

Massive Storms & Floods, 1 or 2 mile Wide River, People in Trees, & Cutting of the San Pedro River Arroyo

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Floodwaters from massive storms in the southwest cut arroyos along many waterways from the 1880s into the 20th century. The first written record of arroyo formation along the San Pedro was a heavy rain in August 1881 that washed away a dam upstream of Charleston (Rose, 2012, p. 62), resulting in water from the dam widening the channel at Charleston. In mid-August 1886 a six feet high wave of water swept down the San Pedro River at its junction with the Gila (Turner et al., 2003, p. 31, p. 297). In late August 1886 there was four feet of water on the side of the railroad tracks between Contention and Benson (Turner, et al., 2003, p. 31, p. 297).

Storms did considerable damage along the Lower San Pedro River in September 1887 (AWE, 1887a, 1887b; AWJM, 1887; CC, 1887). Floods destroyed crops other than hay for nearly the entire length of the river from Benson to the Gila and reduced some crop fields to bare sand. On September 17, 1887 the San Pedro River in the Mammoth area had “higher water than has ever been known before.”

Floods occurred in the Tres Alamos area in late July 1889. The *Arizona Weekly Citizen* reported (AWC, 1889) on July 27, 1889, “There has been plenty of rain recently on the San Pedro. The river was on a boom last week— over a half mile wide and from five to twenty feet deep. The bridge was knocked down and cannot be used at present for crossing”

The first written record of extensive arroyo digging along the San Pedro River is associated with severe monsoon storms of 1890. These storms traumatized people, produced severe damage along the Lower San Pedro River, and changed the river channel. The August storms dug an arroyo an average of 10 feet deep along the river in a region approximately 18 miles below Tres Alamos (AWC, 1891). Captain Nelson Van Alstino of Tanque Verde said (AWE, 1890a) of the riparian countryside from Tres Alamos to the Gila, “all of it is gone, destroyed, torn up, ‘vamosed’ down with the high water.” Flooding at Mammoth cut a channel 30 feet deep and exposed archaeological relics (Turner et al., 2003, p. 31, p. 297). The *Arizona Silver Belt* noted the damage to farms and settlements from Benson to the mouth of the San Pedro and reported that the river near Mammoth and Dudleyville moved its channel from one place to another (ASB, 1890). In early September the river channel widened significantly and threatened properties in Dudleyville (AWE, 1890b). The new 10 foot deep arroyo below Tres Alamos subsequently reduced flood water damage during a March 1891 storm by containing much of the floodwaters even though their volume was greater than that in 1890 (AWC, 1891).

Newspaper accounts demonstrated the severity of the 1890 storms. The *Tombstone Prospector* reported (TP, 1890a) on July 29:

A tremendous cloudburst occurred in and about Bisbee at half past eight last night. Four houses swept away and several others badly wrecked. The body of a young man . . . was found last midnight.

The next day the *Tombstone Prospector* stated (TP, 1890b):

The work of destruction and death [in Bisbee] was fully completed in less than twenty minutes after the first drop of rain fell. The storm gathered rapidly and as the rain was soon falling in torrents the people hastened to the shelter of their homes, little anticipating that they would so soon be driven out in the storm, homeless. The lightning was almost a LIVID GLARE, and the peals of thunder were deafening; but soon above the din and crash rose the shrieks of frightened victims, who were obliged to rush from their deluged homes to places of safety further up on the hills. Houses began to give way with a crash and yield to the flood, which carried everything before it.

. . . .

The storm of Monday night seems to have spread over a large portion of the Territory.

. . . .

the rain that visited Tombstone had spent little of its force before reaching Fairbank, and the water swept down, transforming the entire valley into a lake. The International Hotel, which was so badly damaged by a recent storm, is a complete wreck from the effects of last night's deluge. Several yards of track south of the depot are washed away and nearly all of the houses along the main street were flooded. At the Montezuma Hotel, which stands somewhat higher than the adjoining buildings, the water nearly reached the floor of the porch.

The newspaper noted that on the night of the storm there was a lot of water passing through Walnut gulch near Tombstone, "there was quite a river, whose roar could be heard at the outskirts of town."

On July 31 the *Tombstone Prospector* stated (TP, 1890c):

The storm of Tuesday night made sad havoc all along the San Pedro river, which soon rivaled the Mississippi in appearance, the entire valley being flooded. All the bridges south of Charleston are carried away and three of the railroad bridges between Fairbank and Benson.

The *Tombstone Epitaph* wrote on August 2, 1890 (TE, 1890):

The great downpour of the past few days seems to have been pretty general over southern Arizona.

. . . .

The Body of One Man found at Bisbee and Two Others Missing—Much Damage Done.

Last Monday evening. [July 28] about 4 o'clock, rain began falling and in a few minutes increased to a flood and continued about an hour and a half. Old-timers say that more water fell in that time than ever before in their recollection. The storm was circular and seemed to revolve around Tombstone and vicinity. All the gulches were filled with raging torrents and no one

ventured across the streets while the storm was at its height. All bridges between here and Fairbank were washed away and those living in the track of the waters suffered the loss of their gardens and fruit trees, in several instances three and four feet of sand being left on their cultivated land. Wells were filled up, reservoirs broken and much other damage done. No loss of life.

. . . .

Fairbank was flooded to a depth of several feet and nearly all the houses partly filled with sand and mud. Considerable damage was done to property but no loss of life is reported. The San Pedro river was higher than ever before known, in many places flooding the valley several feet.

On August 2, 1890 the *Arizona Weekly Citizen* said (AWC, 1890) that in the Benson region, "The valley is nearly all under water as far as can be seen from here."

The *Tombstone Epitaph* reported on August 7, 1890 (as quoted by Martin, 1951, p. 135):

The storm Tuesday night proved to be the most severe ever known in this part of Arizona. Reports from outside districts show the rainfall to have been enormous, and in many places the hail was terrific . . . Nearly every gulch of any size shows a watermark of from eight to twenty-five feet, and in many places bedrock that has not been exposed since the year one is now uncovered [N]o loss of human life . . . but much stock was drowned . . .

The San Pedro has ceased to be a river and is a moving sea of raging and foaming waters, carrying everything within its reach – fences, corrals, trees, orchards, gardens, and in many cases stables and farming implements. No such flood was ever known before...

On August 7, 1890 another heavy rainstorm in the Tombstone area produced severe flooding (TP, 1890d, p. 4):

FAIRBANK GONE

Shortly after midnight a roar of rushing water was heard from the direction of Tombstone and was a warning to the people to get out of their houses and seek higher ground. In many instances but a few moments elapsed between the flight of the inhabitants and the coming of the water. The volume of the latter was variously estimated and was sufficient to sweep through houses four feet above ground and carry everything before it. At the same time the wind blew a hurricane, and the rain although not heavy added to the terror of the moment. Many persons rushed from their houses in a frantic condition and narrowly escaped being drowned.

. . . .

The stage road from Tombstone to Fairbank is obliterated, and no evidence of this once smooth driveway can be found. . . .

The Storm.

Yesterday was a day by itself, and was characterized by a lack of clouds and signs of rain. Up to 10 o'clock the sky was clear, but a black bank of clouds hung over the horizon in the southeast and the heavens in this particular direction were aglow with perpetual lightning. This cloud at 11 o'clock moved rapidly toward the northwest and at midnight reached

Tombstone. The glare of lightning, which was accompanied by thunder, was incessant. The glare was blinding to one's eyes and the fact that no thunder was audible caused a feeling of wonderment.

The wind blew furiously and rain fell in torrents. It was a terrible storm, and one that but few people care to ever witness again. Many persons dressed themselves and prepared for the worst. The streets were knee-deep with water. Many roofs were unable to carry off the water and overflowed the gutters into the rooms below.

....

The fall recorded of 2 and 30 100 of an inch of rain is unprecedented in the history of Tombstone. . . . [emphasis added]

....

The Chinese Gardens.

The rains this year have wrought sad havoc with the Chinese gardens on the river, of which there were two that supplied the Tombstone markets with vegetables. The one near the Boston mill, which contained about forty acres of land, is completely covered with water and the house belonging to it washed away. At Fairbank the garden covered between eighty and 100 acres, all but four or five of which are submerged. This will result in great loss to the owners and a scarcity of vegetables for consumers.

The Chinaman from the Fairbank gardens came to town yesterday and purchased some lumber to make a boat, in order to circulate around over his real estate, but last night's storm brought him to Tombstone at midnight with what few possessions remained to him packed on his horses.

The *St. Johns Herald* reported (SJH, 1890) on August 21, 1890, "The San Pedro was reported to be **two miles** wide at Benson yesterday and higher than ever before known." [emphasis added]

A tongue-in-cheek article illustrated the severity of the 1890 floods (TP, 1890d, p. 1):

LOOKING FORWARD The Situation Ten Years Hence Illustrated. The Survivors of the Flood Gather at Phenix.

Anniversary. Phenix, August 8 – The re-union of the survivors of the flood of 1890 is being held in this city. Speeches are being made and stories related of the time when the San Pedro river was not navigable and ocean steamers were obliged to unload their freight for Tombstone at San Francisco.

Heavy rains in the Upper San Pedro River Valley in July and August 1893 caused floodwater damage to ranches and homes (ASB, 1893; AWC, 1893; Oasis, 1893a, 1893b, 1893c). A severe storm in early August 1894 produced floods that again damaged Fairbank, resulted in water six inches above the rails of the Benson railroad bridge and eight inches deep in the town's train depot, washed away railroad tracks and bridges, and extensively damaged farmland (Dobyns, 1981, p. 141; Oasis, 1894).

Severe monsoon floods occurred along the Upper San Pedro River in 1896. On July 21, 1896 floodwaters washed away a bridge north of Fairbank and covered railroad tracks between Fairbank and Benson (Oasis, 1896). A 10-hour continuous heavy downpour fell in the Upper San

Pedro River Valley on July 23, 1896 (TP, 1896a). Very heavy rainfall south of the old town of Charleston on August 4, 1896 (TP, 1896b) resulted in floodwaters damaging railroad tracks between Fairbank and Bisbee and making a sound “whose roaring was as that of a heavy train of cars on trestle work.” A 12-mile wide cloudburst in the Whetstone Mountains on October 1, 1896 produced floods that caused at least six deaths and extensive property destruction in Benson (AR, 1896; AWC, 1896a). The floodwaters were several feet deep in the main street, washed the large express office up against the railroad depot, and left at least three feet of mud in the baggage and waiting rooms of the latter building. On October 13, 1896 heavy rains resulted (TE, 1896) in floods that in the Benson area washed away track about half a mile east and west of the bridge over the San Pedro River, in some places eroding the ground to a depth as great as four feet. The Lower San Pedro River was constantly changing course, and places that were garden spots a few years ago became portions of the riverbed (AWC, 1896b).

The floods of 1896 and of previous years resulted in the Lower San Pedro River cutting an arroyo along itself. The rancher Charles Bayless reported that within four or five years in the 1890s erosion in the Redington area cut the San Pedro River channel to a depth varying from three to 20 feet (Griffiths, 2011, p. 13-14, 21-22 abs.). W. A. Cunningham, postmaster of Dudleyville, stated (AWC, 1896c) that with each high flood the river washed its banks and dug the channel deeper, ruined irrigation ditches, and destroyed much of the bottomland along the river. By December 1896 the bed of the river was several feet below the head of a formerly useful irrigation ditch.

The *Arizona Republican* reported (AR, 1899) on July 15, 1899, “The San Pedro river has been a raging torrent during the past few days, and many ranchers along its banks have been overflowed.” On July 21, 1899 the *Tombstone Prospector* noted (TP, 1899) that “Ranchers coming in from the San Pedro, say that the river is running bank full, owing to heavy rains in that region.” The phrase “running bank full” suggests that a substantial sized arroyo confined much of the storm water.

Monsoon floods in August 1901 damaged all or almost all ranches along the Lower San Pedro River (FT, 1901a, 1901b, 1901c). The river changed channels, and Mr. Whellock found his ranch was on the opposite side of the river from where it used to be.

There were also severe floods along the Upper San Pedro River in August 1901 (ASB, 1901; TE, 1901). A cloudburst in the Huachuca Mountains and the San Pedro River Valley resulted in floodwaters washing away 10 miles of New Mexico and Arizona Railroad tracks. Storm waters washed out the railroad bridge across the San Pedro River near Contention, making it three times that the railroad company lost that structure during the 1901 rainy season. Floodwaters in the Contention area scoured the bed of the river nearly 10 feet deep.

Floodwaters along the Upper San Pedro River did damage and enlarged the arroyo in July and August 1904 (BDR, 1904a, 1904b, 1904c; 1904d). Storm water on July 30 washed away a large railroad bridge across the San Pedro River below Fairbank just a few minutes after a passenger train crossed it. In August floodwaters caved in the banks of the San Pedro River in the Charleston area, resulting in the enlarged river channel being dangerously near to railroad tracks.

Floods occurred along the San Pedro River in January and March 1905 (BDR, 1905; CS, 1905). The storm waters in January did considerable damage to farms in the Dudleyville area. In mid-March floodwaters carried away a small railroad bridge in the Fairbank region.

On August 17, 1914 a severe rain caused damage along the Upper San Pedro River. The *Tombstone Epitaph* reported (TE, 1914):

TUESDAY

Rain Causes Big Flood

The severe rain had in southern parts of the state on Monday evening seems to have been general . . . the Chinese gardens, located about a mile from Fairbank suffered heavy losses from the flood. Their entire crop of vegetable were entirely ruined by the waters, which uprooted trees and left a layer of mud and water over all the land. . . .

The water came up to the bottom of the new state bridge at Fairbank and much of the approaches were washed away and are being repaired. The railroad bridge at Contention was also washed away. . . .

A week of practically unbroken rainfall in southeastern Arizona produced great flood damage in late December 1914 (BDR, 1914). Storm water caused great damage to railroad tracks and farms from Hereford to Benson and washed away dams.

*[at] several points along the river the raging torrent pouring down the valley was . . . in the neighborhood of **one mile wide** [emphasis added]*

. . . .

Several families in the neighborhood of St. David . . . spent yesterday in the trees in their yards or on the tops their homes or barns. Water in their farms and residences was from three to ten feet deep

. . . .

*The state highway bridge at Fairbanks was completely under water. At this point the water in the San Pedro valley was estimated as **over one mile in width**. . . . [emphasis added]*

On February 6, 1915 a storm in Cochise County resulted in an eight foot high bank of water rushing down the Upper San Pedro River and damaging the aqueduct pipe from the Huachuca Mountains to Tombstone where it crossed the San Pedro River between Lewis Springs and Charleston (TE, 1915). Roads in Cochise County then were still mostly nearly impassible because of flood damage in late December 1914 (BDR, 1915). The bridge across the San Pedro River at Hereford could support only lightly laden vehicles. Damage in early 1915 from "Unusual floods" resulted in Cochise County deciding in March 1915 to spend \$12,753 to replace the badly damaged bridge across the river at St. David.

A flood on August 3, 1919 washed away a new \$30,000 concrete bridge across the San Pedro River at Benson (BDR, 1919).

Severe flooding occurred along the San Pedro River in late September and early October 1926. US geological survey data indicated that from 1916 to 2013 the highest flow of water in cubic feet per second at the Charleston gauge occurred on October 9, 1926 (USGS, 2015). The *Arizona Daily Star* (as quoted by Tellman and Hadley, 2006, p. 47) reported:

Roads and bridges were frequently destroyed in the early days. The flood of 1926 was the greatest flood ever. Most of the water came down in the river over a 3-day period, knocking down bridges throughout the area. Every highway and railroad bridge on the San Pedro river from the International boundary line to where it flows into the Gila River below

Mammoth were either destroyed or rendered useless last Monday evening and Tuesday morning when the San Pedro River, swollen by a three day rain, went on the most destructive rampage in its entire history.

Floods continued to enlarge the arroyo along the San Pedro River until approximately the 1930s when climate change resulted in the river starting to deposit sediments that later were to provide habitats for riparian forests (Webb, et al. 2014, p. 34).

Humans regarded the downcutting of the San Pedro River into an arroyo as a catastrophe. However, without the formation of the current arroyo there would have been few habitats for the beautiful cottonwood and Goodding's willows forests that line much of the river. The downcutting of southwestern arroyos during prehistoric and historic times were processes of nature. Southwestern waterways cut down into arroyos, filled in with sediments, and then cut down again into arroyos at least six times prehistorically. Riparian habitats prehistorically changed and changed and changed. These beautiful habitats will continue to change if humans respect and preserve the natural processes that occur along waterways.

A future article will examine some of the hypotheses that scientists have debated about arroyo formation, including how humans influenced arroyo formation during the 18th and 19th centuries.

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