FCDMC ALERT System

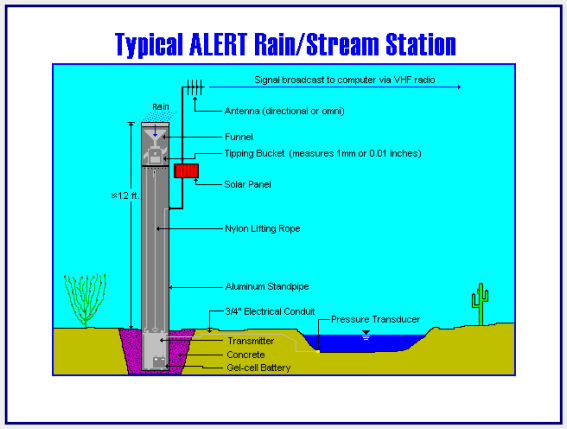
Interactive Product Catalog

What is the ALERT System?

ALERT is an acronym for *Automated Local Evaluation in Real Time*, and denotes a collection of specifications that manufacturers can follow to build compatible environmental monitoring equipment. It was developed by the National Weather Service in the late 1970s.

An ALERT station may contain several gages or sensors measuring different environmental parameters. ALERT gages send their information by radio to a central base station computer where it is stored in a database. The computer evaluates the data and can sound preset alarms. A typical ALERT system is made up of rain, stream and weather gages spaced throughout a watershed to optimally measure those weather variables necessary in the prediction of flooding.

The Flood Control District began installing ALERT stations in 1980 after the late 1970's floods. Gages were first placed to monitor the major rivers - later they were installed on District dams and flood control structures. After the 1993 floods, more gages were placed in washes and to fill holes where rainfall information was sparse. Today we monitor and maintain over 310 stations in much of central Arizona that contributes to flooding in Maricopa County.



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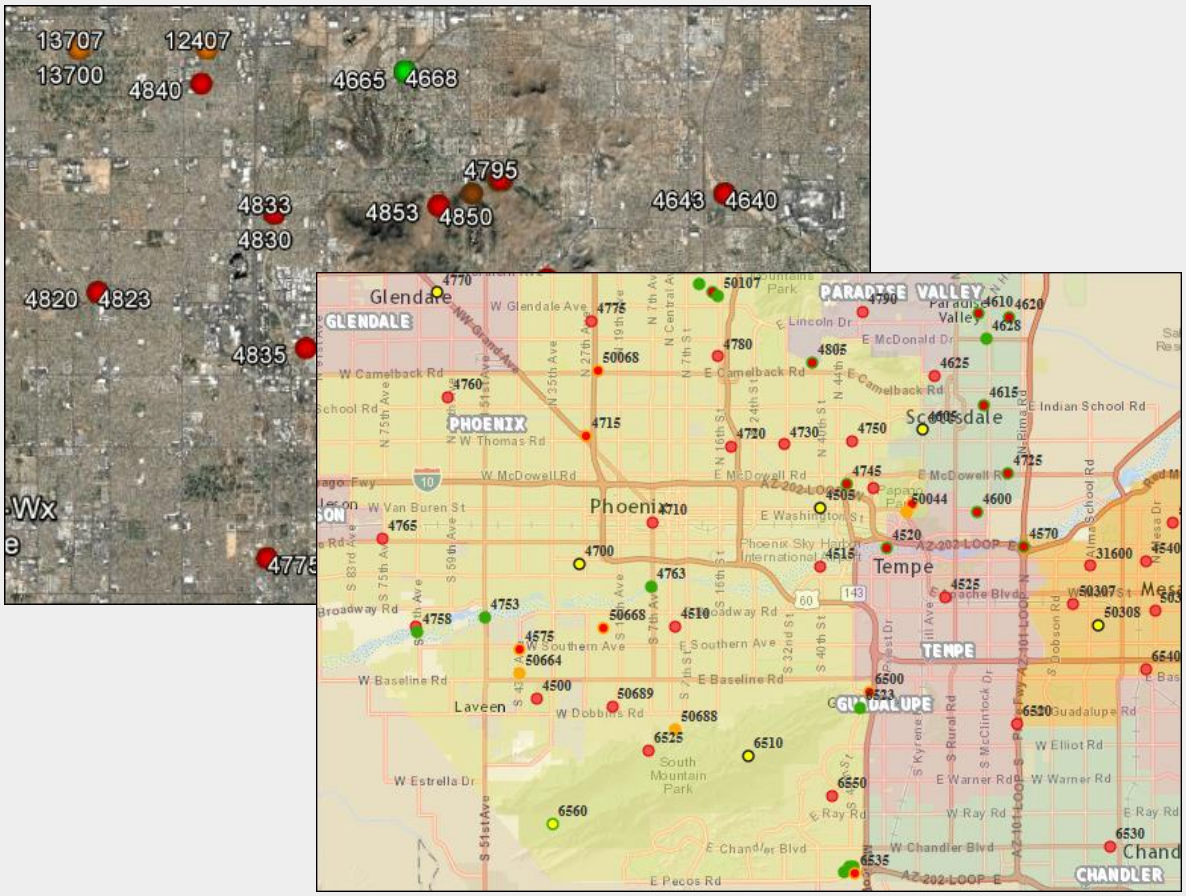
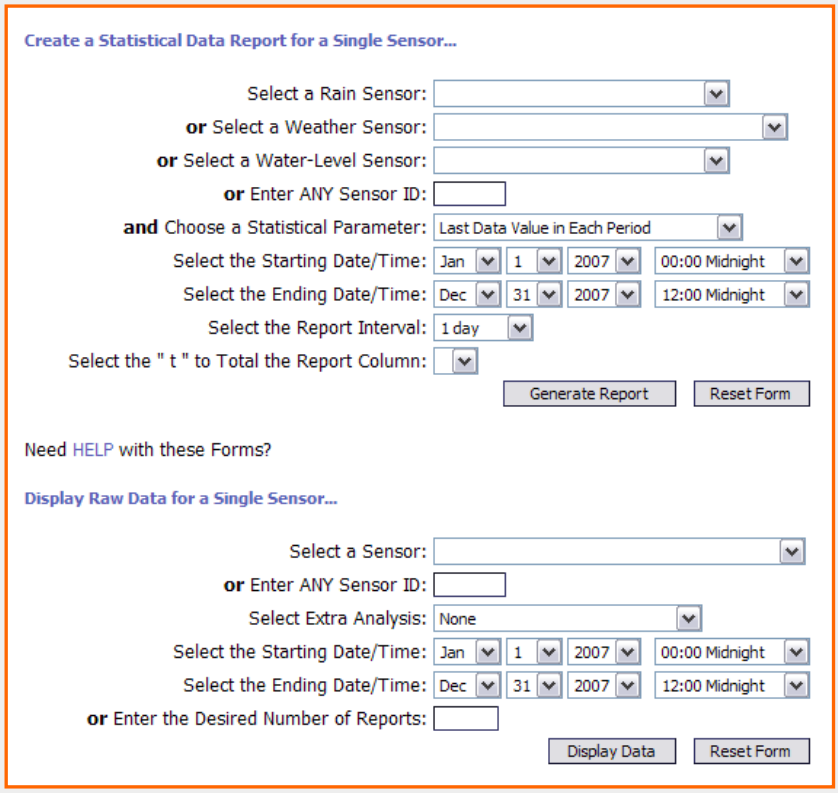
ALERT Station Locator Maps



Description: These are maps of Maricopa County and surrounding areas showing the locations of ALERT stations owned by the Flood Control District of Maricopa County. They are updated when an ALERT station is installed, retired or moved. Stations are shown with different symbols representing the sensors installed. Clicking on either map will transport you to its interactive location where you can click on a station symbol for more detailed sensor information. These Station Location Maps are often a necessary first-step in searching for sensor data since the station name and/or sensor numbers are regularly required to query the ALERT database.

Single Sensor Data Report Generator

This Report Generator can be used to extract raw or statistical data from the ALERT database. Since the database is live, the data extracted is as up-to-date as possible.



The upper portion of the form is used to generate statistical or period data. Some examples are rainfall in one-hour periods, minimum daily temperatures, maximum daily wind gusts, volume of flow past a point, and highest 1-hour rainfall intensity during a 24-hour period. The lower portion of the form is used to retrieve the raw data from a sensor. Raw data represents each report from a sensor stacked from newest to oldest as it is received. It is reported in engineering units (inches, mph, etc.) and may also be assigned a rated value (ft → cfs, Fahrenheit → Celsius).

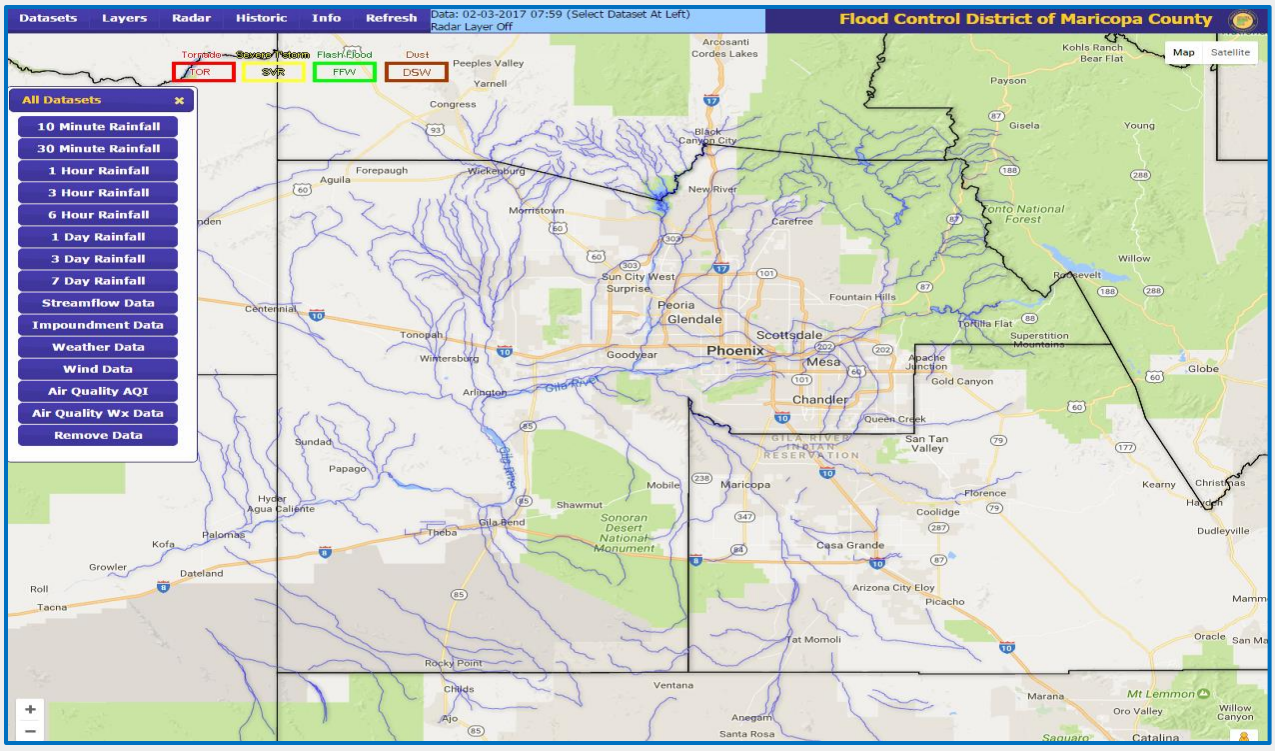
Rainfall and water-level sensor data are available from the live database for their complete periods of record. Weather sensor data are available for at a minimum the past 365 days. Older weather data can be retrieved from the archive database - contact a member of the Flood Warning Branch for archived data.

A help file is available for both sections of the Report Generator form. It is especially helpful when attempting to extract maximum rainfall intensity values.

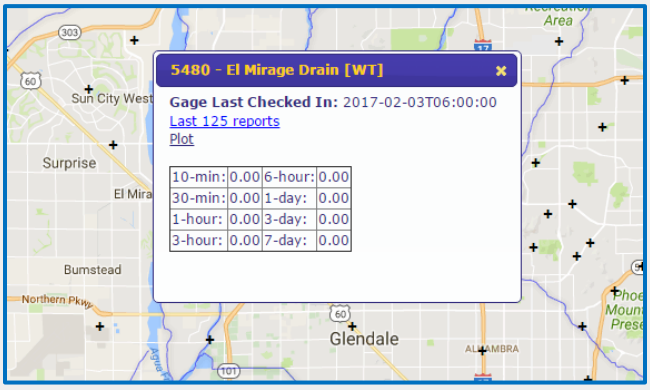
Rainfall Data and Products

Click on the text link to generate or locate the product

Product Name: Interactive Data Map



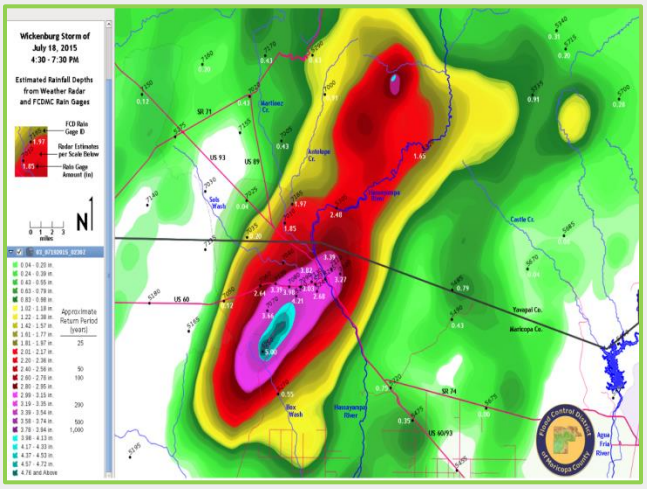
Description: The Interactive Data Map shows the current rainfall, streamflow, impoundment, weather, wind, and air quality data for the entire county. By selecting a dataset at the left of the webpage you can display the data you are interested in. The map is updated automatically every 5 minutes. You can also check when a station had its last check-in by clicking on any of the markers.



Other available options provide weather radar, historic data and general information as well as various overlays such as watersheds and FCD flood control structures. The map can also display watches and warnings issued by the National Weather Service.

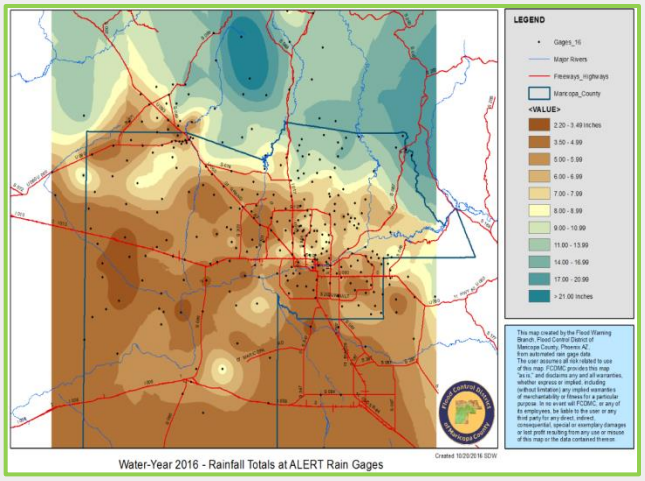
Product Name: Storm Isohyetal Rainfall Distribution Maps

Description: These maps are built by loading the rainfall data into a GIS program that creates surfaces of equal rainfall. Ranges are spatially distributed and represented by the different colors. The maps are created for significant storms and wet periods back to July of 2001. To view them, go to the Rainfall Data page and look for "Past Contoured Rainfall Maps by Storm Date" in the Historic Precipitation Data section.



Product Name: Annual Isohyetal Rainfall Distribution Maps

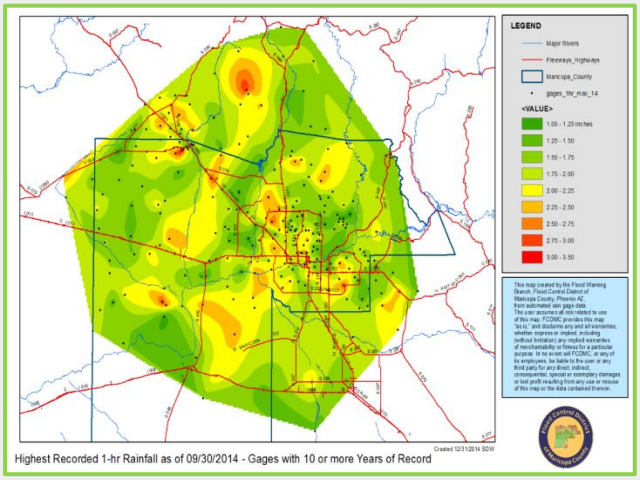
Description: These maps are built by loading the precipitation data into a GIS program that creates surfaces of equal rainfall. Ranges are spatially distributed and represented by the different colors. The maps are created for water-years back to 1993. To view them, go to the Rainfall Data page and look for "Annual Rainfall Total maps by Water-Year" in the Historic Precipitation Data section.



Water-Year 2016 - Rainfall Totals at ALERT Rain Gages

Product Name: Maximum Period Rainfall Amounts

Description: These maps are built by loading the precipitation data into a GIS program that creates surfaces of equal rainfall. The data points used are the highest value recorded through the gage record for the duration specified. Maps are available for 15-min and 1, 3, 6 and 24 hour, and 72 hour durations for any gages with 10 or more years of record. To view them, go to the Rainfall Data page and look for on "Maximum Period Recorded Rainfall Amounts" in the Historic Precipitation Data section.



Highest Recorded 1-hr Rainfall as of 09/30/2014 - Gages with 10 or more Years of Record

Product Name: Daily Precipitation Report

Description: A tabular report listing daily, monthly and annual precipitation totals. It is generated at 5:00 AM each day and scans the previous 24 hours. A location description for each gage is included. The reported values are sorted in descending order by the day, then month, then year.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
Daily Precipitation Report
24 hours ending 03/09/06 at 0500
*** Data is Preliminary and Unedited, ---- Denotes Missing Data ***

Gage Name	ID No.	24-hr Total (in)	Month to Date (in)	Year to Date (in)	Location
Salt River Landfill ,	4580	0.08	0.08	0.08	1/4 mi. N of Gilbert Rd. at Beeline Highway
New River Fire ,	5615	0.08	0.08	0.08	4 mi. NE of New River
Sunset Point ,	5720	0.04	0.04	0.04	Rest Area on I-17, 10 mi. N of Black Canyon City
Fig Springs ,	5555	0.04	0.04	0.04	3.5 miles east of New River
Crown King ,	5715	0.04	0.04	0.04	Crown King, Bradshaw Mtns, 24 mi. SSE of Prescott
Cooks Mesa ,	5640	0.04	0.04	0.04	10 mi. E of Black Canyon City in the New River Mtns.
Cave Creek Rptr. ,	4945	0.04	0.04	0.04	9 miles N of the Town of Cave Creek
Mt. Union ,	5380	0.00	0.00	0.16	Top of Mt. Union, 10 mi. SSE of Prescott
Yarnell Hill ,	5390	0.00	0.00	0.04	1 mi. ENE of Yarnell, Yavapai County
Prescott Valley ,	5310	0.00	0.00	0.04	5 mi. N of the intersection of SR 69 and Roberts Rd.
Arizona Hunt Club ,	5775	0.00	0.00	0.04	5 mi. NNW of Cordes Junction
Wood Tank ,	7145	0.00	0.00	0.00	8 miles NNE of Aguila
Wittmann ,	5455	0.00	0.00	0.00	US 60/93 at Wittmann, 4 mi. SE of Circle City
Winters Wash ,	5110	0.00	0.00	0.00	1 mi. N of Indian School Rd. and 403rd Ave.
Williams Field Road ,	6575	0.00	0.00	0.00	1/4 mi. N of Williams Field Rd. and Meridian Alignment
Wilhoit ,	5365	0.00	0.00	0.00	At Wilhoit, 10 mi. SSW of Prescott, Yavapai County
Wickenburg Airport ,	7120	0.00	0.00	0.00	4.5 mi. West of the US 60 / US 93 junction
Whitlow Ranch Dam ,	[illegible]	0.00	0.00	0.00	5 mi. NE of Florence Junction
White Tanks #4 ,	[illegible]	0.00	0.00	0.00	1/4 mi. NE of Tuthill Rd. and Van Buren St.
White Tanks #[illegible] ,	[illegible]	0.00	0.00	0.00	4 mi. N of I 10 on Jackrabbit Trail alignment
White Tank Peak ,	[illegible]	0.00	0.00	0.00	Top of White Tank Mtns., 13 mi. N of Buckeye
Webb Mountain ,	[illegible]	0.00	0.00	0.00	4 mi. W of Agua Caliente Road and Old US 80
Waterman Wash ,	[illegible]	0.00	0.00	0.00	El Mirage Rd. and Riggs Rd. alignments
Waterman @ Rainbow ,	[illegible]	0.00	0.00	0.00	Rainbow Valley Rd. at Queen Creek Rd.
Vulture Mine Rd. ,	[illegible]	0.00	0.00	0.00	3 mi. SW of Wickenburg

Product Name: Precipitation Report for All FCDMC Rain Gages

Description: A tabular report listing 6- hour and 24 -hour precipitation totals, sorted by jurisdiction and generated every 30 minutes. A location description for each gage is included. Within a city the gages are sorted alphabetically.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
Precipitation Report for ALL FCDMC Rain Stations
6 and 24 Hours Ending 03/10/06 at [illegible]
*** Data is Preliminary and Unedited, ---- Denotes Missing Data ***

Gage Name	In or Nearest City / Town	Gage ID	Elev (ft)	Rainfall Past 6 hr	Rainfall Past 24 hr	General Location
[illegible]	Agua Caliente	5040	1110	0.00	[illegible]	[illegible] on Agua Caliente Road
Columbus Wash	Agua Caliente	[illegible]	690	0.00	[illegible]	[illegible] N of Agua Caliente
Copper Wash	Agua Caliente	[illegible]	1770	0.00	[illegible]	15 miles north of Agua Caliente
Gila Bend Mountains	Agua Caliente	[illegible]	1620	0.00	[illegible]	16 mi. NW of Painted Rock Dam off Agua Caliente Rd.
Mt. Oatman	Agua Caliente	[illegible]	1720	0.00	[illegible]	[illegible] of Painted Rock Dam
Centennial Divide	Aguila	[illegible]	2465	0.00	[illegible]	7 miles east of the US89/US93 Junction
[illegible] Aguila	Aguila	[illegible]	2340	0.00	[illegible]	[illegible]
Centennial Wash	Aguila	[illegible]	2415	0.00	[illegible]	on US 60, [illegible] of Wickenburg
Dead Horse Wash	Aguila	[illegible]	2350	0.00	[illegible]	Near Aguila Rd., 14 miles SE of Aguila
[illegible] @ US 60	Aguila	[illegible]	[illegible]	0.00	[illegible]	1 mile West of Aguila on US 60
Outlaw Hill	Aguila	[illegible]	2670	0.00	[illegible]	South of US 60, 14 miles east of Aguila
[illegible] Dam	Aguila	[illegible]	[illegible]	0.00	[illegible]	[illegible] NE of Aguila
Smith Peak	Aguila	[illegible]	5130	0.00	[illegible]	Harcuvar Mtns., 13 mi. NW of Aguila
Upper [illegible] Wash	Aguila	[illegible]	[illegible]	0.00	[illegible]	[illegible] of Aguila
Upper Tiger Wash	Aguila	[illegible]	[illegible]	0.00	[illegible]	11 mi. [illegible] of Aguila off Eagle Eye Road
Wood Tank	Aguila	7145	2480	0.00	[illegible]	8 miles NNE of Aguila
Apache Junction FRS	Apache Junction	[illegible]	[illegible]	0.00	[illegible]	[illegible]
Apache Trail	Apache Junction	[illegible]	[illegible]	0.00	[illegible]	1/3 mi. NE of Broadway Rd. and Idaho Rd.
Kings Ranch	Apache Junction	[illegible]	[illegible]	0.00	[illegible]	[illegible] of Apache Junction
Centennial Railroad	Arlington	[illegible]	850	0.00	[illegible]	[illegible] of Old US 80 at the Gila River
[illegible] Wash	Arlington	[illegible]	990	0.00	[illegible]	[illegible] west of Agua Caliente Road and Old US 80
[illegible] Woolsey Peak	Arlington	[illegible]	[illegible]	0.00	[illegible]	[illegible] of Gillespie Dam
Gillespie Dam	Arlington	[illegible]	760	0.00	[illegible]	Gila River at Old US 80
Hassayampa Landfill	Arlington	[illegible]	[illegible]	0.00	[illegible]	[illegible] of Hassayampa
Webb Mountain	Arlington	[illegible]	[illegible]	0.00	[illegible]	4 mi. west of Agua Caliente Road and Old US 80

Product Name: Rainfall Values at All FCDMC Rain Gages

Description: A tabular report listing 15- minute, 1–hour, 3–hour, 6–hour, 24 –hour, and 72 –hour precipitation totals, generated every 15 minutes. Gages are sorted by ID number.

Flood Control District of Maricopa County - Phoenix, Arizona
Automated Precipitation Report
Generated 03/10/06 @ 0853 hrs MST

Gage ID #	15min Total	1-hr Total	3-hr Total	6-hr Total	24-hr Total
0750	0.00	0.04	0.04	0.04	0.04
0770	0.00	0.00	0.00	0.00	0.00
0775	0.00	0.00	0.00	0.00	0.00
0780	0.00	0.00	0.00	0.00	0.00
0785	0.00	0.00	0.00	0.00	0.00
0795	0.00	0.00	0.00	0.00	0.00
4500	0.00	0.00	0.00	0.00	0.00
4505	0.00	0.00	0.00	0.00	0.00
4510	0.00	0.00	0.00	0.00	0.00
4515	0.00	0.00	0.00	0.00	0.00
4520	0.00	0.00	0.00	0.00	0.00

Product Name: Monthly Rainfall Summary

Description: These reports list the daily precipitation values at each gage by month, and are available back to October 2010. Each page contains eight gages. Data is quality checked before the reports are produced, and footnotes are added to explain missing or questionable data. To view them, go to the Rainfall Data page and look for "Daily Totals at All Precipitation Gages" in the Historic Precipitation Data section.

FCD of Maricopa County ALERT System
P6: Gages 4680-4720

Daily precipitation values in inches

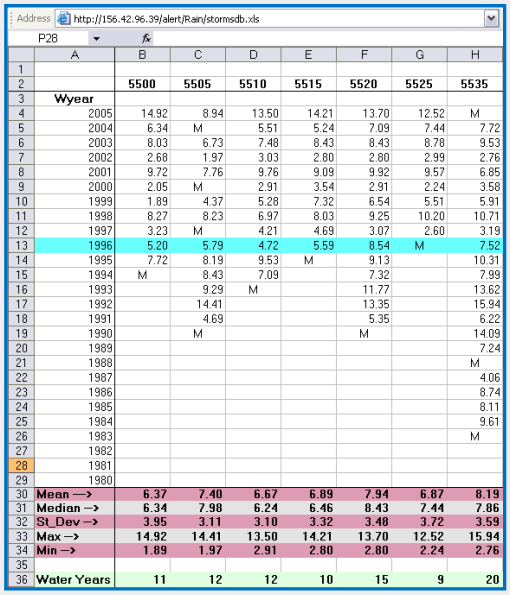
DeviceID	4680	4685	4690	4695	4700	4710	4715	4720
02/28/05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02/27/05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02/26/05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02/25/05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02/24/05	0.16	0.12	0.16	0.12	0.35	0.24	0.24	0.12
02/23/05	0.04	0.04	0.04	0.00	0.16	0.08	0.08	0.12
02/22/05	0.04	0.04	0.04	0.04	0.00	0.00	0.04	0.00
02/21/05	0.24	0.16	0.20	0.12	0.16	0.24	0.08	0.16
02/20/05	0.28	0.24	0.28	0.28	0.35	0.35	0.20	0.35
02/19/05	0.75	0.83	0.83	0.79	0.71	0.75	0.35	0.79
02/18/05	0.35	0.28	0.24	0.51	0.20	0.16	0.20	0.20
02/17/05	0.28	0.16	0.16	0.24	0.20	0.20	0.16	0.20
02/16/05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02/15/05	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00
02/14/05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
02/13/05	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00
02/12/05	0.75	0.39	0.35	0.83	0.35	0.39	0.39	0.39
02/11/05	0.87	1.14	1.02	0.79	0.59	0.59	0.55	0.67
02/10/05	0.08	0.12	0.04	0.04	0.16	0.16	0.12	0.12

Product Name: Spreadsheet – Summary of Severe Rainfall Events at ALERT Stations

Description: This workbook contains a wealth of information about annual and extreme rainfall events at our rain stations. The sheets contain:

- A summary of the most intense storms recorded for selected durations
- History of operation by month
- Annual means and statistics for complete water years
- Plots of period maximums vs. elevation
- Plots of period maximums vs. years of record

This workbook can be located at the bottom of the Rainfall Data page under "Compiled Data Products."



Address http://156.42.96.39/alert/Rain/stormsdb.xls

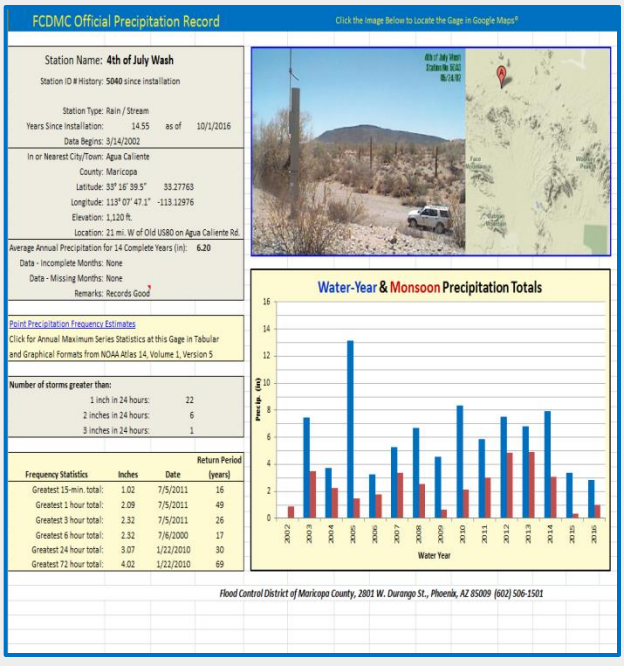
P28

	A	B	C	D	E	F	G	H
1								
2		5500	5505	5510	5515	5520	5525	5535
3	Wyear							
4	2005	14.92	8.94	13.50	14.21	13.70	12.52	M
5	2004	6.34	M	5.51	5.24	7.09	7.44	7.72
6	2003	8.03	6.73	7.48	8.43	8.43	8.78	9.53
7	2002	2.68	1.97	3.03	2.80	2.80	2.99	2.76
8	2001	9.72	7.76	9.76	9.09	9.92	9.57	6.85
9	2000	2.05	M	2.91	3.54	2.91	2.24	3.58
10	1999	1.89	4.37	5.28	7.32	6.54	5.51	5.91
11	1998	8.27	8.23	6.97	8.03	9.25	10.20	10.71
12	1997	3.23	M	4.21	4.69	3.07	2.60	3.19
13	1996	5.20	5.79	4.72	5.59	8.54	M	7.52
14	1995	7.72	8.19	9.53	M	9.13		10.31
15	1994	M	8.43	7.09		7.32		7.99
16	1993		9.29	M		11.77		13.62
17	1992		14.41			13.35		15.94
18	1991		4.69			5.35		6.22
19	1990		M			M		14.09
20	1989							7.24
21	1988							M
22	1987							4.06
23	1986							8.74
24	1985							8.11
25	1984							9.61
26	1983							M
27	1982							
28	1981							
29	1980							
30	Mean -->	6.37	7.40	6.67	6.89	7.94	6.87	8.19
31	Median -->	6.34	7.98	6.24	6.46	8.43	7.44	7.86
32	St_Dev -->	3.95	3.11	3.10	3.32	3.40	3.72	3.59
33	Max -->	14.92	14.41	13.50	14.21	13.70	12.52	15.94
34	Min -->	1.89	1.97	2.91	2.80	2.80	2.24	2.76
35								
36	Water Years	11	12	12	10	15	9	20

Product Name: Rainfall Station Summary

Description: These Spreadsheet files are updated annually for all precipitation stations with at least one complete water-year of record. The documents contain:

- A picture of the station
- A general station location map
- Meta data – date installed, location information, quality of record, period of record maximums
- A bar chart and table of annual rainfall amounts
- Annual tables with all rainfall
- A table and graph of return period values from NOAA Atlas 14 vs. recorded events (for stations with 10 or more complete water years)
- A sheet of daily values and statistics for each water-year
- A sheet explaining downtime
- A sheet showing the maximum recorded amounts for selected time intervals for the entire period of record.



FCDMC Official Precipitation Record

Click the Image Below to Locate the Gage in Google Maps®

Station Name: **4th of July Wash**

Station ID # History: **5040** since installation

Station Type: Rain / Stream

Years Since Installation: 14.55 as of 10/1/2016

Data Begins: 3/14/2002

In or Nearest City/Town: Agua Caliente

County: Maricopa

Latitude: 33° 16' 39.5" 33.27763

Longitude: 113° 07' 47.1" -113.12976

Elevation: 1,120 ft.

Location: 21 mi. W of Old US80 on Agua Caliente Rd.

Average Annual Precipitation for 14 Complete Years (in): **6.20**

Data - Incomplete Months: None

Data - Missing Months: None

Remarks: Records Good

Point Precipitation Frequency Estimates

Click for Annual Maximum Series Statistics at this Gage in Tabular and Graphical Formats from NOAA Atlas 14, Volume 1, Version 5

Number of storms greater than:

1 inch in 24 hours:	22
2 inches in 24 hours:	6
3 inches in 24 hours:	1

Frequency Statistics	Inches	Date	Return Period (years)
Greatest 15-min. total:	1.02	7/5/2011	16
Greatest 1 hour total:	2.09	7/5/2011	49
Greatest 3 hour total:	2.32	7/5/2011	26
Greatest 6 hour total:	2.32	7/6/2000	17
Greatest 24 hour total:	3.07	1/22/2010	30
Greatest 72 hour total:	4.02	1/22/2010	69

Water-Year & Monsoon Precipitation Totals

Precip. (in)

Water Year

Flood Control District of Maricopa County, 2801 W. Durango St., Phoenix, AZ 85009 (602) 506-1501

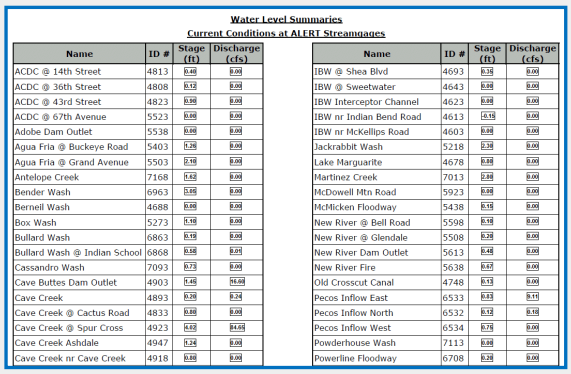
These workbooks are located at the bottom of the Rainfall Data page under "Rainfall History Documents…" all listed in a dropdown menu.

Streamflow and Impoundment Data and Products

Click on a text link to generate or locate the product

Product Name: Streamflow Summary Tables

Description: This table lists the current stage and discharge measured at the water-level stations. All gages are shown but you'll likely need to scroll down to see them all. Go to the Water-level Data page and look for "Quick Water-level Summaries…"and click the link "Gages on Rivers, Streams, Washes, Channels, etc."



Water Level Summaries
Current Conditions at ALERT Streamgages

Name	ID #	Stage (ft)	Discharge (cfs)	Name	ID #	Stage (ft)	Discharge (cfs)
ACDC @ 14th Street	4813	0.48	0.00	IBW @ Shea Blvd	4693	0.36	0.00
ACDC @ 36th Street	4808	0.12	0.00	IBW @ Sweetwater	4643	0.00	0.00
ACDC @ 43rd Street	4823	0.00	0.00	IBW Interceptor Channel	4623	0.00	0.00
ACDC @ 67th Avenue	5523	0.00	0.00	IBW nr Indian Bend Road	4613	-0.10	0.00
Adobe Dam Outlet	5538	0.00	0.00	IBW nr McKellips Road	4603	0.00	0.00
Agua Fria @ Buckeye Road	5403	1.26	0.00	Jackrabbit Wash	5218	2.38	0.00
Agua Fria @ Grand Avenue	5503	2.10	0.00	Lake Marguarite	4678	0.00	0.00
Antelope Creek	7168	1.62	0.00	Martinez Creek	7013	2.00	0.00
Bender Wash	6963	1.05	0.00	McDowell Mtn Road	5923	0.00	0.00
Berneil Wash	4688	0.00	0.00	McMicken Floodway	5438	0.15	0.00
Box Wash	5273	1.10	0.00	New River @ Bell Road	5598	0.19	0.00
Bullard Wash	6863	0.15	0.00	New River @ Glendale	5508	0.28	0.00
Bullard Wash @ Indian School	6868	0.08	0.01	New River Dam Outlet	5613	0.48	0.00
Cassandro Wash	7093	0.73	0.00	New River Fire	5638	0.67	0.00
Cave Buttes Dam Outlet	4903	1.48	16.00	Old Crosscut Canal	4748	0.13	0.00
Cave Creek	4893	0.20	0.24	Pecos Inflow East	6533	0.83	0.11
Cave Creek @ Cactus Road	4833	0.80	0.00	Pecos Inflow North	6532	0.12	0.10
Cave Creek @ Spur Cross	4923	4.02	84.00	Pecos Inflow West	6534	0.76	0.00
Cave Creek Ashdale	4947	1.24	0.00	Powderhouse Wash	7113	0.00	0.00
Cave Creek nr Cave Creek	4918	0.80	0.00	Powerline Floodway	6708	0.28	0.00

Product Name: Impoundment Summary Tables

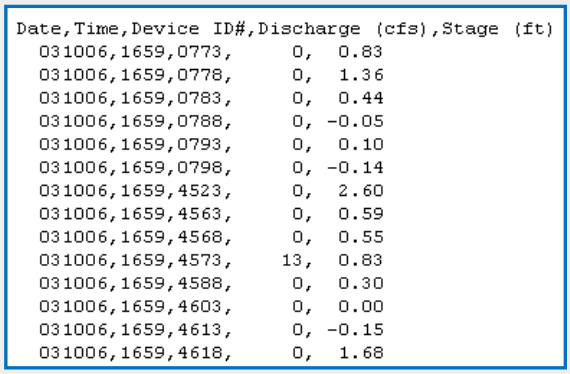
Description: This table lists the current stage, storage, percent filled and discharge at dams and basins. Go to the Water-level Data page under "Quick Water-level Summaries…" and click the link "Gages on Dams, Flood Retarding Structures and Basins."

Water Level Summaries
Current Conditions at Impoundment Gages

Name	ID #	Base Stage (ft)	Current Stage (ft)	Storage (ac-ft)	Percent of Spillway Capacity	Discharge (cfs)
Adobe Dam Pool	5539	2.85	2.85	0.0	0	0
Apache Junction FRS	6673	0.13	0.17	0.0	0	0
Aspen Dam	5988	0.24	0.29	0.0	0	2
Buckeye FRS #1	5203	-2.30	1.41	48.0	0	0
Buckeye FRS #2	5208	-1.39	-1.20	0.0	0	2
Buckeye FRS #3	6813	-4.08	-4.04	0.0	0	0
Casandro Dam	7133	0.34	0.23	0.0	0	0
Cave Buttes Dam Pool	4904	1.90	1.90	0.0	0	0
Crossroads Park	6623	1.38	1.38	10.5	0	N/A
Dreamy Draw Dam	4803	0.12	0.12	0.0	0	0

Product Name: Current Stage and Discharge values

Description: This table lists the current stage and discharge values at all stream and impoundment gages. It is generated every 15 minutes, and is comma-delimited for easy import to spreadsheet or database programs. It is located in the "Custom Reports, Maps & Plans" section.



```
Date,Time,Device ID#,Discharge (cfs),Stage (ft)
  031006,1659,0773,      0,   0.83
  031006,1659,0778,      0,   1.36
  031006,1659,0783,      0,   0.44
  031006,1659,0788,      0,  -0.05
  031006,1659,0793,      0,   0.10
  031006,1659,0798,      0,  -0.14
  031006,1659,4523,      0,   2.60
  031006,1659,4563,      0,   0.59
  031006,1659,4568,      0,   0.55
  031006,1659,4573,     13,   0.83
  031006,1659,4588,      0,   0.30
  031006,1659,4603,      0,   0.00
  031006,1659,4613,      0,  -0.15
  031006,1659,4618,      0,   1.68
```

Product Name: Daily Water-Level Report

Description: This table lists the current stage, storage, discharge, capacity and percent filled at all streamflow and impoundment gages. Also included are the peak stage and discharge values in the past 24 hours. The product is generated daily at 7:10 AM.

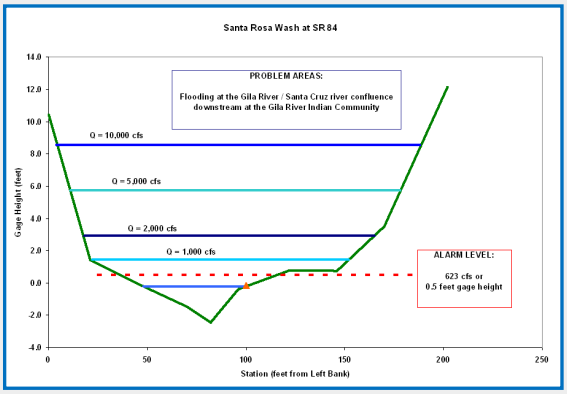
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
Daily Surface Water Report
03/10/06 0700

Gage Name	CURRENT Gage Ht. Ft.	Disch. cfs	Contents Ac.Ft.	Capacity Ac.Ft.	full	PEAK Gage Ht. Ft.	Disch. cfs	Time MST
4th of July Wash	0.00	0				0.00	0	0255
10 St.Wash Basin #1	0.30	0	0	21.6	0	0.30	0	0508
ACDC @ 36th St.	0.25	1				0.32	2	0716
ACDC @ 14th St.	0.40	0				0.40	0	0133
ACDC @ 43rd Ave.	0.90	0				0.90	0	0223
ACDC @ 67th Ave.	0.00	0				0.00	0	0645
Adobe Dam Outlet	0.05	0				0.05	0	0322
Adobe Dam Pool	3.20	0	0	18775	0	3.31	164	1200
Agua Fria @ Grand	1.84	0				1.84	0	0617
Agua Fria @ Buckeye	1.26	0				1.26	0	0639
Antelope Creek	1.62	0				1.62	0	0325
Apache Jct. FRS	0.13	0	0	530	0	0.13	0	0620
Aspen Dam	0.29	2	0	183	0	0.29	2	0207
Bender Wash	3.05	0				3.08	0	1445

Product Name: Summary Statistics and Complete Records for Each Water-level Station

Description: These pages are updated annually for all water-level stations. The pages contain:

- A picture(s) of the station
- A general station location map
- Meta data – date installed, location information, quality of record, sensor elevations
- Station rating curve(s) and table(s)
- A table of water-year peaks
- A runoff or impoundment event history
- A gage cross-section
- Staff and crest gage information
- Flood flow frequency and watershed maps at selected stations



Go to the Water-level Data page and look for "Summary Statistics and Complete Records for each Water-level Station." Then select a station from the dropdown menu.

FLOOD FLOW FREQUENCY

Flood Flow Frequency

(based on HECWRC implementation of Bulletin 17B, n = 14)
NOTE: Flood Frequency data are provided for information only, and should not be considered for regulatory purposes

Magnitude and Probability of Instantaneous Peak Flow

Discharge, in cfs, for Indicated Recurrence Interval

2-year	5-year	10-year	20-year	50-year	100-year
421	1,740	3,510	6,180	11,400	17,000

Weather Station Data and Products

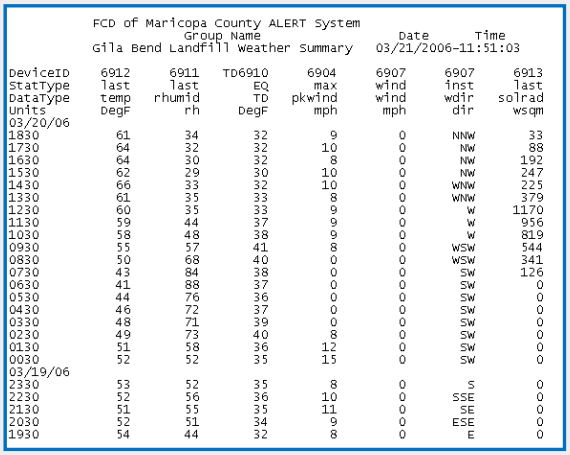
Click on a text link to generate or locate the product

Weather Data Types:

Data Type	Abbreviation	Units	Rated Units	Sampled	Frequency
Temperature (air)	temp, T	degrees F	degrees C	10-13 ft. agl	15 min.
Relative Humidity	Rhumid, RH	%	none	10-13 ft. agl	15 min.
Dewpoint	TD	degrees F	none	10-13 ft. agl	Calc'd. 15 min.
Peak Wind	pkwind	mph	none	10-13 ft. agl	15 min.
Average Wind Speed	wind	mph	none	10-13 ft. agl	15 min.
Wind Direction	wdir	0-359 degrees	none	10-13 ft. agl	15 min.
Barometric Pressure	baropr, BP	millibars	inches Hg	6-8 ft. agl	30 min.
Solar Radiation	solrad	watts/sq. meter	none	10-13 ft. agl	30 min.
Evapotranspiration	ETO	inches	none	varies	Calc'd. hourly

Product Name: Weather Station Statistical Reports

Description: This tool will generate a statistics table based on input to a form. The user can select the station, end date/time of the display period, report period length and the number of reports to display. The values reported will be the most recent recorded prior to the reported time(s).



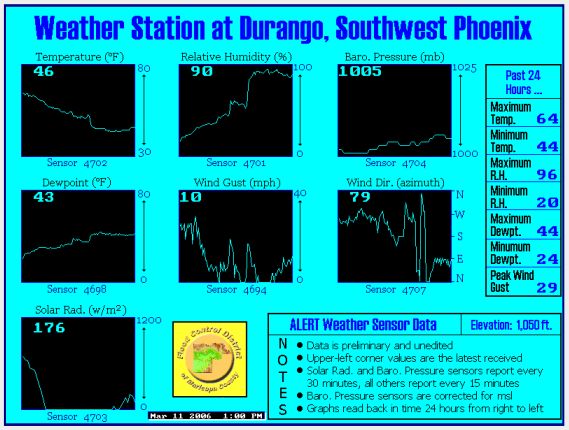
FCD of Maricopa County ALERT System

Group Name: Gila Bend Landfill Weather Summary — Date: 03/21/2006 — Time: 11:51:03

DeviceID	6912	6911	TD6910	6904	6907	6907	6913
StatType	last	last	EQ	max	wind	inst	last
DataType	temp	rhumid	TD	pkwind	wind	wdir	solrad
Units	DegF	rh	DegF	mph	mph	dir	wsqm
03/20/06							
1830	61	34	32	9	0	NNW	33
1730	64	32	32	10	0	NW	88
1630	64	30	32	8	0	NW	192
1530	62	29	30	10	0	NW	247
1430	66	33	32	10	0	WNW	225
1330	61	35	33	8	0	WNW	379
1230	60	35	33	9	0	W	1170
1130	59	44	37	9	0	W	956
1030	58	48	38	9	0	W	819
0930	55	57	41	8	0	WSW	544
0830	50	68	40	0	0	WSW	341
0730	43	84	38	0	0	SW	126
0630	41	88	37	0	0	SW	0
0530	44	76	36	0	0	SW	0
0430	46	72	37	0	0	SW	0
0330	48	71	39	0	0	SW	0
0230	49	73	40	8	0	SW	0
0130	51	58	36	12	0	SW	0
0030	52	52	35	15	0	SW	0
03/19/06							
2330	53	52	35	8	0	S	0
2230	52	56	36	10	0	SSE	0
2130	51	55	35	11	0	SE	0
2030	52	51	34	9	0	ESE	0
1930	54	44	32	8	0	E	0

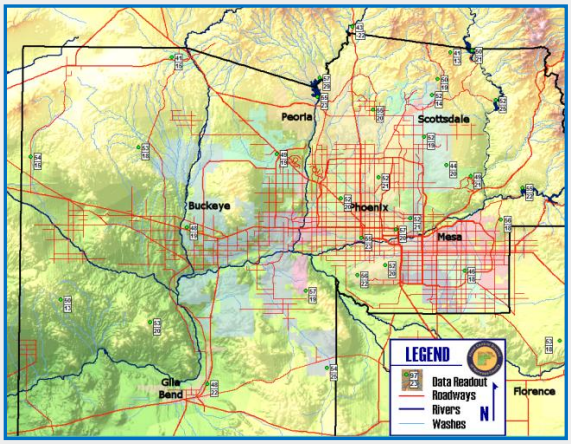
Product Name: Trend Charts

Description: These charts are selected from a map, and show the past 24 hours of real-time data. Current values appear in the upper-left corners of the charts. 24-hour statistics are given in the column at right.



Product Name: Quick Weather Sensor Readout Maps

Description: These maps show the current readings from weather sensors of the same type. Choose from (air) Temperature & Dewpoint, Wind Gusts & Direction, (barometric) Pressure and Solar Radiation, or Relative Humidity. Go to the Weather Sensor Data page and look for "Quick Weather Maps".



Product Name: Daily High/Low Statistics

Description: This table lists, by station for the past 24-hours, the:

- Maximum and Minimum temperature
- Maximum and Minimum humidity
- Maximum and Minimum Dewpoint
- Peak wind gust

Station names, locations and elevations are listed along with the time that the report was compiled. The table is generated every 30 minutes.

Flood Control District Weather Station Statistics - Past 24 Hours

Station Name	Max Temp (F)	Min Temp (F)	Max RH (%)	Min RH (%)	Dewpoint (F,max)	Dewpoint (F,min)	Peak Wind (mph)
Bartlett Lake Station - North of Scottsdale, el. 1,670 ft							
1day at 08:57:09 03/22/06	61	39	96	40	49	34	34
Carefree Ranch Station - North Scottsdale, el. 2,960 ft							
1day at 08:57:09 03/22/06	55	35	100	48	49	24	21
Crossroads Park Station - in Gilbert near Ray and Greenfield, el. 1,270 ft							
1day at 08:57:10 03/22/06	67	39	91	32	48	30	28
Durango Complex Station - 27th Ave. & Durango in Phoenix, el. 1,050 ft							
1day at 08:57:10 03/22/06	65	41	84	30	48	30	26

Product Name: Evapotranspiration Index

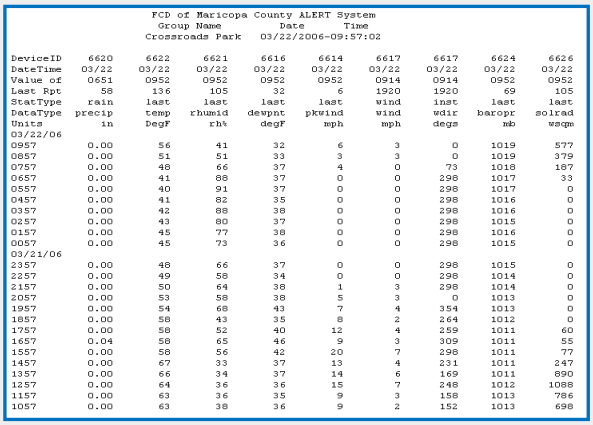
Description: Evapotranspiration is calculated hourly for six of our stations. The table lists 24 one-hour periods and sums the periods at the bottom. ETO is calculated from solar radiation, humidity temperature, barometric pressure and wind run using the Penmann equation. Locations and elevations of the stations are listed at the bottom of the table.

FCD of Maricopa County ALERT System
Date Time
03/22/2006-09:59:06

DeviceID	ETO4700	ETO6620	ETO6890	ETO6650	ETO4930	ETO5700
StatType	EQ	EQ	EQ	EQ	EQ	EQ
DataType	ETO	ETO	ETO	ETO	ETO	ETO
Units	in	in	in	in	in	in
03/22/06						
0959	0.017	0.021	0.019	0.022	0.021	0.015
0859	0.015	0.013	0.010	0.017	0.015	0.011
0759	0.006	0.006	0.009	0.007	0.007	0.001
0659	0.001	0.001	0.001	0.000	0.001	0.000
0559	0.001	0.000	0.000	0.000	0.001	0.000
0459	0.001	0.000	0.000	0.001	0.001	0.000
0359	0.001	0.000	0.001	0.000	0.001	0.000
0259	0.001	0.000	0.001	0.001	0.000	0.000
0159	0.001	0.001	0.001	0.001	0.001	0.000
0059	0.002	0.001	0.001	0.001	0.001	0.000
03/21/06						
2359	0.001	0.001	0.002	0.001	0.001	0.000
2259	0.002	0.001	0.002	0.000	0.001	0.000
2159	0.002	0.001	0.003	0.000	0.002	0.000
2059	0.002	0.002	0.003	0.001	0.002	0.000
1959	0.002	0.001	0.003	0.000	0.002	0.000
1859	0.002	0.003	0.003	0.000	0.002	0.000

Product Name: Hourly Weather Sensor Readings

Description: This file contains a listing of hourly values for each sensor by station. It is generated every 30 minutes and covers the previous 24 hours. The values are the latest received prior to the listed times, except for rainfall, which is the accumulation between times. Only full weather stations are listed.

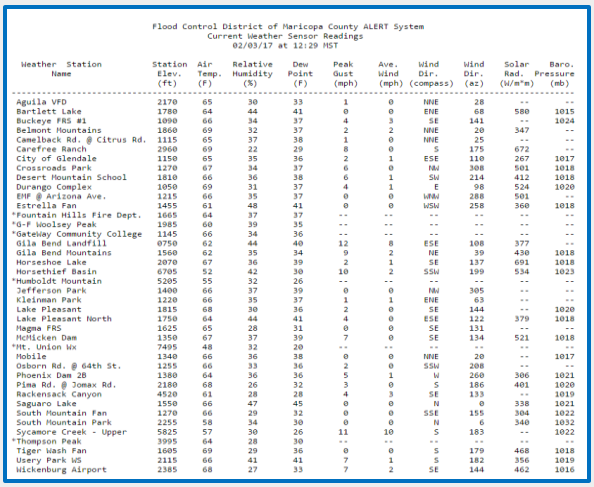


FCD of Maricopa County ALERT System
Group Name Date Time
Crossroads Park 03/22/2006-09:57:02

DeviceID	6620	6622	6621	6616	6614	6617	6617	6624	6626
DateTime	03/22	03/22	03/22	03/22	03/22	03/22	03/22	03/22	03/22
Value of	0651	0952	0952	0952	0952	0914	0914	0952	0952
Last Rpt	58	136	105	32	6	1920	1920	69	105
StatType	rain	last	last	last	last	wind	inst	last	last
DataType	precip	temp	rhumid	dewpnt	pkwind	wind	wdir	barcpr	solrad
Units	in	DegF	rh%	degF	mph	mph	degs	mb	wsqm
03/22/06									
0957	0.00	56	41	32	6	3	0	1019	577
0857	0.00	51	51	33	3	3	0	1019	379
0757	0.00	48	66	37	4	0	73	1018	187
0657	0.00	41	88	37	0	0	298	1017	33
0557	0.00	40	91	37	0	0	298	1017	0
0457	0.00	41	82	35	0	0	298	1016	0
0357	0.00	42	88	38	0	0	298	1016	0
0257	0.00	43	80	37	0	0	298	1015	0
0157	0.00	45	77	38	0	0	298	1016	0
0057	0.00	45	73	36	0	0	298	1015	0
03/21/06									
2357	0.00	48	66	37	0	0	298	1015	0
2257	0.00	49	58	34	0	0	298	1014	0
2157	0.00	50	64	38	1	3	298	1014	0
2057	0.00	53	58	38	5	3	0	1013	0
1957	0.00	54	68	43	7	4	354	1013	0
1857	0.00	58	43	35	8	2	264	1012	0
1757	0.00	58	52	40	12	4	259	1011	60
1657	0.04	58	65	46	9	3	309	1011	55
1557	0.00	58	56	42	20	7	298	1011	77
1457	0.00	67	33	37	13	4	231	1011	247
1357	0.00	66	34	37	14	6	169	1011	890
1257	0.00	64	36	36	15	7	248	1012	1088
1157	0.00	63	36	35	9	3	158	1013	786
1057	0.00	63	38	36	9	2	152	1013	698

Product Name: Latest Weather Sensor Readings

Description: This text matrix contains a listing of station names and elevations down the side and sensor types across the top. The most recent data value for each sensor is displayed. Dashes appear if data is more than an hour old, or if the sensor is not installed at a station. Some data notes are included. The table is generated every 15 minutes. It is produced in two versions – sorted Alphabetically by Station Name and sorted by Station Elevation.



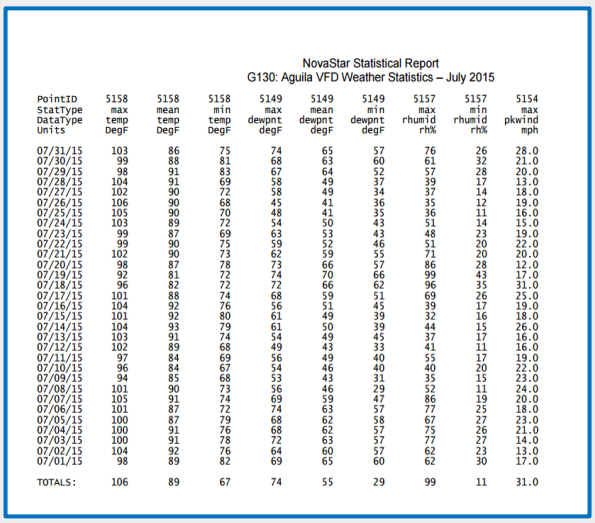
Flood Control District of Maricopa County ALERT System
Current Weather Sensor Readings
02/03/17 at 12:29 MST

Weather Station Name	Station Elev. (ft)	Air Temp. (F)	Relative Humidity (%)	Dew Point (F)	Peak Gust (mph)	Ave. Wind (mph)	Wind Dir. (compass)	Wind Dir. (az)	Solar Rad. (W/m^2)	Baro. Pressure (mb)
Aguila VFD	2170	65	30	33	1	0	NNE	28	--	--
Bartlett Lake	1780	64	44	41	0	0	ENE	68	580	1015
Buckeye FRS #1	1090	66	34	37	4	3	SE	141	--	1024
Belmont Mountains	1860	69	32	37	2	2	NNE	20	347	--
Camelback Rd. @ Citrus Rd.	1115	65	37	38	1	0	NNE	25	--	--
Carefree Ranch	2960	69	22	29	8	0	S	175	672	--
City of Glendale	1150	65	35	36	2	1	ESE	110	267	1017
Crossroads Park	1270	67	34	37	6	0	NW	308	501	1018
Desert Mountain School	1810	66	36	38	6	1	SW	214	412	1018
Durango Complex	1050	69	31	37	4	1	E	98	524	1020
EMF @ Arizona Ave.	1215	66	35	37	0	0	WNW	288	501	--
Estrella Fan	1455	61	48	41	0	0	WSW	258	360	1018
*Fountain Hills Fire Dept.	1665	64	37	37	--	--	--	--	--	--
*G-F Woolsey Peak	1985	60	39	35	--	--	--	--	--	--
*Gateway Community College	1145	66	34	36	--	--	--	--	--	--
Gila Bend Landfill	0750	62	44	40	12	8	ESE	108	377	--
Gila Bend Mountains	1560	62	35	34	9	2	NE	39	430	1018
Horseshoe Lake	2070	67	36	39	2	1	SE	137	691	1018
Horsethief Basin	6705	52	42	30	10	2	SSW	199	534	1023
*Humboldt Mountain	5205	55	32	26	--	--	--	--	--	--
Jefferson Park	1400	66	37	39	0	0	NW	305	--	--
Kleinman Park	1220	66	35	37	1	1	ENE	63	--	--
Lake Pleasant	1815	68	30	36	2	0	SE	144	--	1020
Lake Pleasant North	1750	64	44	41	4	0	ESE	122	379	1018
Magma FRS	1625	65	28	31	0	0	SSE	131	--	--
McMicken Dam	1350	67	37	39	7	0	SE	134	521	1018
*Mt. Union Wx	7405	48	32	20	--	--	--	--	--	--
Mobile	1340	66	36	38	0	0	NNE	20	--	1017
Osborn Rd. @ 64th St.	1255	66	33	36	2	0	SSW	208	--	--
Phoenix Dam 2B	1380	64	36	36	5	1	W	260	306	1021
Pima Rd. @ Jomax Rd.	2180	68	26	32	3	0	S	186	401	1020
Rackensack Canyon	4520	61	28	28	4	3	SE	133	--	1019
Saguaro Lake	1550	66	47	45	0	0	N	0	338	1021
South Mountain Fan	1270	66	29	32	0	0	SSE	155	304	1022
South Mountain Park	2255	58	34	30	0	0	N	6	340	1032
Sycamore Creek - Upper	5825	57	30	26	11	10	S	183	--	1022
*Thompson Peak	3905	64	28	30	--	--	--	--	--	--
Tiger Wash Fan	1605	69	29	36	0	0	S	179	468	1018
Usery Park WS	2115	66	41	41	7	1	S	182	356	1019
Wickenburg Airport	2385	68	27	33	7	2	SE	144	462	1016

Product Name: Daily Weather Sensor Statistics by Month

Description: These reports list daily weather sensor statistics for each station by month, and are available back to October 2009. Max/Mean/Min temperature, Max/Mean/Min dewpoint, Max/Min humidity, Max peak wind, Max/Min pressure and Max solar radiation are compiled for each day of the month. Data is quality checked before the reports are produced, and footnotes are added to explain missing or questionable data.

To view the file, go to the Weather Sensor Data page and look near the bottom for the product name. Then choose a month from the dropdown menu.



NovaStar Statistical Report
G130: Aguila VFD Weather Statistics – July 2015

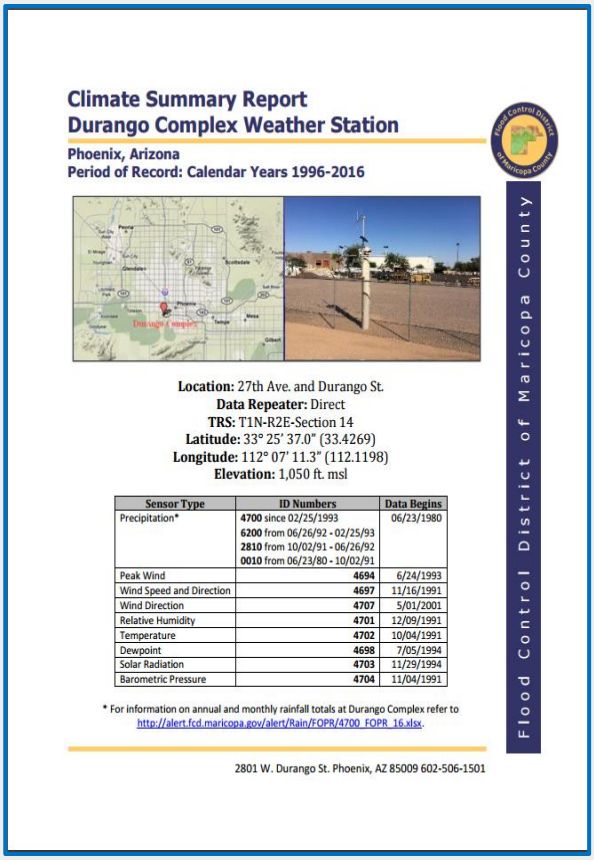
PointID	5158	5158	5158	5149	5149	5149	5157	5157	5154
StatType	max	mean	min	max	mean	min	max	min	max
DataType	temp	temp	temp	dewpnt	dewpnt	dewpnt	rhumid	rhumid	pkwind
Units	DegF	DegF	DegF	degF	degF	degF	rh%	rh%	mph
07/31/15	103	86	75	74	65	57	76	26	28.0
07/30/15	99	88	81	68	63	60	61	32	21.0
07/29/15	98	91	83	67	64	52	57	28	20.0
07/28/15	104	91	69	58	49	37	39	17	13.0
07/27/15	102	90	72	58	49	34	37	14	18.0
07/26/15	106	90	68	45	41	36	35	12	19.0
07/25/15	105	90	70	48	41	35	36	11	16.0
07/24/15	103	89	72	54	50	43	53	14	15.0
07/23/15	99	87	69	63	53	43	48	23	19.0
07/22/15	99	90	75	59	52	46	51	20	22.0
07/21/15	102	90	73	62	59	55	71	20	20.0
07/20/15	98	87	78	73	66	57	86	28	12.0
07/19/15	92	81	72	74	70	66	99	43	17.0
07/18/15	96	82	72	72	66	62	96	35	31.0
07/17/15	101	88	74	68	59	51	69	26	25.0
07/16/15	104	92	76	56	51	45	59	17	19.0
07/15/15	101	92	80	61	49	39	32	16	18.0
07/14/15	104	93	79	61	50	39	44	15	26.0
07/13/15	103	91	74	54	49	45	37	17	16.0
07/12/15	102	89	68	49	43	33	41	11	16.0
07/11/15	97	84	69	56	49	40	55	17	19.0
07/10/15	96	84	67	54	46	40	40	20	22.0
07/09/15	94	85	68	53	43	31	35	15	23.0
07/08/15	101	90	73	56	46	29	52	11	24.0
07/07/15	105	91	74	69	59	47	86	19	20.0
07/06/15	101	87	72	74	63	57	77	25	18.0
07/05/15	100	87	79	68	62	58	67	27	23.0
07/04/15	100	91	76	68	62	57	75	26	21.0
07/03/15	100	91	78	72	63	57	77	27	14.0
07/02/15	104	92	76	64	60	57	62	23	13.0
07/01/15	98	89	82	69	65	60	62	30	17.0
TOTALS:	106	89	67	74	55	29	99	11	31.0

Product Name: Weather Station Climate Summaries

Description: These PDF files are updated annually for all weather stations with 10 or more years of record. The documents contain:

- A general station location map
- A picture of the station
- Meta data – location and sensor information
- All – Time Records tables
- Bar chart of Annual Temperature Statistics
- Annual Statistics tables include max/mean/min temp, peak wind, average wind and max dewpoint (all that are applicable to station)
- Monthly Statistics for All Years- tables include max/mean/min temp, peak wind (all that are applicable to station)

Go to the Weather Sensor Data page and look for "Climate Summaries at Selected Weather Stations" near the bottom of the page. Then choose a station from the dropdown menu.



Climate Summary Report
Durango Complex Weather Station

Phoenix, Arizona
Period of Record: Calendar Years 1996-2016

Flood Control District of Maricopa County

Location: 27th Ave. and Durango St.
Data Repeater: Direct
TRS: T1N-R2E-Section 14
Latitude: 33° 25' 37.0" (33.4269)
Longitude: 112° 07' 11.3" (112.1198)
Elevation: 1,050 ft. msl

Sensor Type	ID Numbers	Data Begins
Precipitation*	**4700** since 02/25/1993 **6200** from 06/26/92 - 02/25/93 **2810** from 10/02/91 - 06/26/92 **0010** from 06/23/80 - 10/02/91	06/23/1980
Peak Wind	**4694**	6/24/1993
Wind Speed and Direction	**4697**	11/16/1991
Wind Direction	**4707**	5/01/2001
Relative Humidity	**4701**	12/09/1991
Temperature	**4702**	10/04/1991
Dewpoint	**4698**	7/05/1994
Solar Radiation	**4703**	11/29/1994
Barometric Pressure	**4704**	11/04/1991

* For information on annual and monthly rainfall totals at Durango Complex refer to http://alert.fcd.maricopa.gov/alert/Rain/FQPR/4700_FQPR_16.xlsx.

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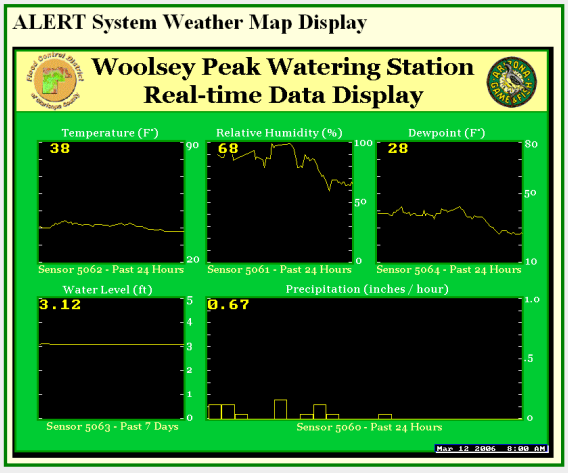
Product Name: Historic Trend Charts

Description: The Quick Weather Maps and Trend Charts were designed to show real-time data, but you can use this form to generate a historic map or chart. Simply select the map or chart you want, enter the ending date/time according to the format shown, and click on "Display". Trends will show back in time from the date/time shown in the timestamp box.

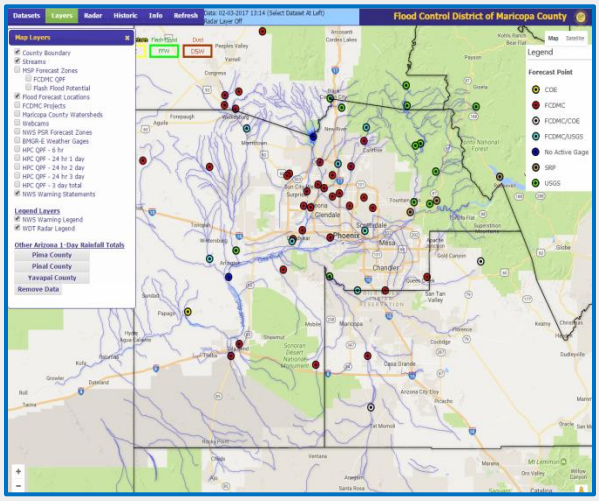


Custom Products and Reports

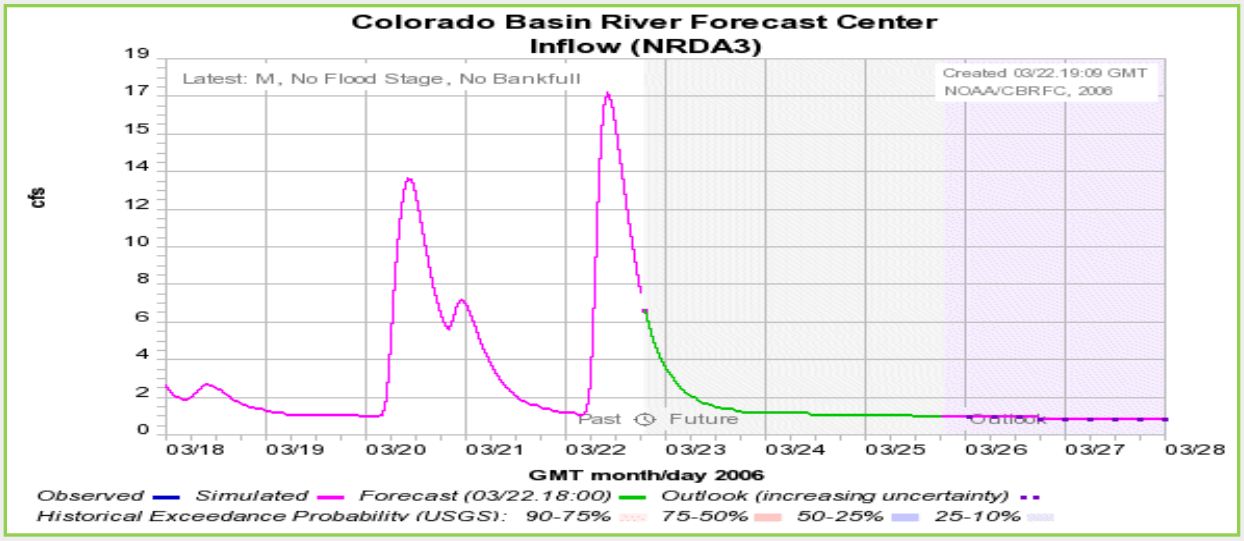
Click on a text link to generate or locate the product

These custom products and reports are produced for use by response agencies, and as such may be of limited use for general or educational purposes.

Product Name: Discharge / Storage Forecast Locations



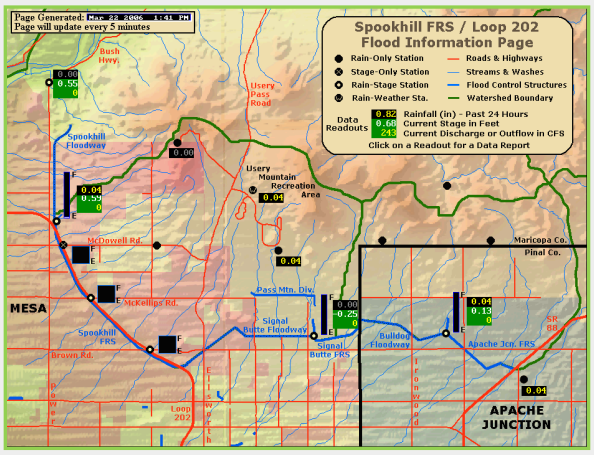
Description: This interactive map shows approximately 50 flood forecast points in and around Maricopa County. Clicking on a point will call a forecast package from the National Weather Service's Colorado Basin River Forecast Center. For streams, a plot of recorded data is shown up to the current time, followed by a forecast plot out several days. Current stage, flood stage, and bankfull stage are also shown. For dams, plots are presented showing past and future inflow, outflow and storage.

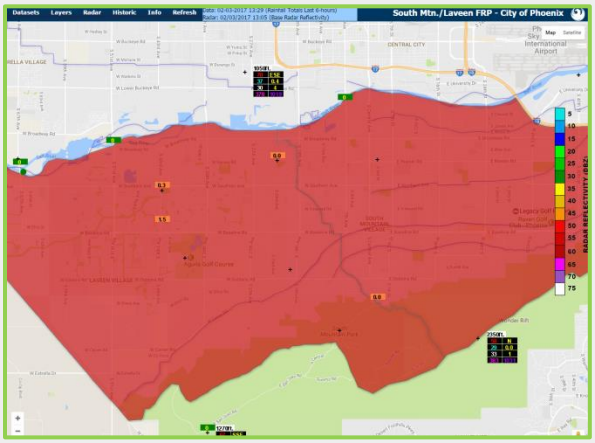


Product Name: Online Flood Response Plans

Description: These are interactive data maps for areas in the County with active flood response plans. Many of the maps contain warning criteria and indicators for alarms. Plans exist for:

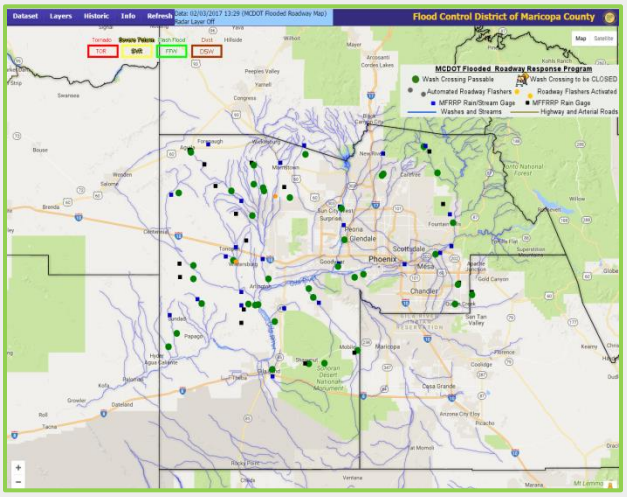
- Aguila
- Bullard Wash
- Cave Creek
- Fountain Hills
- Indian Bend Wash
- Peoria
- Phoenix Dams
- South Phoenix/Laveen
- Skunk Creek / New River
- Spookhill FRS / Loop 202
- Sunflower Fire/Upper Sycamore Creek
- Thunderbird Paseo Park – Glendale
- Wickenburg





Product Name: MCDOT Flooded Roadway Info. Map

Description: This interactive map serves as a primary information source for MCDOT's Flooded Roadway Response Program. Green dots indicate that a road is passable – red dots mean the road should be closed. Real-time data can be viewed by clicking on a site location (magenta dots). The map will refresh itself every 5 minutes when kept in an active window.



Publications – Annual and Storm Reports

Click on a text link to locate the product

Product Name: Annual Reports

Description: Our Annual Hydrologic Data Report is divided into three volumes: Precipitation Data (I), Streamflow/Storage Data (II) and Weather Data (III). Each volume contains summarized statistics for one water-year (Oct.1st – Sep. 30th). Volume I is available back to water-year 1992, Volume II to 1994 and Volume III to 1996. Each volume contains data for all FCD ALERT sensors installed in or previous to that year, plus footnotes that document the times and reasons that sensors are inoperative.

ANNUAL HYDROLOGIC
DATA REPORT
VOLUME I: PRECIPITATION
WATER-YEAR 2016

Product Name: Storm Reports

Description: Our Storm Reports document significant storms that have occurred in Maricopa County since 1988. They vary in content and detail according to the impact of the storm, but most contain sections on meteorology, rainfall, runoff, damage and losses, and ALERT System performance. Most are available as PDF files, but a few are in HTML.

Aerial view of Casandro Wash Dam near its peak impoundment at approximately 7:15 pm; Courtesy of ABC15 News

Flood Control District of Maricopa County

Engineering Division, Flood Warning Branch

Storm Report : July 18, 2015
Vicinity of Wickenburg, AZ

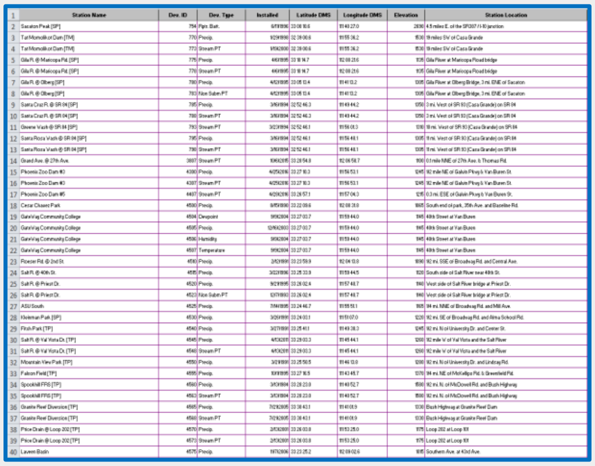
Revision 1 - Sep. 4, 2015

- Revised the discharge hydrograph for Hassayampa River at I-10 (#5283)
- Added Figure 34 - Where Did All The Wickenburg Water Go?
- Added Appendix A - Indirect Flood Discharge Measurement for Cemetery Wash

Station Description Files

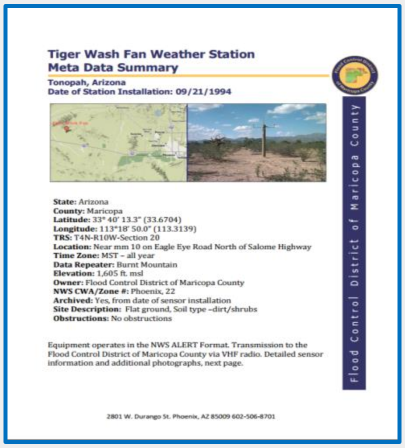
Click on a text link to generate or locate the product

Product Name: All Sensor Reports



Description: These tables present the meta data, or "data about data" for all of our ALERT sensors. Meta data are descriptors like name, ID number, date installed, latitude and longitude, jurisdiction and general location descriptions. The lists are arranged by sensor type, and are sorted by name, ID number, or by the city / jurisdiction in which they reside. The tables are in spreadsheet form for easy download. The can be found on the "Station Meta Data" page accessed via the above link.

Product Name: Weather Station Meta Data Sheets



Tiger Wash Fan Weather Station Meta Data Summary

Tonopah, Arizona
Date of Station Installation: 09/21/1994

State: Arizona
County: Maricopa
Latitude: 33° 40' 13.3" (33.6704)
Longitude: 113°18' 50.0" (113.3139)
TRS: T4N-R10W-Section 20
Location: Near mm 10 on Eagle Eye Road North of Salome Highway
Time Zone: MST – all year
Data Repeater: Burnt Mountain
Elevation: 1,605 ft. msl
Owner: Flood Control District of Maricopa County
NWS CWA/Zone #: Phoenix, 22
Archived: Yes, from date of sensor installation
Site Description: Flat ground, Soil type –dirt/shrubs
Obstructions: No obstructions

Equipment operates in the NWS ALERT Format. Transmission to the Flood Control District of Maricopa County via VHF radio. Detailed sensor information and additional photographs, next page.

Flood Control District of Maricopa County

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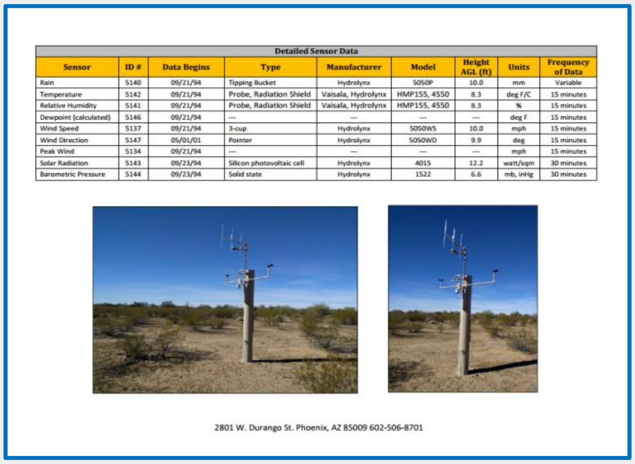
Description: These PDFs present detailed meta data, or "data about data" for all of our ALERT weather stations. The files include location information, dates that the different sensors were installed, heights above ground level for all sensors, sensor types and manufacturers and photos of the station and of the ground surface in four directions. The link above will Transport you to FCD's "Station Meta Data" page where you will find a dropdown menu under the product name. Click on a station to view the report.



Detailed Sensor Data

Sensor	ID #	Data Begins	Type	Manufacturer	Model	Height AGL (ft)	Units	Frequency of Data
Rain	5140	09/21/94	Tipping Bucket	Hydrolynx	5050P	10.0	mm	Variable
Temperature	5142	09/21/94	Probe, Radiation Shield	Vaisala, Hydrolynx	HMP155, 4550	8.3	deg F/C	15 minutes
Relative Humidity	5141	09/21/94	Probe, Radiation Shield	Vaisala, Hydrolynx	HMP155, 4550	8.3	%	15 minutes
Dewpoint (calculated)	5146	09/21/94	---	---	---	---	deg F	15 minutes
Wind Speed	5137	09/21/94	3-cup	Hydrolynx	5050WS	10.0	mph	15 minutes
Wind Direction	5147	05/01/01	Pointer	Hydrolynx	5050WD	9.9	deg	15 minutes
Peak Wind	5134	09/21/94	---	---	---	---	mph	15 minutes
Solar Radiation	5143	09/23/94	Silicon photovoltaic cell	Hydrolynx	4015	12.2	watt/sqm	30 minutes
Barometric Pressure	5144	09/23/94	Solid state	Hydrolynx	1522	6.6	mb, inHg	30 minutes

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Data and Product Disclaimer

Our ALERT web server (alert.fcd.maricopa.gov) maintains a current database of hydrological and meteorological real-time and historic data. Tabular and graphical products may be produced from this data. This information may not be modified in content by any private or public party. This server is available 24 hours a day, 7 days a week, but timely delivery of data and products from this server through the Internet is not guaranteed.

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Carriage Lane Park Rain Station, Mesa

Glossary of Terms Used In This Catalog

The terms presented in this glossary are defined based on their use in this document or on our web site. They may have different meanings in different contexts or when used by other agencies.

Acre-foot	The volume of water necessary to cover an acre of land to a depth of one foot. It equals 43,560 cubic feet or 325,851 gallons.
Agency Users	Users employed by federal, state or local government agencies who generally have some technical knowledge in the fields of hydrology or meteorology.
Alarm	Criteria can be set in the ALERT computer to notify operators when a particular threshold has been reached, such as a rainfall rate or water elevation. When the threshold is reached, the computer executes an *alarm* action. This may be a flashing box on the computer screen, turning on a light on a map, or a text message sent to a pager.
ALERT	An acronym for Automated Local Evaluation in Real Time. ALERT was developed in the late 1970s as a format for data transmission and for the manufacture of compatible hardware and software. ALERT systems are used primarily as flood warning systems, but provide useful data for many other applications.
ALERT Database	The ALERT database is a collection of 10 files stored on two of the ALERT computers. The files contain the actual ALERT data, plus indexes, calibrations, tables, alarms, alarm settings, headers and sensor types. It is often referred to as the "live" database to distinguish it from archived data.
Archive Files	Archive files contain ALERT data and calibrations separate from the live database. Each file contains the data for one sensor for a one-month period of time.
Average Wind Speed	ALERT wind sensors sample the wind run past the station for a length of 15 minutes. The average wind speed is calculated knowing the length of wind (wind run) that travelled past the instrument in that time. Instantaneous wind speed may vary considerably during the time that the average wind speed is measured.
Bankfull Stage	The point at which the water level in a stream overtops the banks and spreads out onto the floodplain.

Barometric Pressure	The pressure exerted by a column of air from the sensor to the top of the atmosphere. It is most commonly measured in millibars or inches of mercury (Hg).
Capacity	The volume of water stored by a dam at the emergency spillway elevation, usually expressed in acre-feet. It differs from storage, which is the volume of water stored at any specific elevation.
Crest Gage	A gage that measures the peak stage of a rising stream or impoundment. Our crest gages consist of a length of 2" galvanized pipe with a wooden stick inside. The bottom of the pipe is perforated to allow water inside. As water enters and rises, it carries with it powdered cork which adheres to the stick at the highest point. At a later time the cork level on the stick is measured and compared with the fixed datum in order to calculate the peak stage.
Dam vs. Basin	A dam and a basin serve the same function – to store floodwater and release it at a non-hazardous rate. Basins use engineered banks to confine the floodwater, while dams use the natural contour of the land. Basins may drain by gravity or by pumping.
Data – Historic	Historic data is generally more than 30 days old and has been quality checked. It may exist in the live ALERT database or in archive files.
Data – Real-time	Real-time data is generally less than 30 days old and has not been quality checked. It exists only in the live ALERT database.
Data vs. Product	Data are the actual reports from the ALERT sensors and their translation to engineering units, that are stacked in descending order in the ALERT database. Products are maps, tables, graphs, reports, etc. created using the ALERT data.
Dewpoint	The temperature at which water vapor condenses into droplets. When the dewpoint is at or above the surface air temperature, relative humidity is 100% and dew or fog can form. When the dewpoint is below the surface air temperature, relative humidity will be less that 100%, and the base of any clouds will be at an elevation where the dewpoint and air temperatures are equal.
Discharge	The volume of water passing a particular point in a given amount of time, aka flow. It is usually expressed in cubic feet per second or cfs.
Display Period	In a statistical report, the display period is the time between each generated statistic. The report period is the time between the first and last display period. For example, if viewing a report of 24- one hour values, the display period is 1 hour and the report period is 1 day.

Elevation	A water-level expressed in terms of mean sea level. It differs from stage, which is a water-level in terms of some local datum.
Evapotranspiration	Evapotranspiration is the sum of water lost to the air via transpiration by plants and evaporation from water surfaces.
FCDMC	Acronym for Flood Control District of Maricopa County.
Flood Flow Frequency	A statistically derived table of discharge vs. return period for a particular point on a stream or within a flood storage facility.
Flood Response Plan	A plan developed for a particular waterway, watershed or jurisdiction that identifies flood hazards and defines methods for avoiding them and for minimizing losses to property.
Flood Stage	The point at which the water level in a stream begins to cause damage to structures. It may be below bankfull stage if structures are located in a floodway.
Forecast Point	A point along a watercourse or at an impoundment structure for which a flood forecast is generated. Current and future conditions for upstream areas only are considered in the forecast.
FRS	An acronym for Flood Retarding Structure – most commonly used to describe earthen dams built by the Soil Conservation Service between 1950 and 1985 to protect agricultural lands.
Full Weather Station	An ALERT station that contains at a minimum a rain gage, temperature/humidity sensor, and wind speed and direction sensors. A station with a rain gage and a temperature/humidity sensor only is not considered "full".
Gage	An instrument that measures some property in the environment, like temperature, wind speed or precipitation. It is used interchangeably with "sensor". We spell it g-a-g-e because that's how the USGS spells it.
Gage Record	The period of time for which data is collected at a gage. Gage records may have gaps in the record when no data is collected – these should be documented.
Impoundment	Floodwater stored in a basin or behind a dam. It can be described in terms of a water depth (ft) or a volume (acre-ft).

Intensity	When applied to rainfall, intensity is the depth of rain in a specified time. Examples are 1 inch per hour or ½ inch in 20 minutes.
Isohyetal	Isohyets are lines on a map connecting points of equal precipitation amounts. Colors are often used to shade areas between isohyetal lines.
Meta Data	Meta data can be thought of as "data about data". Meta data can answer questions about a sensor such as "when was it installed", "where is it located" and "who owns it".
NOAA Atlas 14	From the NOAA Atlas 14 documentation series: "NOAA Atlas14 contains precipitation frequency estimates with associated confidence limits for the United States and is accompanied by additional information such as temporal distributions and seasonality. The Atlas is divided into volumes based on geographic sections of the country. The Atlas is intended as the official documentation of precipitation frequency estimates and associated information for the United States. It includes discussion of the development methodology and intermediate results. The Precipitation Frequency Data Server (PFDS) was developed and published in tandem with this Atlas to allow delivery of the results and supporting information in multiple forms via the Internet. NOAA Atlas 14 Volume 1 contains precipitation frequency estimates for Arizona, Nevada, New Mexico, Utah, and southeastern California (Imperial, Inyo, Eastern Kern, Eastern Los Angeles, Riverside, San Bernardino and Eastern San Diego counties). These areas were addressed together in a single project focused on the semiarid southwestern United States. The Atlas supersedes information contained in Technical Paper No. 49 "Two- to ten-day precipitation for return periods of 2 to 100 years in the contiguous United States" (Miller et al., 1964), NOAA Atlas 2 "Precipitation-Frequency Atlas of the Western United States" (Miller et al., 1973), "Short Duration Rainfall Frequency Relations for California" (Frederick and Miller, 1979) and "Short Duration Rainfall Relations for the Western United States" (Arkell and Richards, 1986). The updates are based on more recent and extended data sets, currently accepted statistical approaches, and improved spatial interpolation and mapping techniques. The work was performed by the Hydrometeorological Design Studies Center within the Office of Hydrologic Development of the National Oceanic and Atmospheric Administration's National Weather Service".
PDF	An acronym for Portable Document Format. It is a cross-platform compatible document format developed by Adobe Systems, Inc. Many of our documents are made available in PDF format for the convenience of our users.

Peak Wind	Our wind sensors sample the wind speed every 3 seconds and store that data for a 15-minute period. At the end of that period the on-board computer determines the maximum wind speed stored in that stack and transmits it as the peak wind value.
Precipitation	All forms of water that fall to the earth's surface - including rain, snow, sleet and hail.
Rating Curve	A mathematical relationship between two values expressed as a continuous line. The most common ratings we use are stage versus discharge for streams and stage versus volume for reservoirs.
Rating Table	A mathematical relationship between two values expressed as a table. The most common ratings we use are stage versus discharge for streams and stage versus volume for reservoirs.
Raw Data	Data collected from ALERT sensors that has not been altered by statistical analysis. Raw data consists of a date, time and value. The value can be the original integer delivered by the sensor or a value calibrated in engineering units.
Relative Humidity	The amount of water in a volume of air divided by the amount of water that volume of air could hold in a vapor state at a given temperature. It is expressed as a percentage from 0 to 100.
Report Period	In a statistical report, the report period is the time between the first and last display period. The display period is the time between each generated statistic. For example, if viewing a report of 24- one hour values, the display period is 1 hour and the report period is 1 day.
Solar Radiation	Our solar radiation sensors measure global radiation, which is the total radiation from the sun and reflected from the sky. The reported units are watts/square meter.
Staff Gage	A fixed pole, staff or structure upon which graduated measurements are painted or affixed for the purpose of visually determining water depth.
Stage	A water-level expressed in terms of some local datum. It differs from elevation, which is a water-level in terms of mean sea level.
Station	An ALERT station is a local collection of sensors at a common geographic point. Stations have an ID number corresponding to the precipitation sensor if there is one, or to the water-level sensor at stage-only stations.

Statistical Data	Raw ALERT data that is altered in form by a statistical or graphical program.
Storage	The volume of water stored in a basin or behind a dam – usually expressed in acre-feet. It differs from capacity, which is the volume of water stored at the emergency spillway elevation.
Tipping Bucket	A sensor for measuring precipitation. Two "buckets" tip on an axle as they fill with water. One bucket empties as the other one fills. Each "tip" represents a calibrated depth of water over the collection area, such as 0.01 inches or 1 millimeter.
Watershed	The geographic region from which all drainage features conduct surface runoff to a particular point on a watercourse.
Water-year	The 12-month period from October 1st through September 30th. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. For example, the year ending September 30, 2002 is called the "2002 water-year".
Wind Direction	Wind direction is measured from true north either by compass direction (NE, SW, etc.) or by 0-359 degrees azimuth. Wind direction is described by the direction from which the wind blows, i.e. wind blowing from the northeast would have a measurement of 45° or NE.