

Pittsburgh, Pa.,  
May 23, 1923.

Mr. Frank Davis,

Davis Ranch.

Dear Mr. Davis:

I have been comparing the temperature and precipitation records for different floods at several different stations. I believe you will be interested in the enclosed tabulation of data for the floods of 1909, 1917 and 1921. Note the close agreement in temperature and precipitation for the 1909 and 1921 floods. The Power Camp is enough lower than your place to have about one degree higher temperature (there is about one degree change in temperature for 300 feet change in elevation). The mean temperature at your place for November 29, 1909 should have been, therefore, 44.5° Fahrenheit. Assuming the rainfall at your place is the same as at the Power Camp, we have a two day precipitation of 7.85 inches and a flood crest (Reflector Bar) of 67,000 second feet. December 12, 1921 the mean temperature at your place was 43.5° F. precipitation 7.62 inches for two days and a flood crest of 66,000 second feet.

The comparison with the 1917 flood does not work out well and I wonder if you can make any suggestion as to the reason. The following are the only possibilities that I can think of. Can you suggest any others and which of the list do you think applies?

1. Snow laying around your house in 1917, but not in 1921. Probably snow would keep maximum temperatures down rather low at the elevation of your thermometers.
2. Chinook wind did not hit around your place in 1917, but did higher up on the mountains or further up the valley.
3. Maximum thermometer not working properly. You may know, or have a record, as to whether you had trouble with the maximum thermometer that winter.
4. Readings 10 degrees too low. Readings 10 degrees higher than you give are shown in red ink. These red ink figures check very well with pencil temperatures for Bellingham and Anacostas (indicated by red check mark). I do not know whether the maximum thermometers are graduated in such a way that a 10 degree error is easy to make or not.
5. Readings that I have received may be incorrect and not the readings you made. If you still have your 1917 records, you can check this up.

On the basis of the temperatures as they now stand it would not have been logical for a flood to have occurred in 1917. With a maximum temperature of 34° on December 28, it should have been snowing where you are or a little higher, and it should have been freezing at an elevation of 600 feet above you. With a maximum temperature of 36° F. on the 29th, it should have been snowing at less than 1,000 feet above you and should have been freezing 1,200 feet above you.

Any information or advice you can give me on this 1917 flood difficulty will be appreciated.

I presume you have my letter sent through Mr. Parker. In case you did not find any evidence of a flood crest within the limits I anticipated, it would be well to study the same locations up to a gage height of 40 or 45 feet. It may be that at some time an enormous snow slide dammed the canyon between Ruby and Reflector Bar, and then broke loose, such an occurrence would check with the old Indian tradition of a flood about 1820 that came unexpectedly in the night and so quick they hardly escaped (Sedro Wooley Indian tradition). If you find any evidence of anything like that, it would probably be well for you folks to watch the thermometer and rain gage during conditions such as 1909 and 1921. If the river should stop rising or fall before the temperature fell or before it stopped raining, it would mean there was a snow slide or jam in the canyon and the water would be down a little later carrying everything before it.

Sincerely yours,

James E. Stewart

14 Wood Street,  
Pittsburgh, Pa.

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