Shut Off Date Predictor
Linear Regression

4/11/19

Data

Years used for Regression

year	1886_shutoff	1883_shutoff	1886_julian	1883_julian	apr_swe	apr_flow_bw_hailey
1981	7/20/1981	8/26/1981	201	238	101	281
1985	7/8/1985	8/7/1985	189	219	107	240
1987	6/26/1987	8/18/1987	177	230	69	226
1988	7/4/1988	7/19/1988	186	201	83	159
1989	7/13/1989	8/3/1989	194	215	128	189
1990	7/14/1990	7/30/1990	195	211	78	233
1991	7/17/1991	8/2/1991	198	214	76	146
1992	5/14/1992	7/6/1992	135	188	71	273
1994	6/16/1994	6/28/1994	167	179	63	193
2000	7/5/2000	7/26/2000	187	208	108	286
2001	6/19/2001	7/30/2001	170	211	57	266
2002	7/3/2002	7/12/2002	184	193	103	231
2003	7/9/2003	8/7/2003	190	219	119	251
2004	7/7/2004	7/31/2004	189	213	93	407
2007	6/25/2007	7/10/2007	176	191	74	343
2008	7/14/2008	8/6/2008	196	219	119	145
2010	7/28/2010	8/16/2010	209	228	80	193
2013	7/8/2013	7/11/2013	189	192	95	281
2014	7/10/2014	7/21/2014	191	202	136	219
2015	7/6/2015	7/21/2015	187	202	90	576
2016	7/12/2016	7/26/2016	194	208	152	299
2019					150.6	229

Inputs for 2019

Inputs

year	apr_swe	apr_flow_bw_hailey
2019	150.6	229

Regression: Y=Constant + B1*(X1)+B2*(X2)

Results

year	predicted 1886 julian	predicted 1886 calendar	predicted 1883 julian	predicted 1883 calendar
2019	202	7/21	216	8/4

Discussion

- Regression predicts shut off dates to occur:
  - 1886 users= 7/21
  - 1883 users= 8/4
- Water years used to build the regression were below average
- **2019 water year is above average; regression may not be able to accurately predict shut off dates for 2019**
- Need to build separate regressions for low, average, and above average water years