Rainfall & Flood Event Report

July 25, 2022

prepared by

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The morning of July 25, 2022, started very hot and humid as southeasterly flow brought in abundant monsoon moisture into Southern Nevada. Dewpoints throughout Clark County were at or near 60°F and precipitable water values were 1.5 to 2.0 inches. Daytime heating initially triggered thunderstorms in the southwestern part of the Las Vegas Valley and at Apex. As the day progressed, a vorticity maximum (upper atmospheric disturbance) enhanced the storms around Apex. When the southwestern valley thunderstorm activity began to dissipate, strong outflow winds of 47 miles per hour, as reported at Harry Reid International Airport, added more energy to the existing Apex storms to form new storms around the Las Vegas Motor Speedway (LVMS) and Nellis AFB.

In the southwest valley, the district rain gauge at Cactus near Durango reported a rainfall total of 0.98 inches. To the northeast, the gauge at Apex at I-15 reported a total of 2.05 inches while the District's newest gauge near the Las Vegas Motor Speedway (LVMS) showed 1.02 inches on its first day of operation.

Impacts from the storm included the closure of Silverado Ranch Boulevard between Dean Martin Drive and Decatur Boulevard. Deep water on the road was the result of detained flow from an upstream detention basin, and some motorists had to be rescued when their engines stalled while going through the water. Construction of a flood control project is well underway at the southeast corner of the intersection that includes large box culverts under Decatur that will pick this flow up in the future. The boxes should be constructed by the end of this year. The intersection was eventually opened on August 1st. Other parts of the southwest valley reported water ponding on local roadways.

A Public Works employee stated that Interstate 15 at the Union Pacific railroad overpass at Apex had runoff crossing the highway, but not enough to slow traffic. Sheet flow at the LVMS parking lot flowed towards Las Vegas Boulevard. Most of this runoff travelled southward parallel to the roadway, but at points where it ponded the flow occasionally crossed the road.

Local media reported that a body was discovered by North Las Vegas Police near Gowan and Belmont around 4pm. The Clark County Coroner's Office determined the victim, case #22-

4548, died from natural causes, and not due to flooding in the area. Around the time of the discovery, the District's water level sensor near Las Vegas Boulevard and the Broadacres Marketplace parking lot registered a peak depth of 1.36 feet and estimated flow of 468 cubic feet per second (cfs).

Point: 4528 Las Vegas Wash at LV Blvd WL Edit

Starting Time: July 25 2022 15:00 Reset Time

Ending Time: July 25 2022 24:00 Historic

Raw digits: default Scaled digits: default Changes verified: false

Get data Row limit: 5000 Reset Rows read: 14

Data list Details...

Clear all

Select all

Report Time	Scaled	Raw	Flags	Score	Rating1	Add
07/25/2022 21:15:42	0.41	141	110V	1	23	Edit Select
07/25/2022 17:40:42	0.57	157	120V	1	44	Edit Select
07/25/2022 17:12:42	0.72	172	210V	1	84	Edit Select
07/25/2022 16:47:42	0.87	187	210V	1	142	Edit Select
07/25/2022 16:26:42	1.02	202	120V	1	219	Edit Select
07/25/2022 16:18:42	1.20	220	210V	1	336	Edit Select
07/25/2022 15:57:42	1.36	236	120V	1	468	Edit Select
07/25/2022 15:54:42	1.20	220	210V	1	336	Edit Select
07/25/2022 15:48:50	1.05	205	120V	1	237	Edit Select
07/25/2022 15:34:42	0.89	189	210V	1	151	Edit Select
07/25/2022 15:30:42	0.74	174	210V	1	91	Edit Select
07/25/2022 15:26:43	0.53	153	102V	1	36	Edit Select
07/25/2022 15:17:42	0.37	137	120V	1	20	Edit Select
07/25/2022 15:14:48	0.20	120	210V	1	8	Edit Select

Figure 1 - Water level data at Las Vegas Bl. near Broadacres Marketplace

Northeast Valley

District rain gauges near impacted areas reported impressive rainfall totals, but the rainfall intensities were moderate. The Apex weather station (sensor 4144) reported a peak rainfall rate of 1.57 inches in one hour, on par with a 25-year return interval storm. Speedway #2 Detention Basin (sensor 3005700) reported an intensity of 0.91 inches in one hour, which is the equivalent of a 5-year return interval storm.

Date and Time	Interval	4104	4109	4114	4119	4124	4154	4174	4179	3005000	3005700	4199	4144
Units		in	in	in	in	in	in	in	in	in	in	in	in
07/25/2022 12:15:00	1 hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
07/25/2022 13:15:00	1 hour	0.08	0.00	0.00	0.00	0.00	0.00	0.04	0.12	0.00	0.04	0.12	1.57
07/25/2022 14:15:00	1 hour	0.47	0.39	0.39	0.63	0.55	0.00	0.00	0.08	0.35	0.91	0.00	0.35
07/25/2022 15:15:00	1 hour	0.20	0.04	0.20	0.12	0.00	0.00	0.00	0.00	0.12	0.08	0.00	0.04
07/25/2022 16:15:00	1 hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
07/25/2022 17:15:00	1 hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/25/2022 18:15:00	1 hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/25/2022 19:15:00	1 hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/25/2022 20:15:00	1 hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/25/2022 21:15:00	1 hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/25/2022 22:15:00	1 hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Figure 2 – Northeast Valley Rainfall Rates

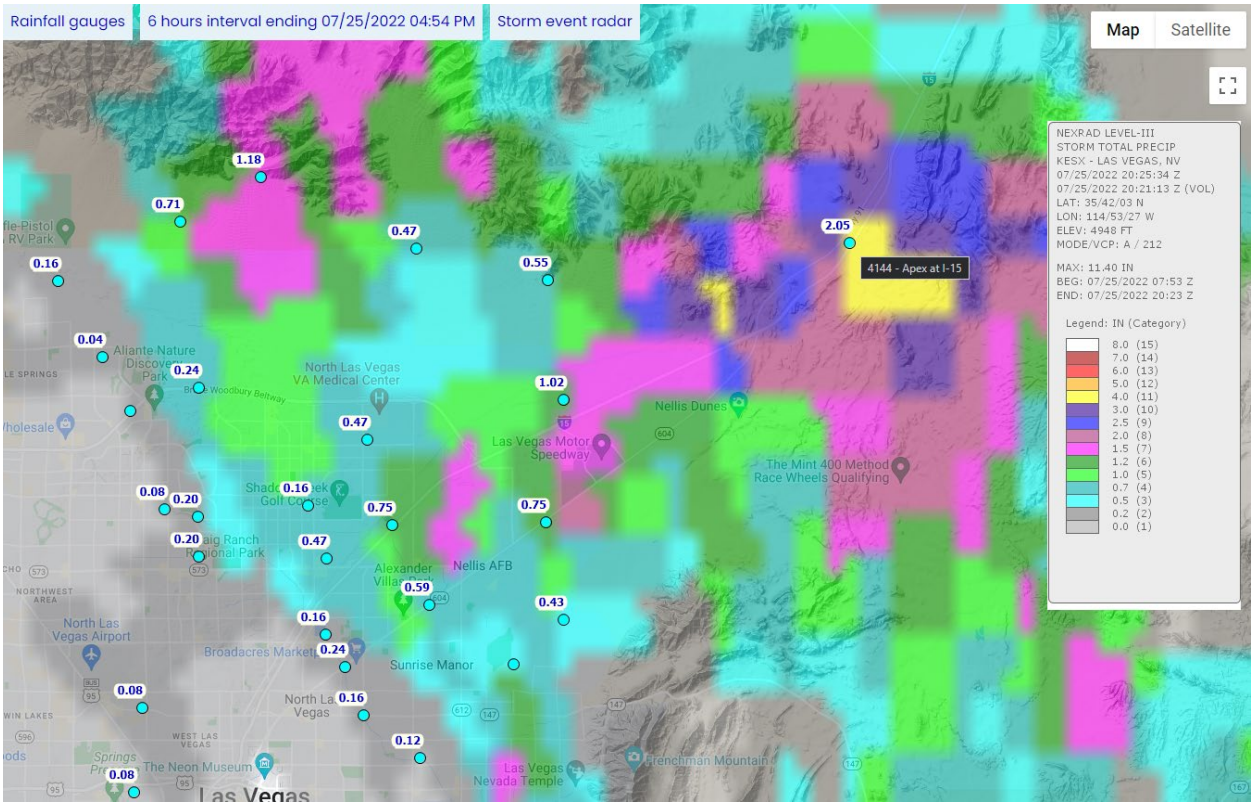

Figure 3 - Northeast Valley Rainfall Totals

Southwest Valley

Rainfall amounts and intensities in the southwestern valley weren't as high. The Cactus near Durango gauge (sensor 4609) had a peak intensity of 0.98 inches in one hour, comparable to a 5-year return interval storm. Duck Creek railroad Detention Basin (sensor 4649) reported roughly one-half inch in one hour rainfall which barely qualifies as a two-year return interval event.

Date and Time	Interval	4609	4619	4624	4629	4634	4639	4644	4649	4654	4674	4684	4694	4659	4464	4669	3041300
Units		in	in	in	in	in	in	in	in	in	in	in	in	in	in	in	in
07/25/2022 13:15:00	1 hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
07/25/2022 14:15:00	1 hour	0.98	0.00	0.00	0.00	0.00	0.47	0.00	0.51	0.47	0.00	0.00	0.00	0.00	0.35	0.43	0.00
07/25/2022 15:15:00	1 hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Figure 4 - Southwest Valley Rainfall Rates

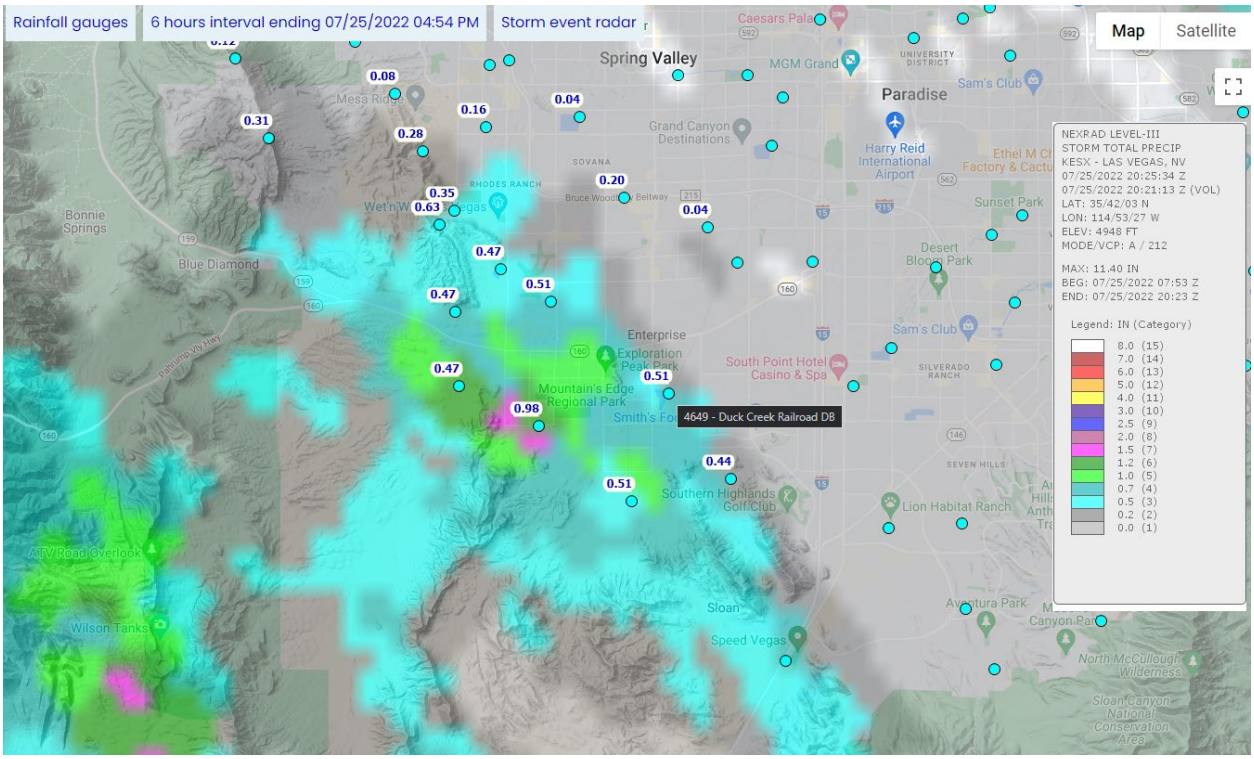

Figure 5 - Southwest Valley Rainfall Totals