



Republic of the Philippines
Department of Science and Technology



Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)

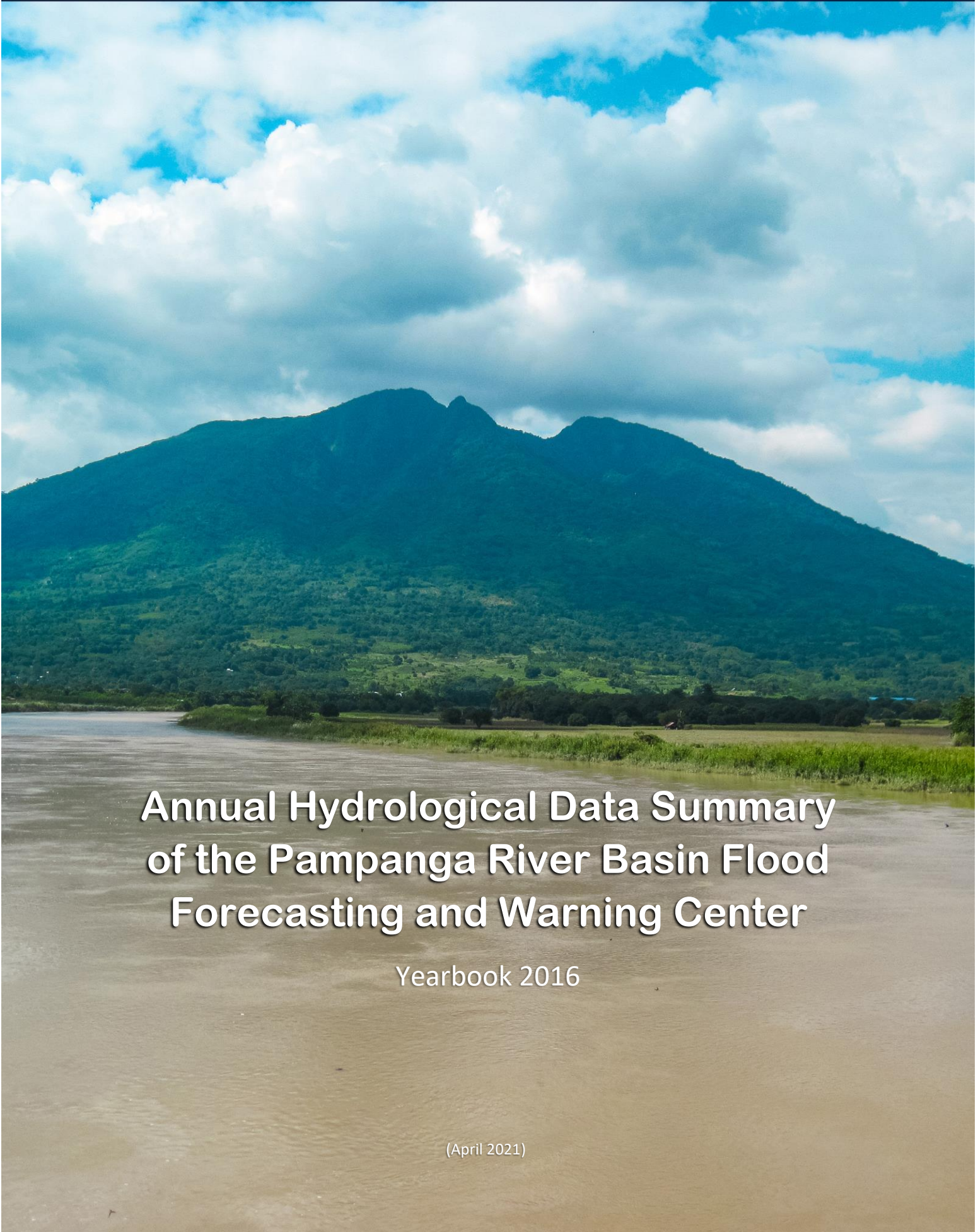
PAMPANGA RIVER BASIN FLOOD FORECASTING AND WARNING CENTER (PRFFWC)

DMGC DOST Reg.3 Compd, Brgy. Maimpis, CSF, Pampanga 2000

(045) 455-1701

prffwc@gmail.com

<http://prffwc.synthasite.com>



Annual Hydrological Data Summary of the Pampanga River Basin Flood Forecasting and Warning Center

Yearbook 2016

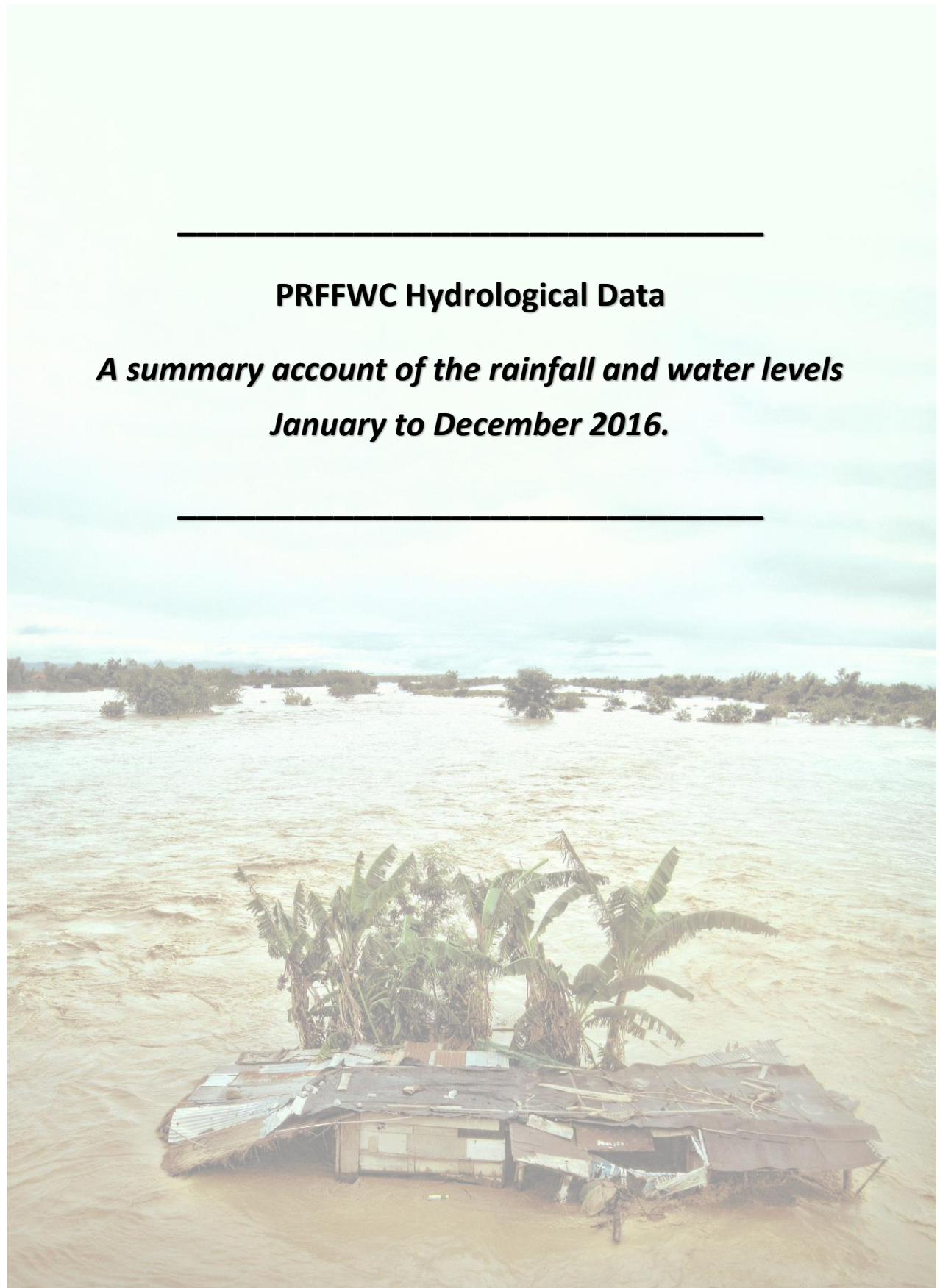
(April 2021)



Front / Back Cover:

Upstream view of the mighty Pampanga River with the majestic Mt. Arayat in the background (October 24, 2016)

Photograph: H.Hernando Edited by: M. Joson



PRFFWC Hydrological Data

***A summary account of the rainfall and water levels
January to December 2016.***

Acronyms & Abbreviations:

- CSFP – City of San Fernando, Pampanga
- D/S - downstream
- D/T - downtime
- FFWS – Flood Forecasting & Warning System
- FM – Flood Marker
- HMD – Hydro-Meteorology Division
- HMTS – Hydro-Met Telemetry Section
- LB – Left Bank
- LST – local standard time
- NIA-UPRIIS – National Irrigation Administration – Upper Pampanga River Integrated Irrigation System
- NCR-PRSD – National Capital Region – PAGASA Regional Services Division
- PAGASA – Philippine Atmospheric, Geophysical and Astronomical Services Administration
- PRB – Pampanga River Basin
- PRFFWC – Pampanga River Basin Flood Forecasting & Warning Center
- Q - discharge
- Racc – accumulated rainfall
- RB – Right Bank
- RR – Rainfall
- SG or S.G. – Staff Gauge
- TBM – Temporary benchmark
- U/S - upstream
- WL – Water Level
- X-sect – cross-section

Table of Contents:

	Page
Yearbook Notes	1
Station Profile	2
Scope and Limitations	3
Data series issues of 2016	4
Data validation & filling in data gaps	5
A. Rainfall Data Summary Presentation	
Daily point rainfall of Muñoz Station	7
Daily point rainfall of Sapang Buho Station	8
Daily point rainfall of Gabaldon Station	9
Daily point rainfall of Zaragoza Station	10
Daily point rainfall of Peñaranda Station	11
Daily point rainfall of Calaanan Station	12
Daily point rainfall of Palali Station	13
Daily point rainfall of San Isidro Station	14
Daily point rainfall of Arayat Station	15
Daily point rainfall of Candaba Station	16
Daily point rainfall of Sibul Springs Station	17
Daily point rainfall of Sasmuan Station	18
Daily point rainfall of Sulipan Station	19
Daily point rainfall of Mexico Station	20
Daily point rainfall of Porac Station	21
Daily point rainfall of San Rafael Station	22
Daily point rainfall of PRFFWC (CSFP) Station	23
Monthly Rainfall Summary for 2016	24
Isohyets & Rain-Day distribution	24
Monthly rainfall distribution for each station	25
B. Water Level Data Summary Presentation	
Water Level daily average of Sapang Buho Station	27
Water Level daily average of Zaragoza Station	28
Water Level daily average of Peñaranda Station	29
Water Level daily average of San Isidro Station	30
Water Level daily average of Arayat Station	31
Water Level daily average of Candaba Station	32
Water Level daily average of Sasmuan Station	33
Water Level daily average of Sulipan Station	34
Water Level daily average of Mexico Station	35
Monthly Maximum WL per station for the year 2016	36
C. Annex	
Maximum rainfall per station for various sliding time period ...	38
Graph of max RR per station for various sliding time period	39
Present Flood Warning Assessment levels & WL notes	40
Water Level percent duration Curves	41-43

Figures:

Figure 1a	The Isohyet (RR distribution) for the year 2016 in the PRB	24
Figure 1b	Estimated RR days distribution (2016) in the PRB	24
Figure 2.0	Monthly RR distribution (hyetograph) for year 2016 for each monitoring stations of PRFFWC in the PRB	25
Figure AA-1	The sliding time period per station graph	39
Figure AA-2	Sapang Buho WL percent duration curve (2016)	41
Figure AA-3	Zaragoza WL percent duration curve (2016)	41
Figure AA-4	Arayat WL percent duration curve (2016)	42
Figure AA-5	Candaba WL percent duration curve (2016)	42
Figure AA-6	Sasmuan WL percent duration curve (2016)	43
Figure AA-7	Sulipan WL percent duration curve (2016)	43

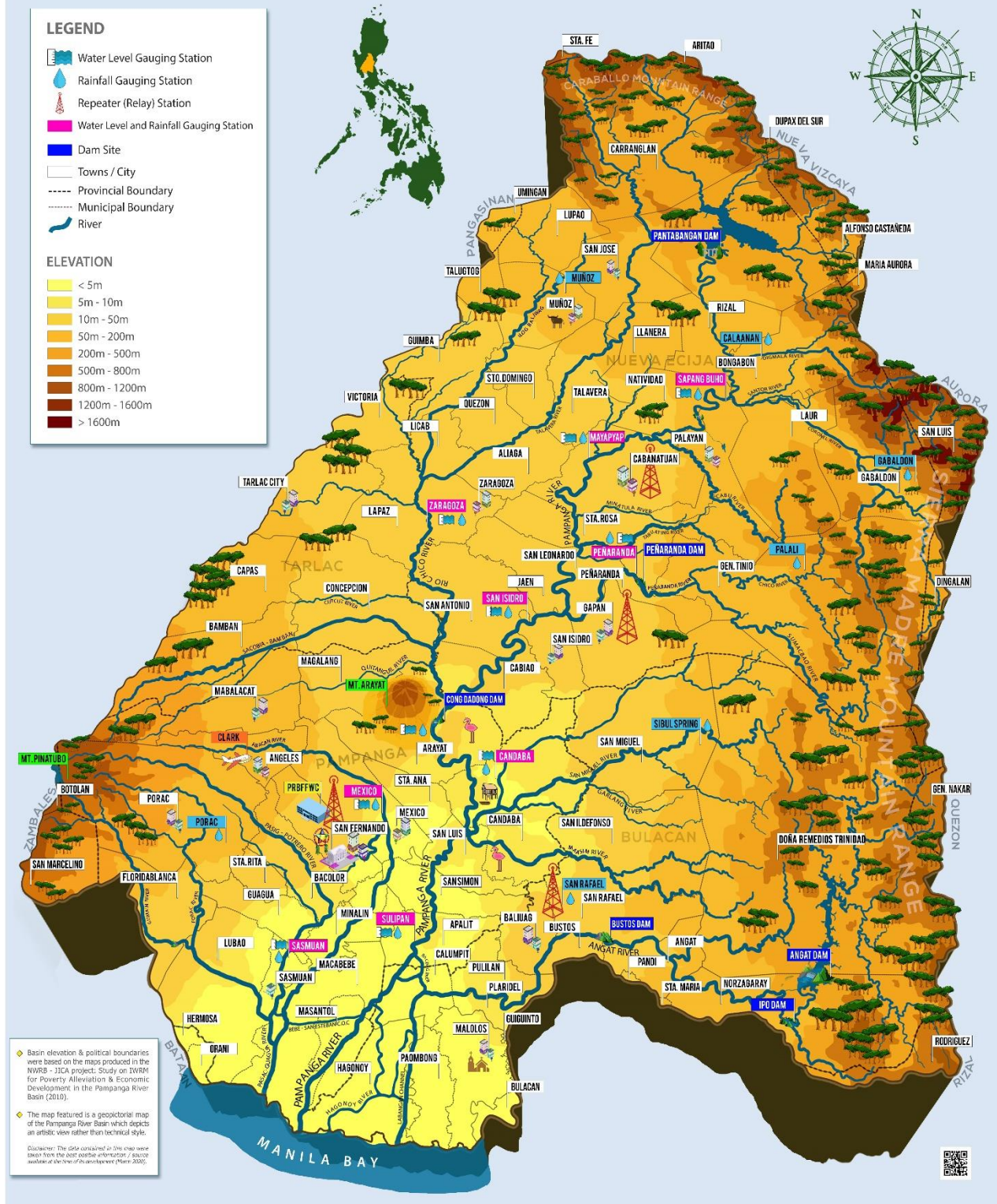
List of Tables:

Table 1.0	Monthly RR Summary for 2016	24
Table 2.0	Monthly Maximum WL recorded per station for the year 2016	36
Table A-1	Maximum RR for a given sliding time period per station for the year 2016	38
Table A-2	PRFFWC existing Flood Warning Assessment Levels (SG in meters)	40
Table A-3	WL station notes	40



The PRFFWC Telemetry Tower located in the City of San Fernando, Province of Pampanga.

PAMPANGA RIVER BASIN ELEVATION MAP



A geopictorial map of the generalized area elevation in the Pampanga River Basin with location of the PRFFWC telemetry stations (as of Feb 2020).

Yearbook Notes



- This Annual Hydrological Data Summary Yearbook presents a summary of the rainfall and water level data observed and recorded by the telemetry system of the PRFFWC in year 2016.
- The supervisory terminal of the PRFFWC system is the main data series considered for database buildup. This is the immediate real-time data received at the center and the main data reference for operational flood forecasting and warning activities of the PRFFWC.
- The main source for complementing breaks / gaps in the supervisory terminal data series are the telemetry stations' data loggers.
- In most instances, total rainfall shown in the supervisory is (always) equal to the total rainfall in the data logger. However, there were relatively few occasions that they do not agree with one another. Fortunately, differences were not that big, at most it is only 1 to 2 mm difference.
- No attempts were made to fill-in gaps and breaks in the data series when there are no data available in the loggers except only those with relatively short gap periods.
- Obvious and suspected data errors were directly deleted from the data series. However, these were done after doing some data consistency check, reference from field survey reports, and / or field station instrument validation.
- For further information and clarification on the general buildup of the PRFFWC data series please e-mail us: prffwc@gmail.com

Station Profile

Table of Rainfall and Water Level Stations of the PRFFWC

Station	Station Number	Station Type RR (rainfall) WL (Water Level)	Location	Coordinates (estimated)
	(DEC) 6301XX			
Muñoz	61	Telemetered RR	Within the compound of the Philippine Carabao Center in the Science City of Muñoz, N.E.	15°44'17"N, 120°57'38"E
Sapang Buho	62	Telemetered RR & WL	@ LB of Pampanga River in Bgy. Sapang Buho, Palayan City, Nueva Ecija	15°35'39"N, 121°07'09"E
Gabalton	63	Telemetered RR	Around 450 meters above the natural ground elevation of Bgy. Malinao, Gabaldon, N.E.	15°29'55"N, 121°21'20"E
Zaragoza	64	Telemetered RR & WL	Along the Zaragoza – La Paz road (RB-D/S of the Rio Chico Bridge)	15°26'36"N, 120°45'03"E
Mayapyap	65	Telemetered RR & WL	@ RB-D/S of Gen. Luna Bridge, (Bgys. Mayapyap & Valdefuente) Cabanatuan City, Nueva Ecija	15°30'52"N, 120°57'20"E
Peñaranda	66	Telemetered RR & WL	@ LB-D/S side of the bridge, around 550 meters D/S of Peñaranda River Irrigation Dam at Bgy. Uno, Poblacion, Peñaranda, N.E.	15°21'14"N, 121°00'20"E
Calaanan	67	Telemetered RR	Inside the Pesa Elementary School compound, Purok 2, Bgy. Pesa, Bongabon, N.E.	15°38'53"N, 121°11'09"E
Palali	68	Telemetered RR	Within Nueva Ecija Stock Farm in Bgy. Nazareth, Gen. Tinio, N.E.	15°22'50"N, 121°9'41"E
San Isidro	71	Telemetered RR & WL	@ the RB-D/S side of the San Isidro-Jaen Bridge, San Isidro, N.E.	15°18'49"N, 120°54'09"E
Arayat	72	Telemetered RR & WL	@ RB-D/S side of San Agustin Bridge, Arayat, Pampanga	15°10'06"N, 120°46'56"E
Candaba	73	Telemetered RR & WL	Along Candaba-San Miguel road (Dukma) at Bgy. Paralaya, Candaba, Pampanga	15°06'56"N, 120°51'01"E
Sibul Spring	74	Telemetered RR	Bgy. Sibul, San Miguel, Bulacan	15°10'05"N, 121°03'33"E
Sasmuan	75	Telemetered RR & WL	Bgy. Sta. Lucia (Poblacion), Sasmuan, Pampanga	14°56'11"N, 120°37'23"E
Sulipan	76	Telemetered RR & WL	@ RB of Pampanga River at Bgy. Sulipan, Apalit, Pampanga	14°56'21"N, 120°45'39"E
Mexico	77	Telemetered RR & WL	LB-D/S of Mexico Bridge No. 2, Bgy. Sto. Rosario, Mexico, Pampanga	15°04'05"N, 120°43'51"E
Porac	78	Telemetered RR	Within the municipal compound property, Bgy. Cangatba, Porac, Pampanga	15°04'48"N, 120°32'43"E
San Rafael	90	Telemetered RR (Repeater)	NIA compound, Bgy. Sabang, Baliwag, Bulacan	14°58'05"N, 120°54'52"E
Cabanatuan	89	Repeater station (no hydrological data reporting)	Within the NIA-UPRIIS Compound, Cabanatuan City	15°28'33"N, 120°57'30"E
PRFFWC (CSFP)		Digital tipping-bucket / manually recorded	PRFFWC area compound besides DOST-3, DMGC, Bgy. Maimpis, CSFP	15°04'04"N, 120°39'22"E

Scope and Limitations

1. This Data Yearbook presents the hydrological data summary of the 17 rainfall stations and 9 water level stations of the PRFFWC for the year 2016.
2. The rainfall and water level dataset in this report covers the period starting from the past 1-hour observation ending at 0900H of January 01, 2016, and will end at 0800H of 01 January 2017.
3. Accordingly, it follows a 24-hour daily total (or average for WL) which starts at (practically) 0801H of the present day and ends at 0800H of the following day (meteorological day); Water level summary values for maximum data are reported as per instantaneous observed value from the dataset but the average value is taken using the same reporting time period as in total rainfall for a met day.
4. The shortest time period considered in this summary report is 1 hour.
5. Units used for some of the hydrological elements:
 - a. Rainfall – millimeters (mm)
 - b. Water Level (River Stage) – meters (m)
 - c. Cross-sectional area – square meter (m²)
 - d. River Discharge – cubic meters per second or cumecs (m³/sec)
 - e. Rainfall day – rain-days
6. The minimum rainfall amount for telemetry stations is 1 mm; and for the rainfall observations in PRFFWC in CSFP, the minimum is 0.25 mm;
7. Rain-day is considered as a day with at least 1 mm of rainfall for telemetry stations; and at least 0.25 mm for PRFFWC in CSFP station;
8. The hydrological data summary presented in this yearbook are the daily rainfall observations (met day total), monthly rainfall and average, maximum rainfall total of various periods, and total rain-days per month; the daily water level averages (met day), maximum stage for each month and other regular information that were extracted from the available data series of each station.
9. For the daily rainfall presentation table, yellow shaded cell indicates rainfall values between 1 to 60 mm for telemetry stations (0.25 to 60.0 for PRFFWC-CSFP station); pink shade cells from 61 to 180 mm (60.25 to 180.0 for PRFFWC-CSFP station); light-red shade cells for values greater than 180 mm. Likewise, for water level summary, cell shades are in a graded color scale from a white shade to a regular semi-orange shade that is relative to an increase in water level values. Thus, a “0.00” value (minimum) is white and maximum value within the table will be orange shaded. In the summary below the daily value tables (the daily rainfall and in the average daily water level tables) a green shaded cell indicates the maximum value in their respective rows.



Disclaimer: The dataset summary presented herein have been processed and validated through several steps using the best possible means available to the PRFFWC at the time of processing. However, still it is possible that results may contain inadvertent errors such as typographical in nature, errors resulting from possible misuse of excel formulae, and other similar factors. The summary information in this yearbook report may be revised as new analyses emerge.

Users noting any errors that they may have encountered in this report are requested to inform the PRFFWC. Furthermore, users may use the information contained herein at their own risk.

Data Series Issues of 2016

1. January: Mayapyap RR & WL have no data for the whole year; Sulipan & Sasmuan supervisory WL adjusted by +0.10 and +0.66 meters, respectively; Arayat zero readings are possibly effects of Cong Dadong Dam;
Note: Zaragoza supervisory WL adjusted by +0.70 from January to August.
2. February: Sulipan & Sasmuan supervisory WL adjusted by +0.10 and +0.66 meters, respectively; Peñaranda & San Isidro WL are zero for the whole month.
3. March: Sulipan & Sasmuan supervisory WL adjusted by +0.15 and +0.67 meters, respectively; Peñaranda & San Isidro WL are zero for the whole month.
4. April: Sulipan & Sasmuan supervisory WL adjusted by +0.15 and +0.67 meters, respectively; Peñaranda & San Isidro WL are zero for the whole month.
5. May: Sulipan & Sasmuan supervisory WL adjusted by +0.20 and +0.67 meters, respectively; Peñaranda & San Isidro WL are zero for the whole month.
6. June: Sulipan & Sasmuan supervisory WL adjusted by +0.20 and +0.67 meters, respectively; San Isidro WL is zero for the whole month.
7. July: Sulipan & Sasmuan supervisory WL adjusted by +0.24 and +0.67 meters.
8. August: Sulipan & Sasmuan supervisory WL adjusted by +0.24 and +0.67 meters.
9. September: Sulipan & Sasmuan supervisory WL adjusted by +0.24 and +0.67 meters until 1800H, 23 as per report by HMTS fieldwork trip as shown below (see also SG pictures).

1. Calibrated the water-level sensor of some gauging station.

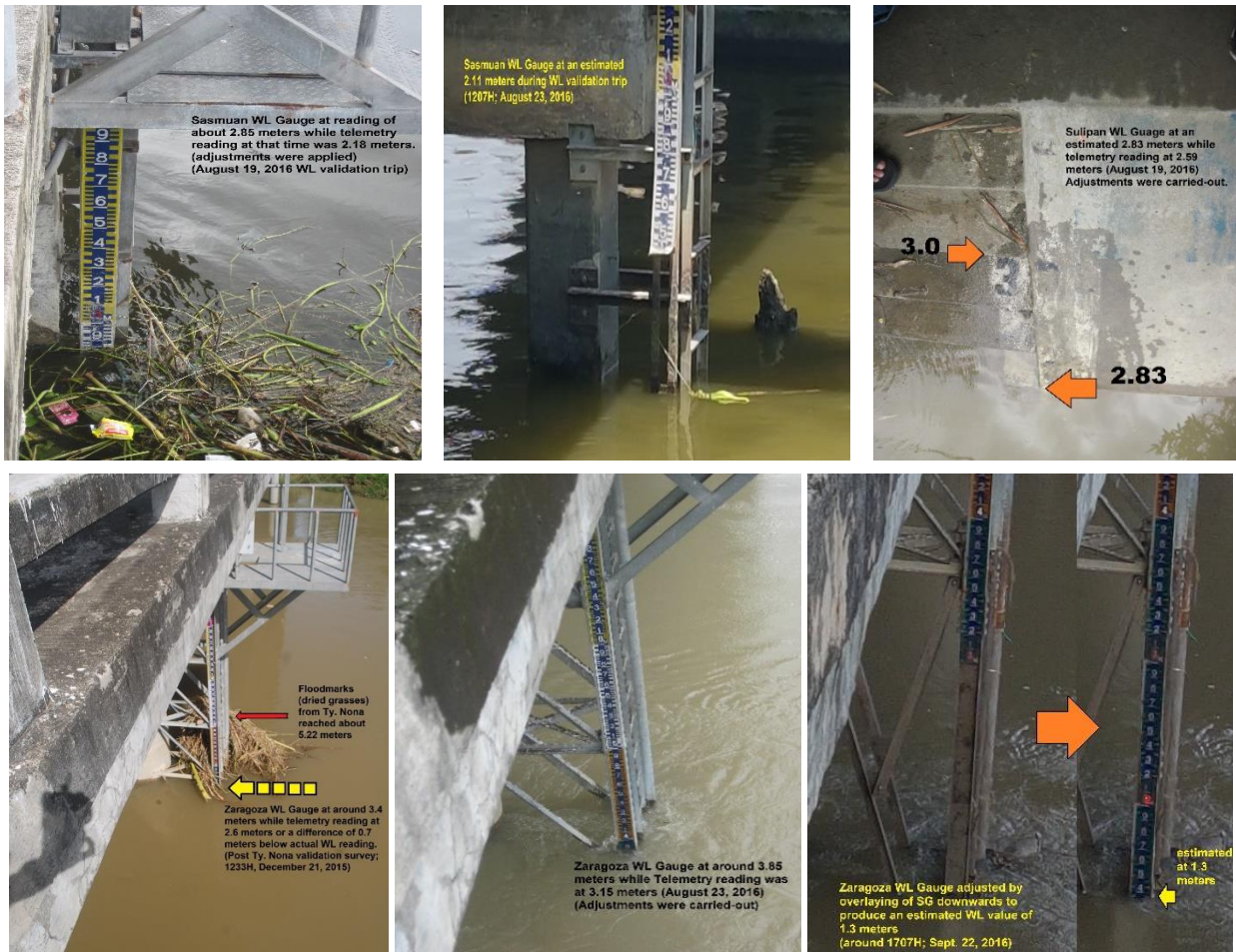
Station	Action Taken	Date/Time of Adjustment
San Isidro	Decreased the offset by 0.22 meters	9-22-16/6:45 pm
 Arayat	Decreased the offset by 0.05 meters	9-23-16/7:30 am
 Mexico	Increased the offset by 0.03 meters	9-23-16/11:05 am
<u>Sasmuan</u>	Increased the offset by 0.67 meters	9-23-16/12:19 pm
Sulipan	Increased the offset by 0.24 meters	9-23-16/05:30 pm

Arayat and Mexico WL offsets are negligible; San Isidro WL is below zero therefore not affected by adjustments at that time; Sasmuan and Sulipan WL have been adjusted accordingly; Zaragoza WL supervisory adjusted by +0.70m at the start of the month and eye-fit connected to a validated WL (photo) on 1600H, 22.

10. October: Candaba WL adjusted by eye-fit as some points.
11. November: Some irregular readings (shoot-ups) of Zaragoza WL and was validated by data logger.
12. December: San Isidro WL is zero for the whole month.

Data validation and filling in data gaps

WL telemetry data validation using photos of SG have been used to adjust the WL at various telemetry stations of the PRFFWC. While it may be easy to adjust the point data directly in the series, tracing as to when it started and up to when the adjustments will apply is one big problem in validating a data series. It is not often that WL gauge photos are taken on a regular basis. Hence, it would all be good if a recording closed-circuit television (CCTV) monitor is available on a 24/7 to address this issue. Below are some of the random WL gauges pictures taken during field trips around the PRB. These pictures have been used as reference in several adjustments made in the data series of PRFFWC. It is only hoped that the pre and post adjustments in the series are what actually happened in the river flows in the PRB.



Usually, rainfall gaps and breaks are referred first to the Racc in the supervisory terminal if the gap / break is 6 hours or less. The Racc is then used to distribute the accumulated total equally on an hourly basis to fill-in the gaps. For longer gaps and breaks the data loggers are used for filling-in the series. In many instances, if not all, total rainfall shown in the supervisory terminal is (always) equal to total rainfall in the data logger. However, there are few instances that they do not agree with one another. Fortunately, with lots of data comparisons already carried-out between the two sets, the difference at most is just 1 to 2 mm only. There are no other means of correcting or filling-in rainfall data for a certain gap / break period other than this. For data believed to be erroneous, intuitions or common sense can be used to check if data is plausible or not. Using extreme values recorded for that station as a means of comparison can also be a basis for checking if data is possible. Otherwise, it is better to delete the data whenever in doubt.

A. RAINFALL Data Summary Presentation



Daily Point Rainfall in millimeters (meteorological day)

2016

Station:

Muñoz

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	5	0	0	0	0	0	0	5	0	46	0	0
2	4	0	0	0	0	0	0	12	3	15	0	0
3	0	0	0	0	0	6	47	0	14	5	0	0
4	0	0	1	0	0	0	0	31	0	48	0	0
5	0	0	0	0	0	17	4	0	0	11	0	2
6	0	0	0	0	0	0	0	2	0	9	0	0
7	0	0	0	0	0	22	21	0	0	12	0	2
8	0	0	0	0	0	1	0	0	1	4	0	0
9	0	0	0	0	0	19	7	10	0	17	0	0
10	0	0	0	0	0	10	14	4	0	4	0	0
11	0	0	0	0	20	3	7	0	0	39	0	0
12	0	0	0	0	0	11	4	41	23	0	0	0
13	0	0	0	0	0	2	0	30	50	2	0	0
14	0	0	0	0	0	0	0	11	19	0	0	0
15	0	0	0	0	0	0	0	8	2	102	11	1
16	0	0	0	0	37	0	0	46	0	56	1	0
17	0	0	0	0	31	0	37	20	0	1	0	0
18	0	0	0	0	35	0	0	6	1	39	2	0
19	0	0	0	0	1	0	0	88	0	48	8	0
20	0	0	0	0	0	0	0	12	0	17	0	0
21	0	0	0	0	0	0	10	18	0	3	0	0
22	0	0	0	0	0	0	4	0	0	14	0	0
23	0	0	0	0	3	1	2	3	30	0	0	0
24	0	0	0	0	2	0	7	1	11	0	0	0
25	0	0	0	0	4	0	0	12	2	0	13	1
26	0	0	0	0	0	5	0	38	1	0	14	0
27	0	0	0	0	8	1	1	54	0	0	0	0
28	0	0	0	0	1	0	30	24	0	0	0	0
29	0	0	0	13	30	1	28	10	0	0	0	4
30	0		0	13	40	6	9	10	0	0	0	0
31	0		0		30		23	0		0		7

Monthly Total	9	0	1	26	242	105	255	496	157	492	49	17
Average	0.29	0.00	0.03	0.87	7.81	3.50	8.23	16.00	5.23	15.87	1.63	0.55
Max daily rain	5	0	1	13	40	22	47	88	50	102	14	7
Day of Max Daily	1		4	29	30	7	3	19	13	15	26	31
No. of Rain days	2	0	1	2	13	14	17	24	12	20	6	6
Max 1-hr rain	2		1	13	32	20	37	75	21	42	3	4
Day of max 1-hr	2		4	29	16	7	3	19	12	1	16	Jan 01

Total rain for the year

1849

Total rain days for the year

117

Daily Point Rainfall in millimeters (meteorological day)

2016		Station: Sapang_Buho										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1	0	0	0	0	4	0	3	1	0	0	0
2	3	0	0	0	0	18	0	1	31	22	0	0
3	0	0	0	0	0	0	40	13	0	52	2	0
4	0	0	0	0	0	0	0	0	15	25	0	1
5	0	0	0	0	0	3	3	13	5	10	0	3
6	0	1	0	0	0	1	10	5	0	2	0	0
7	0	0	0	0	0	0	12	3	0	16	0	4
8	0	0	0	1	0	22	0	0	5	2	0	0
9	0	0	0	0	0	2	9	26	4	3	0	0
10	0	0	0	0	0	1	4	1	0	27	0	2
11	0	0	0	0	0	0	17	3	0	7	0	0
12	0	0	0	0	0	15	0	4	6	9	0	0
13	0	0	0	0	0	0	5	11	61	1	0	3
14	0	0	0	0	0	0	8	15	19	0	0	6
15	0	0	0	0	0	0	0	29	33	106	35	3
16	0	0	0	0	0	10	0	33	0	18	4	1
17	0	0	0	0	35	0	0	3	1	1	0	0
18	0	0	0	0	5	0	0	26	4	1	9	0
19	0	0	0	0	10	0	9	16	0	81	4	0
20	0	0	0	0	0	0	1	10	0	9	0	0
21	0	0	0	0	1	0	2	23	1	11	0	0
22	0	0	0	0	2	2	10	0	0	0	0	0
23	0	0	0	0	1	3	12	0	3	0	0	0
24	0	0	0	0	0	0	1	1	2	0	0	0
25	0	0	0	0	6	0	0	11	42	0	7	0
26	0	0	4	0	0	8	0	4	2	0	18	0
27	0	0	0	0	5	0	0	23	56	0	0	0
28	0	0	0	0	0	0	0	7	1	0	1	0
29	0	0	0	15	32	1	3	7	0	0	1	4
30	0		0	0	0	5	0	1	0	1	0	0
31	0		0		13		2	23		0		4

Monthly Total	4	1	4	16	110	95	148	315	292	404	81	31
Average	0.13	0.03	0.13	0.53	3.55	3.17	4.77	10.16	9.73	13.03	2.70	1.00
Max daily rain	3	1	4	15	35	22	40	33	61	106	35	6
Day of Max Daily	2	6	26	29	17	8	3	16	13	15	15	14
No. of Rain days	2	1	1	2	10	14	17	27	19	20	9	10
Max 1-hr rain	1	1	3	14	28	17	39	15	53	36	10	3
Day of max 1-hr	2	7	24	29	29	2	3	9	27	16	16	8

Total rain for the year	1501
Total rain days for the year	132

Daily Point Rainfall in millimeters (meteorological day)

2016	Station: Gabaldon											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	47	0	0	0	0	0	0	4	0	48	2	3
2	46	0	0	0	0	20	1	3	15	17	15	0
3	0	0	0	0	0	0	0	0	26	7	0	0
4	0	1	3	0	0	0	0	2	2	25	0	1
5	0	11	0	2	1	49	3	6	0	14	0	10
6	0	8	0	1	0	15	7	45	2	16	0	0
7	1	0	0	0	0	0	5	7	1	8	0	10
8	0	0	0	1	0	6	0	7	0	18	0	0
9	0	0	0	0	0	17	39	16	0	4	0	0
10	0	0	0	0	0	37	25	1	0	2	0	0
11	0	0	0	0	0	0	3	6	0	42	1	2
12	0	0	0	0	2	3	0	14	10	3	3	0
13	0	0	0	0	0	0	0	21	14	1	0	0
14	0	0	0	0	3	0	0	26	6	0	0	23
15	0	0	0	0	0	0	0	23	69	241	68	17
16	0	0	0	0	0	0	0	17	0	27	9	6
17	0	0	0	0	6	0	0	8	0	3	17	2
18	0	0	0	0	0	10	0	12	0	0	23	0
19	0	0	0	2	2	10	10	14	4	78	27	2
20	0	0	0	1	2	0	1	20	13	7	0	0
21	0	0	0	0	3	0	3	3	0	4	0	3
22	0	0	0	0	23	7	17	2	3	2	0	0
23	0	0	0	0	6	3	16	0	16	0	0	0
24	0	0	0	2	21	5	10	8	0	2	2	1
25	0	11	0	0	3	0	1	19	28	0	120	17
26	0	1	8	0	0	21	0	16	15	0	67	53
27	0	0	0	0	1	0	0	2	12	0	0	2
28	0	2	0	0	2	1	0	32	0	3	6	2
29	0	0	2	5	10	5	0	4	1	2	5	11
30	0		2	0	0	8	2	5	0	0	1	3
31	0		0		0		15	7		0		38

Monthly Total	94	34	15	14	85	217	158	350	237	574	366	206
Average	3.03	1.17	0.48	0.47	2.74	7.23	5.10	11.29	7.90	18.52	12.20	6.65
Max daily rain	47	11	8	5	23	49	39	45	69	241	120	53
Day of Max Daily	1	5	26	29	22	5	9	6	15	15	25	26
No. of Rain days	3	6	4	7	14	16	16	29	17	23	15	19
Max 1-hr rain	7	10	2	5	11	48	13	27	58	39	21	17
Day of max 1-hr	1	5	27	29	24	5	10	6	15	16	16	26

Total rain for the year	2350
Total rain days for the year	169

Daily Point Rainfall in millimeters (meteorological day)

2016	Station: Zaragoza											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	3	0	0	0	0	10	0	2	2	0	0	0
2	1	0	0	0	0	26	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	9	1	0	0
4	0	0	0	0	0	0	0	0	7	121	0	0
5	0	0	0	0	0	0	39	0	0	3	0	5
6	0	0	0	0	0	1	0	8	0	10	0	0
7	0	0	0	0	0	33	0	2	7	25	0	1
8	0	0	0	0	0	0	0	5	46	8	0	0
9	0	0	0	0	0	6	43	23	0	2	0	0
10	0	0	0	0	3	6	12	1	0	52	0	0
11	0	0	0	0	6	0	11	2	0	1	0	0
12	0	0	0	0	1	6	15	47	75	0	0	0
13	0	0	0	0	0	1	0	42	7	6	0	0
14	0	0	0	0	0	1	0	53	1	0	0	0
15	0	0	0	0	0	0	2	48	0	49	8	0
16	0	0	0	0	2	0	2	35	0	30	10	0
17	0	0	0	0	4	0	0	10	1	7	0	0
18	0	0	0	0	79	0	0	0	8	0	7	0
19	0	0	0	0	36	1	0	20	10	57	4	0
20	0	0	0	0	0	0	0	8	0	8	0	0
21	0	0	0	0	0	0	0	4	0	2	0	0
22	0	0	0	0	0	16	5	5	0	0	0	0
23	0	0	0	0	1	1	2	1	5	0	0	0
24	0	0	0	0	0	0	48	6	4	0	0	0
25	0	0	0	0	6	0	0	1	9	0	9	1
26	0	0	0	0	0	23	0	2	5	0	11	1
27	0	0	0	0	0	7	3	18	2	0	0	3
28	0	0	0	0	0	0	0	18	0	0	0	0
29	0	0	0	4	6	1	1	10	0	0	0	0
30	0		0	0	11	2	0	0	14	0	0	0
31	0		0		15		5	0		0		4

Monthly Total	4	0	0	4	170	141	188	371	212	382	49	15
Average	0.13	0.00	0.00	0.13	5.48	4.70	6.06	11.97	7.07	12.32	1.63	0.48
Max daily rain	3	0	0	4	79	33	48	53	75	121	11	5
Day of Max Daily	1			29	18	7	24	14	12	4	26	5
No. of Rain days	2	0	0	1	12	16	13	24	17	16	6	6
Max 1-hr rain	2			3	63	33	42	31	73	55	5	4
Day of max 1-hr	1			29	18	7	24	14	12	4	26	5

Total rain for the year	1536
Total rain days for the year	113

Daily Point Rainfall in millimeters (meteorological day)

2016	Station: Peñaranda											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	5	0	0	0	0	0	0	5	0	0	0	0
2	3	0	0	0	0	0	0	0	2	0	13	0
3	0	0	0	0	0	0	0	6	0	3	0	0
4	0	0	0	0	0	1	0	0	3	57	0	1
5	0	0	0	0	0	1	13	15	19	2	0	1
6	0	0	0	0	0	0	0	13	0	3	0	0
7	0	0	0	0	0	38	0	16	0	19	0	0
8	0	0	0	0	0	27	0	43	9	7	0	0
9	0	0	0	0	0	0	32	8	29	0	0	0
10	0	0	0	0	0	0	3	0	0	30	0	0
11	0	0	0	0	16	3	0	4	0	0	0	2
12	0	0	0	0	1	22	0	26	3	6	0	0
13	0	0	0	0	0	0	0	33	0	0	0	0
14	0	0	0	0	0	5	0	30	22	0	2	0
15	0	0	0	0	0	2	0	39	11	73	6	4
16	0	0	0	0	8	0	0	22	0	28	8	3
17	0	0	0	0	1	0	36	0	0	38	0	0
18	0	0	0	0	61	0	0	0	0	0	18	0
19	0	0	0	0	0	1	2	20	5	45	5	0
20	0	0	0	0	0	0	1	21	0	9	0	0
21	0	0	0	0	19	0	0	6	0	6	0	0
22	0	0	0	0	5	4	27	0	2	0	0	0
23	0	0	0	0	0	1	13	0	0	0	0	0
24	0	0	0	0	0	1	1	16	0	0	0	0
25	0	5	0	0	52	1	0	33	68	0	14	0
26	0	0	0	0	0	9	6	34	0	0	18	0
27	0	0	0	0	1	19	0	3	2	0	0	6
28	0	0	0	0	0	0	2	3	0	0	0	0
29	0	0	0	43	49	3	0	1	0	0	7	0
30	0		0	0	6	2	0	0	0	0	1	0
31	0		0		3		4	4		0		2

Monthly Total	8	5	0	43	222	140	140	401	175	326	92	19
Average	0.26	0.17	0.00	1.43	7.16	4.67	4.52	12.94	5.83	10.52	3.07	0.61
Max daily rain	5	5	0	43	61	38	36	43	68	73	18	6
Day of Max Daily	1	25		29	18	7	17	8	25	15	18	27
No. of Rain days	2	1	0	1	12	17	12	23	12	14	10	7
Max 1-hr rain	3	3		39	37	36	36	39	48	36	13	6
Day of max 1-hr	1	25		29	29	7	17	8	25	17	19	27

Total rain for the year	1571
Total rain days for the year	111

Daily Point Rainfall in millimeters (meteorological day)

2016	Station: Calaanan											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	5	0	0	0	0	6	0	9	0	7	0	0
2	15	0	0	0	0	25	0	9	7	36	1	0
3	0	0	1	0	0	0	0	0	5	18	3	0
4	0	0	0	0	0	3	0	2	2	62	0	1
5	0	0	0	0	0	16	1	20	6	25	0	3
6	0	0	0	0	0	0	0	5	0	14	0	0
7	0	0	0	0	0	0	25	5	0	19	0	6
8	0	0	0	0	0	18	0	0	6	1	0	0
9	0	0	0	0	0	6	8	19	0	27	0	0
10	0	0	0	0	0	10	4	1	0	54	0	8
11	0	0	0	0	48	1	8	0	0	27	1	0
12	0	0	0	0	1	1	0	3	44	0	3	0
13	0	0	0	0	0	0	0	9	26	1	0	2
14	0	0	0	0	0	0	0	15	15	0	0	12
15	0	0	0	0	0	7	0	24	94	115	15	3
16	0	0	0	0	0	14	0	38	0	25	12	1
17	0	0	0	0	5	0	0	3	42	0	3	0
18	0	0	0	0	48	12	0	19	31	0	7	0
19	0	0	0	0	0	1	0	20	1	82	8	0
20	0	0	0	2	2	0	1	12	0	11	0	0
21	0	0	0	0	0	0	0	11	1	0	0	0
22	0	0	0	0	27	2	41	0	0	0	0	0
23	0	0	0	0	1	3	21	0	14	0	0	0
24	0	0	0	0	1	0	25	0	2	0	0	0
25	0	0	3	0	4	0	1	19	48	0	17	1
26	0	0	0	0	0	9	0	2	22	0	14	5
27	0	0	0	0	3	0	0	21	44	0	0	0
28	0	0	0	0	5	0	0	23	0	0	0	0
29	0	0	0	0	7	2	0	20	6	0	2	6
30	0		0	0	0	3	5	4	0	2	1	3
31	0		0		1		20	36		0		10

Monthly Total	20	0	4	2	153	139	160	349	416	526	87	61
Average	0.65	0.00	0.13	0.07	4.94	4.63	5.16	11.26	13.87	16.97	2.90	1.97
Max daily rain	15	0	3	2	48	25	41	38	94	115	17	12
Day of Max Daily	2		25	20	11	2	22	16	15	15	25	14
No. of Rain days	2	0	2	1	13	18	12	25	19	17	13	13
Max 1-hr rain	6		2	2	29	24	38	18	42	39	7	4
Day of max 1-hr	2		27	21	18	2	22	20	12	11	16	10

Total rain for the year	1917
Total rain days for the year	135

Daily Point Rainfall in millimeters (meteorological day)

2016	Station: Palali											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	3	0	0	0	0	11	0	1	0	1	0	0
2	3	0	0	0	0	2	0	0	0	5	3	0
3	0	0	0	0	0	0	0	0	7	4	0	0
4	0	0	2	0	0	1	0	37	2	64	0	2
5	0	7	0	1	0	1	7	41	8	1	0	2
6	0	6	0	0	0	4	1	36	17	3	1	0
7	0	0	0	0	0	0	6	33	0	24	0	3
8	0	0	0	0	0	27	0	14	12	2	0	0
9	0	0	0	0	0	8	33	5	0	2	0	0
10	0	0	0	0	0	1	30	0	2	9	0	6
11	0	0	0	0	0	12	3	10	0	3	0	0
12	0	0	0	0	1	136	0	15	41	21	0	1
13	0	0	0	0	0	0	0	29	3	13	0	1
14	0	0	0	18	0	0	0	24	11	0	0	4
15	0	0	0	0	0	26	0	30	8	102	4	6
16	0	0	0	0	0	54	14	19	0	15	3	2
17	0	0	0	0	3	0	0	2	0	8	0	0
18	0	0	0	0	3	2	0	0	0	1	18	0
19	0	0	0	0	5	1	0	14	0	36	9	0
20	0	0	0	0	0	0	1	34	0	6	0	0
21	0	0	0	0	21	0	0	6	0	25	0	0
22	0	0	0	0	9	9	34	0	3	0	0	0
23	0	0	0	0	0	0	17	0	4	0	0	0
24	0	0	0	0	6	6	1	2	7	0	0	0
25	0	0	0	0	8	1	1	8	51	0	13	2
26	0	0	14	0	0	6	0	6	0	0	46	11
27	0	0	0	0	10	3	0	2	7	0	0	1
28	0	0	0	0	0	1	0	1	0	0	0	0
29	0	0	0	5	5	1	16	0	0	0	5	4
30	0		1	0	0	4	19	1	0	0	0	0
31	0		0		10		0	10		0		4

Monthly Total	6	13	17	24	81	317	183	380	183	345	102	49
Average	0.19	0.45	0.55	0.80	2.61	10.57	5.90	12.26	6.10	11.13	3.40	1.58
Max daily rain	3	7	14	18	21	136	34	41	51	102	46	11
Day of Max Daily	1	5	26	14	21	12	22	5	25	15	26	26
No. of Rain days	2	2	3	3	11	22	14	24	15	20	9	14
Max 1-hr rain	1	7	3	17	11	75	25	33	33	26	14	5
Day of max 1-hr	1	6	27	14	21	12	22	20	12	4	27	27

Total rain for the year	1700
Total rain days for the year	139

Daily Point Rainfall in millimeters (meteorological day)

2016	Station: San Isidro											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	7	0	0	0	0	0	0	3	1	4	0	0
2	5	0	0	0	0	5	0	0	5	0	3	0
3	0	0	0	0	0	0	1	0	1	21	0	0
4	0	0	0	0	0	15	0	1	2	96	0	0
5	0	0	0	0	0	0	14	5	11	0	0	2
6	0	2	0	0	0	3	0	3	0	5	0	0
7	0	0	0	0	0	40	0	8	0	23	0	1
8	0	0	0	0	0	0	0	7	1	5	0	0
9	0	0	0	0	0	0	32	11	46	0	0	0
10	0	0	0	0	0	0	5	0	0	31	0	0
11	0	0	0	0	34	1	0	18	0	1	0	0
12	0	0	0	0	2	12	0	34	2	1	0	0
13	0	0	0	0	0	1	1	38	0	0	0	1
14	0	0	0	0	0	0	0	24	22	0	0	0
15	0	0	0	0	0	2	8	35	3	39	1	1
16	0	0	0	0	11	0	4	18	0	46	6	1
17	0	0	0	0	0	0	0	1	0	0	0	0
18	0	0	0	0	24	1	0	0	0	4	13	0
19	0	0	0	0	2	3	4	15	68	28	4	0
20	0	0	0	0	0	0	1	21	0	6	0	0
21	0	0	0	0	22	0	0	6	0	2	0	1
22	0	0	0	0	0	5	25	0	1	0	0	0
23	0	0	0	0	0	1	4	0	18	0	0	0
24	0	0	0	0	4	0	7	4	1	0	0	0
25	0	2	0	0	73	2	0	30	111	0	15	0
26	0	0	0	0	0	12	0	35	0	0	11	0
27	0	0	0	0	0	40	0	6	12	0	0	0
28	0	0	0	0	0	0	0	5	1	0	0	0
29	0	0	0	68	18	2	6	2	0	0	4	0
30	0		0	0	4	3	0	0	0	0	1	0
31	0		0		0		2	3		0		0

Monthly Total	12	4	0	68	194	148	114	333	306	312	58	7
Average	0.39	0.14	0.00	2.27	6.26	4.93	3.68	10.74	10.20	10.06	1.93	0.23
Max daily rain	7	2	0	68	73	40	32	38	111	96	15	2
Day of Max Daily	1	6		29	25	7	9	13	25	4	25	5
No. of Rain days	2	2	0	1	10	17	14	24	17	15	9	6
Max 1-hr rain	3	2		61	38	29	18	30	53	51	4	1
Day of max 1-hr	1	7		29	25	7	22	26	25	4	19	5

Total rain for the year	1556
Total rain days for the year	117

Daily Point Rainfall in millimeters (meteorological day)

2016		Station: Arayat										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	1	5	1	3	0	0	0
2	5	0	0	0	0	25	0	0	0	0	0	0
3	0	0	0	0	0	0	15	0	29	22	0	0
4	0	0	0	0	0	0	0	39	4	93	0	0
5	0	0	0	0	0	0	1	4	0	0	0	6
6	0	0	0	0	0	1	0	23	0	6	8	0
7	0	0	0	0	0	1	4	0	2	47	0	1
8	0	0	0	0	0	0	4	11	0	7	0	0
9	0	0	0	0	0	0	49	36	0	0	0	0
10	0	0	0	0	0	0	17	0	0	48	0	0
11	0	0	0	0	78	1	2	23	31	1	0	0
12	0	0	0	0	0	5	10	107	0	0	2	0
13	0	0	0	0	0	1	0	36	0	9	0	3
14	0	0	0	0	0	0	0	16	0	0	0	0
15	0	0	0	0	0	0	1	27	0	32	2	0
16	0	0	0	0	0	0	0	76	0	23	0	0
17	0	0	0	0	0	0	0	9	1	0	0	0
18	0	0	0	0	31	0	0	0	9	16	24	0
19	0	0	0	0	8	0	0	10	2	20	1	0
20	0	0	0	0	1	0	0	10	0	10	0	0
21	0	0	0	0	0	0	0	1	0	0	0	0
22	0	0	0	0	0	0	22	10	0	7	0	0
23	0	0	0	0	0	1	60	0	0	0	0	0
24	0	0	0	0	0	7	2	1	1	0	0	0
25	0	0	0	0	46	4	0	7	70	0	7	0
26	0	0	0	0	0	2	0	1	14	0	3	28
27	0	0	0	0	0	20	0	1	12	0	0	0
28	0	0	0	0	0	7	0	28	10	0	0	0
29	0	0	0	4	87	0	0	4	0	0	9	5
30	0		0	19	12	0	0	0	4	0	0	0
31	0		0		2		2	0		0		2

Monthly Total	5	0	0	23	265	76	194	481	192	341	56	45
Average	0.16	0.00	0.00	0.77	8.55	2.53	6.26	15.52	6.40	11.00	1.87	1.45
Max daily rain	5	0	0	19	87	25	60	107	70	93	24	28
Day of Max Daily	2			30	29	2	23	12	25	4	18	26
No. of Rain days	1	0	0	2	8	13	14	23	14	14	8	6
Max 1-hr rain	4			19	57	24	30	23	51	58	8	27
Day of max 1-hr	2			31	29	2	23	16	25	4	6	26

Total rain for the year	1678
Total rain days for the year	103

Daily Point Rainfall in millimeters (meteorological day)

2016		Station: Candaba										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1	0	0	0	0	2	1	16	0	0	0	0
2	0	0	0	0	0	34	5	0	0	1	0	0
3	0	0	0	0	0	0	12	5	0	0	1	0
4	0	0	0	0	0	0	0	17	3	33	0	1
5	0	0	0	0	0	0	0	15	0	0	0	2
6	0	0	0	0	0	13	0	16	0	11	0	0
7	0	0	0	0	0	2	3	0	22	12	0	2
8	0	0	0	0	0	0	1	1	1	5	0	0
9	0	0	0	0	0	0	55	11	0	1	0	0
10	0	0	0	0	0	0	9	1	0	15	0	0
11	0	0	0	0	25	4	2	2	21	1	0	1
12	0	0	0	0	14	17	0	96	0	0	1	1
13	0	0	0	0	0	0	3	56	0	4	0	0
14	2	0	0	0	0	0	0	28	1	0	0	0
15	1	0	0	0	0	0	0	85	1	36	4	0
16	0	0	0	13	0	0	0	87	0	55	1	0
17	0	0	0	0	0	0	0	6	0	5	0	0
18	0	0	0	0	20	0	0	0	8	16	25	1
19	0	0	0	0	2	0	0	1	3	10	1	0
20	0	0	0	0	0	0	0	19	0	17	1	0
21	0	0	0	0	0	0	0	1	1	0	0	0
22	0	0	0	0	0	0	33	2	0	1	0	0
23	0	0	0	0	0	5	32	2	0	0	0	0
24	0	0	0	0	0	4	2	3	0	0	0	0
25	0	0	0	0	39	9	0	1	72	0	9	2
26	0	0	0	0	0	2	4	6	0	0	3	21
27	0	0	0	0	0	17	0	1	31	0	1	0
28	0	0	0	0	8	14	0	14	1	0	3	0
29	2	0	0	3	2	0	0	8	0	0	5	2
30	0		0	0	1	0	0	1	0	0	0	1
31	0		0		10		8	0		0		0

Monthly Total	6	0	0	16	121	123	170	501	165	223	55	34
Average	0.19	0.00	0.00	0.53	3.90	4.10	5.48	16.16	5.50	7.19	1.83	1.10
Max daily rain	2	0	0	13	39	34	55	96	72	55	25	21
Day of Max Daily	14			16	25	2	9	12	25	16	18	26
No. of Rain days	4	0	0	2	9	12	14	27	12	16	12	10
Max 1-hr rain	2			13	18	30	26	30	37	17	5	15
Day of max 1-hr	14			16	25	2	23	15	25	16	19	26

Total rain for the year	1414
Total rain days for the year	118

Daily Point Rainfall in millimeters (meteorological day)

2016	Station: Sibul_Springs											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	2	0	0	0	0	0	0	13	8	0	0	0
2	1	0	0	0	0	25	0	0	0	6	9	1
3	0	0	0	0	0	0	19	25	4	0	0	0
4	0	0	0	0	0	4	0	26	11	25	0	2
5	0	1	0	0	0	2	10	38	0	0	0	3
6	0	2	0	0	0	15	0	3	0	3	0	0
7	0	0	0	0	0	39	41	6	22	9	0	7
8	0	0	0	0	0	0	0	8	1	2	0	3
9	0	0	0	0	0	0	46	20	0	0	0	0
10	0	0	0	0	0	12	24	2	0	16	0	0
11	0	0	0	0	5	2	1	2	0	43	0	0
12	0	0	0	0	2	46	10	37	0	0	6	0
13	0	0	0	0	0	0	0	50	0	1	0	2
14	0	0	0	0	0	21	1	26	0	0	0	9
15	0	0	0	0	0	24	0	80	0	90	6	8
16	0	0	0	0	2	7	22	35	0	46	19	3
17	0	0	0	0	37	0	7	16	0	28	3	0
18	0	0	0	0	47	9	0	2	0	0	18	2
19	0	0	0	4	2	1	0	2	6	19	5	0
20	0	0	0	0	1	0	0	84	0	30	0	0
21	0	0	0	0	50	0	0	18	19	20	0	0
22	0	0	0	0	0	4	11	0	2	0	0	0
23	0	0	0	0	0	0	5	0	0	0	0	0
24	0	0	0	0	35	31	15	0	2	0	0	0
25	0	0	0	0	38	1	0	5	68	0	7	9
26	0	0	0	0	0	6	0	7	0	0	11	14
27	1	0	1	0	1	43	0	2	9	0	1	35
28	0	0	0	0	0	0	0	14	3	1	0	0
29	0	0	0	2	7	2	15	11	0	0	6	3
30	3		0	1	3	2	1	2	0	0	2	0
31	0		0		27		16	0		0		2

Monthly Total	7	3	1	7	257	296	244	534	155	339	93	103
Average	0.23	0.10	0.03	0.23	8.29	9.87	7.87	17.23	5.17	10.94	3.10	3.32
Max daily rain	3	2	1	4	50	46	46	84	68	90	19	35
Day of Max Daily	30	6	27	19	21	12	9	20	25	15	16	27
No. of Rain days	4	2	1	3	14	20	16	26	12	15	12	15
Max 1-hr rain	3	1	1	2	42	34	35	36	46	37	7	34
Day of max 1-hr	30	6	27	20	21	7	7	20	25	11	17	27

Total rain for the year	2039
Total rain days for the year	140

Daily Point Rainfall in millimeters (meteorological day)

2016	Station: Sasmuan											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	3	3	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	2	1
3	0	0	0	0	0	0	7	0	0	2	0	0
4	0	0	0	0	0	0	0	1	18	32	0	0
5	0	0	0	0	0	1	0	9	0	7	4	4
6	0	0	0	0	0	0	0	0	0	14	0	0
7	0	0	0	0	0	0	23	7	0	31	0	1
8	0	0	0	0	0	0	12	5	5	9	0	0
9	0	0	0	0	0	0	127	24	0	5	0	0
10	0	0	0	0	0	0	28	2	16	4	0	15
11	0	0	8	0	0	0	15	18	0	3	0	0
12	0	0	0	0	0	2	0	83	0	0	0	0
13	0	0	0	0	0	0	0	118	8	11	0	0
14	0	0	0	0	0	0	0	93	0	0	0	0
15	0	0	0	0	0	0	0	144	0	28	0	0
16	0	0	0	0	0	0	0	56	0	31	0	1
17	0	0	0	0	0	0	6	3	16	1	0	0
18	0	0	0	0	58	0	0	9	5	7	11	0
19	0	0	0	0	16	19	0	3	2	21	2	0
20	0	0	0	0	0	1	0	14	0	38	0	0
21	0	0	0	0	0	0	7	0	1	0	0	0
22	0	0	0	0	0	0	26	43	0	0	0	0
23	0	0	0	0	0	0	1	0	18	0	0	0
24	0	0	0	0	0	19	3	2	0	0	0	0
25	0	0	0	0	9	5	0	3	12	0	2	1
26	0	0	0	0	0	3	0	13	0	0	2	18
27	0	0	0	0	0	7	0	9	42	0	0	0
28	0	0	0	0	0	5	0	56	9	0	0	0
29	0	0	0	11	7	0	0	9	4	0	0	0
30	0		0	0	11	0	0	0	13	0	0	0
31	0		0		1		23	0		0		0

Monthly Total	0	0	8	11	102	62	281	727	169	244	23	41
Average	0.00	0.00	0.26	0.37	3.29	2.07	9.06	23.45	5.63	7.87	0.77	1.32
Max daily rain	0	0	8	11	58	19	127	144	42	38	11	18
Day of Max Daily	1		11	29	18	19	9	15	27	20	18	26
No. of Rain days	0	0	1	1	6	9	13	24	14	16	6	7
Max 1-hr rain			8	6	53	19	22	30	19	24	6	11
Day of max 1-hr			11	29	18	24	22	22	27	4	19	10

Total rain for the year	1668
Total rain days for the year	97

Daily Point Rainfall in millimeters (meteorological day)

2016	Station: Sulipan											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	9	5	0	0	0	0
2	0	0	0	0	0	0	2	0	0	0	10	6
3	0	0	0	0	0	0	0	1	0	0	0	0
4	0	0	0	0	0	0	2	0	11	22	0	3
5	0	0	0	0	0	0	36	21	0	1	1	4
6	0	0	0	0	8	5	0	1	0	6	0	0
7	0	0	0	0	0	0	12	0	0	7	0	3
8	0	0	0	0	0	0	11	2	10	10	0	0
9	0	0	0	0	0	0	86	19	0	9	0	15
10	0	0	0	0	0	0	11	1	5	45	0	3
11	0	0	0	0	5	12	5	2	2	0	0	0
12	0	0	0	0	0	12	1	51	6	42	0	2
13	0	0	0	0	0	0	0	89	0	0	0	0
14	0	0	0	0	8	0	4	28	0	0	0	0
15	0	0	0	0	0	0	0	69	0	17	0	1
16	0	0	0	0	0	0	0	31	0	67	1	0
17	0	0	0	0	0	0	3	4	1	0	0	0
18	0	0	0	0	28	3	5	13	10	0	14	2
19	0	0	0	0	7	2	0	2	8	15	1	0
20	0	0	0	0	1	1	0	11	0	33	0	0
21	0	0	0	0	0	24	0	0	1	0	0	6
22	0	0	0	0	0	0	40	10	0	0	0	0
23	0	0	0	0	0	1	2	6	0	7	0	0
24	0	0	0	0	0	8	14	4	0	1	0	0
25	0	0	0	0	29	33	0	11	7	0	5	3
26	0	0	0	0	0	3	0	22	0	0	3	21
27	0	0	0	0	0	0	0	8	26	0	0	0
28	0	0	0	0	0	24	0	24	4	7	5	0
29	0	0	0	2	10	1	0	4	2	0	1	0
30	0		0	1	6	0	0	0	4	0	1	0
31	0		0		24		11	0		0		1

Monthly Total	0	0	0	3	126	129	254	439	97	289	42	70
Average	0.00	0.00	0.00	0.10	4.06	4.30	8.19	14.16	3.23	9.32	1.40	2.26
Max daily rain	0	0	0	2	29	33	86	89	26	67	14	21
Day of Max Daily				29	25	25	9	13	27	16	18	26
No. of Rain days	0	0	0	2	10	13	17	25	14	15	10	13
Max 1-hr rain				2	20	29	35	39	14	37	5	14
Day of max 1-hr				30	18	25	5	13	28	12	2	9

Total rain for the year	1449
Total rain days for the year	119

Daily Point Rainfall in millimeters (meteorological day)

2016	Station: Mexico											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	6	0	3	0	1	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	5	0	0	2	0	0
4	0	0	0	0	0	0	2	12	6	33	0	0
5	0	0	0	0	20	0	4	13	0	0	0	2
6	0	0	0	0	0	2	0	1	0	15	0	0
7	0	0	0	0	0	0	11	0	0	39	0	1
8	0	0	0	0	0	0	4	0	0	10	0	0
9	0	0	0	0	0	0	85	23	0	0	0	0
10	0	0	0	0	0	0	17	1	0	6	0	0
11	0	0	0	0	11	1	6	25	12	0	0	0
12	0	0	0	0	0	4	6	112	0	0	2	1
13	0	0	0	0	0	0	0	65	0	5	0	5
14	0	0	0	0	0	0	0	36	0	0	0	0
15	0	0	0	0	0	0	0	157	0	36	1	1
16	0	0	0	0	0	0	0	193	0	22	1	0
17	0	0	0	0	0	3	0	4	2	1	0	0
18	0	0	0	0	25	0	5	0	0	24	26	0
19	0	0	0	0	7	1	0	0	1	12	2	0
20	0	0	0	0	0	0	0	14	0	13	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	35	11	0	3	0	0
23	0	0	0	0	0	10	65	0	12	0	0	0
24	0	0	0	0	1	15	7	1	0	0	0	0
25	0	0	0	0	21	12	0	0	17	0	3	2
26	0	0	0	0	0	3	13	3	0	0	2	20
27	0	0	0	0	0	0	0	3	27	0	0	0
28	0	0	0	0	0	4	0	32	4	0	2	0
29	0	0	0	1	18	0	0	3	6	0	9	0
30	0		0	10	2	0	0	0	5	0	0	0
31	0		0		5		8	0		0		1

Monthly Total	0	0	0	11	110	61	273	712	92	222	48	33
Average	0.00	0.00	0.00	0.37	3.55	2.03	8.81	22.97	3.07	7.16	1.60	1.06
Max daily rain	0	0	0	10	25	15	85	193	27	39	26	20
Day of Max Daily				30	18	24	9	16	27	7	18	26
No. of Rain days	0	0	0	2	9	11	15	20	10	15	9	8
Max 1-hr rain				5	19	12	59	48	14	24	9	13
Day of max 1-hr				31	5	24	23	16	28	18	29	26

Total rain for the year	1562
Total rain days for the year	99

Daily Point Rainfall in millimeters (meteorological day)

2016		Station: Porac										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	13	0	0	0	0
2	0	0	0	0	0	1	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	11	0	0
4	0	0	0	0	0	26	0	1	23	31	0	0
5	0	0	0	0	0	36	18	43	0	0	32	2
6	0	0	0	0	0	1	0	0	0	26	4	0
7	0	0	0	0	0	0	13	2	2	43	0	0
8	0	0	0	0	0	0	3	2	1	20	0	0
9	0	0	0	0	0	1	91	36	0	0	0	0
10	0	0	0	0	0	14	22	2	10	1	0	0
11	0	0	0	0	0	0	3	17	0	0	0	0
12	0	0	0	0	0	2	0	110	0	0	0	0
13	0	0	0	0	0	0	0	56	0	18	0	1
14	0	0	0	0	0	1	0	21	0	0	0	0
15	0	0	0	0	9	0	0	21	6	51	0	0
16	0	0	0	0	0	0	0	42	0	42	0	0
17	0	0	0	0	18	1	0	14	13	0	0	0
18	0	0	0	0	11	0	0	8	1	4	14	0
19	0	0	0	0	11	0	0	6	2	14	2	0
20	0	0	0	0	0	0	0	22	0	12	0	0
21	0	0	0	0	0	0	4	5	0	0	0	0
22	0	0	0	0	0	5	8	31	0	0	0	0
23	0	0	0	0	0	13	71	1	66	0	0	0
24	0	0	0	0	0	19	0	5	16	0	0	0
25	0	1	2	27	16	15	0	1	20	0	0	0
26	0	0	0	0	0	3	0	4	2	0	2	18
27	0	0	0	0	0	1	0	5	30	0	0	0
28	0	0	0	0	0	0	0	33	42	1	0	0
29	0	0	0	34	9	0	2	3	7	0	4	0
30	0		0	0	9	0	0	0	36	0	0	0
31	0		0		0		10	0		0		1

Monthly Total	0	1	2	61	83	139	245	504	277	274	58	22
Average	0.00	0.03	0.06	2.03	2.68	4.63	7.90	16.26	9.23	8.84	1.93	0.71
Max daily rain	0	1	2	34	18	36	91	110	66	51	32	18
Day of Max Daily		25	25	29	17	5	9	12	23	15	5	26
No. of Rain days	0	1	1	2	7	15	11	26	16	13	6	4
Max 1-hr rain		1	2	19	18	32	56	26	35	19	9	14
Day of max 1-hr		25	25	25	17	5	23	5	23	16	6	26

Total rain for the year	1666
Total rain days for the year	102

Daily Point Rainfall in millimeters (meteorological day)

2016		Station: San_Rafael										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	10	0	0	0	0
2	1	0	0	0	0	16	26	1	0	0	23	5
3	0	0	0	0	0	0	3	6	0	0	0	0
4	0	0	0	0	0	0	0	9	13	20	0	3
5	0	0	0	0	0	0	0	22	0	0	0	3
6	0	0	0	0	0	16	2	1	0	9	0	0
7	0	0	0	0	0	7	2	0	17	5	0	5
8	0	0	0	0	0	0	4	1	33	4	0	0
9	0	0	0	0	0	0	60	28	0	0	0	0
10	0	0	0	0	0	0	16	1	0	16	0	3
11	0	0	0	0	0	4	3	1	2	3	0	0
12	0	0	0	0	0	3	1	72	3	3	0	2
13	0	0	0	0	0	0	1	82	0	4	0	3
14	0	0	0	0	0	0	13	29	0	0	0	1
15	0	0	0	0	0	15	13	54	0	82	0	1
16	0	0	0	0	0	0	0	94	0	79	2	2
17	0	0	0	0	0	0	0	12	2	5	2	0
18	0	0	0	0	73	4	0	7	1	4	16	3
19	0	0	0	0	14	1	0	2	8	17	1	0
20	0	0	0	0	0	3	0	14	0	31	0	0
21	0	0	0	0	12	0	0	0	1	0	0	1
22	0	0	0	0	0	0	3	1	1	0	0	0
23	0	0	0	0	0	0	15	1	2	1	0	0
24	0	0	0	0	6	11	1	1	8	0	0	0
25	0	0	0	0	78	1	0	1	8	0	12	4
26	0	0	0	0	0	2	3	35	0	0	4	20
27	0	0	0	0	0	0	13	1	20	0	7	0
28	0	0	0	0	0	73	0	29	17	30	2	0
29	0	0	0	5	7	0	0	2	3	0	3	2
30	0		0	0	0	0	0	0	0	1	0	0
31	0		0		2		18	0		0		2

Monthly Total	1	0	0	5	192	156	197	517	139	314	72	60
Average	0.03	0.00	0.00	0.17	6.19	5.20	6.35	16.68	4.63	10.13	2.40	1.94
Max daily rain	1	0	0	5	78	73	60	94	33	82	23	20
Day of Max Daily	2			29		28	9	16	8	15	2	26
No. of Rain days	1	0	0	1	7	13	18	27	16	17	10	16
Max 1-hr rain	1			5	44	70	15	42	17	38	8	17
Day of max 1-hr	3			29	18	28	2	16	8	16	2	2

Total rain for the year	1653
Total rain days for the year	126

Daily Point Rainfall in millimeters (meteorological day)

2016	Station: PRFFWC_(CSFP)											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.0	0.0	0.0	0.0	0.0	3.6	0.0	4.8	0.0	0.8	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0
3	0.0	0.0	0.0	0.0	0.0	1.8	0.8	0.3	0.0	3.8	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	13.2	0.0	2.8	11.4	29.2	0.0	0.0
5	0.0	0.0	0.0	0.0	3.0	1.8	5.1	26.2	0.0	0.0	7.1	1.3
6	0.0	0.5	0.0	0.0	0.0	15.2	0.0	1.3	0.0	22.1	0.5	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	7.9	0.8	0.0	21.8	0.0	0.0
8	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.8	0.3	13.0	0.0	0.0
9	0.0	0.3	0.0	0.0	0.0	0.0	60.5	26.7	0.8	0.0	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	0.8	17.8	0.0	0.0	12.2	0.0	3.6
11	0.0	0.0	0.8	0.0	14.0	0.0	8.1	12.4	3.6	0.3	0.0	0.0
12	0.0	0.0	0.0	0.0	0.0	3.6	0.0	227.3	0.0	0.0	1.8	4.8
13	0.0	0.0	0.0	0.0	0.5	0.0	0.0	46.2	0.0	2.8	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2	0.0	0.0	0.0	0.0
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	77.2	0.0	30.5	1.0	0.8
16	0.0	0.0	0.0	0.0	3.6	0.0	0.0	201.2	0.0	40.4	0.5	0.0
17	0.0	0.0	0.0	0.0	1.3	4.6	0.0	6.6	8.1	0.5	0.0	0.0
18	0.0	0.0	0.0	0.0	34.5	0.0	0.0	1.5	0.0	7.4	20.3	0.5
19	0.0	0.0	0.0	0.0	10.4	0.0	0.0	0.8	0.8	7.9	2.5	0.0
20	0.0	0.0	0.0	0.0	0.3	0.3	0.0	74.4	0.0	10.7	0.0	0.0
21	0.0	0.0	0.0	0.0	0.0	0.0	25.9	5.1	0.0	0.0	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	0.0	10.7	65.3	0.0	0.0	0.0	0.0
23	0.0	0.0	0.0	0.0	0.0	1.0	38.9	4.1	26.7	3.8	0.0	0.0
24	0.0	0.0	0.0	0.0	0.3	3.3	1.5	2.3	0.0	0.0	0.0	0.0
25	0.0	0.3	1.0	0.0	10.7	3.8	0.0	1.0	4.8	0.0	2.0	1.5
26	0.0	0.0	0.0	0.0	0.0	2.8	5.3	8.9	0.0	0.0	1.3	17.0
27	0.0	0.0	0.0	0.0	0.0	1.0	0.0	2.5	11.7	0.0	0.0	0.0
28	0.0	0.0	0.0	0.0	0.0	0.8	0.0	40.1	15.5	1.0	14.2	0.0
29	0.0	0.0	0.0	16.8	5.1	0.0	0.0	17.8	5.1	0.0	6.6	0.3
30	0.0		0.0	0.8	25.4	0.0	0.0	0.0	10.7	0.0	0.0	0.0
31	0.0		0.0		6.4		6.9	0.0		0.0		0.8

Monthly Total	0.0	1.0	1.8	17.5	115.3	57.4	191.5	871.5	99.3	208.0	58.4	30.5
Average	0.00	0.04	0.06	0.58	3.72	1.91	6.18	28.11	3.31	6.71	1.95	0.98
Max daily rain	0.0	0.5	1.0	16.8	34.5	15.2	60.5	227.3	26.7	40.4	20.3	17.0
Day of Max Daily		6	25	29	18	6	9	12	23	16	18	26
No. of Rain days	0	3	2	2	13	15	13	27	12	17	12	9
Max 1-hr rain		0.5	1	16	25.4	12.7	25.9	38.9	24.4	12.2	10.7	12.7
Day of max 1-hr		7	25	29	30	4	23	22	23	4	28	26

Total rain for the year

1652.3

Total rain days for the year

125

Note: Red colored value is an estimated 1-hour rainfall

Table 1.0

Monthly Rainfall Summary for 2016															
PRB Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total for the year	Number of RR days	Max 24-hr RR (Met day)
Muñoz	9	0	1	26	242	105	255	496	157	492	49	17	1849	117	102
Sapang Buho	4	1	4	16	110	95	148	315	292	404	81	31	1501	132	106
Gabalдон	94	34	15	14	85	217	158	350	237	574	366	206	2350	169	241
Zaragoza	4	0	0	4	170	141	188	371	212	382	49	15	1536	113	121
Mayapyap															
Peñaranda	8	5	0	43	222	140	140	401	175	326	92	19	1571	111	73
Calaanan	20	0	4	2	153	139	160	349	416	526	87	61	1917	135	115
Palali	6	13	17	24	81	317	183	380	183	345	102	49	1700	139	136
San Isidro	12	4	0	68	194	148	114	333	306	312	58	7	1556	117	111
Arayat	5	0	0	23	265	76	194	481	192	341	56	45	1678	103	107
Candaba	6	0	0	16	121	123	170	501	165	223	55	34	1414	118	96
Sibul Spring	7	3	1	7	257	296	244	534	155	339	93	103	2039	140	90
Sasmuan	0	0	8	11	102	62	281	727	169	244	23	41	1668	97	144
Sulipan	0	0	0	3	126	129	254	439	97	289	42	70	1449	119	89
Mexico	0	0	0	11	110	61	273	712	92	222	48	33	1562	99	193
Porac	0	1	2	61	83	139	245	504	277	274	58	22	1666	102	110
San Rafael	1	0	0	5	192	156	197	517	139	314	72	60	1653	126	94
PRFFWC	0.0	1.0	1.8	17.5	115.3	57.4	191.5	871.5	99.3	208.0	58.4	30.5	1652.3	125	227.3

Mayapyap RR - out of order; no data for the whole year.

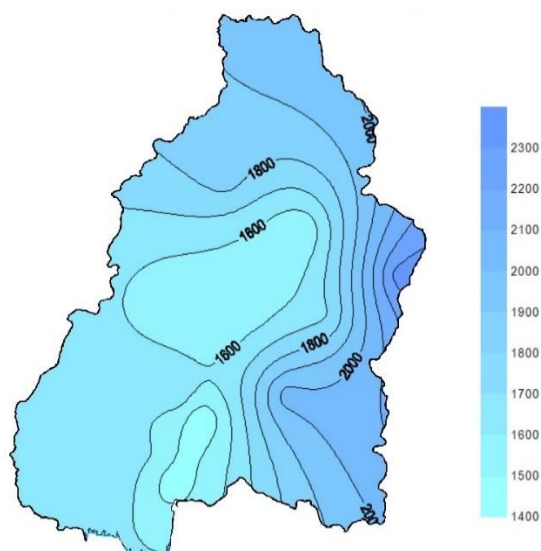


Figure 1a. The estimated Isohyet rainfall distribution for the year 2016 in the Pampanga River Basin

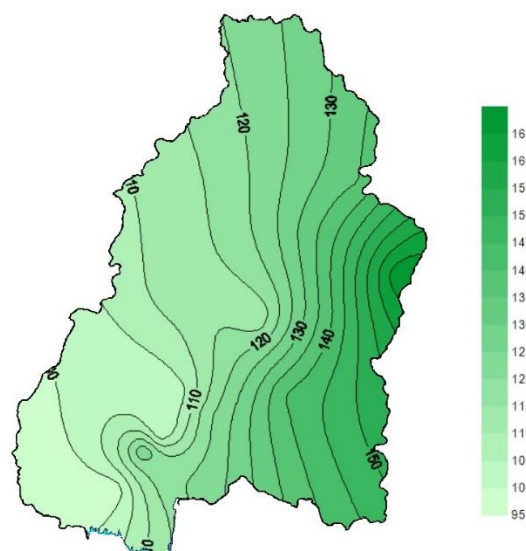


Figure 1b. Estimated rainfall days distribution (2016) in the Pampanga River Basin

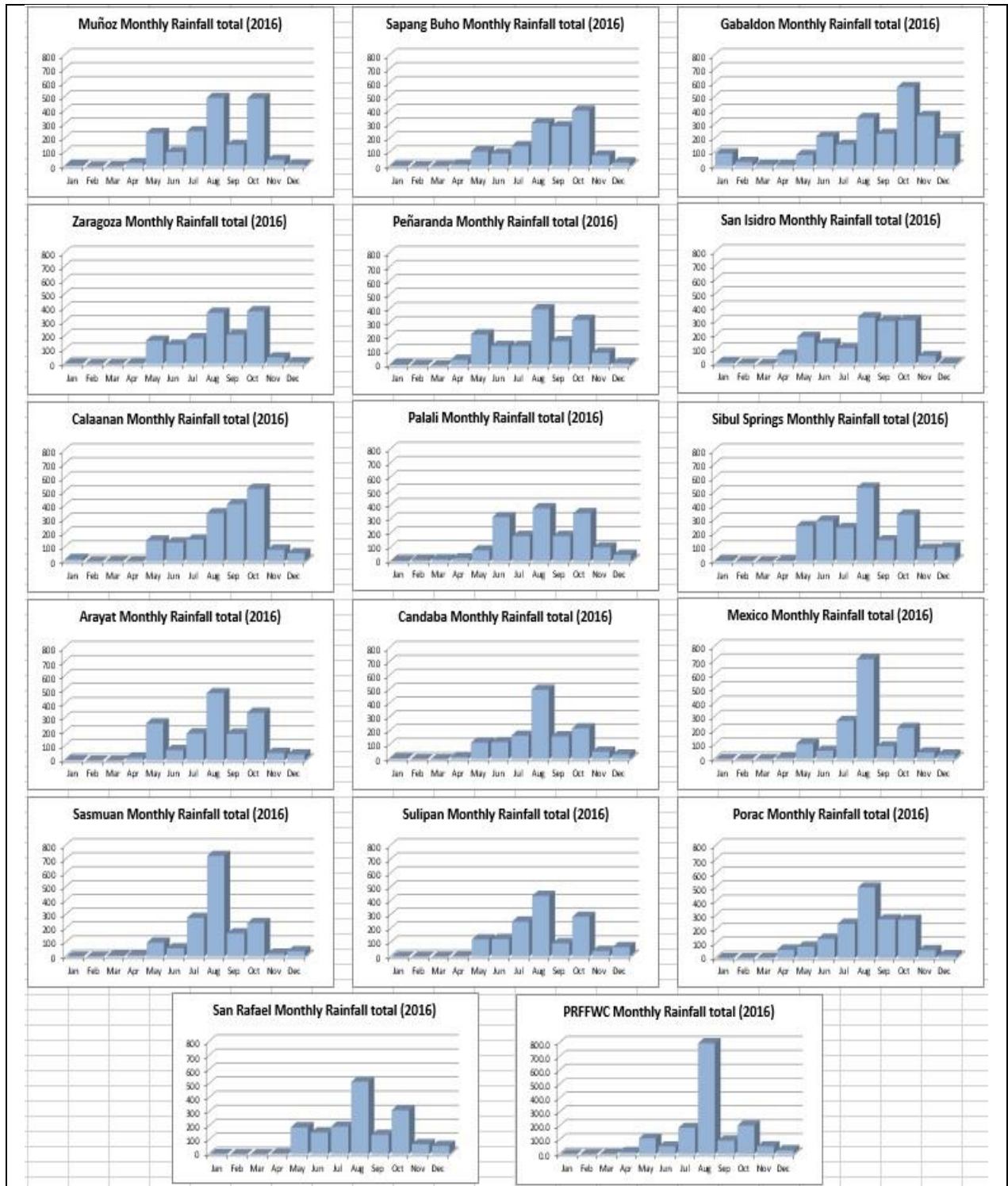


Figure 2. Monthly Rainfall distribution (hyetograph) of all operational RR monitoring stations of PRFFWC within the PRB for the year 2016.

B. WATER LEVEL Data Summary Presentation

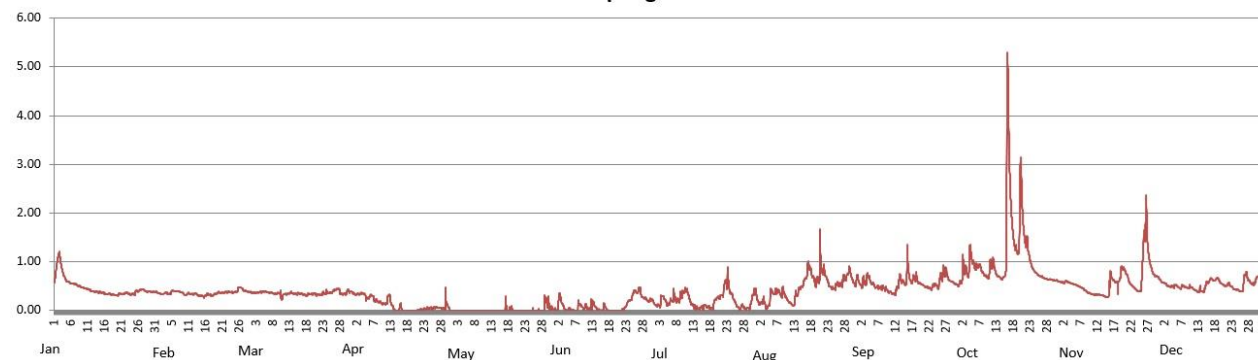


Water Level in meters (Daily Average)

2016		Station: Sapang_Buho										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.74	0.37	0.37	0.36	0.00	0.02	0.14	0.27	0.56	0.54	0.58	0.61
2	1.10	0.34	0.36	0.34	0.00	0.17	0.11	0.15	0.59	0.77	0.59	0.56
3	0.87	0.36	0.37	0.34	0.00	0.18	0.22	0.18	0.61	0.82	0.58	0.51
4	0.66	0.35	0.38	0.35	0.00	0.03	0.24	0.06	0.65	0.95	0.55	0.49
5	0.62	0.36	0.39	0.30	0.00	0.03	0.19	0.18	0.59	1.01	0.54	0.50
6	0.55	0.40	0.38	0.29	0.00	0.01	0.19	0.36	0.48	0.89	0.51	0.49
7	0.55	0.40	0.37	0.26	0.00	0.00	0.26	0.39	0.47	0.92	0.48	0.47
8	0.51	0.37	0.35	0.20	0.00	0.10	0.20	0.33	0.46	0.80	0.42	0.50
9	0.48	0.33	0.35	0.17	0.00	0.09	0.28	0.36	0.43	0.71	0.37	0.47
10	0.45	0.34	0.32	0.14	0.00	0.06	0.40	0.24	0.39	0.75	0.34	0.48
11	0.44	0.34	0.32	0.17	0.00	0.04	0.36	0.16	0.35	0.95	0.33	0.43
12	0.40	0.34	0.34	0.27	0.00	0.13	0.16	0.12	0.41	0.81	0.33	0.40
13	0.39	0.32	0.36	0.07	0.00	0.10	0.08	0.33	0.62	0.70	0.31	0.40
14	0.38	0.30	0.35	0.00	0.00	0.02	0.05	0.47	0.60	0.66	0.29	0.43
15	0.37	0.30	0.35	0.06	0.00	0.00	0.06	0.56	0.72	1.18	0.33	0.57
16	0.35	0.33	0.35	0.00	0.00	0.06	0.08	0.77	0.73	3.84	0.68	0.64
17	0.34	0.32	0.33	0.00	0.06	0.00	0.08	0.87	0.63	1.84	0.60	0.62
18	0.33	0.33	0.32	0.00	0.01	0.00	0.05	0.67	0.65	1.30	0.59	0.66
19	0.32	0.36	0.34	0.00	0.02	0.00	0.15	0.60	0.56	1.48	0.81	0.58
20	0.33	0.36	0.34	0.00	0.00	0.00	0.26	0.90	0.53	2.39	0.83	0.52
21	0.34	0.37	0.33	0.01	0.00	0.01	0.29	0.83	0.49	1.43	0.68	0.53
22	0.35	0.38	0.32	0.03	0.00	0.05	0.45	0.67	0.46	1.21	0.53	0.52
23	0.36	0.38	0.35	0.04	0.00	0.18	0.62	0.50	0.50	0.92	0.46	0.45
24	0.34	0.37	0.36	0.04	0.00	0.25	0.37	0.45	0.52	0.79	0.40	0.43
25	0.37	0.42	0.37	0.05	0.01	0.39	0.23	0.52	0.58	0.73	0.59	0.40
26	0.41	0.47	0.41	0.06	0.00	0.40	0.09	0.54	0.75	0.69	1.56	0.59
27	0.43	0.42	0.44	0.06	0.00	0.35	0.06	0.61	0.78	0.66	1.47	0.70
28	0.41	0.39	0.39	0.05	0.00	0.26	0.07	0.69	0.63	0.64	0.90	0.58
29	0.39	0.37	0.34	0.13	0.15	0.20	0.04	0.80	0.59	0.64	0.74	0.54
30	0.38		0.37	0.04	0.11	0.22	0.12	0.60	0.55	0.62	0.69	0.67
31	0.38		0.39		0.03		0.36	0.62		0.61		0.66

Max WL observed	1.20	0.48	0.45	0.47	0.32	0.47	0.90	1.66	1.34	5.30	2.37	0.80
Day of Max WL	3	26	27	29	29	27	23	20	16	16	27	27

Sapang Buho WL 2016



Water Level in meters (Daily Average)

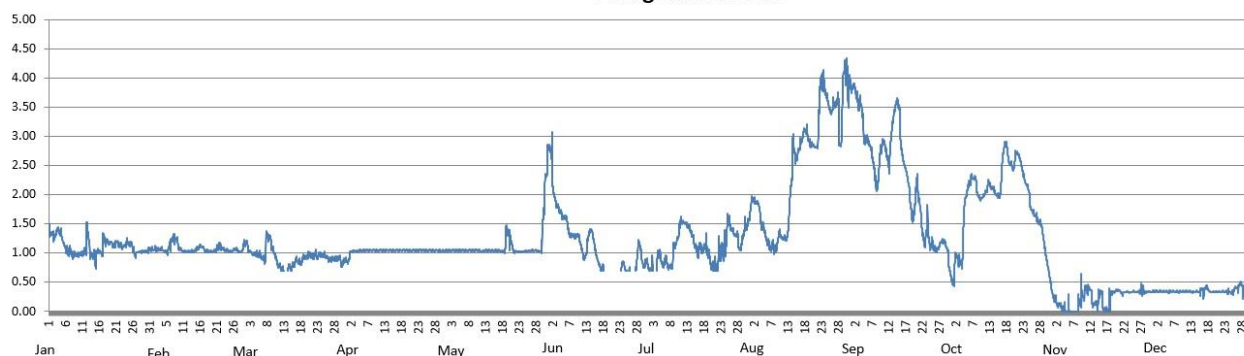
2016

Station: **Zaragoza**

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1.36	1.06	1.18	0.87	1.04	2.79	0.77	1.79	3.85	0.51	0.20	0.34
2	1.29	1.06	1.08	1.02	1.05	2.29	0.74	1.89	3.68	0.92	0.11	0.34
3	1.38	1.06	1.00	1.03	1.05	1.86	0.70	1.85	3.53	0.83	0.06	0.34
4	1.34	1.06	1.00	1.03	1.05	1.74	0.97	1.56	3.17	1.12	0.01	0.34
5	1.26	1.04	0.99	1.04	1.05	1.68	0.91	1.47	3.06	1.54	0.02	0.34
6	1.02	1.12	0.93	1.04	1.05	1.60	0.85	1.20	2.84	2.16	0.00	0.34
7	1.03	1.26	1.01	1.05	1.05	1.34	0.77	1.11	2.55	2.29	0.00	0.34
8	0.95	1.24	1.29	1.05	1.05	1.31	0.81	1.06	2.18	2.23	0.09	0.34
9	0.98	1.09	1.14	1.05	1.05	1.28	1.13	1.17	2.61	1.96	0.24	0.34
10	0.98	1.03	0.96	1.05	1.05	1.24	1.31	1.30	2.88	1.96	0.34	0.34
11	1.01	1.03	0.80	1.05	1.04	1.01	1.54	1.25	2.71	2.04	0.38	0.34
12	1.26	1.03	0.74	1.05	1.03	0.98	1.52	1.34	2.69	2.18	0.26	0.34
13	1.07	1.03	0.71	1.05	1.04	1.32	1.46	2.06	3.28	2.11	0.13	0.33
14	0.97	1.06	0.77	1.05	1.04	1.33	1.34	2.71	3.56	2.02	0.17	0.34
15	0.93	1.10	0.75	1.05	1.04	1.03	1.15	2.67	3.24	1.97	0.30	0.36
16	1.02	1.10	0.84	1.05	1.04	0.82	1.04	2.87	2.61	2.48	0.01	0.36
17	1.13	1.04	0.87	1.05	1.04	0.75	1.07	3.07	2.38	2.84	0.03	0.40
18	1.19	1.03	0.85	1.05	1.03	0.70	1.09	3.03	2.02	2.60	0.26	0.34
19	1.18	1.03	0.92	1.05	1.30		1.02	2.86	1.63	2.47	0.34	0.33
20	1.13	1.05	0.96	1.04	1.29		0.82	2.84	2.12	2.64	0.37	0.34
21	1.18	1.13	0.97	1.05	1.08		0.74	2.91	1.83	2.67	0.32	0.34
22	1.14	1.09	0.96	1.05	1.03		0.88	3.80	1.30	2.45	0.33	0.34
23	1.11	1.06	0.95	1.05	1.03	0.82	1.01	3.90	1.35	2.22	0.34	0.34
24	1.17	1.04	0.97	1.05	1.03	0.75	1.08	3.66	1.18	2.04	0.33	0.33
25	1.16	1.04	0.96	1.05	1.03	0.72	1.47	3.44	1.14	1.73	0.34	0.37
26	1.09	1.07	0.91	1.05	1.04		1.42	3.51	1.07	1.63	0.33	0.40
27	0.99	1.03	0.89	1.05	1.04	0.77	1.33	3.61	1.13	1.54	0.36	0.47
28	1.03	1.05	0.90	1.05	1.04	1.11	1.23	2.95	1.19	1.40	0.34	0.39
29	1.03		0.91	1.04	1.04	0.91	1.13	3.92	1.13	1.05	0.33	0.37
30	1.03		0.85	1.04	1.46	0.82	1.38	4.06	0.78	0.70	0.33	0.26
31	1.05		0.86		2.34		1.49	3.84		0.37		0.26

Max WL observed	0.83	0.63	0.67	0.37	1.98	2.37	0.98	3.96	3.31	2.90	0.64	0.51
Day of Max WL	12	8	8	12	Jun 01	2	25	31	2	17	9	27

Zaragoza WL 2016

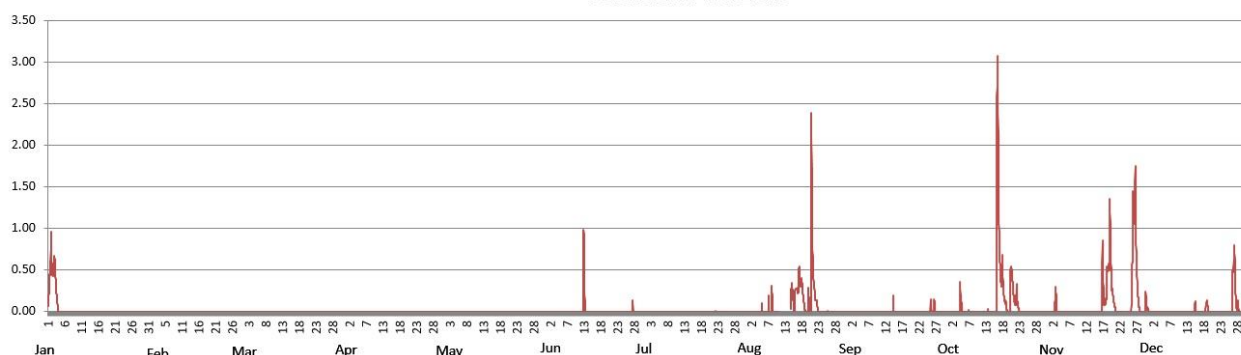


Water Level in meters (Daily Average)

2016		Station: Peñaranda										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00
3	0.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.02	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.41	0.00	0.01
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	1.45	0.15	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.00	0.39	0.19	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.09	0.43	0.06
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.04	0.65	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.38	0.10	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.15	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.05	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.11	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	1.23	0.39
27	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.43	0.19
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02
29	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
30	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.03
31	0.00		0.00		0.00		0.00	0.00		0.00		0.17

Max WL observed	0.96	0.00	0.00	0.00	0.00	0.98	0.01	2.39	0.19	3.08	1.75	0.80
Day of Max WL	2					12	23	20	14	16	27	27

Peñaranda WL 2016



Water Level in meters (Daily Average)

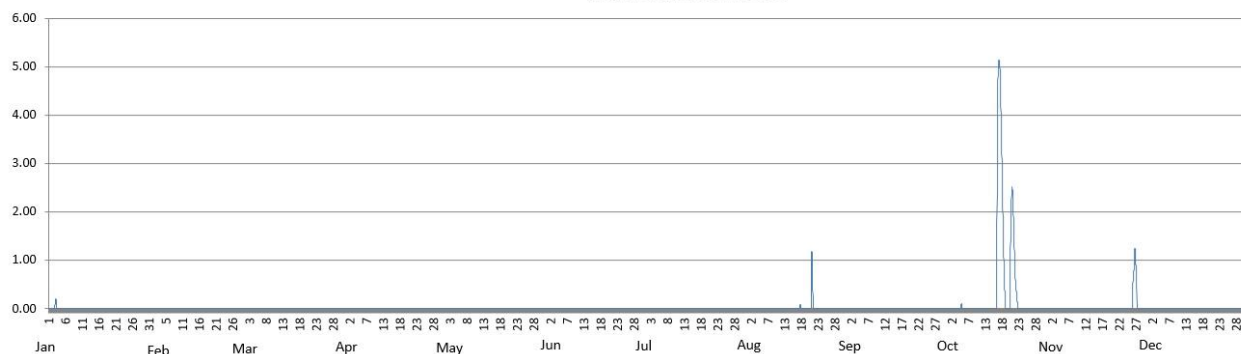
2016

Station: **San_Isidro**

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.23	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	3.48	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	1.82	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	1.10	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00		0.00		0.00		0.00	0.00		0.00		0.00

Max WL observed	0.21	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	5.14	1.25	0.00
Day of Max WL	3							21		17	27	

San Isidro WL 2016



Water Level in meters (Daily Average)

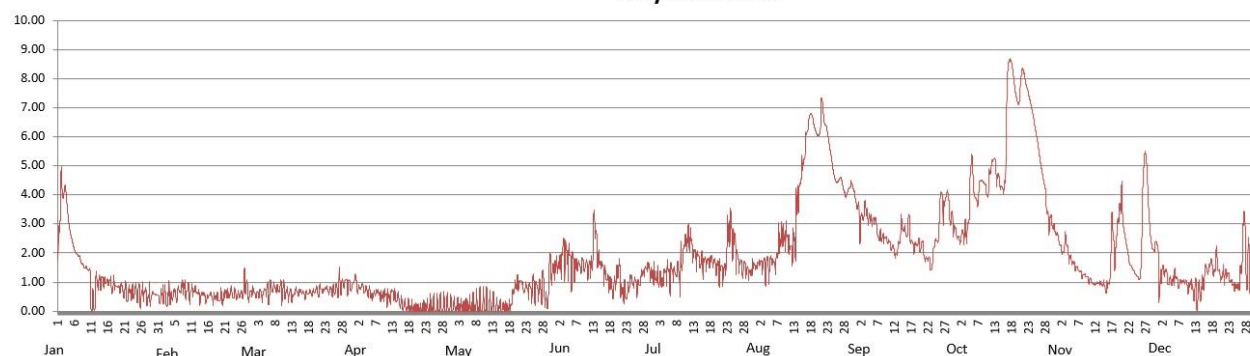
2016

Station: **Arayat**

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	2.76	0.53	0.68	1.10	0.17	1.56	1.24	1.60	3.18	2.54	2.27	1.28
2	4.24	0.53	0.57	0.76	0.17	1.62	1.08	1.65	3.26	2.57	2.12	1.33
3	4.04	0.44	0.63	0.85	0.16	2.07	1.09	1.58	3.56	2.77	2.37	1.34
4	3.00	0.39	0.62	0.74	0.14	2.01	1.28	1.59	3.21	2.93	1.84	1.02
5	2.70	0.52	0.68	0.69	0.14	1.91	1.35	1.62	3.19	3.96	1.73	1.03
6	2.03	0.60	0.71	0.51	0.16	1.54	1.34	1.68	3.05	4.06	1.50	1.20
7	1.88	0.79	0.79	0.64	0.18	1.55	1.33	1.93	2.56	3.90	1.36	0.94
8	1.63	0.76	0.77	0.64	0.22	1.56	1.35	2.42	2.47	4.47	1.21	1.03
9	1.50	0.77	0.80	0.54	0.23	1.64	1.50	2.52	2.52	4.39	1.19	1.03
10	1.38	0.63	0.68	0.54	0.24	1.56	2.33	2.58	2.37	4.17	1.04	0.84
11	0.25	0.69	0.64	0.49	0.26	1.46	2.55	2.23	2.19	4.95	0.95	0.87
12	0.65	0.65	0.61	0.61	0.23	2.19	2.41	2.34	1.97	5.19	0.95	0.69
13	0.96	0.50	0.51	0.48	0.23	2.56	2.02	3.36	2.30	4.61	0.97	0.61
14	1.04	0.54	0.69	0.42	0.16	1.74	1.81	4.33	2.94	4.31	0.92	0.77
15	1.01	0.44	0.66	0.22	0.15	1.51	1.72	5.14	2.73	4.32	0.80	1.30
16	1.02	0.56	0.64	0.18	0.12	1.22	1.68	6.03	3.00	7.62	1.26	1.43
17	0.84	0.44	0.56	0.15	0.12	1.04	1.70	6.68	2.34	8.58	2.65	1.61
18	0.91	0.48	0.65	0.12	0.19	0.73	1.78	6.54	2.21	7.90	2.30	1.54
19	0.81	0.50	0.62	0.08	0.74	1.20	1.64	6.13	2.35	7.23	3.40	1.57
20	0.77	0.48	0.74	0.08	0.89	1.39	1.48	6.32	2.26	7.82	3.44	1.18
21	0.73	0.60	0.69	0.10	1.01	0.67	1.46	6.90	1.84	8.16	2.39	1.28
22	0.56	0.63	0.72	0.13	0.79	0.60	1.42	6.29	1.78	7.65	1.75	1.24
23	0.68	0.57	0.79	0.14	0.83	0.90	2.51	5.64	1.59	7.16	1.46	0.99
24	0.69	0.53	0.72	0.16	0.72	1.03	2.81	4.91	2.33	6.58	1.26	0.86
25	0.60	0.59	0.75	0.16	0.85	0.99	2.40	4.47	2.72	5.92	1.16	0.85
26	0.50	0.81	0.75	0.17	0.76	0.91	1.80	4.54	3.91	5.15	3.57	1.56
27	0.59	0.80	0.83	0.19	0.78	1.28	1.63	4.31	3.77	4.49	5.21	2.81
28	0.48	0.60	0.89	0.19	0.96	1.44	1.47	4.02	3.90	3.54	3.33	1.57
29	0.47		0.99	0.19	0.31	1.52	1.34	4.25	3.17	3.09	2.24	0.94
30	0.59		0.90	0.19	1.46	1.24	1.35	4.28	2.81	2.89	2.27	1.34
31	0.52		0.87		1.34		1.58	3.74		2.63		1.97

Max WL observed	4.97	1.50	1.53	1.28	2.00	3.49	3.53	7.34	4.16	8.68	5.50	3.45
Day of Max WL	2	27	27	1	30	13	24	21	28	17	27	27

Arayat WL 2016

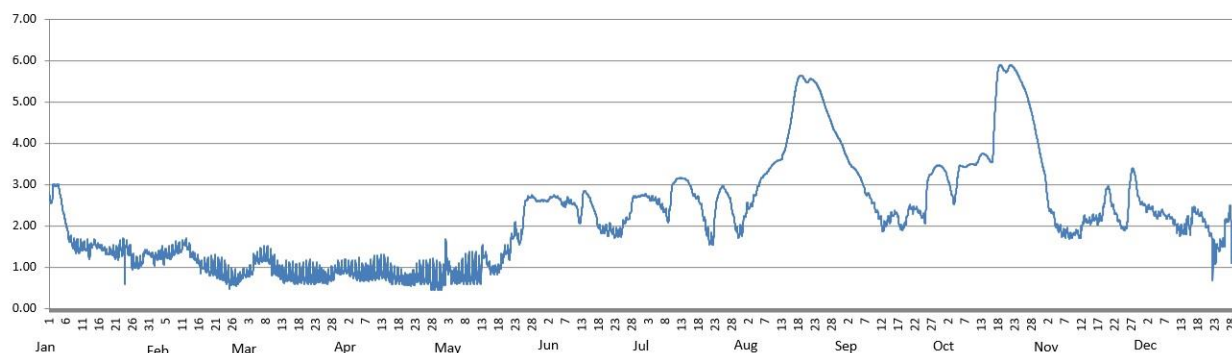


Water Level in meters (Daily Average)

2016		Station: Candaba										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	2.63	1.29	0.83	0.98	0.76	2.61	2.73	2.24	3.68	3.34	2.92	2.50
2	2.94	1.20	0.82	0.94	1.16	2.63	2.73	2.46	3.51	3.12	2.40	2.42
3	2.98	1.27	0.89	0.91	0.89	2.70	2.66	2.51	3.42	2.82	2.31	2.43
4	2.72	1.33	1.08	0.89	0.78	2.72	2.65	2.73	3.33	2.64	2.02	2.31
5	2.50	1.30	1.14	0.88	0.77	2.70	2.63	2.84	3.27	2.92	1.97	2.29
6	1.93	1.30	1.24	0.83	0.80	2.56	2.54	3.14	3.01	3.45	1.82	2.32
7	1.66	1.33	1.26	0.85	0.82	2.50	2.41	3.23	2.78	3.42	1.82	2.29
8	1.54	1.42	1.25	0.84	0.85	2.61	2.27	3.31	2.73	3.45	1.77	2.23
9	1.47	1.42	1.19	0.88	0.85	2.56	2.38	3.43	2.57	3.49	1.77	2.21
10	1.48	1.46	0.99	0.89	0.87	2.52	2.99	3.52	2.37	3.49	1.85	2.09
11	1.48	1.58	0.94	0.91	0.89	2.29	3.11	3.58	2.22	3.55	1.78	1.97
12	1.48	1.48	0.87	0.95	0.86	2.27	3.15	3.61	1.97	3.71	2.01	1.88
13	1.37	1.30	0.79	0.91	1.30	2.83	3.15	3.81	2.05	3.74	2.16	1.88
14	1.56	1.24	0.82	0.89	1.22	2.74	3.12	4.12	2.14	3.67	2.12	2.07
15	1.53	1.15	0.81	0.77	1.01	2.58	3.02	4.53	2.26	3.56	2.16	2.00
16	1.51	1.02	0.79	0.78	0.93	2.38	2.81	5.05	2.31	4.23	2.18	2.39
17	1.45	1.02	0.77	0.76	0.94	2.07	2.70	5.49	2.09	5.51	2.15	2.32
18	1.38	0.98	0.79	0.75	0.99	1.90	2.61	5.63	1.96	5.87	2.25	2.27
19	1.37	0.96	0.79	0.69	1.21	1.89	2.34	5.57	2.09	5.78	2.71	2.14
20	1.37	0.96	0.80	0.68	1.39	1.88	1.98	5.48	2.39	5.75	2.90	1.99
21	1.32	0.90	0.80	0.69	1.34	1.93	1.70	5.55	2.42	5.88	2.56	1.81
22	1.40	0.87	0.80	0.72	1.72	1.81	1.66	5.51	2.42	5.83	2.33	1.42
23	1.47	0.82	0.81	0.81	1.90	1.81	2.32	5.41	2.35	5.70	2.16	1.39
24	1.37	0.75	0.80	0.78	1.65	1.83	2.78	5.24	2.24	5.54	1.98	1.51
25	1.38	0.68	0.79	0.78	1.94	2.06	2.93	5.01	2.32	5.37	1.93	1.56
26	1.13	0.70	0.73	0.78	2.55	2.16	2.86	4.78	3.14	5.17	2.44	2.12
27	1.07	0.69	0.75	0.72	2.68	2.30	2.72	4.58	3.28	4.90	3.27	2.30
28	1.06	0.75	0.78	0.70	2.71	2.68	2.42	4.37	3.41	4.57	3.23	1.48
29	1.16		0.90	0.68	2.64	2.70	2.03	4.20	3.45	4.18	2.77	1.98
30	1.38		0.93	0.69	2.60	2.72	1.81	4.07	3.44	3.79	2.55	1.99
31	1.33		0.92		2.61		1.88	3.89		3.42		2.01

Max WL observed	3.01	1.70	1.51	1.32	2.75	2.85	3.16	5.64	3.77	5.89	3.39	2.53
Day of Max WL	2	12	8	12	28	13	13	18	1	22	28	1

Candaba WL 2016



Water Level in meters (Daily Average)

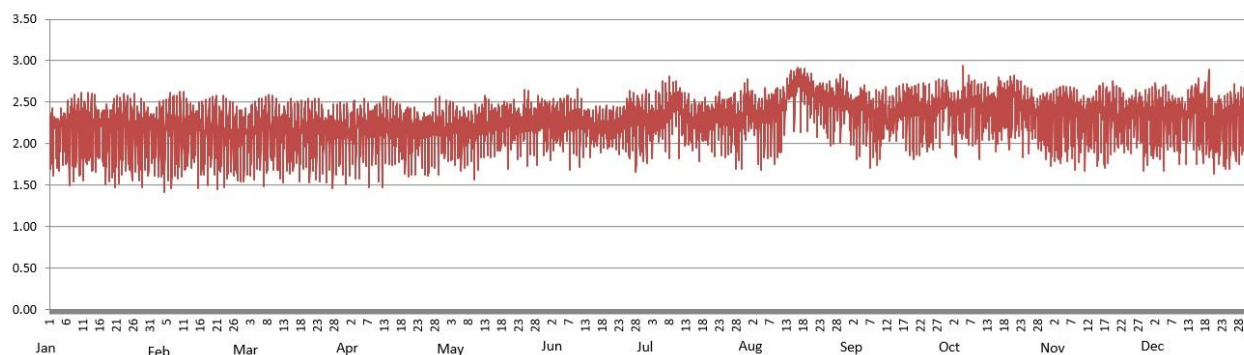
2016

Station: **Sasmuan**

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	2.13	2.10	2.09	2.17	2.16	2.25	2.25	2.38	2.41	2.44	2.34	2.31
2	2.12	2.12	2.08	2.14	2.18	2.27	2.25	2.38	2.39	2.35	2.31	2.33
3	2.12	2.14	2.12	2.18	2.16	2.26	2.29	2.33	2.36	2.37	2.32	2.36
4	2.14	2.09	2.17	2.19	2.20	2.28	2.30	2.29	2.47	2.38	2.36	2.32
5	2.15	2.13	2.18	2.19	2.17	2.29	2.28	2.30	2.43	2.42	2.34	2.33
6	2.18	2.27	2.16	2.20	2.16	2.28	2.35	2.35	2.33	2.40	2.33	2.32
7	2.17	2.10	2.18	2.12	2.18	2.32	2.40	2.34	2.33	2.54	2.32	2.35
8	2.21	2.15	2.17	2.20	2.18	2.29	2.47	2.34	2.27	2.45	2.32	2.31
9	2.16	2.15	2.16	2.21	2.16	2.23	2.53	2.44	2.25	2.41	2.32	2.29
10	2.22	2.14	2.19	2.19	2.19	2.28	2.45	2.31	2.29	2.35	2.35	2.30
11	2.17	2.14	2.15	2.18	2.24	2.24	2.44	2.43	2.35	2.40	2.29	2.30
12	2.19	2.17	2.13	2.21	2.21	2.22	2.34	2.48	2.32	2.42	2.28	2.33
13	2.15	2.16	2.16	2.22	2.24	2.24	2.30	2.63	2.32	2.42	2.32	2.43
14	2.17	2.17	2.12	2.21	2.21	2.20	2.28	2.68	2.33	2.37	2.30	2.42
15	2.17	2.14	2.11	2.18	2.22	2.19	2.25	2.62	2.38	2.39	2.41	2.40
16	2.17	2.10	2.14	2.20	2.25	2.22	2.24	2.77	2.40	2.61	2.39	2.38
17	2.18	2.14	2.13	2.17	2.21	2.21	2.24	2.66	2.46	2.48	2.30	2.35
18	2.16	2.15	2.17	2.13	2.24	2.21	2.27	2.66	2.42	2.47	2.34	2.34
19	2.14	2.16	2.18	2.14	2.27	2.20	2.26	2.59	2.43	2.50	2.37	2.28
20	2.12	2.15	2.19	2.14	2.25	2.24	2.26	2.62	2.32	2.55	2.36	2.25
21	2.17	2.08	2.21	2.15	2.27	2.24	2.27	2.49	2.43	2.48	2.33	2.30
22	2.23	2.16	2.17	2.18	2.23	2.22	2.36	2.55	2.34	2.44	2.32	2.26
23	2.19	2.10	2.19	2.13	2.22	2.23	2.31	2.51	2.38	2.41	2.28	2.27
24	2.18	2.11	2.21	2.14	2.26	2.25	2.32	2.46	2.34	2.42	2.34	2.25
25	2.17	2.10	2.11	2.16	2.25	2.27	2.26	2.48	2.31	2.41	2.38	2.26
26	2.13	2.09	2.16	2.14	2.28	2.31	2.27	2.45	2.38	2.37	2.41	2.43
27	2.13	2.05	2.10	2.15	2.25	2.28	2.26	2.46	2.49	2.33	2.36	2.30
28	2.12	2.12	2.11	2.18	2.24	2.24	2.20	2.58	2.46	2.33	2.31	2.30
29	2.15		2.12	2.24	2.30	2.26	2.23	2.53	2.47	2.35	2.32	2.27
30	2.16		2.11	2.16	2.28	2.19	2.32	2.48	2.57	2.34	2.29	2.26
31	2.10		2.14		2.26		2.40	2.47		2.30		2.29

Max WL observed	1.95	1.97	1.92	1.90	1.98	1.99	2.14	2.25	2.78	2.94	2.75	2.89
Day of Max WL	10	10	9	12	25	10	8	16	28	5	20	19

Sasmuan WL 2016



Water Level in meters (Daily Average)

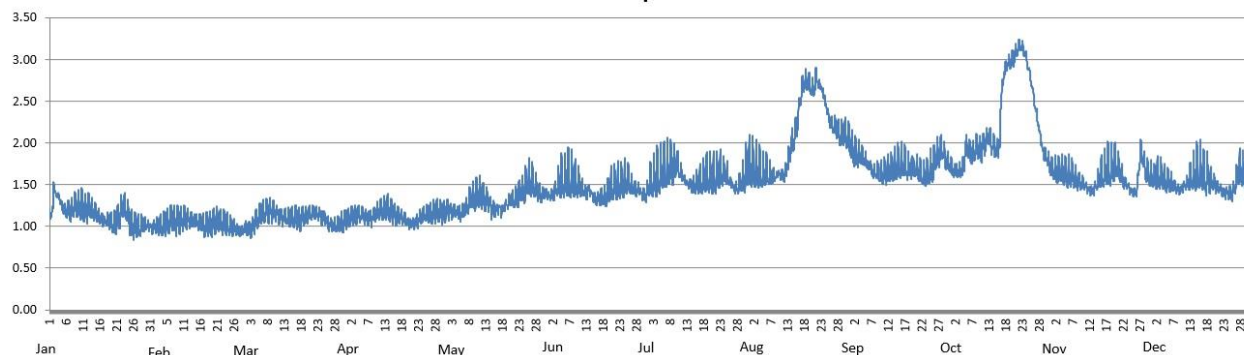
2016

Station: **Sulipan**

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1.17	1.01	0.99	1.09	1.21	1.36	1.44	1.67	1.89	1.70	1.66	1.56
2	1.38	1.00	0.97	1.12	1.19	1.37	1.49	1.67	1.85	1.67	1.63	1.58
3	1.38	1.00	1.00	1.13	1.18	1.44	1.53	1.64	1.85	1.66	1.65	1.58
4	1.28	1.02	1.07	1.14	1.17	1.48	1.57	1.63	1.82	1.69	1.62	1.55
5	1.25	1.03	1.10	1.14	1.16	1.50	1.60	1.62	1.80	1.79	1.62	1.54
6	1.19	1.06	1.16	1.12	1.19	1.53	1.64	1.62	1.73	1.91	1.60	1.52
7	1.19	1.07	1.17	1.11	1.23	1.54	1.68	1.60	1.66	1.85	1.57	1.49
8	1.24	1.05	1.18	1.10	1.30	1.54	1.68	1.59	1.64	1.91	1.53	1.46
9	1.24	1.05	1.18	1.14	1.33	1.51	1.75	1.62	1.63	1.92	1.51	1.45
10	1.23	1.07	1.17	1.17	1.36	1.48	1.71	1.62	1.62	1.92	1.51	1.48
11	1.21	1.08	1.14	1.19	1.39	1.44	1.63	1.61	1.63	1.99	1.46	1.51
12	1.20	1.08	1.11	1.20	1.35	1.41	1.56	1.74	1.65	2.07	1.44	1.54
13	1.21	1.07	1.11	1.22	1.33	1.44	1.51	1.91	1.67	1.98	1.45	1.59
14	1.16	1.06	1.10	1.19	1.25	1.37	1.49	2.04	1.70	1.94	1.53	1.62
15	1.12	1.03	1.11	1.16	1.22	1.33	1.50	2.22	1.72	1.96	1.59	1.65
16	1.10	1.01	1.11	1.13	1.22	1.33	1.51	2.52	1.74	2.56	1.61	1.60
17	1.07	1.02	1.09	1.11	1.21	1.34	1.52	2.69	1.72	2.87	1.67	1.56
18	1.07	1.03	1.10	1.09	1.21	1.33	1.55	2.72	1.70	2.97	1.65	1.54
19	1.05	1.04	1.12	1.05	1.26	1.40	1.57	2.68	1.71	2.98	1.70	1.52
20	1.05	1.06	1.14	1.04	1.30	1.46	1.56	2.65	1.69	3.05	1.72	1.48
21	1.08	1.05	1.16	1.04	1.30	1.47	1.56	2.77	1.63	3.13	1.62	1.46
22	1.14	1.04	1.16	1.07	1.34	1.49	1.60	2.69	1.60	3.15	1.54	1.43
23	1.21	1.02	1.15	1.10	1.40	1.49	1.62	2.59	1.59	3.07	1.50	1.40
24	1.16	0.99	1.12	1.13	1.42	1.52	1.63	2.42	1.63	2.91	1.44	1.40
25	1.05	0.97	1.10	1.14	1.48	1.52	1.59	2.26	1.67	2.72	1.41	1.42
26	1.00	0.97	1.04	1.15	1.52	1.47	1.52	2.20	1.81	2.48	1.48	1.52
27	0.98	0.95	1.01	1.18	1.50	1.44	1.47	2.15	1.85	2.25	1.83	1.65
28	0.97	0.95	1.00	1.19	1.46	1.44	1.46	2.09	1.90	2.03	1.77	1.63
29	1.00		1.02	1.18	1.40	1.39	1.50	2.09	1.79	1.87	1.63	1.58
30	1.01		1.04	1.17	1.38	1.36	1.55	2.07	1.75	1.80	1.59	1.53
31	1.00		1.06		1.38		1.67	1.99		1.70		1.56

Max WL observed	1.43	1.15	1.20	1.24	1.62	1.75	1.83	2.67	2.10	3.24	2.05	2.05
Day of Max WL	2	7	9	13	26	7	7	21	28	22	27	13

Sulipan WL 2016



Water Level in meters (Daily Average)

2016		Station: Mexico										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.05	0.04	0.02	0.07	0.07	0.17	0.00	0.00	0.39	0.38	0.00	0.00
2	0.05	0.07	0.00	0.07	0.08	0.06	0.00	0.00	0.36	0.32	0.00	0.00
3	0.02	0.09	0.00	0.05	0.07	0.07	0.00	0.00	0.27	0.47	0.00	0.00
4	0.00	0.07	0.00	0.04	0.05	0.01	0.00	0.00	0.21	0.41	0.00	0.00
5	0.00	0.07	0.02	0.03	0.07	0.00	0.00	0.00	0.17	0.40	0.01	0.00
6	0.00	0.17	0.15	0.00	0.03	0.00	0.00	0.00	0.05	0.37	0.00	0.00
7	0.00	0.14	0.11	0.00	0.00	0.00	0.00	0.00	0.04	0.58	0.00	0.00
8	0.00	0.11	0.03	0.00	0.00	0.00	0.00	0.00	0.01	0.66	0.00	0.00
9	0.07	0.11	0.00	0.00	0.00	0.00	0.07	0.01	0.00	0.52	0.00	0.00
10	0.03	0.11	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.47	0.00	0.00
11	0.00	0.06	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.44	0.00	0.00
12	0.01	0.03	0.00	0.00	0.09	0.00	0.00	0.18	0.00	0.44	0.00	0.00
13	0.03	0.03	0.00	0.00	0.13	0.00	0.00	1.45	0.00	0.44	0.00	0.00
14	0.05	0.03	0.00	0.00	0.13	0.00	0.00	1.23	0.00	0.36	0.00	0.00
15	0.05	0.02	0.00	0.00	0.13	0.00	0.00	1.17	0.00	0.31	0.00	0.00
16	0.05	0.01	0.00	0.00	0.20	0.00	0.00	1.50	0.00	0.90	0.00	0.00
17	0.05	0.00	0.00	0.00	0.15	0.00	0.00	1.43	0.00	0.61	0.00	0.00
18	0.04	0.00	0.00	0.00	0.32	0.00	0.00	1.31	0.00	0.61	0.00	0.00
19	0.05	0.00	0.00	0.00	0.51	0.00	0.00	1.20	0.00	0.53	0.00	0.00
20	0.02	0.00	0.00	0.00	0.57	0.00	0.00	1.37	0.00	0.65	0.00	0.00
21	0.07	0.02	0.01	0.00	0.43	0.00	0.00	1.09	0.00	0.54	0.00	0.00
22	0.07	0.01	0.01	0.00	0.47	0.00	0.00	1.06	0.00	0.47	0.00	0.00
23	0.05	0.00	0.00	0.00	0.43	0.00	0.23	0.96	0.00	0.47	0.00	0.00
24	0.01	0.00	0.00	0.00	0.40	0.00	0.08	0.82	0.00	0.35	0.00	0.00
25	0.04	0.00	0.00	0.00	0.43	0.00	0.01	0.77	0.00	0.28	0.00	0.00
26	0.09	0.00	0.01	0.00	0.42	0.00	0.00	0.68	0.00	0.23	0.00	0.00
27	0.09	0.02	0.01	0.00	0.36	0.00	0.00	0.60	0.02	0.12	0.00	0.00
28	0.20	0.01	0.00	0.00	0.33	0.00	0.00	0.68	0.06	0.04	0.00	0.00
29	0.17		0.00	0.00	0.51	0.00	0.00	0.65	0.12	0.01	0.00	0.00
30	0.15		0.17	0.03	0.56	0.00	0.00	0.56	0.12	0.00	0.00	0.00
31	0.07		0.10		0.34		0.00	0.47		0.00		0.00

Max WL observed	0.22	0.21	0.21	0.08	0.92	0.22	0.93	2.02	0.44	1.19	0.28	0.00
Day of Max WL	28	6	30	1	19	1	24	20	1	3	6	

Mexico WL 2016

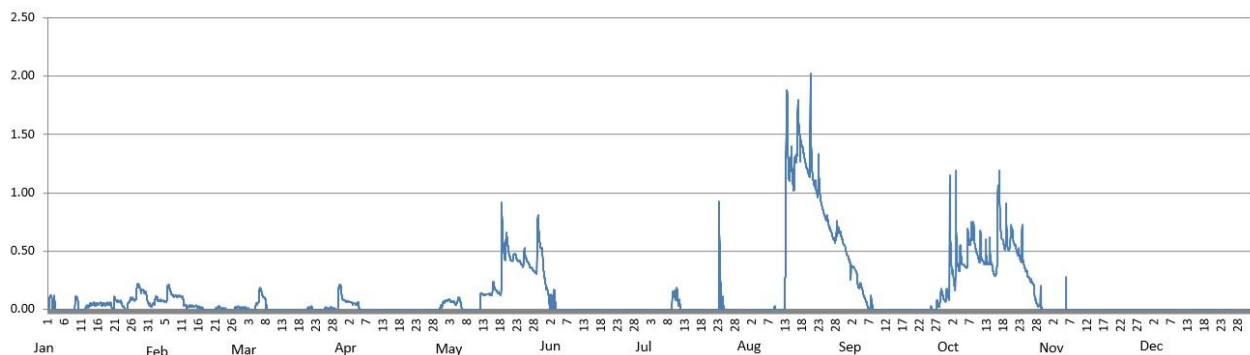


Table 2.0

Maximum WL recorded per station for the year 2016

Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sapang Buho	1.20	0.48	0.45	0.47	0.32	0.47	0.90	1.66	1.34	5.30	2.37	0.80
Zaragoza	0.83	0.63	0.67	0.37	1.98	2.37	0.98	3.96	3.31	2.90	0.64	0.51
Mayapyap												
Penaranda	0.96	0.00	0.00	0.00	0.00	0.98	0.01	2.39	0.19	3.08	1.75	0.80
San Isidro	0.21	0.00	0.00	0.00	0.00	0.00	0.00	1.19	0.00	5.14	1.25	0.00
Arayat	4.97	1.50	1.53	1.28	2.00	3.49	3.53	7.34	4.16	8.68	5.50	3.45
Candaba	3.01	1.70	1.51	1.32	2.75	2.85	3.16	5.64	3.77	5.89	3.39	2.53
Sasmuan	1.95	1.97	1.92	1.90	1.98	1.99	2.14	2.25	2.78	2.94	2.75	2.89
Sulipan	1.43	1.15	1.20	1.24	1.62	1.75	1.83	2.67	2.10	3.24	2.05	2.05
Mexico	0.22	0.21	0.21	0.08	0.92	0.22	0.93	2.02	0.44	1.19	0.28	0.00



Planned Setup for Mayapyap RR-WL station at one of the bridge's pier of Gen Luna Bridge, Cabanatuan City. (October 24, 2016)



Arayat RR-WL Telemetry Station (October 24, 2016)



Arayat WL Converter (1300H, October 24, 2016)

C. ANNEX

Table A-1.

Maximum Rainfall for a given sliding time period during the year 2016																
Sliding time period (minimum time period of 1 hour)	Rainfall Stations															
	Munoz	Sapang Buho	Gabalidon	Zaragoza	Peñaranda	Calaanan	Palali	San Isidro	Arayat	Candaba	Sibul Spring	Sasmuan	Sulipan	Mexico	Porac	San Rafael
1 hr	75	53	58	73	48	42	75	61	58	37	46	53	39	59	56	70
2 hrs	80	54	70	88	62	60	123	90	84	65	68	58	52	81	63	72
3 hrs	80	71	94	103	65	88	130	108	87	70	75	58	56	98	67	87
4 hrs	86	76	116	107	67	88	132	109	87	72	82	59	60	118	67	102
5 hrs	87	80	142	112	67	89	135	109	87	84	83	67	69	128	69	110
6 hrs	90	87	154	115	67	96	135	110	90	89	87	80	72	134	70	114
7 hrs	94	92	167	118	67	105	135	110	91	99	92	86	74	142	81	119
8 hrs	98	94	183	121	67	107	135	111	98	108	101	90	76	146	91	127
9 hrs	110	96	204	121	67	109	135	111	105	116	105	94	78	146	106	134
10 hrs	126	101	215	121	69	112	135	111	111	123	109	98	81	152	112	138
11 hrs	135	103	221	121	70	115	135	111	114	131	113	102	84	153	116	139
12 hrs	137	105	226	121	73	119	135	111	120	133	116	106	85	156	119	142
18 hrs	145	116	244	121	90	131	136	111	124	135	128	137	86	186	123	154
24 hrs	152	122	249	121	97	136	140	111	135	146	134	149	119	265	148	159
48 hrs (2 days)	159	125	268	126	134	140	148	122	145	176	161	265	142	351	177	164
72 hrs (3 days)	191	125	271	173	139	167	149	130	168	244	169	373	192	386	196	195
96 hrs (4 days)	218	150	271	210	146	179	174	142	240	329	219	441	237	511	214	291
120 hrs (5 days)	259	211	351	226	185	228	226	150	268	356	241	494	270	564	252	334
144 hrs (6 days)	265	226	356	236	193	248	228	168	291	358	245	514	274	589	270	344
240 hrs (10 days)	308	260	404	267	229	314	268	245	341	381	350	553	308	616	328	380
480 hrs (20 days)	478	403	561	387	359	524	350	366	439	470	491	693	406	682	445	467
Meteorological day (8 am to 8 am)	102	106	241	121	73	115	136	111	107	96	90	144	89	193	110	94
Max monthly total	496	404	574	382	401	526	380	333	481	501	534	727	439	712	504	517

The maximum monthly total values for some stations may be smaller than their 480 hours (20 days) of sliding time total. This means that the 20-day total transcends 2 succeeding months. Likewise, the 24-hour unrestricted sliding time period is relatively much larger than the meteorological day (fixed 8am to 8am) total.

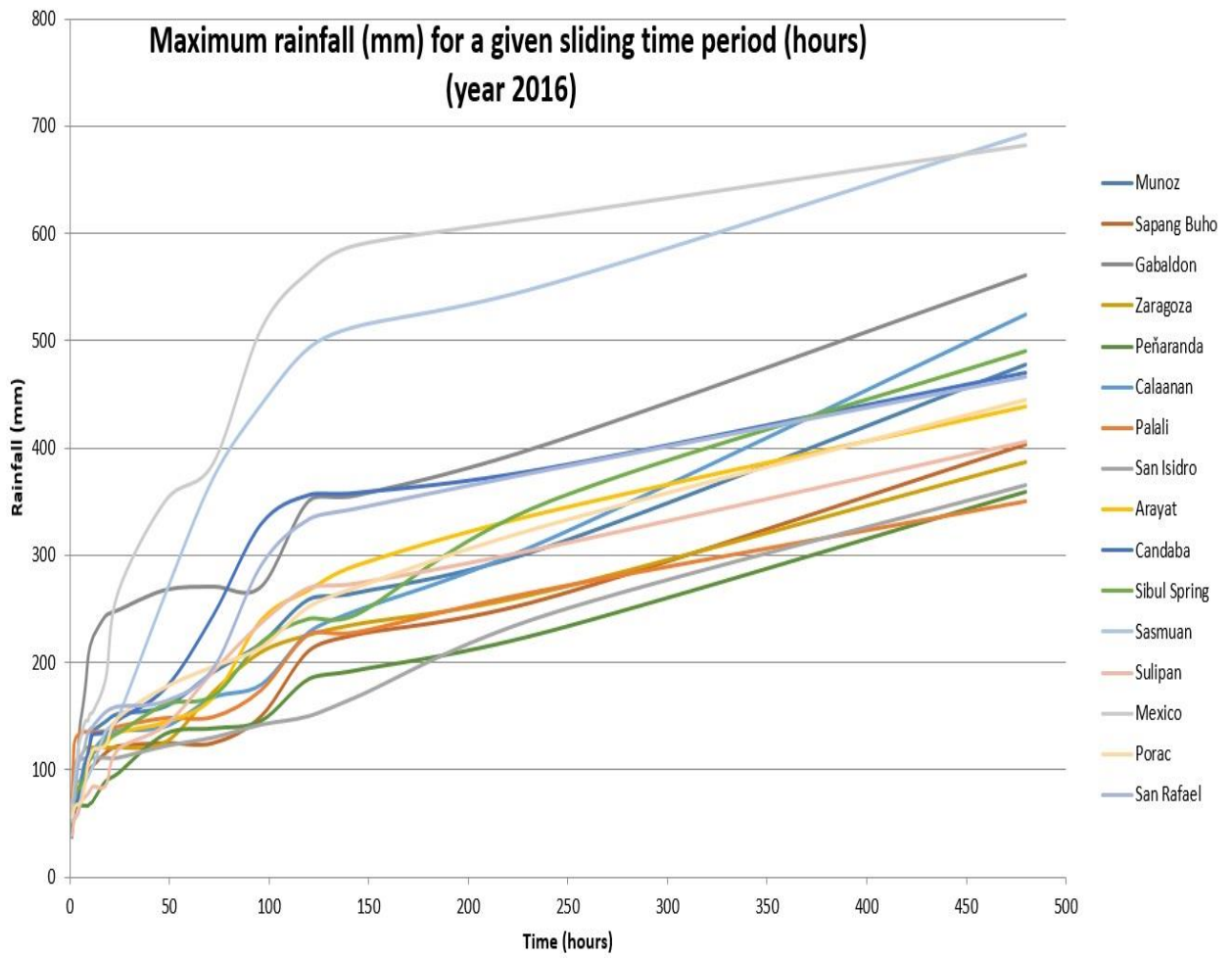


Figure AA-1. The sliding time period per station graph.

Table A-2. PRFFWC Existing Flood Warning Assessment Levels (SG in meters)

Color code	YELLOW	ORANGE	RED
STATION	ALERT	ALARM	CRITICAL
Sapang Buho	3.70	4.50	6.50
Mayapyap	3.00	3.50	4.50
Zaragoza ++	11.00	12.50	14.50
Penaranda			
San Isidro +	3.20	4.50	6.00
Arayat	5.00	6.00	8.50
Candaba	3.00	4.50	5.00
Mexico			
Sasmuan +			2.90 *
Sulipan +	3.60 (2.50)	4.20 (3.00)	5.00 (3.50)

* Based on past observations from various flood events (for validation)

+ for updating of assessment levels (Sulipan values in parenthesis are proposed levels)

++ assessment values are in MSL

Table A-3. Water Level Station notes

Water Level Station	Elevation of "0" of Staff Gauge (m) (as of Aug. 2009)	Rating Curve (RC) Equation as of April 2009	RC range of applicability
Sapang Buho	50.212	$Q = 4.015 (H - (-2.94))^2$	$0 < H \leq 3.4$
Zaragoza	10.213	$Q = 12.111 (H - 0.0)^2$	(for validation)
Peñaranda	22.498**	$Q = 2.30 (H - (-1.20))^2$	$0 < H \leq 4.0$
San Isidro	9.585	$Q = 15.2 (H - (-1.70))^2$	$0 < H \leq 8.0$
Arayat	0.077	$Q = 9.106 (H - (-0.39))^2$	$0 < H \leq 9.0$
Candaba	-0.157	$Q = 1.80 (H - (-1.30))^2$	$0 < H \leq 2.0$
Sasmuan	-1.147	$Q = 1.50 (H - (-2.0))^2$	$0 < H \leq 2.0$
Sulipan	-0.062	$Q = 9.50 (H - (-0.4))^2$	$0 < H \leq 3.0$
Mexico	5.933**	$Q = 11.0 (H - (-0.50))^2$	$0 < H \leq 3.0$

Notes: RC equations by JICA Consultants

* - based on x-section of March 2000 (by PRFFWC)

** - based on temporary markers (TBM)

Above table are still the latest information for PRFFWC streamgaging sites. Rating curve equations remains the latest available for now. The RCs should be updated regularly.

Water Level Percent Duration Curves of some stations

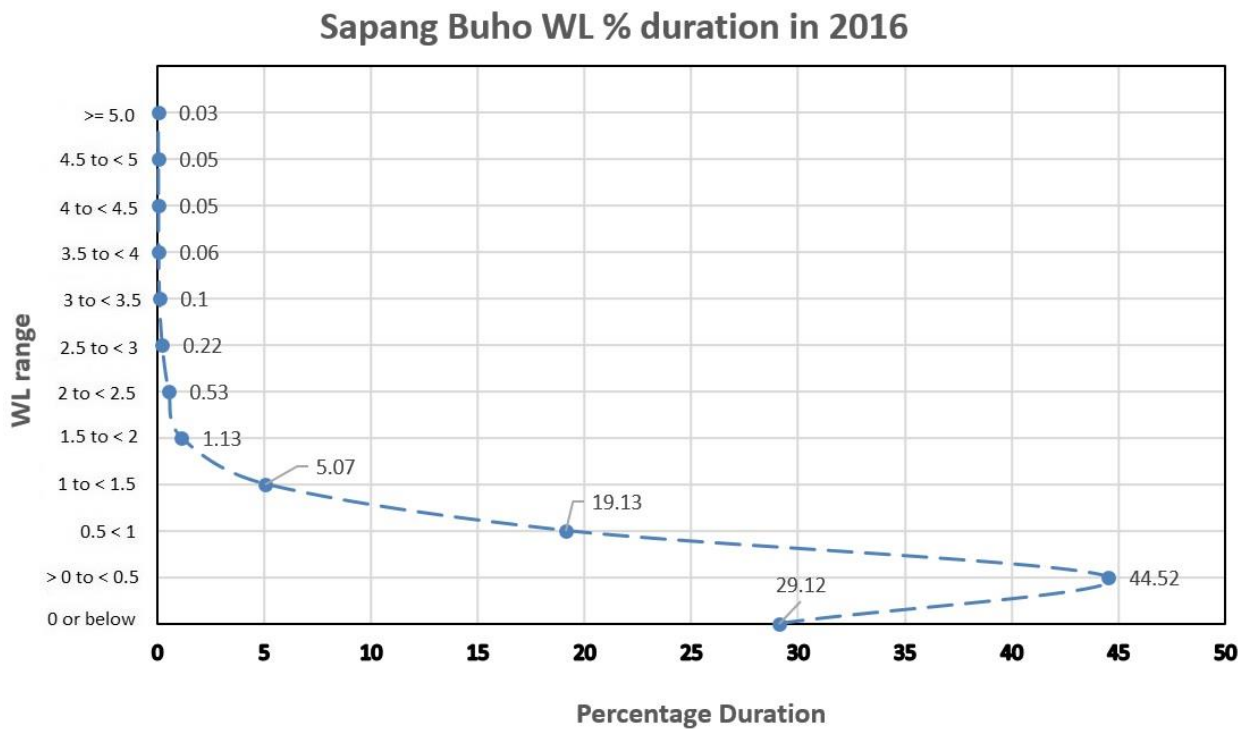


Figure AA-2. Sapang Buho WL percent duration curve (2016)

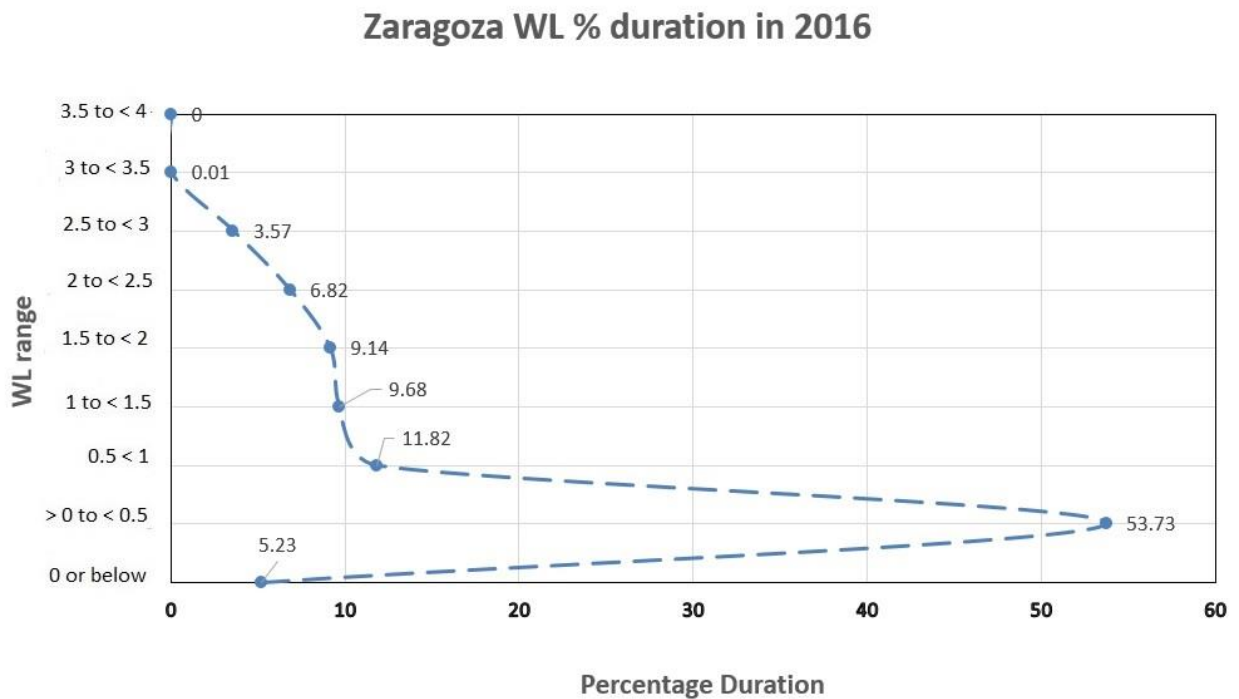


Figure AA-3. Zaragoza WL percent duration curve (2016)

Arayat WL % duration in 2016

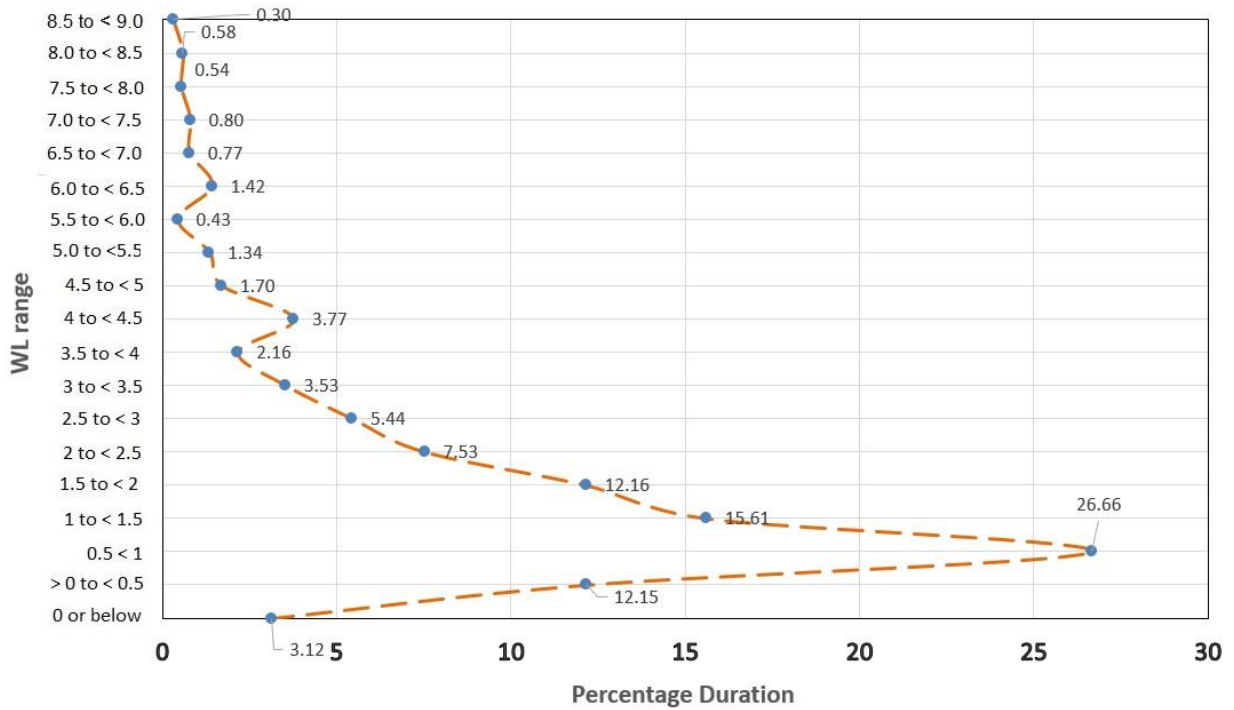


Figure AA-4. Arayat WL percent duration curve (2016)

Candaba WL % duration (2016)

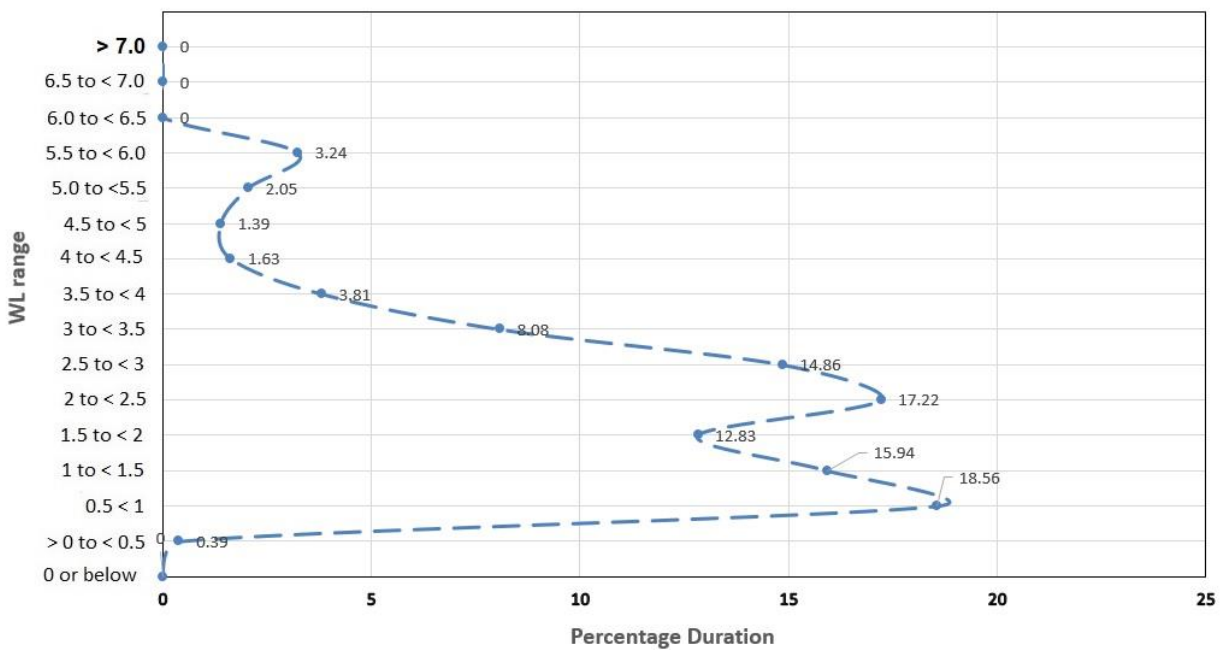


Figure AA-5. Candaba WL percent duration curve (2016)

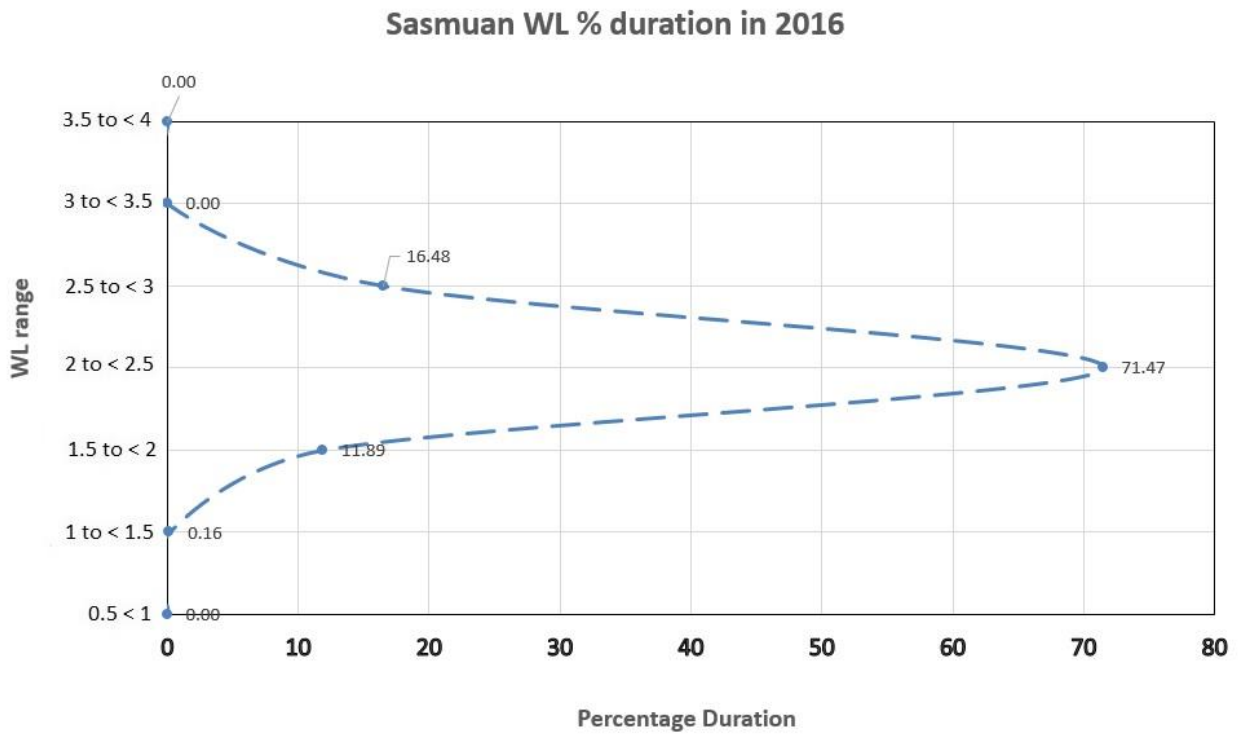


Figure AA-6. Sasmuan WL percent duration curve (2016)

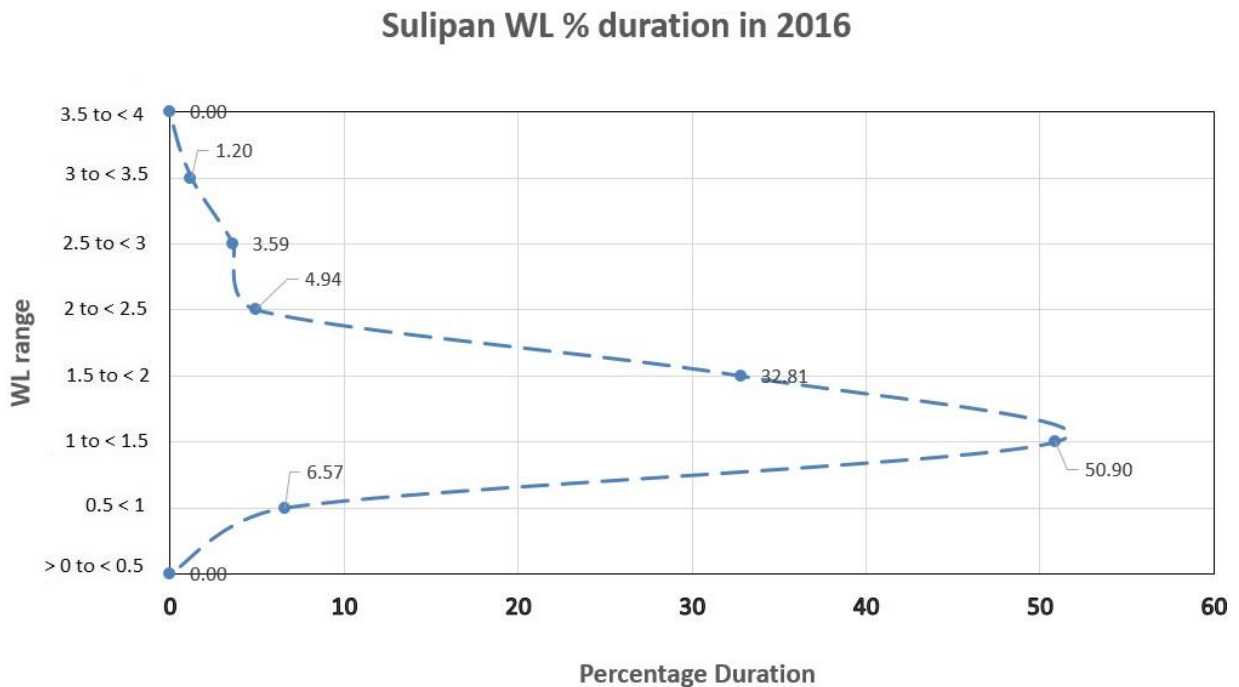
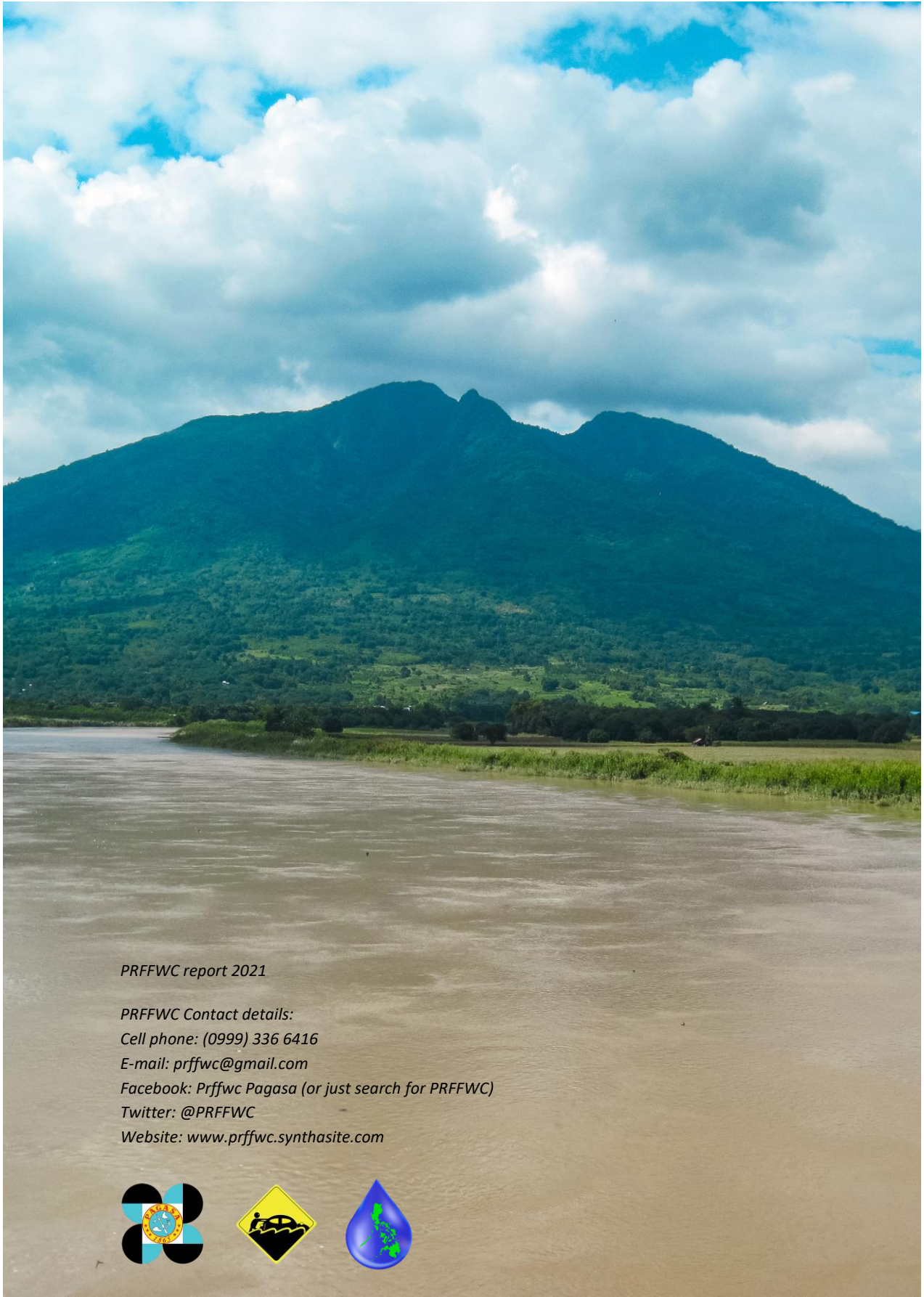


Figure AA-7. Sulipan WL percent duration curve (2016)

Note: The other WL stations were not included in WL percent duration curves as most of their observations are mostly zero such as for San Isidro, Peñaranda, and Mexico stations.



PRFFWC report 2021

PRFFWC Contact details:

Cell phone: (0999) 336 6416

E-mail: prffwc@gmail.com

Facebook: Prffwc Pagasa (or just search for PRFFWC)

Twitter: @PRFFWC

Website: www.prffwc.synthasite.com

