

Following are general Degree Days (DD), snowmelt / streamflow relationships for specific points. This is an attempt to summarize some of the rule of thumb analyses that was performed over the years. Snowmelt / peak streamflow relationships for Salmon Falls and Big Wood River were developed in conjunction with reservoir operating guides. Similar analysis was done for the SF Boise River due to location of Vienna Mine SNOTEL site. Others were analyzed as a result of requested information over the years.

Some of the analysis is based on data from a few years ago and needs to be updated; however, the relationships may be helpful. Spring temperature and precipitation are the driving factors in determining magnitude and timing of snowmelt streamflow peaks. Keep in mind, that spring rains can change snowmelt / streamflow relationships, especially in low snow years when rain generated peaks may exceed snowmelt dominated peak flows or in wet springs like May 2005 when precipitation was 200-300% of average.

Camas Creek near Blaine, on average, peaks:

1 day before Soldier R.S. swe reaches half melt,
51 Degree Days (DD) after Feb 1 at Soldier R.S.,
36 DD after peak SWE at Soldier R.S.,

2008 Season Peak SWE = 14.5 on March 23 and 30, half melt = 7.3,

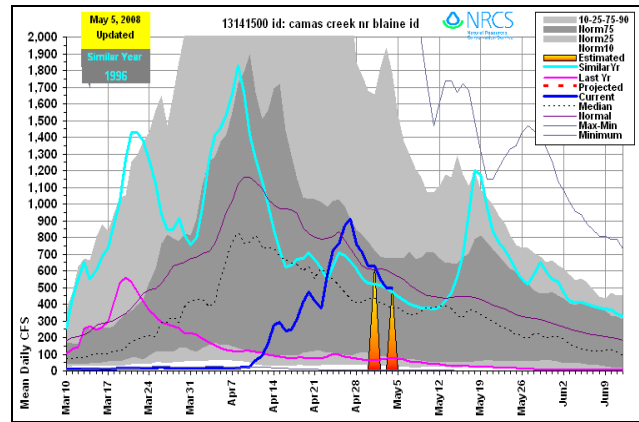
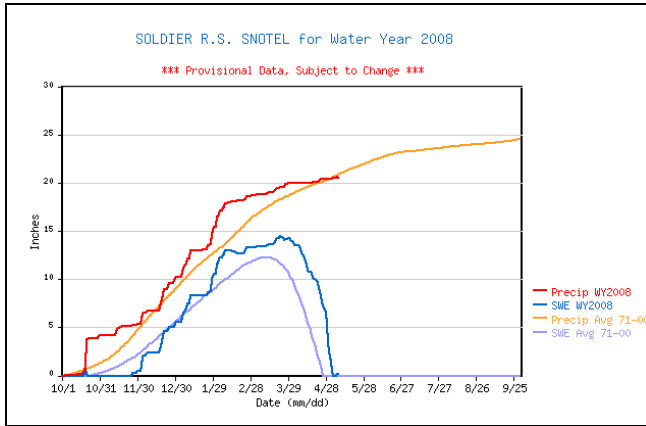
As of May 8:

Snow melt peak flow occurred April 27 at 950 cfs

Half melt occurred April 26

51 DD after Feb 1 occurred April 15

36 DD after peak SWE occurred April 20



Bruneau River

General Observations based on **Bear Creek SNOTEL site:**

- Peak usually occurs somewhere between beginning of melt and half melt of Bear Creek SNOTEL site, except in years with below to well below normal snow when there was no real snowmelt streamflow peak.
- Bruneau River at Hot Springs gage is generally responsive to changes in snow melt rates.

- Minor streamflow peaks can occur due to pre-melt rain events in the basin.
- Magnitude of peak depends upon:
 - 1) delay of onset of melt,
 - 2) magnitude of snowpack
- Bear Creek usually needs a peak of about 20 inches of snow water to have an adequate runoff season or wet spring for boating. Average April 1 snow water content is 22.4 inches.

Salmon Falls Creek at San Jacinto, Nevada

Key Indicators

1. Higher streamflow peaks occur in the range of 1-2 weeks after the peak at **Pole Creek SNOTEL site**.

2. Higher peaks tend to occur in years when the peak SWE at **Magic Mountain and Pole Creek SNOTEL sites** are coincident or close in time. This is a result of the mid and high elevation snowpacks melting at the same time.

3. Streamflows peaks follow jumps in temperatures at the SNOTEL sites in the basin with higher peaks occurring within a week of larger jumps in temperature. In 1993, an increase of about 25 degrees F in 4 or 5 days in early to mid-May produced the streamflow peak 4 days later.

On average, Salmon Falls Creek peaks when:

- **Magic Mountain peak SWE is 70% melted, or 37 days after peak SWE.**
- **Pole Creek peak SWE is 35% melted, or 20 days after peak SWE.**

Middle Fork Salmon River, on average, the Middle Fork

peaks about when **Banner Summit SNOTEL site** reaches half-melt.

South Fork Boise River near Featherville, on average, peaks:

3 days after half melt at **Vienna Mine**
 132 degree days (DD) after Feb 1 at Vienna Mine,
 95 degree days after peak SWE occurs at Vienna Mine.

Big Lost River at Howell Ranch, on AVERAGE,

peaks 4 days after **Lost-Wood Divide SNOTEL site** melts out.

Big Wood River at Hailey, on AVERAGE, peaks

8 days before **Vienna Mine** swe reaches half melt,
134 Degree Days (DD) after Feb 1 at Vienna Mine,
96 DD after peak SWE at Vienna Mine,
9 days after **Galena Summit** reaches half melt,
4 days before Galena Summit melts out,
127 DD after Feb 1 at Galena Summit,
120 DD after peak SWE at Galena Summit.

General Observations for Big Wood River:

- Boise high temperatures of 70-75 degrees F for several (days 5-7 days?) days will initiate significant rise in streams.
- Boise high temperatures of 80+ degrees F (for several days?) will probably cause streamflow peak assuming Galena Summit still has some snow.
- If Galena Summit has snow and temperatures are less than 80 degrees F, remaining snow can sustain flows of 4,000 cfs.

Payette Lake Inflow, on average, peaks:

9 days after meltout at **Bear Basin**,
6 days after half-melt at **Secesh Summit**, or
8 days before Secesh Summit melts out.
This analysis is based on years 1981-1987.
