37	46	33	32	813
LAD	44	27.8	5.09	0	0.341	0.452	0.793	106	1839	95	44	24	30	30	846
ARI	41	28.3	4.85	0	0.327	0.439	0.766	91	1860	75	42	29	20	35	862
CHC	42	27.0	4.85	0	0.333	0.438	0.771	98	1828	104	68	32	21	41	868
CIN	40	27.2	4.76	0	0.332	0.440	0.772	99	1880	89	60	38	29	25	892
STL	42	28.2	4.73	0	0.336	0.431	0.767	100	1810	109	49	37	35	27	854
MIA	41	28.4	4.68	0	0.328	0.427	0.755	99	1782	94	52	39	29	35	830
MIL	47	27.2	4.66	0	0.323	0.441	0.764	96	1874	82	46	35	16	25	842
NYM	45	29.4	4.66	0	0.315	0.440	0.755	96	1835	88	39	23	30	23	796
LgAvg	42	28.1	4.63	0	0.325	0.427	0.752	94	1796	94	45	33	28	31	842
ATL	44	29.1	4.58	0	0.323	0.415	0.737	92	1750	110	52	40	23	46	824
PIT	44	28.3	4.28	0	0.324	0.394	0.717	87	1657	98	69	30	25	31	888
SFG	47	29.5	4.06	0	0.309	0.379	0.688	81	1652	100	31	25	39	31	856
PHI	44	27.0	3.99	0	0.311	0.403	0.714	89	1682	96	34	17	26	21	823
SDP	47	26.1	3.80	0	0.299	0.399	0.698	84	1638	78	40	40	26	13	789

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.

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.

Yours truly,

Jim Reed

Appendix

Glossary

Batting Statistics

Statistic Abbreviation	Definition
\overline{G}	number of games (participated)
PA	plate appearances
AB	at bats
R	runs scored by player or team
RA	runs allowed
H	hits
2B	doubles
3B	triples
HR	home runs
RBI	runs batted in
BA	batting average
OBP	on-base percentage
SLG	slugging percentage
OPS	on-base percentage plus slugging percentage
OPS+	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
\overline{Rk}	Rank This is a count of the rows from top to bottom.
	It is recalculated following the sorting of a column.
Pos	Position
Name	Player Name
Age	Player's age at midnight of June 30th of that year
\widetilde{W}	Wins
L	Losses
W- $L%$	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.
ERA	9 * ER / IP
G	·
G	Games Played or Pitched Games Started
GF	Games Started Games Finished
CG	
SHO	Complete Game
	Shutouts No runs allowed and a complete game. Saves
SV	
IP	Innings Pitched
H	Hits/Hits Allowed
R	Runs Scored/Allowed
ER	Earned Runs Allowed
HR	Home Runs Hit/Allowed
BB	Bases on Balls/Walks
IBB	Intentional Bases on Balls First tracked in 1955.
SO	Strikeouts
HBP	Times Hit by a Pitch.
BK	Balks
WP	Wild Pitches
BF	Batters Faced
ERA+	ERA+ 100*[lgERA/ERA] Adjusted to the player's
T.D.	ballpark(s).
FIP	Fielding Independent Pitching
WHIP	(BB + H)/IP For recent years, leaders need 1 IP per
	team game played
H9	9 x H / IP For recent years, leaders need 1 IP per team
HR9	game played $9 \times HR / IP$ For recent years, leaders need 1 IP per
	team game played
BB9	$9 \times BB$ / IP For recent years, leaders need 1 IP per
	team game played
SO9	$9 \ge SO$ / IP For recent years, leaders need 1 IP per
	team game played
SO/W	SO/W or SO/BB For recent years, pitching leaders
	need 1 IP per team game played.

Fielding Statistics

Fielding Statistic	Definition
\overline{Name}	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.
Age	Player's age at midnight of June 30th of that year
G	Games Played or Pitched
GS	- Games Started
CG	- Complete Game
Inn	– Innings Played in Field
Ch	– Defensive Chances Putouts + Assists + Errors
PO	- Putouts
A	- Assists
E	– Errors Committed
DP	– Double Plays Turned
Fld%	Fielding Percentage (Putouts + Assists) / (Putouts + Assists + Errors)
Rtot	– 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
Rtot/yr	– 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.
D.1	Provided by BaseballProjection.com
Rdrs	– 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
D.1. /	Info Solutions
Rdrs/yr	- 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
D.E. /0	Baseball Info Solutions
RF/9	- Range Factor per 9 Inn 9 * (Putouts + Assists) /
77/0	Innings Played
RF/G	- Range Factor per Game (Putouts + Assists) / Games
	Played
PB	- Passed Balls
WP	- Wild Pitches
SB	- Stolen Bases
CS	- Caught Stealing

Fielding Statistic	Definition
$\overline{CS\%}$	- Caught Stealing Percentage CS / (SB + CS)
lgCS%	 League Caught Stealing Percentage League Expected CS / Players SB + Players CS
PO	- Pickoffs Runner picked off a base. May include cases
	they were safe on an error. Also includes Pickoff
	Caught Stealing plays.
Pos	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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