MONTH IN REVIEW FOR NORTHERN ARIZONA FOR JULY 2017

...JULY TEMPERATURE AND PRECIPITATION OVERVIEW...

July brought welcome monsoon moisture back to northern Arizona. High temperatures were overall close to average, while overnight lows were warmer than average. Most locations received well above average rainfall for the month with some locations nearing double their July average. Much of the rain fell as strong thunderstorms, producing several instances of flash flooding across the region.

JULY DATA AND DEPARTURES FROM NORMAL FOR SELECTED CITIES

<table>
<thead>
<tr>
<th>City</th>
<th>Max T</th>
<th>Dep</th>
<th>Min T</th>
<th>Dep</th>
<th>Precip</th>
<th>Dep</th>
<th>% Normal</th>
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<tbody>
<tr>
<td>Flagstaff</td>
<td>81.3</td>
<td>0.1</td>
<td>53.7</td>
<td>2.8</td>
<td>4.48&quot;</td>
<td>+1.87&quot;</td>
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<tr>
<td>Winslow</td>
<td>95.9</td>
<td>1.4</td>
<td>63.2</td>
<td>1.3</td>
<td>1.51&quot;</td>
<td>+0.47&quot;</td>
<td>145%</td>
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<tr>
<td>Prescott AP</td>
<td>90.0</td>
<td>0.7</td>
<td>64.3</td>
<td>2.5</td>
<td>4.52&quot;</td>
<td>+2.41&quot;</td>
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<td>Prescott WTP</td>
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<td>6.18&quot;</td>
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<tr>
<td>St Johns AP</td>
<td>91.4</td>
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<td>62.0</td>
<td>1.4</td>
<td>2.57&quot;</td>
<td>+0.60&quot;</td>
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<tr>
<td>Grand Canyon AP</td>
<td>86.6</td>
<td>2.4</td>
<td>52.6</td>
<td>5.8</td>
<td>2.38&quot;</td>
<td>+0.60&quot;</td>
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<tr>
<td>Bellemont</td>
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<td>Cottonwood</td>
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<td>Seligman</td>
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<td>Page Airport</td>
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<td>2.66&quot;</td>
<td>+0.61&quot;</td>
<td>130%</td>
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<table>
<thead>
<tr>
<th>City</th>
<th>July Precipitation (in.)</th>
<th>Ranking</th>
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<tr>
<td>Flagstaff Airport</td>
<td>4.48&quot;</td>
<td>15th wettest</td>
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<tr>
<td>Prescott Airport</td>
<td>4.52&quot;</td>
<td>5th wettest</td>
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<tr>
<td>Prescott WTP</td>
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<td>5th wettest</td>
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<tr>
<td>Payson</td>
<td>6.94&quot;</td>
<td>Wettest on Record</td>
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...ADDITIONAL PRECIPITATION REPORTS FROM CO-OP OBSERVERS...

<table>
<thead>
<tr>
<th>Location</th>
<th>July Precipitation (inches)</th>
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<tr>
<td>Alpine R.S.</td>
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<td>Bagdad</td>
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<td>Bellemont NWS Office</td>
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<tr>
<td>Location</td>
<td>Temperature</td>
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<tr>
<td>----------------------------------------------</td>
<td>-------------</td>
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<td>Betatakin (Navajo N.M.)</td>
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<td>Chino Valley</td>
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<td>Flagstaff Airport (ASOS)</td>
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<td>Gisela</td>
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<td>Grand Canyon Airport (ASOS)</td>
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<td>Grand Canyon East Entrance</td>
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<td>Grand Canyon Visitor Center</td>
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<tr>
<td>Natural Bridge</td>
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<td>Page (ASOS)</td>
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<td>Payson</td>
<td>6.94</td>
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<td>Phantom Ranch</td>
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<td>Prescott Airport (ASOS)</td>
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<td>Prescott (Sundog Water Plant)</td>
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<td>Saint Johns (ASOS)</td>
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<td>Saint Michaels</td>
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<td>Springerville</td>
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<td>Sunset Crater N.M.</td>
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<td>Tuzigoot N.M.</td>
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<td>Walnut Canyon N.M.</td>
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<tr>
<td>Williams</td>
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<td>Window Rock (ASOS)</td>
<td>2.65</td>
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<tr>
<td>Winslow Airport (ASOS)</td>
<td>1.51</td>
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</table>
Percent of Average Precipitation (%)  
7/1/2017 – 7/31/2017

Generated 8/01/2017 at WRCC using provisional data.  
NOAA Regional Climate Centers
The two highest impact flash floods of the month occurred in Mayer and along Ellison Creek northeast of Payson. Here is a summary of these two floods, followed by storm reports for the rest of the month across northern Arizona.

July 19  Mayer / Spring Valley Flash Flood

Late in the afternoon of July 19th, extremely heavy rain fell over the Goodwin Fire Scar and surrounding areas and produced a large flash flood and debris flow that swept through the towns of Mayer and Spring Valley. Over 2” of rain was recorded in gauges on the fire scar between 4:20 and 5:10 PM MST, producing flash floods within Big Bug and Grapevine Creeks. The flash flood hit Mayer around 5:45 PM MST, and Spring Valley 30-45 minutes later. It is estimated that 110 homes near the creek were damaged, with 13 totaled.
July 15 Ellison Creek Flood:

On the afternoon of July 15, 2017, a large debris flow and flash flood impacted the Ellison Creek drainage north of Payson, AZ. There were 10 fatalities and several injuries from a group recreating in Ellison Creek near the Cold Springs swimming hole. Approximately 1.00 - 1.75” of rain fell over the Highline Fire Scar and Ellison Creek drainage between 1:15 PM and 2:15 PM MST, from storms moving southward from the Rim over Ellison Creek. The heavy rain on the fresh fire scar produced a large flash flood and debris flow that hit the Cold Springs swimming hole area around 3:15 PM MST.

Ellison Creek Flood

- Heavy rain (1. - 1.75”) fell over the Highline fire scar and portions of the Ellison Creek drainage from 1:20 – 2:00 PM MST.
- The flood waters were enhanced by the recent Highline fire scar, sending a tremendous amount of water and debris into, and down Ellison Creek.
- The floodwaters and massive debris flow reached the Cold Springs swimming hole around 3:15 pm MST.
0428 PM     HAIL             3 ESE CORDES
07/28/2017     E0.50 INCH
               CHINO VALLEY PD REPORTS MARBLE SIZE HAIL
               WITH A FEW LARGER STONES I-17 NEAR CORDES
               JUNCTION.

0345 PM     FLASH FLOOD      1 NW LEES FERRY
07/25/2017
               RIVER GAUGE ON THE PARIA RIVER AT LEES FERRY
               MEASURED A STAGE OF 6.16 FEET INDICATING
               BETWEEN A 1.5 TO 2 FOOT RISE.

0352 PM     FLOOD            TSELANI                 36.07N 109.89W
07/24/2017     APACHE             AZ   LAW ENFORCEMENT
               CHINLE POLICE RECEIVED A REPORT OF WATER
               FLOWING ACROSS ROAD ABOUT 3:30 PM MST NEAR
               TSELANI/COTTONWOOD.

0300 PM     FLOOD            4 NNE CORNFIELDS        35.70N 109.66W
07/24/2017     APACHE             AZ   PUBLIC
               FOUR OR FIVE LOW WATER CROSSINGS FLOODED
               ALONG INDIAN ROUTE 15 BETWEEN CORNFIELDS AND
               HIGHWAY 77.

1245 AM     FLASH FLOOD      1 NW ROCK SPRINGS
07/24/2017     YAVAPAI
               NEARBY RIVER GAGE (AFRA3), SHOWED A RISE
               FROM 5.26 FEET TO 10.40 FEET IN 15 MINUTES.
               THIS REPRESENTS AN INCREASE OF 449 CFS TO 3545 CFS.

0230 PM     TSTM WND DMG     1 S MIDDLE VERDE
07/23/2017
               WIND GUST ESTIMATED AT 50 MPH. AWNING AND
TREE DAMAGE AT RANCHO VERDE RV PARK.

1102 PM  FLASH FLOOD  2 NNW BLACK CANYON CITY
07/23/2017
BLACK CANYON RIVER WASH IS 3’-4’ DEEP OVER MAREN AVE. THE WATER CAME UP ABOUT 9:30 PM MST.

0423 PM  FLASH FLOOD  2 SSE WEST SEDONA
07/23/2017
1.46 INCHES RAIN FELL IN A SHORT TIME.
VISIBILITY WAS <1/4 MILE. DITCHES RUNNING LEVEL WITH ROAD. WASH BEHIND HOUSE IS RUNNING FULL.

0704 PM  FLASH FLOOD  3 NE POLAND JUNCTION
07/23/2017
AGUA FRIA NEAR HUMBOLDT ROSE FROM 1.46 FT AT 415 PM MST TO 4.12 FT (PEAK) AT 515 PM MST.

0704 PM  FLASH FLOOD  3 NE POLAND JUNCTION
07/23/2017
AGUA FRIA NEAR HUMBOLDT ROSE FROM 1.46 FT TO 4.12 FT (PEAK) IN ONE HOUR.

0609 PM  FLASH FLOOD  3 WNW CORDES JUNCTION
07/23/2017
WATER IS TWO FEET OVER THE SPRING LANE BRIDGE CROSSING BIG BUG CREEK.

0627 PM  FLASH FLOOD  3 SSW VILLAGE AT OAK CREEK
07/23/2017
DRY BEAVER CREEK RIVER GAUGE ROSE FROM 0.95 FT AT 330 PM MST TO 3.74 FT (PEAK) IN 1.25
HRS.

0315 PM  FLASH FLOOD   2 SE WEST SEDONA
07/23/2017

    BELL ROCK TRAILHEAD WASHED OUT. PEOPLE
    STRANDED ON THE TRAIL. NO INJURIES REPORTED.

0314 PM  FLASH FLOOD   1 NNW WEST SEDONA
07/23/2017

    BALDWIN LOOP TRAIL DOWN TO VERDE SCHOOL
    FLOODED.

0309 PM  FLASH FLOOD   2 E UPTOWN SEDONA
07/23/2017

    FLASH FLOODING ON SCHNEBLY HILL ROAD A FEW
    MILES FROM 179. PEOPLE FLED CAR UP THE HILL
    TO ESCAPE.

0449 PM  TSTM WND GST  PRESCOTT AIRPORT
07/22/2017  M68 MPH

    WIND GUST ASSOCIATED WITH A WET MICROBURST.
    A FEW AIRCRAFT WERE MOVED/TURNED BY THE
    WIND. NO DAMAGE REPORTED.

0230 PM  FLASH FLOOD   9 SE CARRIZO
07/22/2017

    CEDAR CREEK PEAKED AT 6 FEET AND WAS
    RECEIVING AT 3:30 PM MST. REPORTED THAT ONE
    PROPERTY WAS FLOODED; NO REPORTED DAMAGE TO
    THE HOUSE.

0215 PM  FLASH FLOOD   CARRIZO
07/22/2017  GILA

    CARRIZO CREEK PEAKED AT 10 FT. BY 330 PM MST
THE CREEK WAS DOWN TO 5 FEET.

0245 PM    HEAVY RAIN    2 SW WILLIAMS    35.24N 112.19W
07/21/2017    M1.37 INCH    COCONINO    AZ    TRAINED SPOTTER

VERY ACTIVE CELL OVER WILLIAMS FROM 1410-1450. LOTS OF LIGHTNING, HEAVY RAIN, VERY GUSTY WINDS. MODERATE STREET FLOODING SW OF DOWNTOWN.

0320 PM    TSTM WND DMG    COTTONWOOD
07/21/2017

WIND DAMAGE: TREE TRUNK GREATER THAN 12" IN DIAMETER SNAPPED IN FRONT OF THE CLEMENCEAU HERITAGE MUSEUM. WIND SPEED ESTIMATED 55 MPH. HAIL: PENNY SIZE - 0.75" HEAVY RAIN: 1.00-1.24" IN 30 MINUTES.

0200 PM    FLASH FLOOD    9 SE CARRIZO
07/21/2017

EMERGENCY MANAGEMENT REPORTED AN 8 FOOT RISE ON CEDAR CREEK AT THE HIGHWAY 73 BRIDGE.

0132 PM    FLASH FLOOD    1 NW MAYER
07/21/2017

BIG BUG CREEK ROSE 2 TO 2.5 FEET AT THE CENTRAL AVE BRIDGE IN MAYER. WIDTH OF FLOOD WATERS WAS ABOUT 50 FEET.

0915 PM    FLASH FLOOD    3 ESE CORDES JUNCTION
07/19/2017

STREAM GAGE (AGUA FRIA NEAR MAYER) REPORTED A 5.84 FT. RISE IN WATER LEVEL IN A 45-MINUTE PERIOD FROM 8:30PM TO 9:15PM MST.
1257 PM     FLASH FLOOD      2 S PRESCOTT VALLEY
07/19/2017
YAVAPAI COUNTY EM SOCIAL MEDIA PAGE SHOWED
AT LEAST A 2 FEET RISE IN WATER LEVEL OF THE
ALBERSON WASH UPSTREAM FROM FAINE LAKE AND
LYNX CREEK.

0510 PM     HAIL             1 ESE WEST SEDONA
07/19/2017  E1.00 INCH
PUBLIC REPORTS QUARTER SIZE HAIL.

1240 PM     FLASH FLOOD      4 SW PRESCOTT VALLEY
07/19/2017
3 FEET OF WATER AND DEBRIS OVER ROAD. IN
DIAMOND VALLEY SUBDIVISION AT EMERALD DR.

1201 PM     FLASH FLOOD      3 SSW PRESCOTT AIRPORT
07/19/2017
ROADS AT WILLOW CREEK RD AND COMMERCE
FLOODED. 1 TRUCK STUCK IN WATER.

0915 PM     FLASH FLOOD      1 SSE SLIDE ROCK
07/18/2017
LAW ENFORCEMENT REPORTS BOULDERS ON 89A.
WATER DEPTH UNKNOWN. SPOTTER REPORTS FLOODED
ROADWAYS 89A AND DRY CREEK RD 6-8 IN
ESTIMATED IN ROAD.

0630 PM     FLASH FLOOD      4 W SNOWFLAKE
07/18/2017
LAW ENFORCEMENT REPORTS FLOODED ROADWAY AT
FREEMAN HOLLOW CLOSED AND MANHOLE COVERS
COMING UP. PUBLIC REPORTS FLOOD WATERS
ENTERED PROPERTY.

0600 PM     FLASH FLOOD      2 SSE DEWEY-HUMBOLDT
07/18/2017
RAPID 4 FOOT RISE ON AGUA FRÍA RIVER AT HUMBOLDT.

0845 PM     HEAVY RAIN       2 NE LAKE MONTEZUMA
07/17/2017    E2.00 INCH
WALKER CREEK A TRIBUTARY INTO WET BEAVER CREEK, FLASH FLOODING DUE EAST OF RIM ROCK.
VIDEO AT 8:45 PM CONFIRMED FLOODING.
OBSERVER ESTIMATED WATER DEPTH OF 4-5 FEET.
RADAR INDICATED 2" RAIN FELL SOUTHEAST OF THIS AREA 1-1.5 HRS EARLIER.

0230 PM     TSTM WND DMG       6 WNW CHINO VALLEY
07/17/2017
APPROXIMATELY 230 PM MONDAY, STRONG WINDS TORE A 24'X72' METAL ROOF FROM A SHED. BASED ON A PHOTO OF THE DAMAGE, WINDS ESTIMATED AT ABOUT 50-55 MPH.

0525 PM     TSTM WND DMG       BAGDAD
07/17/2017
POWER LINES AND TREES DOWN.

0730 PM     FLASH FLOOD        1 SW LAKE MONTEZUMA
07/17/2017
RUSSELL WASH FLOODING IN LAKE MONTEZUMA.

0552 PM     FLASH FLOOD        1 S PAULDEN
7/17/2017
BIG CHINO WASH ROSE 3 FEET IN A SHORT TIME AT HIGHWAY 89.

0914 AM   HAIL       5 W PRESCOTT AIRPORT
07/17/2017 M1.75 INCH
FIVE MILES NORTH OF IRON SPRINGS ROAD ON WILLIAMSON VALLEY RD. -- GOLF BALL SIZED HAIL.

0430 PM   TSTM WND DMG 5 W PRESCOTT AIRPORT
07/16/2017 HAIL SIZE: QUARTER - 1.00" WIND DAMAGE: A JEEP WAS FORCED OFF THE ROAD AND HIT A TELEPHONE POLE.

0817 PM   TSTM WND GST 11 WSW STRAWBERRY
07/16/2017 M59 MPH

0719 PM   FLASH FLOOD 11 N ARIPINE
07/16/2017 NAVAJO COUNTY SHERIFF'S OFFICE DISPATCH RECEIVED A PUBLIC REPORT OF FLASH FLOODING OF THE SCOTT WASH OVER ARIZONA STATE ROUTE 377 BETWEEN MILE MARKERS 7 AND 8.

0321 PM   HAIL       3 WSW PRESCOTT COURTHOUSE
07/16/2017 E1.00 INCH
LARGEST STONES UP TO QUARTER SIZED.

0237 PM   HAIL       4 W PRESCOTT AIRPORT
07/16/2017 E1.50 INCH

0220 PM   HAIL       2 SE PAYSON 34.23N 111.31W
07/15/2017  E1.00 INCH       GILA               AZ   PUBLIC
REPORTED FROM NWS FLAGSTAFF FACEBOOK PAGE.
TIME ESTIMATED USING RADAR.

0345 PM     TSTM WND GST     PRESCOTT VALLEY
07/15/2017  E60 MPH
EVENT: HIGH WIND SPEED DETAILS: 60 MPH
PEA-SIZE HAIL (0.25/0.50") WITH ASSOCIATED
DENSE FOG REDUCING VISIBILITY TO LESS THAN
OR EQUAL TO 1/4 MILE.

0530 PM     FLASH FLOOD      3 SSW PRESCOTT VALLEY   34.57N 112.34W
07/15/2017                   YAVAPAI            AZ   COUNTY OFFICIAL
YAVAPAI FLOOD CONTROL REPORTED FAIN LAKE
OVERFLOWING AND CAUSING FLOODING IN LYNX
CREEK.

0230 PM     TSTM WND DMG     PAYSON
07/15/2017
PINE TREES BENT OVER SIDEWAYS, DAMAGE TO
MANZANITA AND SCRUB OAK TREES. TIME
ESTIMATED.

0420 PM     TSTM WND GST     7 SSE CROWN KING
07/15/2017  M67 MPH
MEASURED AT HUMBUG CREEK RAWS.

0253 PM     TSTM WND GST     3 S PRESCOTT VALLEY
07/15/2017  M58 MPH

0437 PM     TSTM WND DMG     13 WSW ROCK SPRINGS
07/14/2017
POWER POLES DOWN ALONG CASTLE CREEK NORTH OF
LAKE PLEASANT. REPORTED VIA APS WEB OUTAGE MAP.

0458 PM  **LIGHTNING**  1 SE BELLEMONT
07/13/2017

*** 7 INJURED ***
LIGHTNING STRUCK CAMP NAVAJO AND INJURED SEVEN MILITARY PERSONNEL WORKING ON A GROUNDED HELICOPTER. ALL SEVEN WERE TREATED AND RELEASED WITHIN HOURS OF THE EVENT.

0400 PM  **FLASH FLOOD**  1 NW MAYER
07/12/2017
CENTRAL AVENUE IN MAYER WAS CLOSED DUE TO FLOODING OF BIG BUG CREEK. PHOTOS SHOWED MUD AND DEBRIS OVER THE ROADWAY.

0100 PM  **FLASH FLOOD**  3 SW POLAND JUNCTION
07/12/2017
GRAPEVINE CREEK WITHIN THE GOODWIN FIRE SCAR REPORTED TO BE RUNNING DANGEROUSLY HIGH. RELAYED BY YAVAPAI COUNTY FLOOD CONTROL DISTRICT.

0700 PM  **DEBRIS FLOW**  7 SSE WALKER
07/11/2017
DEBRIS FROM GOODWIN FIRE FLOWED ACROSS ROAD AT ABOUT 7:00 PM MST.

0400 PM  **FLASH FLOOD**  4 SE WASHINGTON PARK
07/11/2017
INCREASED FLOW IN BONITA CREEK AS A RESULT OF RAIN ON THE HIGHLINE FIRE SCAR AS WELL AS
HEAVY RAIN NEAR BONITA CREEK ESTATES. WATER REMAINED WITHIN BANKS AND DID NOT AFFECT HOMES.

0420 PM  FLASH FLOOD  9 SE CARRIZO
07/11/2017
CEDAR CREEK FLOWING AT 8 FT AT THE HIGHWAY 73 BRIDGE AT 4:20 PM. REPORTED BY THE WHITE MOUNTAIN APACHE EM.

0215 PM  FLASH FLOOD  MAYER
07/12/2017
ABOUT 2 FEET OF DEBRIS FLOW WAS OBSERVED ON BIG BUG CREEK WHICH WAS PREVIOUSLY DRY.