

NWS Form E-5
(04-2006)
(PRES. BY NWS Instruction 10-924)

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL WEATHER SERVICE

HYDROLOGIC SERVICE AREA (HSA)
San Juan, Puerto Rico

MONTHLY REPORT OF HYDROLOGIC CONDITIONS

REPORT FOR:
MONTH YEAR
September 2009

TO: Hydrologic Information Center, W/OS31
NOAA's National Weather Service
1325 East West Highway
Silver Spring, MD 20910-3283

SIGNATURE
Althea Austin-Smith,
Service Hydrologist
DATE
10/15/2009

When no flooding occurs, include miscellaneous river conditions below the small box, such as significant rises, record low stages, ice conditions, snow cover, droughts, and hydrologic products issued (NWS Instruction 10-924).

An X inside this box indicates that no flooding occurred within this hydrologic service area.

Summary: The San Juan ASOS reported 6.43 inches of rain for the month of September...0.83 inches more than the normal of 5.60 inches. The ASOS rainfall report from Cyril E. King Airport in St. Thomas was 5.04 inches for the month of September...0.30 inches less than the normal of 5.34 inches.

A busy month in the Caribbean in the midst of the Hurricane Season but while there were a couple of noteworthy Hydrologic events...the tropics were not very active as it pertained to Tropical Storms and Hurricanes. A few Flood Watches were issued early in the month in anticipation of the development of [Tropical Depression Erika](#) and even though Erika was downgraded before it moved through the forecast area, many communities still experienced flooding as a result of the tropical moisture associated with the remnants of Tropical Depression Erika.

... RAINFALL TOTALS FROM REMNANTS OF TROPICAL DEPRESSION ERIKA...

THE FOLLOWING ARE UNOFFICIAL RAINFALL OBSERVATIONS (INCHES OF RAIN) FOR A 24 HOUR PERIOD ENDING AT 12 PM AST SEPTEMBER 5 2009.

ID PRECIP :LOCATIONS WITH GREATER THAN 5 INCHES OF RAINFALL

SLGP4	7.58	:QUEB BLANC/SAN LOREN (PR)
VALP4	6.91	:R VALENCIANO-JUNCOS (PR)
SLRP4	6.34	:COOP OBSERVER SAN LORENZO (PR)
LCSP4	6.33	:LAGO CARITE AT SPILLS (PR)
SLNP4	5.99	:R GR D LOIZA/SAN LOR (PR)
DEXP4	5.91	:FT ALLEN RES CTR (PR)
CAKP4	5.40	:RIO TURABO/BORINQUEN (PR)
LICP4	5.15	:LAGO ICACOS DAMSITE (PR)
SLKP4	5.06	:R CAYAGUAS@CERRO GOR (PR)

Minor to moderate flooding was reported in Puerto Rico and the U.S. Virgin Islands. The core of the heavy rain fell in Saint Croix, Saint Thomas and along with the Eastern third of Puerto Rico. The hardest hit basin in Puerto Rico was the Rio Grande de Loiza with a large percentage of its flow coming from the Rio Gurabo one of its larger "tributaries". Minor to moderate flooding was reported along the Rio Gurabo, which crested at 23.52 feet – 5 ½ feet above its flood stage of 18 feet. The Rio Grande de Loiza, which flows

from south to north, had a basin average rainfall of 4 to 5 inches with localized rainfall reports of 6 to over 7 inches. This led to a significant rise at the Carraizo Dam, where a number of gates had to be opened to maintain some balance. In combination with urban and gut flooding in the U.S. Virgin Islands, flash flooding was also reported in the city of Charlotte Amalie, Saint Thomas, a direct result of widespread rainfall in the 3 to 5 inch range.

Throughout the remainder of the month, there were many instances of flash flooding, mud slides and downed trees from a number of consecutive days where the meteorological situation remained fairly stationary resulting in intense afternoon convection, severe weather including frequent lightning and localized heavy rains, so while September was anomalous for its lack of Tropical Storms and Hurricanes, it was normal in terms of rainfall amounts, flash flooding, debris flow, river flooding, gut flooding and urban and small stream flood events.

Excerpts from some LSRs during the month of September 2009		
0800 AM FLASH FLOOD GURABO 18.26N 65.98W	09/05/2009 GURABO PR EMERGENCY MNGR	HEAVY RAINFALL CAUSED FLOODING OF THE GURABO RIVER WHICH WENT OUT OF ITS BANKS ITS SEVERAL AREAS...RIO LA PLATA...RIO CAGUITAS IN SAN LORENZO. URBAN FLOODING IN BARRIO LAS VEGAS IN CAYEY...PARTS OF HWY 1 IN THE BAIROA AREA ALSO FLOODED AND IMPASSABLE.... MUDSLIDES ON ROAD 172 CAGUAS...HOUSE COLLAPSED ALONG ROAD 173 BARRIO BORINQUEN CAGUAS...POWER LINES DOWN IN BARRIO TOITAS CAYEY...SEVERAL MALL STREAM/TRIBUTARIES OUT OF BANKS ROADS...156 AND 189.
1119 AM FLASH FLOOD CHARLOTTE AMALIE 18.34N 64.93W	09/05/2009 SAINT THOMAS VI EMERGENCY MNGR	FLOODING IN THE CITY.
0735 AM FLASH FLOOD CAROLINA 18.41N 65.98W	09/05/2009 CAROLINA PR EMERGENCY MNGR	HEAVY RAINFALL CAUSED MUDSLIDES IN SECTOR LOS CANOS...URBAN FLOODING OF ROADS 887...856...853. PARTS OF AVENIDAS ROBERTO CLEMENTE AND CEVERO QUINONES ARE ALSO FLOODED AND IMPASSABLE.
0415 PM TSTM WND DMG ADJUNTAS 18.17N 66.72W	09/10/2009 ADJUNTAS PR EMERGENCY MNGR	BARRIO TANAMA - REPORT OF SMALL HAIL...LARGE TREES DAMAGED BY WIND GUSTS...AND OVERTURNED TRASH CANS. BARRIO PELLEJAS - LANDSLIDE AND ONE TREE DOWNED BY STRONG WIND GUST. BARRIO PELLEJAS - LANDSLIDE AND ONE TREE DOWNED BY STRONG WIND GUST. ROAD 526 BETWEEN KM 0.3 TO KM 4.3 A FEW TREES DOWNED AND LANDSLIDES THAT BLOCK THE ROADWAY. BARRIO CAPAEZ - LANDSLIDE AND TWO TREES DOWNED DUE THE HEAVY RAIN.

0830 PM FLASH FLOOD UTUADO 18.27N 66.71W	09/22/2009 UTUADO PR EMERGENCY MNGR	SEQUENCE OF REPORTS FROM 17 SEPT TO 22 SEPT - ROADS 140,607,613 CLOSED OR PARTIALLY CLOSED DUE MUDSLIDES. FOUR HOUSES WERE AFFECTED BY LANDSLIDES IN DIFFERENT BARRIOS, BO.MAMEYES, BO.CAONILLA AND BO.TETUAN. PREM OFFICER MEASURED MORE THAN 10 INCHES AT THE OFFICE RAINGAUGE BETWEEN THE ABOVE MENTIONED DAYS. DURING THAT PERIOD MORE THAT 25 LANDSLIDES WERE REPORTED IN THIS MUNICIPALITY. ALL INFORMATION WAS PROVIDED BY THE PREMA DIRECTOR IN UTUADO, MR. HECTOR CRUZ.
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The numbers in the following table support a “normal” hydrologic September for this region. The approximate amounts of Hydrologic Products issued during the month of September are as follows:

Table 1 - Hydrologic Products Issued

Non-Routine Hydrologic Products Issued:	Approximate number of Products for the month
Hydrologic Outlooks (SJUESFSJU)	0
Flood Watches (SJUFFASJU)	13
Flood Warnings (SJUFLWSJU)	8
Flash Flood Warnings (SJUFFWSJU)	18
Flash Flood Statements (SJUFFSSJU)	17
Urban/Small Stream Flood Advisories (SJUFLSSJU)	167

Here is the monthly “gage only” summary for the month of September...provided by the Southeast River Forecast Center (SERFC) in Atlanta - [Monthly GAGE ONLY Summary for September 2009](#)

For monthly “radar totals” use the archive of the Advanced Hydrologic Prediction Service (AHPS) - click on Puerto Rico and request the duration you would like to view...daily or monthly remembering that the 24 hour totals are from 12z – 12z (8am to 8am in PR) - [AHPS archive of radar totals/ images](#) .