



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)

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

Yearbook 2018

(April 2021)



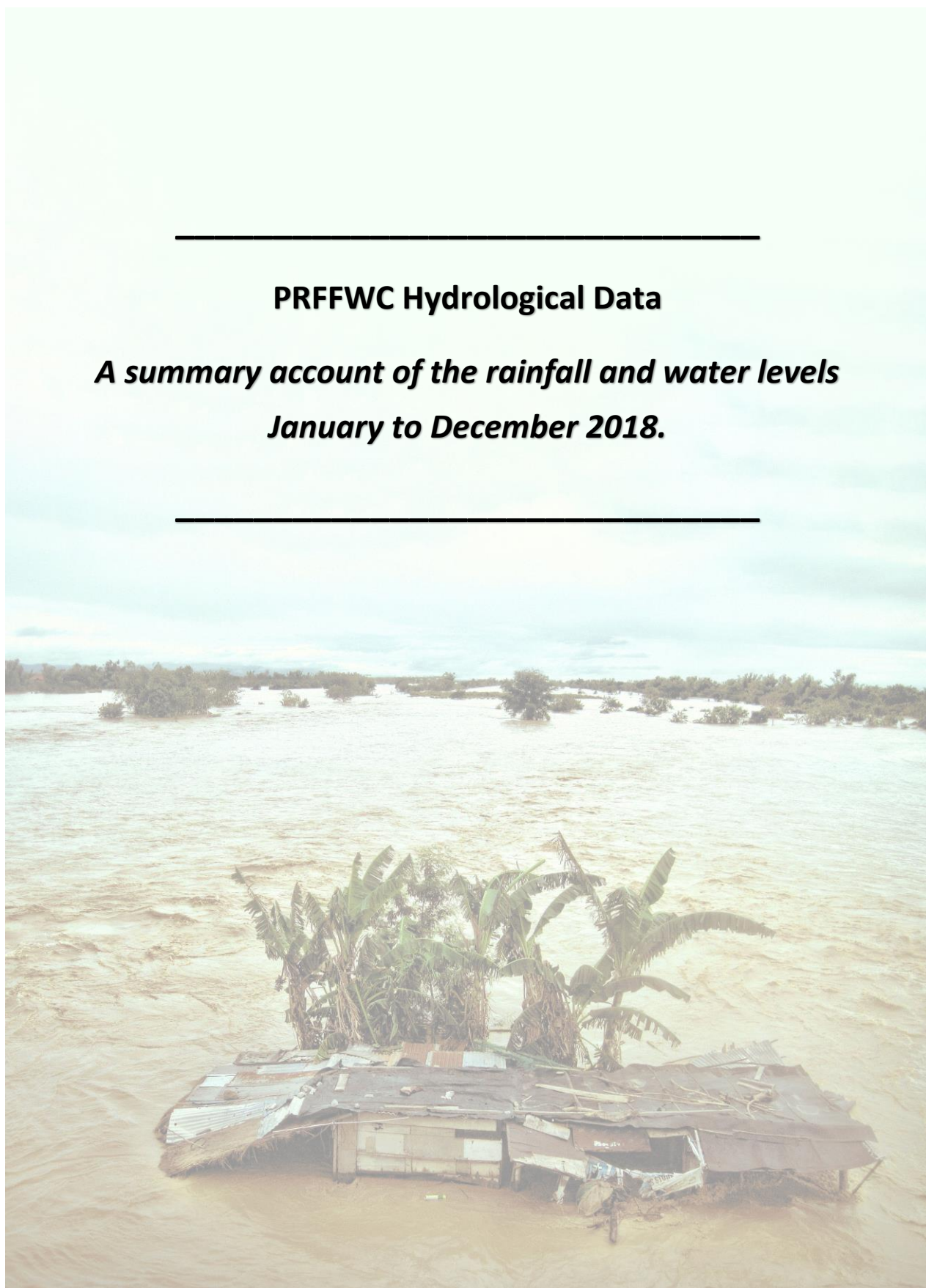
Front / Back Cover:

Upstream (top picture) & downstream (bottom picture) views of Pampanga River as seen from the San Agustin Bridge in Arayat, Pampanga, Philippines. 05 March 2018

Photograph: H. Hernando Edited by: M. Joson

PRFFWC Hydrological Data

***A summary account of the rainfall and water levels
January to December 2018.***



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

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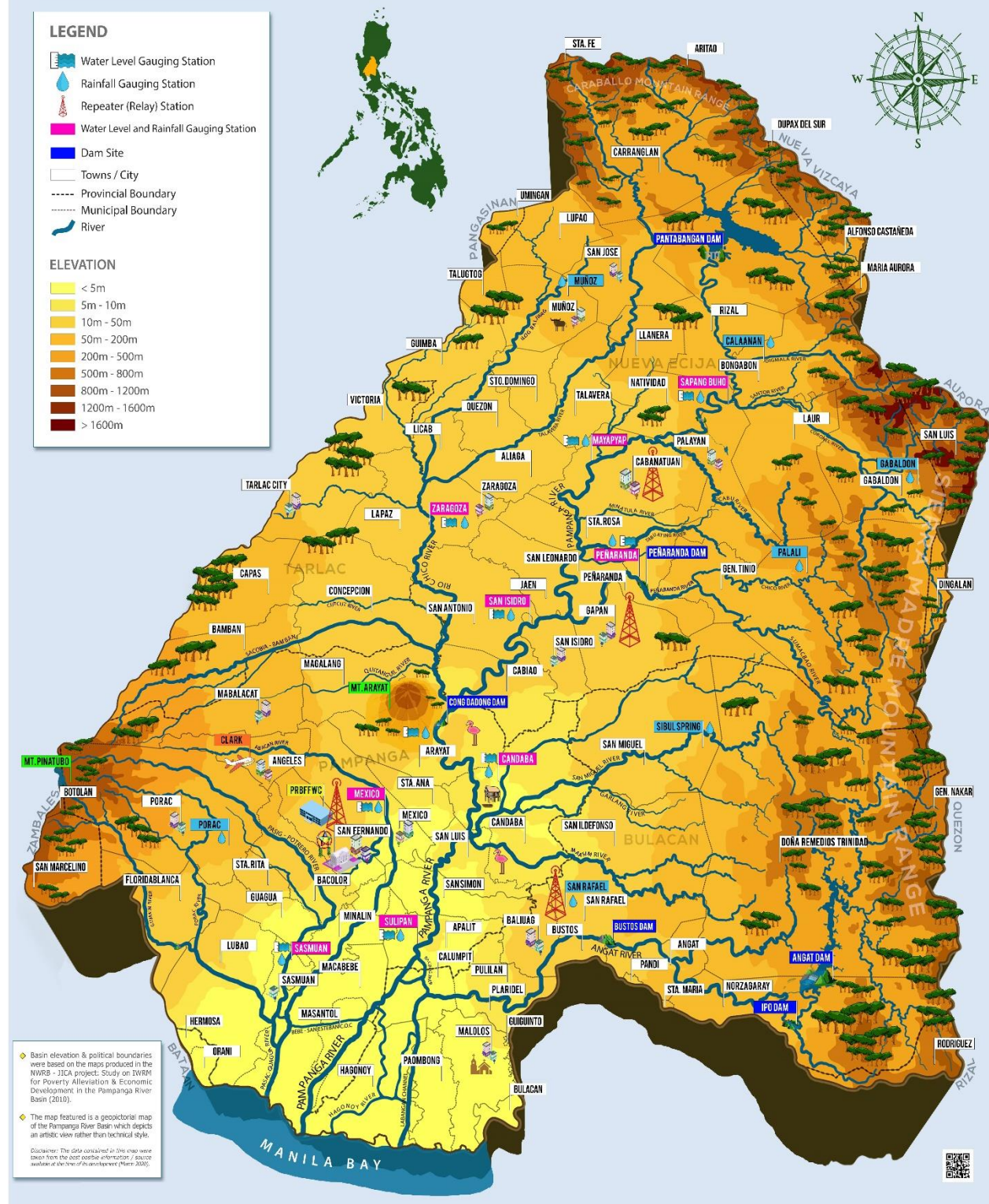
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The PRFFWC Telemetry Tower located in the City of San Fernando, Pampanga

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 report presents a summary of the rainfall and water level data observed and recorded by the telemetry system of the PRFFWC in year 2018.
- The supervisory terminal of the PRFFWC system is the main data series considered for the database buildup.
- The main source for complementing breaks / gaps in the supervisory terminal data series are the telemetry stations' data loggers that is if data exist in the latter.
- 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.
- For short WL gaps a simple eye-fit method is normally carried-out.
- Obvious and / or suspected erroneous data were directly deleted from the data series however, these were done after doing some data consistency check, field survey, and / or field station instrument problem validation.
- All data at the start of analyses were treated as valid information; no statistical analysis can replace actual observation unless there are known inconsistencies in the means of measurements, in the measuring instrument / equipment itself, etc.
- Further information and clarification on the general buildup of the PRFFWC data series please e-mail us at: prffwc@gmail.com

Station Profile

Table 1. Rainfall and Water Level Stations (PAGASA) within the Pampanga River Basin

Station	Station Number	Station Type RR (rainfall) WL (Water Level)	Location	Coordinates (estimated)
	(DEC) 6301XX			
Muñoz	61	Telemetered RR	Within the Philippine Carabao Center Compound in the Science City of Muñoz, Nueva Ecija	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
Gabaldon	63	Telemetered RR	Around 450 meters from 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 (defunct since 2015)	@ RB-D/S of Gen. Luna Bridge, (Bgys. Mayapyap & Valdefuente) Cabanatuan City, Nueva Ecija (original station)	15°30'52"N, 120°57'20"E
Peñaranda	66	Telemetered RR & WL	@ LB-D/S side of the bridge, 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 municipal road 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	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 (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, Bgy. Maimpis, DMGC, City of San Fernando, Pampanga	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 2018 (Mayapyap RR-WL remains out-of-order)
2. The rainfall dataset in this report covers the period starting from the past 1-hour observation ending at 0900H (LST) of 01 January 2018 until the last 1-hour observation ending at 0800H (LST) of 01 January 2019; Accordingly, it follows that a 24-hour daily total (or average) starts at 0801H of the present day and ends at 0800H of the following day; Water level data series are reported in instantaneous observed value as to its specific time but the average value is taken using the same average reporting time period as in the rainfall.
3. The shortest time period considered in this summary report is 1 hour.
4. Units 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
5. The minimum rainfall amount for telemetry stations is 1 mm; for the rainfall observations in PRFFWC in the City of San Fernando (PRFFWC-CSFP), Pampanga, the minimum is 0.25 mm;
6. 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-CSFP station;
7. The hydrological data summary presented in this yearbook are the daily rainfall observations, monthly rainfall and average, maximum rainfall total of various periods, and total rain-days per month; the daily water level averages, maximum stage for each month and other regular information that were extracted from the available data series of each station.
8. 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 2018

1. January: All data of Candaba WL supervisory adjusted by -0.30 meters and all WL falling somewhere at 2.85 and / or a little bit below for a substantially long period of time were deleted from the data series for the whole year (these are erroneous data); Sasmuan WL was adjusted by -1.0 meters (1800H, 05 to 2000H, 06) as reading seems to be out of sync; San Isidro WL is zero for the whole month.
2. February: Peñaranda & San Isidro WL are all zero for the month; Sasmuan WL supervisory data started 1100H, 21 and all other gaps filled by logger's data, and some were eye-fitted as data seems erratic.
3. March: Peñaranda & San Isidro WL are all zero for the month; several data points of Sasmuan WL were adjusted.
4. April: Sapang Buho, Peñaranda & San Isidro WL are all zero for the month.
5. May: Peñaranda & San Isidro WL are all zero for the month; several data points were adjusted for Sasmuan WL.
6. June: San Isidro WL is zero for the month; several data points of Zaragoza WL were adjusted.
7. July: several data points of Sasmuan WL were adjusted.
8. August: Arayat WL was out-of-order starting 0500H, 28 to 1000H of September 06; WL is estimated to be in a recession trend.
9. September: Arayat RR-WL out from the start but some points filled-in as per Racc for RR & WL thru eye-fit, and data started at 1000H, 06; Zaragoza WL have abrupt ("shoot-ups") changes which were deemed erroneous and were deleted from the data series - September 3, 6-8, 10, 11, 18, 19, 22-26; October 3, 9, 13, 21, 30, 31; November 1-3. There were also some minor adjustments made with several doubtful readings. The WL data "shoot-ups" readings were mainly attributed to the malfunctioning pressure gauge sensor of the Zaragoza station (portions were deleted).
10. October: as mentioned in September data issues there were many unreliable readings ("shoot-ups") for Zaragoza WL (portions were deleted).
11. November: Peñaranda & San Isidro WL are all zero for the month. Zaragoza WL may be erroneous at 1.35m or below for long periods (deleted from 0000H, 23 until end of month).
12. December: Candaba WL was not included for almost the whole month as most data were deemed erroneous due to sensor problems; San Isidro WL is zero for the month; many caveats for Zaragoza WL as data looks unreliable due to sensor problems (deleted WL of 1.35 m or below for long periods from start of month until 0000H, 24).

A. RAINFALL Data Summary Presentation



Daily Point Rainfall in millimeters

2018

Station:

Muñoz

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	2	63	7	16	0	0
2	0	0	0	0	0	4	14	8	71	92	0	0
3	0	0	0	0	0	0	0	42	15	10	0	0
4	0	0	0	0	0	0	0	16	35	0	0	3
5	0	0	0	0	0	4	29	2	8	0	0	0
6	0	0	0	0	0	64	2	2	20	0	0	0
7	0	0	0	0	0	0	8	17	42	0	0	0
8	0	0	11	0	0	0	24	15	0	0	0	0
9	0	0	0	0	0	62	0	1	1	0	0	0
10	0	0	0	0	0	21	13	23	2	0	0	0
11	0	0	0	0	1	12	4	40	10	0	0	0
12	0	0	0	0	2	9	4	32	9	0	0	0
13	0	0	0	0	0	7	0	15	0	0	0	0
14	0	0	0	0	24	8	9	13	72	1	0	0
15	0	0	0	0	0	7	0	4	85	3	0	0
16	2	0	0	0	0	1	17	22	0	0	0	0
17	1	0	0	0	2	12	13	3	0	6	0	0
18	5	0	0	0	0	0	37	2	0	0	0	0
19	0	0	0	0	0	0	138	10	4	0	0	0
20	0	0	0	0	6	0	77	19	3	0	0	0
21	0	0	0	0	0	12	54	5	0	0	0	4
22	0	0	0	0	42	4	49	1	2	0	0	0
23	0	0	0	0	41	26	7	2	0	0	0	9
24	0	0	0	28	0	42	25	12	0	0	0	0
25	0	0	0	31	1	4	3	6	0	0	0	0
26	0	0	0	0	0	2	2	2	0	0	0	0
27	0	0	0	0	7	12	67	5	0	0	0	0
28	0	0	0	0	0	5	49	0	0	0	0	3
29	0		3	0	0	14	1	0	0	3	0	3
30	0		3	0	0	21	0	0	0	112	0	0
31	0		0		16		0	41		0		7

Monthly Total	8	0	17	59	142	353	648	423	386	243	0	29
Average	0.26	0.00	0.55	1.97	4.58	11.77	20.90	13.65	12.87	7.84	0.00	0.94
Max daily rain	5	0	11	31	42	64	138	63	85	112	0	9
Day of Max Daily	18		8	25	22	6	19	1	15	30		23
No. of Rain days	3	0	3	2	10	22	24	28	16	8	0	6
Max 1-hr rain	2	0	11	25	34	39	54	41	30	76	0	4
Day of max 1-hr	18		8	24	22	9	19	3	2	2		21

Total rain for the year

2308

Total rain days for the year

122

Daily Point Rainfall in millimeters

2018

Station: **Sapang_Buho**

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	1	27	26	26	0	0
2	0	0	0	0	0	0	8	31	36	1	0	0
3	0	0	0	0	0	0	3	33	48	16	0	0
4	0	0	0	0	0	0	0	27	6	0	0	2
5	0	0	0	0	2	5	13	8	3	0	0	0
6	0	0	0	0	0	58	1	0	20	0	0	0
7	0	0	0	0	0	0	18	6	15	0	0	0
8	0	0	0	0	38	2	5	21	1	0	0	0
9	0	0	0	0	0	9	1	13	30	0	0	0
10	0	0	0	0	0	7	0	4	13	0	0	0
11	0	0	0	0	0	17	12	41	0	0	0	0
12	0	0	0	0	0	1	6	22	21	0	0	0
13	0	0	0	0	0	28	7	14	0	0	0	0
14	0	0	0	0	0	23	5	7	84	0	0	0
15	0	0	0	0	0	12	0	4	53	2	0	0
16	6	0	0	0	0	0	15	49	3	0	0	0
17	1	0	0	0	0	5	10	46	0	0	0	0
18	5	0	0	0	0	0	43	2	0	0	0	0
19	0	0	0	0	0	1	73	4	0	0	0	0
20	0	0	0	0	0	71	52	32	2	2	0	0
21	0	0	0	0	0	6	79	7	0	0	0	7
22	0	0	0	0	0	5	16	9	0	0	0	5
23	0	0	0	0	0	1	1	8	0	0	0	25
24	0	0	0	0	27	2	6	7	0	0	0	0
25	0	0	0	0	1	3	30	4	1	0	0	0
26	6	0	0	0	7	9	22	15	0	0	0	0
27	0	0	0	0	0	12	33	0	0	0	0	0
28	0	0	0	0	0	0	49	0	0	0	0	5
29	0		0	0	0	0	0	0	0	6	0	6
30	0		0	0	0	3	16	0	0	105	0	0
31	0		0		0		20	19		2		13

Monthly Total	18	0	0	0	75	280	545	460	362	160	0	63
Average	0.58	0.00	0.00	0.00	2.42	9.33	17.58	14.84	12.07	5.16	0.00	2.03
Max daily rain	6	0	0	0	38	71	79	49	84	105	0	25
Day of Max Daily	16				8	20	21	16	14	30		23
No. of Rain days	4	0	0	0	5	21	27	26	16	8	0	7
Max 1-hr rain	3	0	0	0	31	40	43	24	31	18	0	6
Day of max 1-hr	26				8	7	21	3	3	30		21

Total rain for the year

1963

Total rain days for the year

114

Daily Point Rainfall in millimeters

2018	Station: Gabalton											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	3	0	0	2	20	3	1	4	0
2	1	0	0	0	0	0	0	47	59	0	0	0
3	0	0	1	13	0	0	3	7	11	16	0	22
4	0	0	0	2	0	0	3	1	17	0	0	11
5	0	0	0	1	16	1	0	5	0	0	0	1
6	0	0	0	0	0	16	0	4	37	0	8	0
7	1	2	0	0	0	0	21	11	5	0	0	1
8	0	0	2	0	0	1	15	15	0	8	0	0
9	0	0	0	0	0	16	21	5	5	0	0	0
10	0	0	0	0	0	25	2	26	12	0	0	0
11	0	1	0	0	0	5	9	39	0	0	0	1
12	0	0	0	0	1	3	14	17	0	1	0	1
13	0	0	0	0	0	16	9	9	0	0	0	11
14	0	0	0	0	0	35	31	13	135	0	0	1
15	0	0	0	0	0	20	1	0	31	0	0	0
16	25	0	0	0	0	2	13	6	7	7	0	0
17	5	0	0	0	0	11	14	11	1	10	0	0
18	29	0	0	0	0	0	27	0	1	0	0	0
19	0	0	0	0	0	0	46	14	0	0	0	0
20	0	0	0	0	0	6	43	21	4	7	0	0
21	0	0	0	0	0	3	36	6	13	0	2	10
22	0	0	0	0	0	2	5	3	0	1	1	2
23	0	0	0	0	0	3	0	2	0	0	0	52
24	0	0	0	0	0	9	1	12	0	7	1	3
25	0	0	0	0	1	6	15	3	44	1	1	0
26	15	11	0	1	0	0	33	15	2	0	0	1
27	0	1	0	0	0	1	15	0	0	0	0	1
28	3	0	0	3	0	0	40	0	0	0	0	7
29	0		0	1	0	0	1	0	0	37	0	5
30	0		0	0	0	12	0	0	1	49	0	18
31	0		0		0		40	40		12		76

Monthly Total	79	15	3	24	18	193	460	352	388	157	17	224
Average	2.55	0.54	0.10	0.80	0.58	6.43	14.84	11.35	12.93	5.06	0.57	7.23
Max daily rain	29	11	2	13	16	35	46	47	135	49	8	76
Day of Max Daily	18	26	8	3	5	14	19	2	14	30	6	31
No. of Rain days	7	4	2	7	3	20	26	25	18	13	6	18
Max 1-hr rain	11	9	1	11	13	14	30	38	46	11	4	19
Day of max 1-hr	17	26	3	3	5	14	28	2	2	3	2	4

Total rain for the year
Total rain days for the year

1930

149

Daily Point Rainfall in millimeters

2018

Station:

Zaragoza

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	17	0	4	3	0	0
2	0	0	0	0	0	1	0	0	74	16	0	0
3	0	0	0	0	0	0	0	15	71	1	0	0
4	0	0	0	0	0	0	16	0	25	0	0	4
5	0	0	0	0	0	1	3	0	0	0	0	0
6	0	0	0	0	0	8	0	0	35	0	0	0
7	0	0	0	0	0	0	1	7	56	0	0	0
8	0	0	6	0	0	1	0	23	34	0	0	0
9	0	0	0	0	10	22	0	15	1	0	0	0
10	0	0	0	0	0	12	5	8	17	0	0	0
11	0	0	0	0	0	9	16	64	8	0	0	0
12	0	0	0	0	0	1	1	60	60	0	0	0
13	0	0	0	0	1	39	12	23	0	0	0	0
14	0	0	0	0	0	13	2	11	74	0	0	0
15	0	1	0	0	0	24	2	0	55	0	0	0
16	3	0	0	0	0	6	3	10	0	0	0	0
17	0	0	0	0	4	13	37	18	0	4	0	0
18	0	0	0	0	0	0	36	0	6	0	0	0
19	0	0	0	0	5	3	74	50	55	0	0	0
20	0	0	0	0	0	36	24	26	4	0	0	0
21	0	0	0	0	55	13	22	7	0	0	0	11
22	0	0	0	0	0	0	15	1	0	0	0	0
23	0	0	0	0	0	0	0	1	0	0	0	9
24	0	0	0	0	0	76	24	28	0	0	0	0
25	0	0	0	1	3	1	0	6	0	0	0	0
26	1	0	0	0	3	1	1	2	0	0	0	0
27	0	0	0	0	0	1	7	0	0	0	0	0
28	0	0	0	0	0	2	0	0	0	0	0	0
29	0		0	0	0	0	0	0	0	0	0	1
30	0		14	0	21	4	0	0	0	77	0	0
31	0		0		0		0	7		0		4

Monthly Total	4	1	20	1	102	287	318	382	579	101	0	29
Average	0.13	0.04	0.65	0.03	3.29	9.57	10.26	12.32	19.30	3.26	0.00	0.94
Max daily rain	3	1	14	1	55	76	74	64	74	77	0	11
Day of Max Daily	16	15	30	25	21	24	19	11	2	30		21
No. of Rain days	2	1	2	1	8	22	20	20	16	5	0	5
Max 1-hr rain	1	1	13	1	21	47	18	15	54	24	0	5
Day of max 1-hr	1	15	30	25	30	24	24	17	12	30		21

Total rain for the year

1824

Total rain days for the year

102

Daily Point Rainfall in millimeters

2018

Station:

Peñaranda

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	28	0	4	7	0	0
2	0	0	0	0	0	15	3	38	9	2	0	0
3	0	0	0	0	0	0	4	0	9	3	0	0
4	0	0	0	0	0	0	0	15	28	0	0	1
5	0	0	0	0	0	5	0	6	8	0	0	0
6	0	0	0	0	0	8	0	0	14	0	0	0
7	0	0	0	0	0	1	33	6	9	0	0	0
8	0	0	0	0	0	2	1	9	0	0	0	0
9	0	0	0	0	0	16	4	5	0	0	0	0
10	0	0	0	0	0	7	0	5	25	0	0	0
11	0	0	0	0	0	17	3	46	0	10	0	0
12	0	0	0	0	0	0	2	33	9	0	0	0
13	0	0	0	0	0	15	7	7	0	0	0	6
14	0	0	0	0	0	30	11	3	83	0	0	1
15	0	0	0	0	0	14	0	0	36	11	0	0
16	7	0	0	0	1	8	16	5	0	0	0	0
17	1	0	0	0	2	2	29	0	0	23	0	0
18	1	0	0	0	0	0	22	0	0	0	0	0
19	0	0	0	0	0	0	53	9	0	0	0	0
20	0	0	0	0	0	8	20	18	5	1	0	0
21	0	0	0	0	1	57	25	1	0	0	1	2
22	0	0	0	0	0	1	3	0	0	0	0	1
23	0	0	0	0	5	31	0	0	0	0	0	23
24	0	0	0	30	0	6	2	7	0	0	0	0
25	0	0	0	1	38	3	0	6	0	0	0	0
26	6	0	0	9	0	21	0	5	5	0	0	0
27	0	0	0	0	0	3	10	0	43	0	0	0
28	0	0	0	0	0	0	37	0	14	0	0	2
29	0		0	0	2	2	0	0	0	4	0	5
30	0		7	0	0	2	2	0	0	85	0	1
31	0		0		0		0	32		0		10

Monthly Total	15	0	7	40	49	274	315	256	301	146	1	52
Average	0.48	0.00	0.23	1.33	1.58	9.13	10.16	8.26	10.03	4.71	0.03	1.68
Max daily rain	7	0	7	30	38	57	53	46	83	85	1	23
Day of Max Daily	16		30	24	25	21	19	11	14	30	21	23
No. of Rain days	4	0	1	3	6	23	21	19	15	9	1	10
Max 1-hr rain	3	0	7	19	37	28	33	21	32	23	1	5
Day of max 1-hr	26		31	24	25	23	28	2	27	17	21	14

Total rain for the year

1456

Total rain days for the year

112

Daily Point Rainfall in millimeters

2018	Station: Calaanan											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	1	96	43	12	0	0
2	0	0	0	0	0	5	5	7	0	0	0	0
3	0	0	0	0	0	0	0	12	56	1	0	3
4	0	0	0	0	0	0	0	6	14	1	0	4
5	0	0	0	0	3	0	17	3	0	0	0	0
6	0	0	2	0	0	36	0	0	25	0	14	0
7	0	0	0	0	0	0	21	17	23	0	1	0
8	0	0	0	0	1	0	5	20	0	0	0	0
9	0	0	0	0	0	20	21	16	15	0	0	0
10	0	0	0	0	0	20	0	5	4	0	0	0
11	0	0	0	0	0	21	10	43	0	0	0	0
12	0	0	0	0	0	1	10	25	0	7	0	0
13	0	0	0	0	0	17	22	15	0	0	0	0
14	0	0	0	0	0	28	19	16	96	0	0	0
15	0	0	0	0	0	14	0	4	52	0	0	0
16	13	0	0	0	0	0	9	46	1	0	0	0
17	1	0	0	0	0	4	9	46	0	5	1	0
18	24	0	0	0	0	0	44	4	1	0	0	0
19	0	0	0	0	0	2	93	4	0	0	0	0
20	0	0	0	0	0	138	68	39	1	2	0	0
21	0	0	0	0	0	30	89	15	0	0	0	1
22	0	0	0	0	0	28	14	16	0	0	0	6
23	0	0	0	0	0	10	1	5	0	0	0	23
24	0	0	0	0	0	9	8	14	0	0	1	0
25	0	0	0	4	0	1	60	2	4	0	0	0
26	4	0	0	0	0	5	58	34	1	0	0	0
27	0	0	0	0	0	3	22	0	0	0	0	0
28	0	0	0	2	0	0	50	0	0	0	0	1
29	0		1	0	0	0	0	0	0	6	0	2
30	0		0	0	0	18	7	0	0	125	0	0
31	0		0		0		105	16		1		24

Monthly Total	42	0	3	6	4	410	768	526	336	160	17	64
Average	1.35	0.00	0.10	0.20	0.13	13.67	24.77	16.97	11.20	5.16	0.57	2.06
Max daily rain	24	0	2	4	3	138	105	96	96	125	14	24
Day of Max Daily	18		6	25	5	20	31	1	14	30	6	31
No. of Rain days	4	0	2	2	2	20	25	26	14	9	4	8
Max 1-hr rain	5	0	1	4	1	88	44	43	39	19	5	6
Day of max 1-hr	18		7	25	5	20	21	2	4	30	6	01, 2019

Total rain for the year
Total rain days for the year

2336

116

Daily Point Rainfall in millimeters

2018	Station: Palali											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	1	16	6	1	0
2	0	0	0	0	0	0	3	29	16	19	0	0
3	0	0	0	0	0	0	2	0	8	5	0	2
4	0	0	0	2	0	0	0	0	11	2	0	2
5	0	2	0	0	3	0	4	3	2	0	0	0
6	0	0	0	0	0	42	58	0	14	0	0	0
7	0	0	0	0	0	0	81	12	7	0	0	0
8	0	0	0	0	0	8	2	5	2	0	1	0
9	0	0	0	0	0	9	1	6	1	1	0	0
10	0	0	0	0	0	13	9	9	3	0	0	0
11	0	0	0	0	0	10	13	27	0	0	0	1
12	0	0	0	0	0	1	17	16	0	0	0	1
13	0	0	0	0	0	15	6	5	18	0	0	1
14	0	0	0	0	0	41	19	10	64	0	0	0
15	0	0	0	0	0	11	0	0	20	0	0	0
16	12	0	4	0	0	1	16	1	5	8	0	0
17	1	0	0	0	0	5	21	16	0	1	0	0
18	1	0	0	0	0	0	27	0	0	0	0	0
19	0	0	0	0	0	0	69	7	0	0	0	0
20	0	0	0	0	0	0	21	17	12	4	0	0
21	0	0	0	0	0	1	15	1	1	0	1	3
22	0	0	0	0	0	36	6	1	0	0	0	2
23	0	0	0	0	0	4	0	0	0	0	0	34
24	0	0	0	0	0	23	1	4	0	1	0	0
25	0	0	0	5	0	3	27	6	9	0	0	1
26	9	5	0	1	0	20	1	30	0	0	0	0
27	0	0	0	0	8	8	56	0	8	0	0	0
28	0	0	0	0	0	0	14	0	8	0	0	3
29	0		1	0	0	0	11	1	0	8	0	4
30	0		1	0	0	2	2	0	0	34	0	4
31	0		11		0		5	28		8		10

Monthly Total	23	7	17	8	11	253	507	235	225	97	3	68
Average	0.74	0.25	0.55	0.27	0.35	8.43	16.35	7.58	7.50	3.13	0.10	2.19
Max daily rain	12	5	11	5	8	42	81	30	64	34	1	34
Day of Max Daily	16	26	31	25	27	6	7	26	14	30	1	23
No. of Rain days	4	2	4	3	2	19	27	22	19	12	3	13
Max 1-hr rain	3	3	10	5	4	35	50	25	17	12	1	7
Day of max 1-hr	17	27	31	25	27	22	27	2	13	30	2	23

Total rain for the year
Total rain days for the year

1454

130

Daily Point Rainfall in millimeters

2018

Station:

San Isidro

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	22	1	5	20	0	0
2	0	0	0	0	0	1	0	26	19	0	0	0
3	0	0	0	0	0	0	0	12	38	25	0	0
4	0	0	0	0	0	0	0	0	44	0	0	7
5	0	0	0	0	0	8	0	3	0	0	0	0
6	0	0	0	0	0	5	0	0	12	0	0	0
7	0	0	0	0	0	0	5	5	7	0	0	0
8	0	0	0	0	4	1	1	11	0	0	0	0
9	0	0	0	0	0	15	14	6	0	0	0	0
10	0	0	0	0	0	5	0	2	28	0	0	0
11	0	0	0	0	0	9	18	48	0	0	0	0
12	0	0	0	0	37	1	7	40	12	0	0	0
13	0	0	0	0	0	21	6	5	0	0	0	5
14	0	2	0	0	0	30	6	3	61	0	0	1
15	0	1	0	0	0	18	0	0	54	0	0	0
16	4	0	0	0	0	7	2	0	1	0	0	0
17	1	0	0	0	34	2	31	1	0	9	0	0
18	1	0	0	0	0	0	23	0	0	0	0	0
19	0	0	0	0	0	0	56	9	0	0	0	0
20	0	0	0	0	0	4	13	25	6	0	0	0
21	0	0	0	0	0	28	16	2	1	0	1	3
22	0	0	0	0	1	0	18	0	0	0	0	0
23	0	0	0	0	2	1	0	0	0	0	0	14
24	1	0	0	34	0	9	1	6	0	0	0	0
25	0	0	0	9	13	3	2	5	0	0	0	0
26	2	0	0	1	1	0	0	4	0	0	0	0
27	0	0	0	0	0	1	2	0	26	0	0	0
28	1	0	0	0	0	0	1	0	3	0	0	2
29	0		0	0	0	18	0	0	0	1	0	7
30	0		37	0	0	0	13	0	0	114	0	0
31	0		0		0		0	15		0		9

Monthly Total	10	3	37	44	92	187	257	229	317	169	1	48
Average	0.32	0.11	1.19	1.47	2.97	6.23	8.29	7.39	10.57	5.45	0.03	1.55
Max daily rain	4	2	37	34	37	30	56	48	61	114	1	14
Day of Max Daily	16	14	30	24	12	14	19	11	14	30	21	23
No. of Rain days	6	2	1	3	7	20	20	20	15	5	1	8
Max 1-hr rain	1	1	27	23	29	18	16	22	32	32	1	4
Day of max 1-hr	17	15	30	24	12	29	20	2	15	30	21	4

Total rain for the year

1394

Total rain days for the year

108

Daily Point Rainfall in millimeters

2018	Station: Arayat											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	5	10	0	4	20	0
2	0	0	0	0	0	41	0	17	0	0	0	0
3	0	0	0	0	0	4	16	1	0	16	0	1
4	0	0	0	0	0	0	1	0	0	7	0	2
5	0	0	0	0	1	3	0	4	0	0	0	0
6	0	0	0	0	0	2	0	0	79	0	0	0
7	0	0	0	0	0	1	5	12	8	0	0	0
8	0	0	1	0	3	6	5	2	39	0	0	0
9	0	0	0	0	0	24	28	19	2	0	0	0
10	0	0	0	0	0	5	6	11	6	25	0	0
11	0	0	0	0	0	18	20	82	0	0	0	0
12	0	0	0	0	0	4	7	40	2	0	0	0
13	0	0	0	0	2	37	27	29	0	0	0	3
14	0	0	0	0	0	24	13	30	126	0	0	0
15	0	0	0	5	0	38	1	0	22	0	0	0
16	7	0	4	0	0	18	72	1	0	0	0	0
17	0	0	0	0	38	4	45	3	0	19	0	0
18	1	0	0	0	0	0	24	1	0	0	0	0
19	0	0	0	0	0	0	34	17	2	0	0	0
20	0	0	0	0	0	48	35	21	6	3	0	0
21	0	0	0	0	0	64	24	2	0	0	0	6
22	0	0	0	0	0	0	16	3	0	0	0	1
23	0	0	0	0	0	6	1	1	0	0	0	15
24	0	0	0	2	0	1	0	81	11	0	0	0
25	0	0	0	0	0	2	3	60	26	0	0	0
26	1	0	0	0	0	0	1	11	10	0	0	0
27	0	0	0	0	0	0	2	0	0	0	0	0
28	1	0	0	0	18	0	37	0	0	0	0	2
29	0		0	0	0	0	6	0	0	0	0	2
30	0		40	0	0	0	4	0	4	74	0	0
31	0		0		0		0	0		0		8

Monthly Total	10	0	45	7	62	350	438	458	343	148	20	40
Average	0.32	0.00	1.45	0.23	2.00	11.67	14.13	14.77	11.43	4.77	0.67	1.29
Max daily rain	7	0	40	5	38	64	72	82	126	74	20	15
Day of Max Daily	16		30	15	17	21	16	11	14	30	1	23
No. of Rain days	4	0	3	2	5	20	26	23	14	7	1	9
Max 1-hr rain	3	0	35	5	33	43	62	64	32	22	12	5
Day of max 1-hr	17		30	15	17	20	17	24	7	10	1	23

Total rain for the year
Total rain days for the year

1921

114

Daily Point Rainfall in millimeters

2018	Station: Candaba											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	10	2	2	1	22	0
2	0	0	0	0	0	16	0	2	3	1	0	0
3	0	0	0	0	0	1	0	15	0	17	1	2
4	0	0	0	0	0	1	8	1	13	4	0	3
5	0	0	0	0	5	10	0	5	22	0	0	0
6	0	0	0	0	1	0	0	0	23	1	0	0
7	0	0	0	0	0	1	19	6	6	0	0	0
8	0	0	0	0	1	1	9	3	28	0	0	0
9	0	0	0	0	0	3	17	21	16	0	0	0
10	0	0	0	0	0	2	6	14	4	1	0	0
11	0	0	0	0	0	4	13	94	0	0	0	0
12	0	0	0	0	0	4	9	58	0	0	0	0
13	0	0	0	0	0	3	7	28	0	0	0	7
14	0	0	0	0	0	2	7	28	80	4	0	0
15	0	0	0	0	0	0	0	5	17	2	0	0
16	12	0	3	0	0	1	8	5	3	4	0	0
17	0	0	0	0	8	6	45	3	0	23	2	0
18	2	0	0	0	0	1	24	0	0	0	0	0
19	0	0	0	0	0	1	31	25	1	0	0	0
20	0	0	0	0	0	0	18	32	8	2	0	0
21	0	0	0	0	28	1	15	4	3	0	1	12
22	0	0	0	0	0	0	8	1	0	0	0	8
23	0	0	0	0	0	0	0	0	0	0	0	19
24	0	0	0	0	0	1	0	6	0	0	0	1
25	0	0	0	0	0	0	29	3	15	0	0	0
26	4	0	0	0	0	1	1	14	1	0	0	0
27	0	0	0	0	0	0	1	0	1	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	4
29	0		0	0	8	0	36	0	0	0	0	2
30	1		13	0	0	0	0	0	2	89	0	1
31	0		0		0		1	17		1		10

Monthly Total	19	0	16	0	51	60	322	392	248	150	26	69
Average	0.61	0.00	0.52	0.00	1.65	2.00	10.39	12.65	8.27	4.84	0.87	2.23
Max daily rain	12	0	13	0	28	16	45	94	80	89	22	19
Day of Max Daily	16		30		21	2	17	11	14	30	1	23
No. of Rain days	4	0	2	0	6	19	22	24	19	13	4	11
Max 1-hr rain	4	0	5	0	22	6	32	16	19	23	22	7
Day of max 1-hr	17		31		21	2	29	11	15	17	1	23

Total rain for the year	1353
Total rain days for the year	124

Daily Point Rainfall in millimeters

2018

Station:

Sibul_Springs

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	2	10	0	3	0	0
2	0	0	0	0	0	6	14	0	4	5	0	0
3	0	0	0	0	0	1	13	0	15	32	0	1
4	0	0	0	0	0	0	4	12	50	0	0	12
5	0	0	0	1	8	0	1	37	8	0	0	0
6	0	0	0	0	0	9	1	0	9	0	4	0
7	0	0	1	0	0	0	4	29	5	0	0	0
8	0	0	0	0	0	0	2	8	4	0	0	0
9	0	0	0	0	0	7	42	19	1	0	0	0
10	0	0	0	0	0	19	20	16	2	0	0	0
11	0	0	0	0	0	12	19	71	0	0	0	1
12	0	0	0	0	0	2	5	58	17	0	0	0
13	0	0	0	0	0	19	7	17	0	0	0	12
14	0	3	0	0	0	65	21	11	120	0	0	4
15	0	2	0	0	0	93	4	0	24	0	0	0
16	22	0	0	0	0	21	0	14	6	0	0	0
17	1	0	0	0	2	11	26	1	0	0	3	0
18	2	0	0	0	0	0	22	0	0	0	0	0
19	0	0	0	0	0	0	36	25	2	1	0	0
20	0	0	0	0	0	12	39	39	11	3	0	0
21	0	0	0	0	1	189	14	7	22	0	1	14
22	0	0	0	1	0	20	4	2	0	0	0	4
23	0	0	0	0	0	104	0	0	0	0	0	40
24	5	0	0	23	0	3	1	30	7	0	0	1
25	0	0	0	0	49	5	0	6	5	0	0	0
26	10	2	0	0	26	0	2	9	0	0	0	0
27	0	0	0	0	0	12	2	0	0	0	0	0
28	0	0	0	0	0	0	0	0	12	0	0	7
29	0		3	0	0	0	29	0	2	1	0	6
30	0		3	0	0	0	4	0	27	60	0	1
31	0		0		0		0	34		0		4

Monthly Total	40	7	7	25	86	610	338	455	353	105	8	107
Average	1.29	0.25	0.23	0.83	2.77	20.33	10.90	14.68	11.77	3.39	0.27	3.45
Max daily rain	22	3	3	23	49	189	42	71	120	60	4	40
Day of Max Daily	16	14	29	24	25	21	9	11	14	30	6	23
No. of Rain days	5	3	3	3	5	19	26	21	21	7	3	13
Max 1-hr rain	6	2	2	13	48	56	25	21	27	13	3	10
Day of max 1-hr	26	15	29	24	25	21	10	Sept 01	15	3	7	4

Total rain for the year

2141

Total rain days for the year

129

Daily Point Rainfall in millimeters

2018	Station: Sasmuan											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	26	0	3	0	1	14	10	0	0
3	0	0	0	0	0	3	0	0	1	1	0	1
4	0	0	0	0	0	0	0	0	32	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	1	0	0	93	0	0	0
7	0	0	0	0	0	0	11	7	11	0	0	0
8	0	0	5	0	54	6	15	11	0	1	0	0
9	0	0	1	0	4	33	10	44	6	14	0	0
10	0	0	0	0	0	11	13	33	0	5	0	0
11	0	0	0	0	0	53	19	148	0	0	0	0
12	0	0	0	0	38	17	10	101	10	0	0	0
13	0	0	0	0	0	69	5	36	2	0	0	2
14	0	0	0	0	0	53	23	11	46	0	0	1
15	0	0	0	10	0	88	0	2	18	0	0	0
16	6	0	41	0	0	6	27	9	0	0	0	0
17	0	0	0	0	4	13	111	0	0	0	0	0
18	6	0	0	0	0	0	26	4	0	0	0	0
19	0	0	0	0	0	0	62	36	0	0	0	0
20	0	0	0	0	7	4	88	88	1	2	0	0
21	0	0	0	0	45	40	11	1	23	0	0	0
22	0	0	0	0	0	19	53	7	0	0	0	2
23	0	0	0	0	0	3	1	14	0	0	0	9
24	1	0	0	0	0	34	0	120	0	0	0	3
25	0	0	0	0	0	35	0	27	0	0	0	0
26	5	0	0	2	0	0	0	24	13	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	23	0	0	0	0	0	0	2
29	0		0	0	0	0	0	0	0	0	0	2
30	3		0	0	0	0	0	0	0	88	0	0
31	0		0		0		1	22		0		11

Monthly Total	21	0	47	38	175	491	486	746	270	121	0	33
Average	0.68	0.00	1.52	1.27	5.65	16.37	15.68	24.06	9.00	3.90	0.00	1.06
Max daily rain	6	0	41	26	54	88	111	148	93	88	0	11
Day of Max Daily	16		16	2	8	15	17	11	6	30		31
No. of Rain days	5	0	3	3	7	19	17	21	13	7	0	9
Max 1-hr rain	5	0	31	24	36	29	28	45	26	13	0	3
Day of max 1-hr	18		16	2	12	25	17	11	6	30		24

Total rain for the year
Total rain days for the year

2428

104

Daily Point Rainfall in millimeters

2018	Station: Sulipan											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	2	8	0	0	0
2	0	0	1	0	0	24	0	0	6	1	0	0
3	0	0	0	0	0	0	0	0	0	0	0	1
4	0	0	0	0	0	0	0	1	10	0	0	1
5	0	0	0	0	3	0	2	0	0	0	0	0
6	0	0	0	0	0	2	1	0	62	0	0	0
7	0	0	0	0	0	0	34	4	2	14	0	0
8	0	0	0	0	22	4	23	4	0	0	0	0
9	0	0	0	0	0	25	27	21	6	0	0	0
10	0	0	0	0	0	11	2	15	2	4	0	0
11	0	0	0	0	0	45	32	112	13	1	0	0
12	0	0	0	2	0	5	21	79	9	0	0	0
13	0	0	0	0	14	37	11	45	22	0	0	2
14	0	1	0	0	0	36	35	1	14	1	0	1
15	0	0	0	6	0	39	0	0	0	0	0	0
16	10	0	0	0	0	3	15	10	0	0	0	0
17	0	0	0	0	21	8	90	1	0	16	0	0
18	6	0	0	0	2	0	21	2	0	0	1	0
19	0	0	0	0	0	0	68	24	0	0	0	0
20	0	0	0	0	0	15	56	18	2	3	0	0
21	0	0	0	0	2	36	25	4	2	0	0	0
22	0	0	0	0	0	20	33	0	0	0	0	0
23	0	0	0	0	0	22	1	0	0	0	0	12
24	0	0	0	0	0	8	1	24	3	0	0	1
25	0	0	0	0	0	29	7	4	1	0	0	0
26	5	0	0	0	0	0	9	18	7	0	0	0
27	1	0	0	0	0	0	2	0	0	0	0	0
28	1	0	0	0	0	0	8	0	0	0	0	1
29	0		0	0	6	0	0	0	0	0	0	1
30	3		5	0	0	0	2	0	0	64	0	1
31	0		0		0		0	15		0		6

Monthly Total	26	1	6	8	70	369	526	404	169	104	1	27
Average	0.84	0.04	0.19	0.27	2.26	12.30	16.97	13.03	5.63	3.35	0.03	0.87
Max daily rain	10	1	5	6	22	45	90	112	62	64	1	12
Day of Max Daily	16	14	30	15	8	11	17	11	6	30	18	23
No. of Rain days	6	1	2	2	7	18	24	20	16	8	1	10
Max 1-hr rain	6	1	3	5	20	25	21	21	22	25	1	4
Day of max 1-hr	18	14	30	15	17	25	8	11	13	30	18	23

Total rain for the year
Total rain days for the year

1711

115

Daily Point Rainfall in millimeters

2018	Station: Mexico											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	1	4	0	0	0
2	0	0	0	0	0	16	0	8	4	3	0	0
3	0	0	0	0	0	6	5	0	0	1	0	0
4	0	0	0	0	0	3	7	0	39	0	0	1
5	0	0	0	0	2	1	0	4	0	0	0	0
6	0	0	0	0	0	2	3	0	25	0	0	0
7	0	0	0	0	0	1	12	14	11	0	0	0
8	0	0	12	0	11	1	17	2	5	0	0	0
9	0	0	0	0	0	1	27	25	16	2	0	0
10	0	0	0	0	0	2	10	20	0	0	0	0
11	0	0	0	0	0	2	7	105	0	0	0	0
12	0	0	0	0	2	1	10	89	1	0	0	0
13	0	0	0	0	15	3	5	42	4	0	0	1
14	0	0	0	0	0	2	25	44	98	0	0	1
15	0	0	0	5	0	3	0	10	17	8	0	0
16	13	0	7	0	0	2	7	4	0	0	0	0
17	0	0	0	0	1	3	80	0	0	29	0	0
18	0	0	0	0	0	3	41	1	0	0	0	0
19	0	0	0	0	0	2	38	30	10	0	0	0
20	0	0	0	0	0	3	30	30	2	2	0	0
21	0	0	0	0	6	1	18	5	9	0	0	3
22	0	0	0	1	0	4	19	11	0	0	0	2
23	0	0	0	0	0	1	2	0	0	0	0	6
24	0	0	0	0	0	4	2	10	0	0	0	0
25	0	0	0	0	0	4	0	8	6	0	0	0
26	2	0	0	2	0	3	1	16	0	0	0	0
27	0	0	0	0	0	4	25	0	0	0	0	0
28	0	0	0	0	5	4	0	0	0	0	0	0
29	0		0	0	0	3	26	0	0	0	0	0
30	0		7	0	0	8	1	0	0	89	0	0
31	0		0		0		0	15		0		5

Monthly Total	15	0	26	8	42	93	418	494	251	134	0	19
Average	0.48	0.00	0.84	0.27	1.35	3.10	13.48	15.94	8.37	4.32	0.00	0.61
Max daily rain	13	0	12	5	15	16	80	105	98	89	0	6
Day of Max Daily	16		8	15	13	2	17	11	14	30		23
No. of Rain days	2	0	3	3	7	29	24	22	15	7	0	7
Max 1-hr rain	6	0	8	3	12	4	25	18	33	23	0	2
Day of max 1-hr	17		8	15	13	30	29	11	4	17		21

Total rain for the year
Total rain days for the year

1500

119

Daily Point Rainfall in millimeters

2018	Station: Porac											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	1	7	0	0	0
2	0	0	0	0	0	2	0	60	6	0	0	0
3	0	0	0	0	0	0	17	0	1	0	0	0
4	0	0	0	0	0	0	0	0	7	0	0	1
5	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	1	0	9	31	27	0	0
7	0	0	0	0	0	1	16	9	19	5	0	0
8	0	0	6	0	2	25	38	19	2	0	0	0
9	0	0	32	0	0	49	34	17	6	13	0	0
10	0	0	0	0	0	7	13	13	8	0	0	0
11	0	0	0	0	0	31	13	63	3	0	0	0
12	0	0	0	0	0	12	12	35	0	0	0	0
13	0	0	0	0	5	54	16	46	13	0	0	2
14	0	0	0	0	0	129	17	28	78	0	0	1
15	0	0	0	12	0	101	0	2	30	26	0	0
16	2	0	20	0	0	60	13	17	13	0	0	0
17	0	0	0	0	17	10	94	0	0	13	0	0
18	1	0	0	0	0	1	28	5	0	0	0	0
19	0	0	0	0	0	0	52	74	16	0	0	0
20	0	0	0	0	1	34	41	36	0	0	0	0
21	0	0	0	0	18	24	25	9	1	0	0	1
22	0	0	0	0	0	2	83	5	0	0	0	0
23	0	0	0	0	0	0	1	1	0	0	0	8
24	0	0	0	0	0	6	0	9	11	0	0	0
25	0	0	0	0	1	5	16	8	14	0	0	0
26	6	0	0	0	0	0	0	35	47	0	0	0
27	0	0	2	0	0	0	0	0	0	0	0	0
28	0	0	17	0	1	0	8	0	0	0	0	0
29	0		0	0	0	0	16	0	0	0	0	1
30	0		22	0	0	0	0	0	0	55	0	0
31	0		0		0		4	58		0		5

Monthly Total	9	0	99	12	45	554	557	559	313	139	0	19
Average	0.29	0.00	3.19	0.40	1.45	18.47	17.97	18.03	10.43	4.48	0.00	0.61
Max daily rain	6	0	32	12	18	129	94	74	78	55	0	8
Day of Max Daily	26		9	15	21	14	17	19	14	30		23
No. of Rain days	3	0	6	1	7	19	21	23	19	6	0	7
Max 1-hr rain	4	0	32	10	18	34	17	30	20	26	0	3
Day of max 1-hr	17		9	15	21	16	3	2	15	6		23

Total rain for the year
Total rain days for the year

2306

112

Daily Point Rainfall in millimeters

2018	Station: San_Rafael											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	9	10	5	0	0
2	0	0	0	0	0	15	0	5	4	3	0	0
3	0	0	2	0	0	0	0	3	0	0	0	1
4	0	0	0	0	0	0	0	1	36	0	0	4
5	0	0	0	0	5	0	0	0	0	0	0	0
6	0	0	0	0	0	3	0	0	29	0	4	0
7	1	0	0	0	0	0	12	19	2	2	0	0
8	0	0	0	0	50	1	5	4	2	0	0	0
9	0	0	0	0	0	21	39	16	6	0	0	0
10	0	0	0	0	0	16	25	13	1	18	0	0
11	0	0	0	0	0	37	30	94	23	0	0	0
12	0	0	0	0	0	5	13	76	6	0	0	0
13	0	0	0	0	6	23	2	39	5	0	0	13
14	0	0	0	0	0	27	28	27	78	0	0	2
15	0	0	0	0	0	59	1	0	18	0	0	0
16	17	6	0	0	0	5	10	2	2	22	0	0
17	1	0	0	0	0	9	70	0	1	1	0	0
18	5	0	0	0	0	0	18	2	0	0	0	0
19	0	0	0	0	0	0	41	65	9	1	0	0
20	0	0	0	0	1	65	37	27	9	4	0	0
21	0	0	0	0	5	30	31	5	26	0	7	7
22	0	0	0	0	0	3	19	0	0	0	0	3
23	0	0	0	0	0	37	0	0	10	0	0	31
24	0	0	0	0	28	0	3	24	0	0	0	4
25	0	0	0	0	23	7	14	3	5	0	0	0
26	9	0	0	0	0	1	12	32	0	0	0	0
27	1	0	0	0	0	0	1	0	0	0	0	0
28	6	0	7	0	0	0	1	0	0	0	0	10
29	3		0	0	0	3	8	0	0	1	0	5
30	0		13	0	0	0	0	2	0	99	0	1
31	0		0		0		0	42		0		14

Monthly Total	43	6	22	0	118	367	420	510	282	156	11	95
Average	1.39	0.21	0.71	0.00	3.81	12.23	13.55	16.45	9.40	5.03	0.37	3.06
Max daily rain	17	6	13	0	50	65	70	94	78	99	7	31
Day of Max Daily	16	16	30		8	20	17	11	14	30	21	23
No. of Rain days	8	1	3	0	7	19	22	22	20	10	2	12
Max 1-hr rain	6	3	7	0	47	62	20	26	25	22	3	9
Day of max 1-hr	28	16	29		8	20	11	27	21	16	7	23

Total rain for the year	2030
Total rain days for the year	126

Daily Point Rainfall in millimeters

2018	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	0.0	8.1	0.0	1.3	0.0	0.0	0.0
2	0.0	0.0	0.0	0.0	0.0	18.5	0.0	5.8	4.6	36.1	0.0	0.0
3	0.0	0.0	4.6	0.0	0.0	20.1	1.8	0.0	0.8	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.7	0.0	0.0	3.8
5	0.0	0.0	0.0	0.0	2.5	0.0	0.0	1.5	0.0	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	1.3	0.0	1.3	52.6	0.0	0.3	0.0
7	0.0	0.0	0.0	0.0	0.0	0.0	6.4	3.8	14.7	0.0	0.0	0.0
8	0.3	0.0	13.5	0.0	0.5	3.0	7.6	9.4	3.0	0.0	0.0	0.0
9	0.0	0.0	8.6	0.0	0.0	42.2	21.6	34.8	25.4	5.1	0.0	0.0
10	0.0	0.0	0.0	0.0	0.0	8.4	28.4	16.3	1.0	0.0	0.0	0.0
11	0.0	0.0	0.0	0.0	0.0	31.0	3.8	65.3	21.8	0.0	0.0	0.0
12	0.0	0.0	0.0	0.0	1.8	10.7	31.0	62.5	0.0	0.0	0.0	0.0
13	0.0	0.0	0.0	0.0	13.0	16.8	9.4	54.6	23.6	0.0	0.0	4.3
14	0.0	0.0	0.0	0.0	0.0	23.9	9.7	69.6	94.7	0.0	0.0	3.0
15	0.0	0.0	0.0	36.1	0.0	45.7	0.8	5.1	25.7	14.0	0.0	0.0
16	6.6	0.0	1.5	0.0	3.3	8.6	4.8	18.5	0.0	0.0	0.0	0.0
17	0.5	0.0	0.0	0.0	0.8	8.4	85.6	3.8	0.0	5.1	0.0	0.0
18	1.3	0.0	0.0	0.0	0.0	0.0	34.8	7.1	0.0	2.3	0.0	0.0
19	0.0	0.0	0.0	0.0	0.0	0.3	65.5	48.0	9.4	0.0	0.0	0.0
20	0.0	0.0	0.0	0.0	0.0	33.5	39.4	19.3	1.8	1.8	0.0	0.0
21	0.0	0.0	0.0	0.0	17.3	32.8	34.5	6.9	18.8	0.0	1.8	3.3
22	0.0	0.0	4.6	3.0	0.0	7.9	31.5	9.7	0.0	0.0	0.0	2.3
23	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.3	0.0	0.0	0.0	11.2
24	0.0	0.0	0.0	0.0	10.2	27.2	0.0	18.8	16.8	1.5	0.0	0.3
25	0.0	0.0	0.0	0.0	0.0	1.0	0.0	15.0	18.5	0.0	0.3	0.0
26	5.1	0.0	0.0	19.6	0.0	0.0	1.0	18.8	3.6	0.0	0.0	0.0
27	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
28	0.0	0.0	0.3	0.0	12.7	0.0	0.0	0.0	0.0	0.0	0.0	0.8
29	0.3		0.0	0.0	0.0	0.0	13.7	0.0	0.0	0.5	0.0	1.0
30	0.0		6.6	0.0	0.0	6.9	8.4	10.4	0.0	63.5	0.0	0.0
31	0.0		0.0		0.0		12.4	16.0		0.0		7.4

Monthly Total	14.0	0.0	39.6	58.7	62.0	348.0	463.0	522.5	367.8	129.8	2.3	37.3
Average	0.45	0.00	1.28	1.96	2.00	11.60	14.94	16.85	12.26	4.19	0.08	1.20
Max daily rain	6.6	0.0	13.5	36.1	17.3	45.7	85.6	69.6	94.7	63.5	1.8	11.2
Day of Max Daily	16		8	15	21	15	17	14	14	30	21	23
No. of Rain days	6	0	7	3	9	20	24	25	19	9	3	10
Max 1-hr rain	2.5		8.9	33.3	16.3	27.2	21.3	22.4	25.4	25.1	1.5	4.8
Day of max 1-hr	26		8	15	21	25	10	14	9	2	21	23

Total rain for the year	2045.0
Total rain days for the year	135

Table 1.0

Monthly Rainfall Summary for 2018															
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	8	0	17	59	142	353	648	423	386	243	0	29	2308	122	138
Sapang Buho	18	0	0	0	75	280	545	460	362	160	0	63	1963	114	105
Gabaldon	79	15	3	24	18	193	460	352	388	157	17	224	1930	149	135
Zaragoza	4	1	20	1	102	287	318	382	579	101	0	29	1824	102	77
Mayapyap															
Peñaranda	15	0	7	40	49	274	315	256	301	146	1	52	1456	112	85
Calaanan	42	0	3	6	4	410	768	526	336	160	17	64	2336	116	138
Palali	23	7	17	8	11	253	507	235	225	97	3	68	1454	130	81
San Isidro	10	3	37	44	92	187	257	229	317	169	1	48	1394	108	114
Arayat	10	0	45	7	62	350	438	458	343	148	20	40	1921	114	126
Candaba	19	0	16	0	51	60	322	392	248	150	26	69	1353	124	94
Sibul Spring	40	7	7	25	86	610	338	455	353	105	8	107	2141	129	189
Sasmuan	21	0	47	38	175	491	486	746	270	121	0	33	2428	104	148
Sulipan	26	1	6	8	70	369	526	404	169	104	1	27	1711	115	112
Mexico	15	0	26	8	42	93	418	494	251	134	0	19	1500	119	105
Porac	9	0	99	12	45	554	557	559	313	139	0	19	2306	112	129
San Rafael	43	6	22	0	118	367	420	510	282	156	11	95	2030	126	99
PRFFWC	14.0	0.0	39.6	58.7	62.0	348.0	463.0	522.5	367.8	129.8	2.3	37.3	2045.0	135	94.7
Mayapyap RR - out of order; no data for the whole year.															

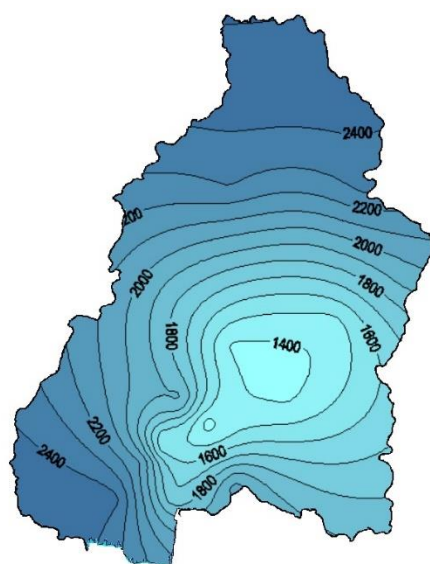


Figure 1a. The estimated Isohyet annual rainfall for year 2018 in the Pampanga River Basin

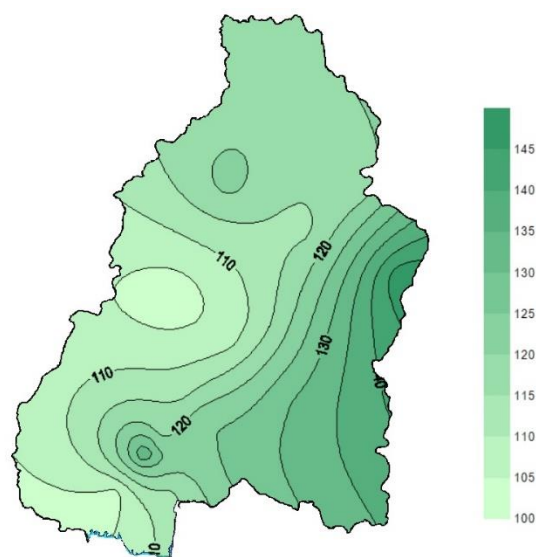


Figure 1b. Estimated rainfall days distribution (2018) in the Pampanga River Basin

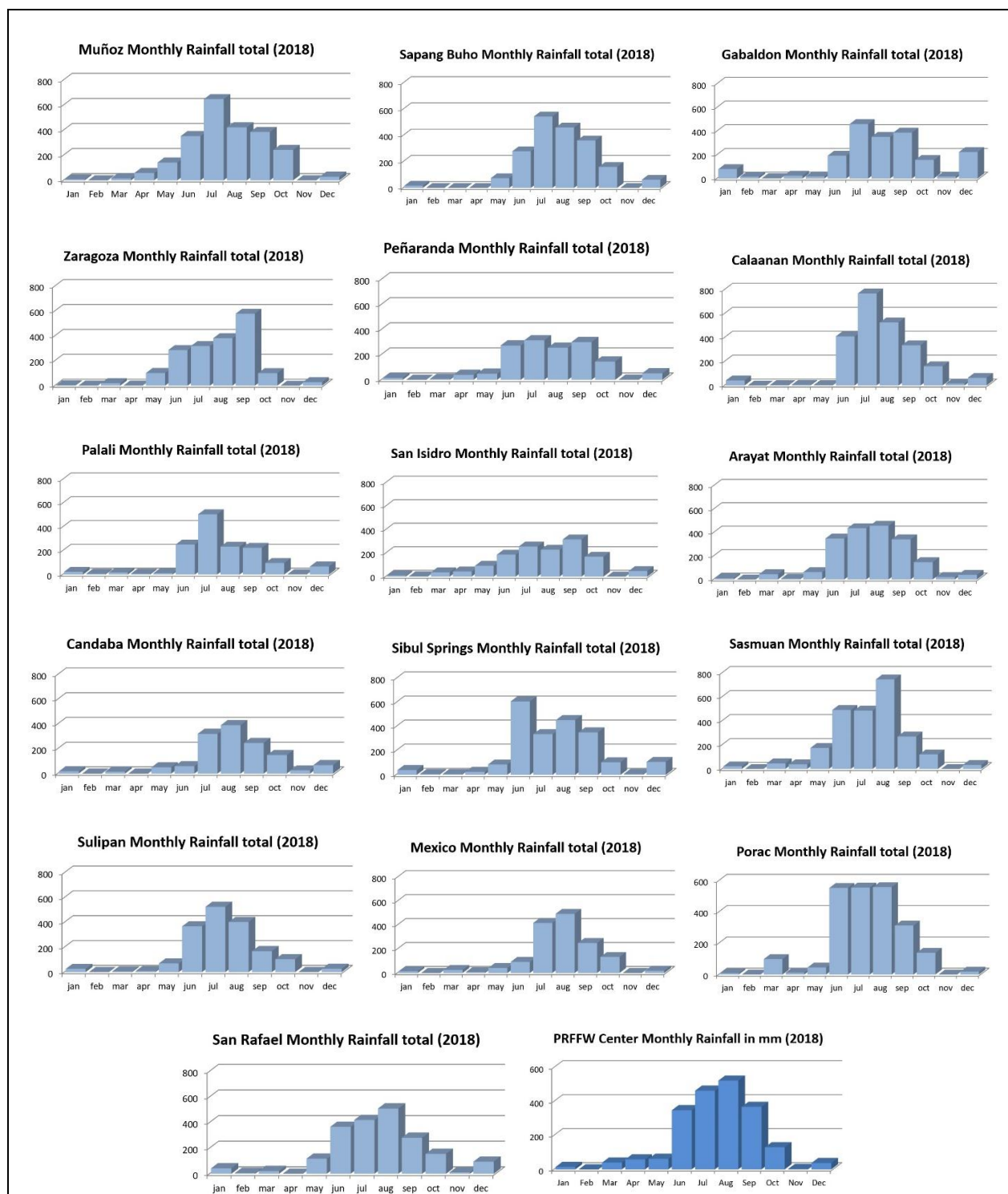


Figure 2. Monthly Rainfall distribution (hyetograph) of each monitoring station of PRFFWC within the Pampanga River Basin for the year 2018.

B. WATER LEVEL Data Summary Presentation



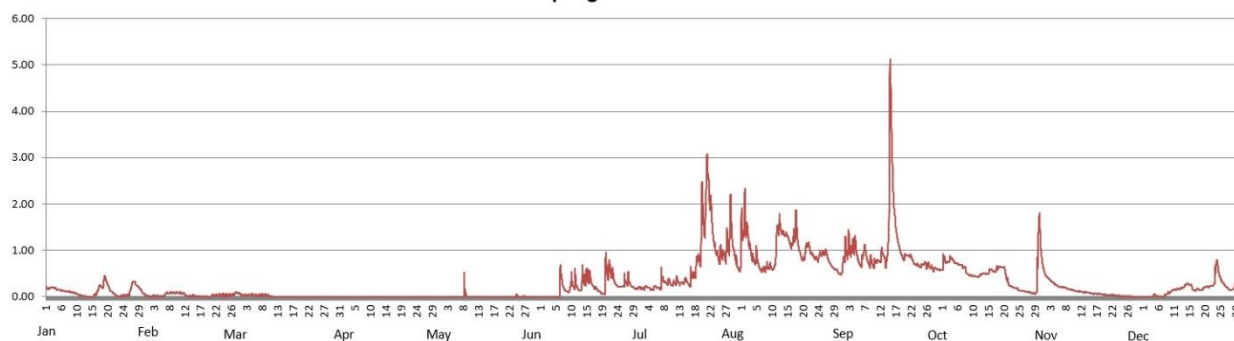
Water Level in meters (Daily Average)**2018**

Station:

Sapang_Buho

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.18	0.01	0.05	0.00	0.00	0.00	0.18	1.54	0.98	0.71	0.50	0.00
2	0.19	0.01	0.04	0.00	0.00	0.00	0.20	1.54	1.06	0.75	0.40	0.00
3	0.19	0.02	0.04	0.00	0.00	0.00	0.20	1.10	1.00	0.80	0.32	0.00
4	0.16	0.01	0.04	0.00	0.00	0.00	0.16	0.83	1.08	0.78	0.27	0.03
5	0.15	0.01	0.04	0.00	0.00	0.00	0.18	0.82	0.95	0.75	0.25	0.02
6	0.12	0.06	0.03	0.00	0.00	0.17	0.19	0.63	0.73	0.69	0.21	0.00
7	0.11	0.08	0.03	0.00	0.00	0.29	0.31	0.58	1.00	0.65	0.20	0.01
8	0.10	0.09	0.04	0.00	0.11	0.13	0.33	0.61	0.76	0.55	0.17	0.06
9	0.09	0.09	0.03	0.00	0.01	0.15	0.32	0.64	0.74	0.47	0.15	0.10
10	0.06	0.08	0.00	0.00	0.00	0.28	0.27	0.60	0.72	0.45	0.13	0.15
11	0.03	0.08	0.00	0.00	0.00	0.31	0.29	1.06	0.77	0.44	0.12	0.16
12	0.01	0.05	0.00	0.00	0.00	0.15	0.32	1.51	0.87	0.45	0.10	0.17
13	0.00	0.01	0.00	0.00	0.00	0.34	0.30	1.39	0.82	0.50	0.10	0.20
14	0.00	0.01	0.00	0.00	0.00	0.39	0.33	1.34	1.08	0.49	0.09	0.27
15	0.02	0.01	0.00	0.00	0.00	0.42	0.31	1.21	3.92	0.56	0.08	0.26
16	0.08	0.00	0.00	0.00	0.00	0.27	0.35	1.19	1.95	0.56	0.07	0.18
17	0.23	0.00	0.00	0.00	0.00	0.19	0.45	1.48	1.27	0.58	0.06	0.15
18	0.27	0.00	0.00	0.00	0.00	0.12	0.79	1.06	0.97	0.64	0.06	0.15
19	0.34	0.00	0.00	0.00	0.00	0.08	1.15	0.82	0.85	0.64	0.05	0.17
20	0.17	0.02	0.00	0.00	0.00	0.48	1.68	0.98	0.89	0.48	0.04	0.21
21	0.09	0.03	0.00	0.00	0.00	0.58	2.61	1.08	0.86	0.28	0.04	0.22
22	0.03	0.04	0.00	0.00	0.00	0.50	2.03	0.92	0.73	0.21	0.03	0.24
23	0.01	0.04	0.00	0.00	0.00	0.30	1.25	0.83	0.69	0.18	0.02	0.61
24	0.02	0.03	0.00	0.00	0.02	0.22	0.92	0.85	0.66	0.15	0.01	0.52
25	0.03	0.04	0.00	0.00	0.00	0.22	0.92	0.94	0.71	0.13	0.01	0.32
26	0.08	0.04	0.00	0.00	0.01	0.31	0.89	0.95	0.68	0.11	0.01	0.22
27	0.29	0.06	0.00	0.00	0.00	0.33	1.05	0.80	0.65	0.10	0.00	0.16
28	0.27	0.08	0.00	0.00	0.00	0.23	1.46	0.66	0.60	0.08	0.00	0.16
29	0.19		0.00	0.00	0.00	0.18	1.07	0.59	0.60	0.08	0.00	0.25
30	0.10		0.00	0.00	0.00	0.19	0.71	0.52	0.58	1.28	0.00	0.23
31	0.04		0.00		0.00		0.73	0.56		0.85		0.55

Max WL observed	0.45	0.10	0.09	0.00	0.52	0.96	3.08	2.34	5.13	1.81	0.61	1.18
Day of Max WL	19	7	1		8	21	21	2	15	31	1	Jan 01

Sapang Buho WL 2018

Water Level in meters (Daily Average)

2018

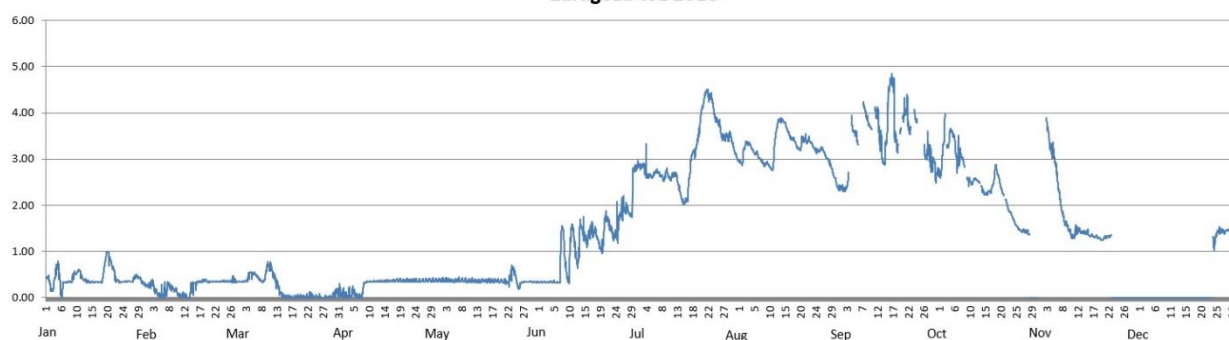
Station:

Zaragoza

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.44	0.25	0.35	0.09	0.37	0.34	2.85	2.91	2.37	2.75	4.69	
2	0.23	0.31	0.35	0.05	0.38	0.34	2.86	3.22	2.37	3.44	3.84	
3	0.30	0.15	0.39	0.07	0.38	0.34	2.74	3.33	2.55	3.27	3.54	
4	0.64	0.07	0.53	0.10	0.38	0.34	2.64	3.28	3.68	3.55	3.21	
5	0.44	0.06	0.52	0.09	0.37	0.34	2.63	3.21	3.61	3.52	3.08	
6	0.28	0.12	0.47	0.02	0.37	0.33	2.72	3.10	3.37	3.01	2.40	
7	0.34	0.27	0.39	0.04	0.38	1.09	2.67	2.98	4.19	3.06	1.92	
8	0.34	0.22	0.36	0.31	0.37	1.07	2.59	2.89	4.02	2.95	1.65	
9	0.49	0.17	0.60	0.35	0.36	0.42	2.68	2.91	3.77	2.56	1.51	
10	0.54	0.08	0.69	0.35	0.36	1.26	2.61	2.81	3.68	2.51	1.36	
11	0.56	0.04	0.53	0.35	0.37	1.25	2.62	3.05	3.98	2.52	1.39	
12	0.40	0.04	0.34	0.35	0.36	0.81	2.65	3.68	3.73	2.55	1.48	
13	0.36	0.00	0.16	0.35	0.36	1.47	2.39	3.83	3.26	2.48	1.43	
14	0.34	0.18	0.04	0.36	0.37	1.36	2.13	3.82	3.07	2.31	1.40	
15	0.34	0.27	0.02	0.36	0.36	1.26	2.09	3.67	4.17	2.25	1.39	
16	0.34	0.35	0.02	0.36	0.37	1.45	2.41	3.48	4.68	2.29	1.34	
17	0.34	0.36	0.00	0.37	0.37	1.44	3.07	3.43	3.93	2.46	1.32	
18	0.48	0.37	0.02	0.37	0.37	1.33	3.19	3.29	3.25	2.77	1.31	
19	0.90	0.35	0.02	0.37	0.36	1.07	3.51	3.23	3.69	2.53	1.26	
20	0.87	0.35	0.02	0.37	0.36	1.35	4.04	3.41	4.01	2.28	1.29	
21	0.66	0.35	0.01	0.37	0.36	1.71	4.37	3.40	3.92	2.07	1.32	
22	0.41	0.35	0.05	0.37	0.36	1.53	4.40	3.38	3.59	1.88	1.33	
23	0.35	0.35	0.02	0.38	0.57	1.33	4.30	3.28	3.93	1.74		1.27
24	0.34	0.35	0.01	0.37	0.49	1.44	3.93	3.18	3.82	1.58		1.28
25	0.35	0.35	0.01	0.36	0.24	1.76	3.80	3.19	4.15	1.49		1.44
26	0.36	0.35	0.00	0.37	0.33	1.93	3.54	3.20	3.08	1.44		1.45
27	0.37	0.40	0.01	0.37	0.35	1.91	3.48	3.05	3.17	1.44		1.43
28	0.46	0.35	0.01	0.38	0.34	1.81	3.48	2.92	2.98	1.40		1.47
29	0.44		0.03	0.37	0.34	2.46	3.46	2.73	2.91	2.16		1.47
30	0.35		0.10	0.37	0.34	2.81	3.18	2.52	2.69	2.33		1.57
31	0.28		0.14		0.34		3.00	2.37		4.65		1.46

Max WL observed	1.00	0.47	0.77	0.43	0.71	2.92	4.51	3.90	4.85	3.98	3.90	1.65
Day of Max WL	20	27	10	29	23	31	22	13	16	3	1	31

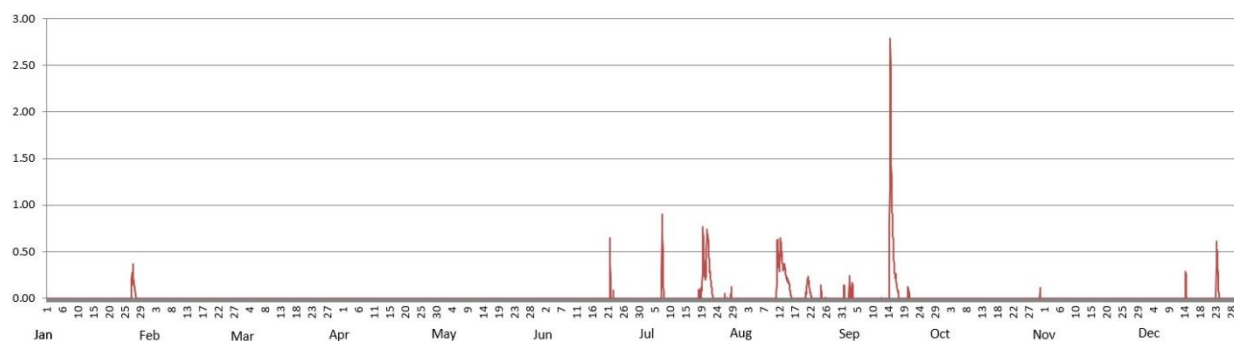
Zaragoza WL 2018



Water Level in meters (Daily Average)

2018												
Station: Peñaranda												
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	0.02	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	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	0.00	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	0.31	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.01	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	0.26	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.21	0.00	0.00	0.05
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	1.46	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.08	0.02	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.08	0.59	0.11	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	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	0.26
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.04
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
26	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.01	0.00	0.00	0.00	0.00	0.00	0.01	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	0.02	0.00	0.01
31	0.00		0.00		0.00		0.00	0.01		0.00		0.63

Max WL observed	0.37	0.00	0.00	0.00	0.00	0.65	0.90	0.65	2.79	0.11	0.00	1.01
Day of Max WL	27					22	7	13	15	31		01, 2019

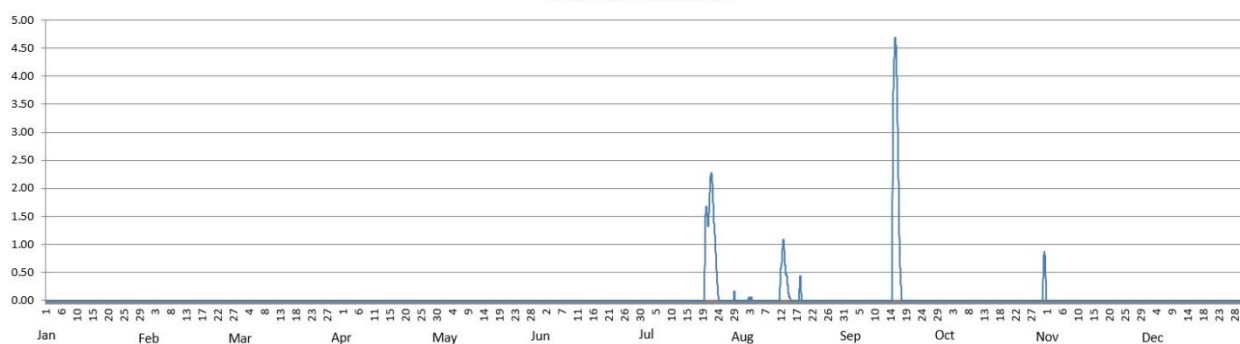
Peñaranda WL 2018

Water Level in meters (Daily Average)

2018	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	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	0.00	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	0.01	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	3.44	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.68	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.73	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00	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	1.31	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	1.71	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	1.95	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.05	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	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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	0.04	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	0.07	0.00	0.00
31	0.00		0.00		0.00		0.00	0.00		0.53		0.00

Max WL observed	0.00	0.00	0.00	0.00	0.00	0.00	2.28	1.09	4.69	0.87	0.00	0.00
Day of Max WL							22	13	16	31		

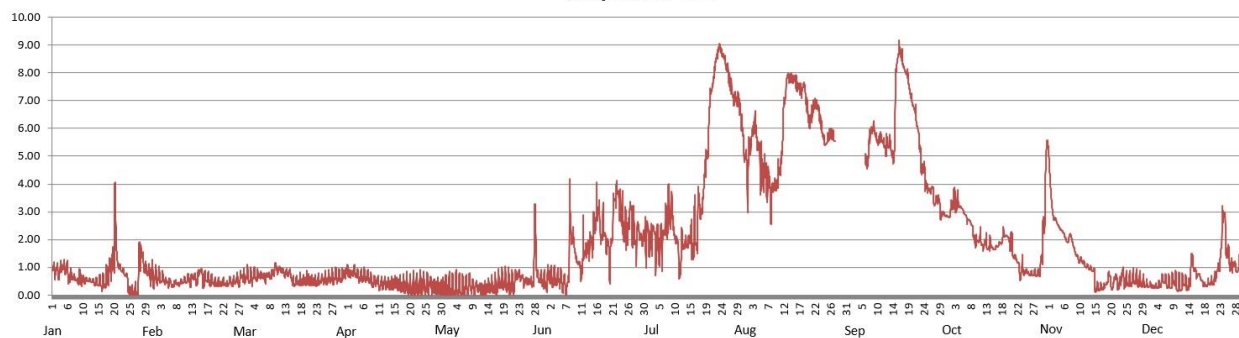
San Isidro WL 2018



Water Level in meters (Daily Average)

2018	Station: Arayat											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.94	0.63	0.71	0.87	0.28	0.68	2.10	4.82		2.82	4.09	0.33
2	0.88	0.63	0.62	0.79	0.27	0.57	1.86	5.63		3.23	2.86	0.32
3	0.90	0.59	0.66	0.84	0.27	0.60	2.19	6.07		3.35	2.63	0.31
4	1.02	0.51	0.65	0.71	0.29	0.58	2.03	5.32		3.33	2.39	0.33
5	0.99	0.49	0.67	0.68	0.27	0.51	1.95	4.89		3.23	2.31	0.41
6	0.67	0.41	0.68	0.69	0.25	0.37	1.98	4.39	4.80	2.90	1.97	0.51
7	0.63	0.42	0.68	0.62	0.31	1.04	2.68	4.07	5.64	2.69	2.13	0.39
8	0.55	0.39	0.69	0.51	0.39	2.28	3.08	3.53	5.98	2.53	1.81	0.41
9	0.64	0.48	0.83	0.49	0.25	1.66	2.65	3.84	5.63	1.99	1.44	0.52
10	0.55	0.51	0.96	0.46	0.30	1.17	1.99	4.24	5.63	1.96	1.27	0.31
11	0.52	0.59	0.94	0.39	0.21	0.89	1.01	4.97	5.49	1.93	1.18	0.33
12	0.53	0.52	0.87	0.43	0.17	1.65	1.88	6.95	5.39	1.83	1.04	0.43
13	0.50	0.62	0.80	0.37	0.23	1.58	1.85	7.85	5.42	1.71	0.98	0.34
14	0.42	0.59	0.81	0.38	0.30	1.93	2.09	7.83	5.00	1.78	0.89	1.05
15	0.45	0.86	0.51	0.42	0.31	2.43	1.82	7.77	7.66	1.67	0.26	0.92
16	0.40	0.51	0.47	0.36	0.28	3.11	2.01	7.55	8.78	1.79	0.25	0.71
17	0.64	0.59	0.52	0.35	0.46	2.23	3.21	7.38	8.35	1.90	0.25	0.58
18	0.90	0.47	0.51	0.35	0.47	2.30	3.41	7.46	8.02	2.20	0.39	0.36
19	1.24	0.45	0.53	0.33	0.45	1.76	4.74	6.63	7.48	2.11	0.65	0.41
20	2.29	0.42	0.53	0.26	0.38	1.54	6.42	6.35	6.92	2.00	0.35	0.46
21	1.06	0.40	0.49	0.29	0.37	3.23	7.57	6.81	6.42	1.39	0.63	0.52
22	0.89	0.45	0.49	0.30	0.59	3.71	8.38	6.75	5.61	1.21	0.34	0.88
23	0.74	0.39	0.52	0.36	0.72	2.98	8.87	6.15	4.55	0.84	0.72	1.65
24	0.28	0.50	0.56	0.36	0.61	2.58	8.70	5.57	4.14	0.83	0.46	2.84
25	0.12	0.47	0.57	0.36	0.52	2.32	8.31	5.53	3.79	0.83	0.50	1.56
26	0.14	0.56	0.58	0.39	0.48	2.89	7.85	5.74	3.79	0.75	0.55	1.09
27	0.83	0.57	0.62	0.26	0.45	2.40	7.32	5.67	3.40	0.76	0.55	1.10
28	1.39	0.66	0.67	0.33	1.89	2.10	7.10		3.36	0.76	0.47	0.89
29	1.00		0.64	0.22	0.61	2.08	6.99		2.90	1.03	0.42	1.33
30	0.84		0.66	0.25	0.52	2.11	6.09		2.88	2.42	0.36	1.05
31	0.78		0.81		0.43		4.95			5.25		2.48

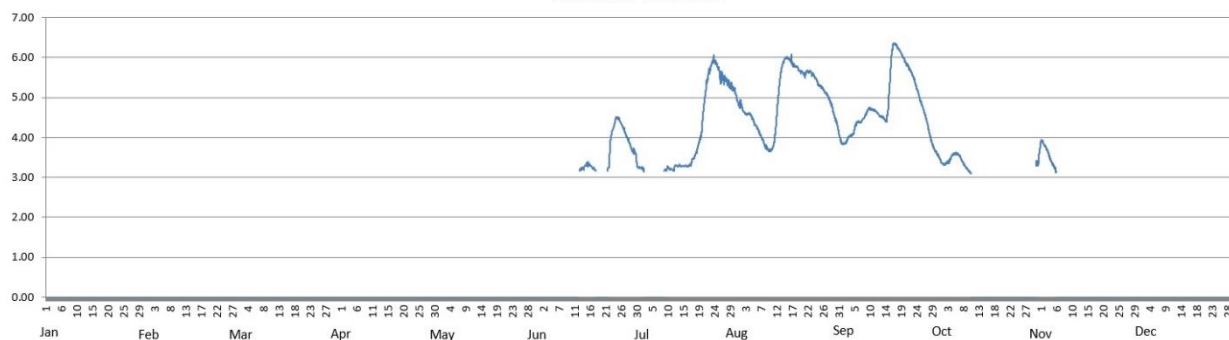
Max WL observed	4.07	1.11	1.17	1.10	3.27	4.19	9.04	8.00	9.16	5.57	5.09	3.39
Day of Max WL	20	2	10	1	28	8	23	14	16	31	1	01, 2019

Arayat WL 2018

Water Level in meters (Daily Average)**2018****Station:****Candaba**

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1							2.94	4.50	3.55	3.10	3.58	
2							2.91	4.32	3.60	3.04	3.44	
3								4.30	3.73	3.09	3.24	
4								4.23	3.80	3.21	3.04	
5								4.14	3.91	3.25	2.99	
6								3.91	4.10	3.29		
7								3.72	4.15	3.17		
8							2.87	3.53	4.29	3.02		
9							2.91	3.41	4.42	2.90		
10							2.92	3.39	4.40	2.84		
11							2.89	3.65	4.36			
12							2.99	4.50	4.26			
13						2.92	2.99	5.29	4.21			
14						2.96	2.99	5.62	4.15			
15						3.02	2.99	5.68	4.73			
16						2.98	2.99	5.62	5.83			
17						2.91	3.13	5.51	6.03			
18						2.86	3.29	5.46	5.91			
19							3.58	5.36	5.77			
20							4.05	5.29	5.61			
21						2.93	4.82	5.35	5.46			
22						3.55	5.31	5.34	5.31			
23						3.99	5.56	5.25	5.08			
24						4.18	5.60	5.13	4.81			
25						4.10	5.39	4.99	4.54			
26						3.92	5.20	4.90	4.28			
27						3.71	5.15	4.79	3.96			
28						3.51	5.05	4.62	3.62			
29						3.37	4.97	4.36	3.41			
30						3.10	4.85	4.07	3.26	3.05		
31							4.57	3.72		3.33		2.92

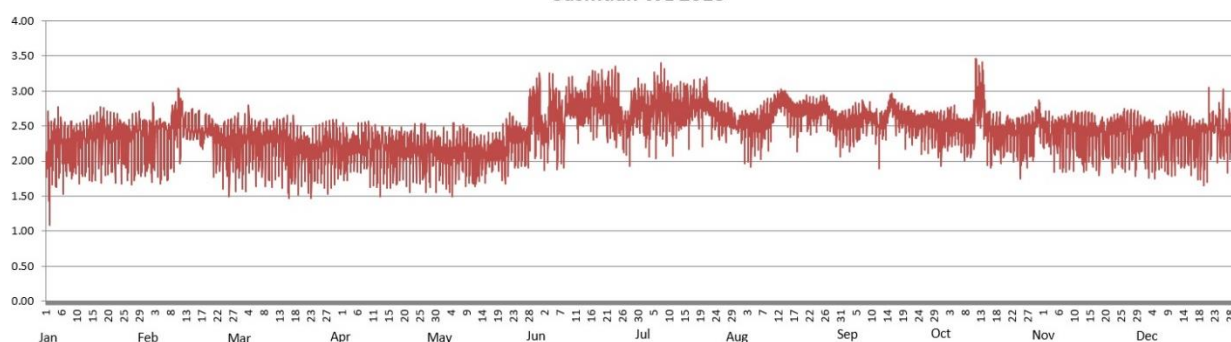
Max WL observed						4.52	6.06	6.08	6.37	3.91	3.94	2.94
Day of Max WL						24	24	17	17	Nov 01	1	Jan 01

Candaba WL 2018

Water Level in meters (Daily Average)

2018		Station: Sasmuan										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	2.12	2.29	2.20	2.21	2.05	2.34	2.78	2.49	2.50	2.47	2.42	2.37
2	1.99	2.39	2.26	2.17	2.11	2.37	2.62	2.49	2.51	2.48	2.43	2.30
3	2.28	2.35	2.29	2.15	2.07	2.70	2.61	2.45	2.49	2.54	2.39	2.33
4	2.18	2.41	2.24	2.19	2.07	2.77	2.72	2.45	2.56	2.49	2.39	2.40
5	2.22	2.42	2.23	2.17	2.13	2.71	2.78	2.47	2.55	2.47	2.42	2.36
6	2.22	2.36	2.27	2.21	2.10	2.61	2.77	2.50	2.60	2.45	2.44	2.30
7	2.22	2.31	2.25	2.21	2.15	2.42	2.86	2.52	2.69	2.44	2.38	2.32
8	2.26	2.44	2.22	2.26	2.16	2.68	2.76	2.58	2.60	2.42	2.42	2.32
9	2.23	2.54	2.30	2.22	2.14	2.80	2.71	2.60	2.65	2.40	2.44	2.37
10	2.24	2.72	2.21	2.16	2.13	2.85	2.67	2.65	2.60	2.48	2.42	2.33
11	2.22	2.63	2.29	2.17	2.10	2.79	2.65	2.80	2.50	2.91	2.36	2.34
12	2.24	2.50	2.28	2.15	2.09	2.69	2.72	2.85	2.54	2.93	2.37	2.36
13	2.24	2.47	2.30	2.22	2.11	2.74	2.69	2.92	2.52	2.92	2.33	2.42
14	2.30	2.48	2.31	2.15	2.11	2.77	2.74	2.87	2.64	2.54	2.38	2.40
15	2.26	2.47	2.23	2.16	2.12	2.85	2.77	2.77	2.82	2.47	2.38	2.39
16	2.33	2.48	2.12	2.20	2.11	2.89	2.70	2.68	2.76	2.36	2.36	2.32
17	2.41	2.32	2.17	2.17	2.14	2.90	2.88	2.63	2.67	2.40	2.31	2.29
18	2.38	2.45	2.11	2.13	2.16	2.88	2.80	2.67	2.63	2.43	2.38	2.33
19	2.36	2.47	2.15	2.18	2.15	2.88	2.80	2.65	2.58	2.36	2.34	2.32
20	2.34	2.47	2.11	2.14	2.17	2.82	2.86	2.79	2.59	2.38	2.33	2.26
21	2.30	2.23	2.10	2.14	2.29	2.80	2.85	2.68	2.57	2.42	2.49	2.43
22	2.36	2.25	2.05	2.18	2.31	2.75	2.77	2.70	2.58	2.39	2.35	2.41
23	2.32	2.20	2.12	2.18	2.34	2.84	2.67	2.67	2.53	2.33	2.38	2.50
24	2.33	2.24	2.10	2.16	2.29	2.78	2.62	2.70	2.52	2.41	2.40	2.51
25	2.28	2.24	2.15	2.18	2.30	2.53	2.61	2.79	2.50	2.39	2.36	2.39
26	2.26	2.28	2.17	2.16	2.30	2.50	2.59	2.83	2.58	2.35	2.39	2.37
27	2.35	2.26	2.20	2.14	2.27	2.48	2.56	2.70	2.53	2.39	2.41	2.39
28	2.29	2.28	2.21	2.16	2.60	2.68	2.61	2.59	2.55	2.40	2.36	2.45
29	2.30		2.20	2.14	2.80	2.78	2.54	2.55	2.48	2.44	2.37	2.44
30	2.32		2.21	2.13	2.71	2.77	2.51	2.52	2.46	2.64	2.38	2.39
31	2.28		2.17		2.67		2.54	2.51		2.51		2.39

Max WL observed	2.77	3.04	2.80	2.57	3.26	3.35	3.40	3.03	2.97	3.47	2.75	3.05
Day of Max WL	5	10	4	9	31	23	7	13	16	11	26	21

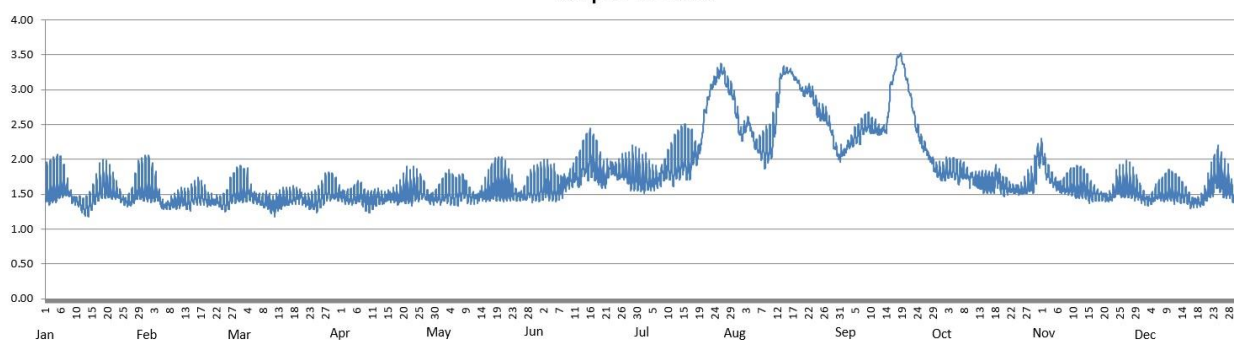
Sasmuan WL 2018

Water Level in meters (Daily Average)

2018	Station: Sulipan											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1.58	1.61	1.55	1.49	1.47	1.62	1.77	2.35	2.09	1.79	2.02	1.47
2	1.56	1.57	1.54	1.45	1.50	1.67	1.73	2.46	2.17	1.80	1.83	1.44
3	1.60	1.54	1.55	1.44	1.52	1.64	1.75	2.54	2.22	1.84	1.74	1.42
4	1.61	1.48	1.51	1.45	1.53	1.63	1.72	2.40	2.28	1.84	1.68	1.44
5	1.62	1.43	1.49	1.45	1.52	1.62	1.71	2.31	2.31	1.83	1.66	1.47
6	1.61	1.34	1.43	1.49	1.50	1.57	1.72	2.18	2.37	1.77	1.61	1.53
7	1.57	1.34	1.41	1.47	1.55	1.60	1.74	2.14	2.45	1.83	1.61	1.52
8	1.51	1.36	1.39	1.43	1.58	1.69	1.83	2.10	2.50	1.80	1.62	1.53
9	1.44	1.39	1.41	1.40	1.53	1.68	1.87	2.15	2.48	1.77	1.63	1.56
10	1.41	1.41	1.37	1.41	1.49	1.71	1.87	2.20	2.45	1.75	1.61	1.56
11	1.38	1.44	1.34	1.43	1.46	1.79	1.85	2.46	2.45	1.72	1.61	1.54
12	1.33	1.43	1.35	1.47	1.45	1.75	1.94	2.86	2.41	1.69	1.62	1.52
13	1.31	1.40	1.40	1.44	1.48	1.85	1.96	3.18	2.43	1.67	1.61	1.50
14	1.34	1.42	1.42	1.44	1.50	1.93	2.04	3.26	2.44	1.66	1.59	1.49
15	1.41	1.48	1.43	1.47	1.51	1.97	1.99	3.27	2.84	1.65	1.53	1.45
16	1.51	1.49	1.43	1.47	1.54	2.01	1.98	3.26	3.13	1.65	1.50	1.39
17	1.58	1.48	1.45	1.47	1.61	1.94	2.12	3.18	3.34	1.68	1.50	1.39
18	1.63	1.46	1.46	1.46	1.63	1.88	2.07	3.13	3.48	1.73	1.49	1.39
19	1.63	1.42	1.47	1.49	1.64	1.80	2.13	3.02	3.40	1.66	1.48	1.40
20	1.61	1.40	1.44	1.52	1.64	1.74	2.38	2.96	3.21	1.61	1.46	1.45
21	1.56	1.39	1.40	1.55	1.63	1.80	2.71	2.99	3.00	1.60	1.46	1.54
22	1.52	1.40	1.38	1.54	1.59	1.87	2.91	2.97	2.77	1.58	1.50	1.62
23	1.49	1.37	1.38	1.58	1.56	1.85	3.05	2.86	2.51	1.57	1.59	1.71
24	1.44	1.37	1.39	1.58	1.50	1.80	3.13	2.72	2.36	1.58	1.64	1.83
25	1.40	1.40	1.42	1.56	1.48	1.82	3.23	2.64	2.23	1.56	1.61	1.75
26	1.40	1.47	1.48	1.52	1.48	1.84	3.27	2.64	2.16	1.58	1.63	1.67
27	1.45	1.53	1.54	1.47	1.49	1.81	3.15	2.58	2.05	1.62	1.63	1.63
28	1.53	1.56	1.56	1.44	1.56	1.76	3.03	2.47	1.99	1.65	1.61	1.57
29	1.61		1.54	1.44	1.54	1.80	2.96	2.26	1.88	1.70	1.56	1.47
30	1.62		1.53	1.46	1.57	1.77	2.76	2.12	1.83	2.00	1.53	1.42
31	1.63		1.50		1.58		2.51	2.07		2.04		1.49

Max WL observed	2.07	2.06	1.91	1.90	2.03	2.45	3.38	3.34	3.52	2.30	2.23	2.20
Day of Max WL	5	2	2	21	19	16	26	14	19	Nov 01	1	25

Sulipan WL 2018



Water Level in meters (Daily Average)

2018	Station: Mexico											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.10	0.04	0.03	0.21	0.00	0.00	0.04	0.52	0.56	0.46	0.11	0.19
2	0.06	0.01	0.16	0.21	0.00	0.33	0.00	0.53	0.70	0.42	0.08	0.20
3	0.04	0.00	0.06	0.16	0.00	0.15	0.01	0.40	0.55	0.41	0.06	0.19
4	0.03	0.00	0.07	0.14	0.00	0.00	0.00	0.32	0.86	0.40	0.03	0.22
5	0.03	0.00	0.07	0.13	0.00	0.00	0.00	0.28	0.83	0.39	0.02	0.19
6	0.05	0.01	0.12	0.11	0.00	0.00	0.00	0.19	0.77	0.33	0.00	0.15
7	0.04	0.00	0.12	0.13	0.00	0.00	0.00	0.15	1.13	0.31	0.00	0.15
8	0.06	0.00	0.24	0.05	0.02	0.17	0.00	0.23	1.16	0.28	0.16	0.14
9	0.06	0.01	0.44	0.03	0.00	0.16	0.03	0.16	1.17	0.30	0.22	0.14
10	0.05	0.08	0.37	0.04	0.00	0.02	0.01	0.23	1.15	0.28	0.21	0.17
11	0.04	0.13	0.36	0.02	0.00	0.04	0.00	1.28	1.06	0.23	0.19	0.18
12	0.01	0.14	0.30	0.02	0.04	0.07	0.00	1.72	0.97	0.20	0.19	0.16
13	0.06	0.15	0.28	0.00	0.14	0.38	0.02	1.41	0.89	0.18	0.19	0.17
14	0.00	0.14	0.22	0.00	0.12	0.51	0.00	1.38	1.04	0.19	0.19	0.19
15	0.00	0.17	0.19	0.19	0.04	0.94	0.00	1.27	1.67	0.22	0.19	0.15
16	0.00	0.15	0.28	0.26	0.00	0.48	0.00	1.22	1.34	0.20	0.19	0.15
17	0.00	0.16	0.32	0.16	0.08	0.21	0.47	1.16	1.21	0.30	0.19	0.13
18	0.03	0.18	0.27	0.15	0.15	0.03	0.69	1.06	1.12	0.26	0.20	0.11
19	0.01	0.13	0.26	0.13	0.08	0.00	0.69	1.14	1.08	0.25	0.20	0.10
20	0.00	0.09	0.25	0.11	0.08	0.06	1.02	1.36	0.98	0.24	0.20	0.08
21	0.00	0.07	0.18	0.09	0.30	0.50	0.91	1.19	0.91	0.24	0.21	0.11
22	0.00	0.07	0.10	0.00	0.19	0.28	1.18	1.00	0.86	0.20	0.22	0.16
23	0.00	0.05	0.07	0.00	0.03	0.19	1.03	0.90	0.77	0.18	0.22	0.22
24	0.00	0.05	0.10	0.00	0.15	0.13	0.82	0.89	0.71	0.17	0.21	0.26
25	0.00	0.00	0.10	0.00	0.17	0.10	0.81	1.05	0.78	0.17	0.21	0.25
26	0.00	0.00	0.08	0.00	0.15	0.02	0.63	0.89	0.80	0.16	0.21	0.23
27	0.00	0.00	0.05	0.01	0.16	0.00	0.56	0.80	0.64	0.14	0.22	0.22
28	0.01	0.00	0.06	0.00	0.17	0.00	0.52	0.68	0.59	0.12	0.23	0.19
29	0.00		0.21	0.00	0.14	0.00	0.67	0.60	0.54	0.11	0.22	0.19
30	0.00		0.20	0.00	0.09	0.00	0.59	0.52	0.53	0.40	0.20	0.18
31	0.03		0.29		0.01		0.65	0.72		0.18		0.21

Max WL observed	0.12	0.20	0.64	0.77	0.99	1.80	1.70	2.45	2.12	0.93	0.24	0.27
Day of Max WL	13	18	9	16	22	15	23	12	15	31	28	23

Mexico WL 2018

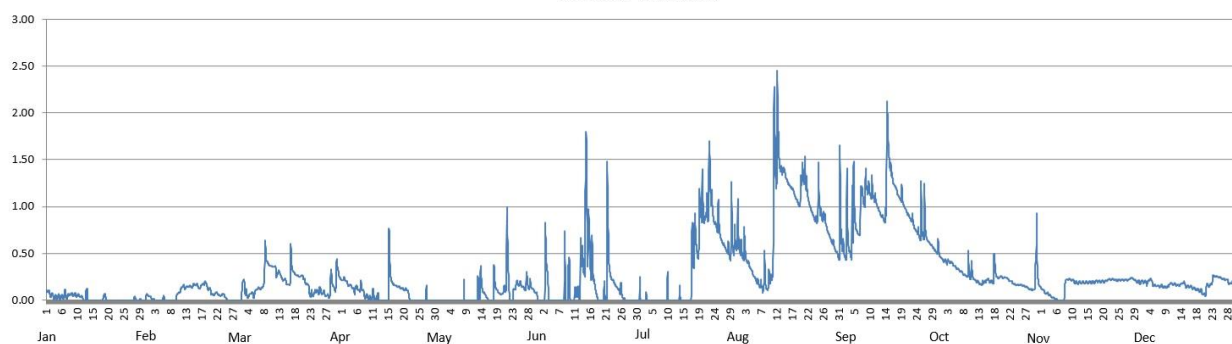


Table 2.0 Maximum WL recorded per station for the year 2018

Station	January	February	March	April	May	June	July	August	September	October	November	December
Sapang Buho	0.45	0.10	0.09	0.00	0.52	0.96	3.08	2.34	5.13	1.81	0.61	1.18
Zaragoza	1.00	0.47	0.77	0.43	0.71	2.92	4.51	3.90	4.85	3.98	3.90	1.65
Mayapyap												
Penaranda	0.37	0.00	0.00	0.00	0.00	0.65	0.90	0.65	2.79	0.11	0.00	1.01
San Isidro	0.00	0.00	0.00	0.00	0.00	0.00	2.28	1.09	4.69	0.87	0.00	0.00
Arayat	4.07	1.11	1.17	1.10	3.27	4.19	9.04	8.00	9.16	5.57	5.09	3.39
Candaba						4.52	6.06	6.08	6.37	3.91	3.94	2.94
Sasmuan	2.77	3.04	2.80	2.57	3.26	3.35	3.40	3.03	2.97	3.47	2.75	3.05
Sulipan	2.07	2.06	1.91	1.90	2.03	2.45	3.38	3.34	3.52	2.30	2.23	2.20
Mexico	0.12	0.20	0.64	0.77	0.99	1.80	1.70	2.45	2.12	0.93	0.24	0.27



C. ANNEX

Table A-1.

Maximum Rainfall for a given sliding time period during the year 2018																
Sliding time period (minimum time period of 1 hour)	Rainfall Stations															
	Munoz	Sapang Buho	Gabaldon	Zaragoza	Peñaranda	Calaanan	Palali	San Isidro	Arayat	Candaba	Sibul Spring	Sasmuan	Sulipan	Mexico	Porac	San Rafael
1 hr	76	43	46	54	37	88	50	32	64	32	56	45	25	33	34	62
2 hrs	91	65	55	67	42	120	53	40	67	35	104	67	36	43	56	64
3 hrs	92	70	58	69	43	136	53	46	70	48	156	72	46	54	65	64
4 hrs	92	70	59	74	51	138	58	57	92	54	172	82	51	68	67	64
5 hrs	98	75	59	76	56	138	68	66	105	63	187	97	52	78	68	64
6 hrs	103	78	59	80	56	138	75	77	114	69	188	103	57	86	84	70
7 hrs	108	81	59	84	59	138	79	84	119	72	189	107	59	91	87	74
8 hrs	110	84	59	86	65	138	80	87	122	75	189	111	65	94	88	75
9 hrs	117	86	65	87	74	138	80	91	125	78	189	114	70	96	90	76
10 hrs	122	93	70	90	81	138	80	96	128	81	189	116	87	99	93	79
11 hrs	127	97	74	102	87	138	80	100	130	83	189	121	93	100	100	81
12 hrs	129	101	79	110	90	138	80	103	131	84	189	125	98	101	106	82
18 hrs	139	112	105	119	100	138	82	113	137	94	189	147	113	105	130	99
24 hrs	146	121	145	141	109	146	84	115	145	100	189	159	118	114	141	100
48 hrs (2 days)	243	182	166	145	119	226	141	115	149	152	294	249	192	195	242	170
72 hrs (3 days)	298	219	174	184	125	263	145	124	156	180	313	296	242	241	294	210
96 hrs (4 days)	324	250	174	189	134	296	145	128	187	213	325	351	269	286	344	239
120 hrs (5 days)	361	267	175	260	156	312	163	141	225	241	328	365	276	316	362	261
144 hrs (6 days)	381	287	183	264	167	333	178	157	242	246	333	377	307	326	387	266
240 hrs (10 days)	473	362	241	340	186	466	236	175	298	282	522	435	371	363	479	333
480 hrs (20 days)	670	590	431	583	278	774	409	299	426	350	594	723	512	466	552	448
Meteorological day (8 am to 8 am)	138	105	135	77	85	138	81	114	126	94	189	148	112	105	129	99
Max monthly total	648	545	460	579	315	768	507	317	458	392	610	746	526	494	559	510

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 will be much larger than the meteorological day (fixed 8am to 8am) total.

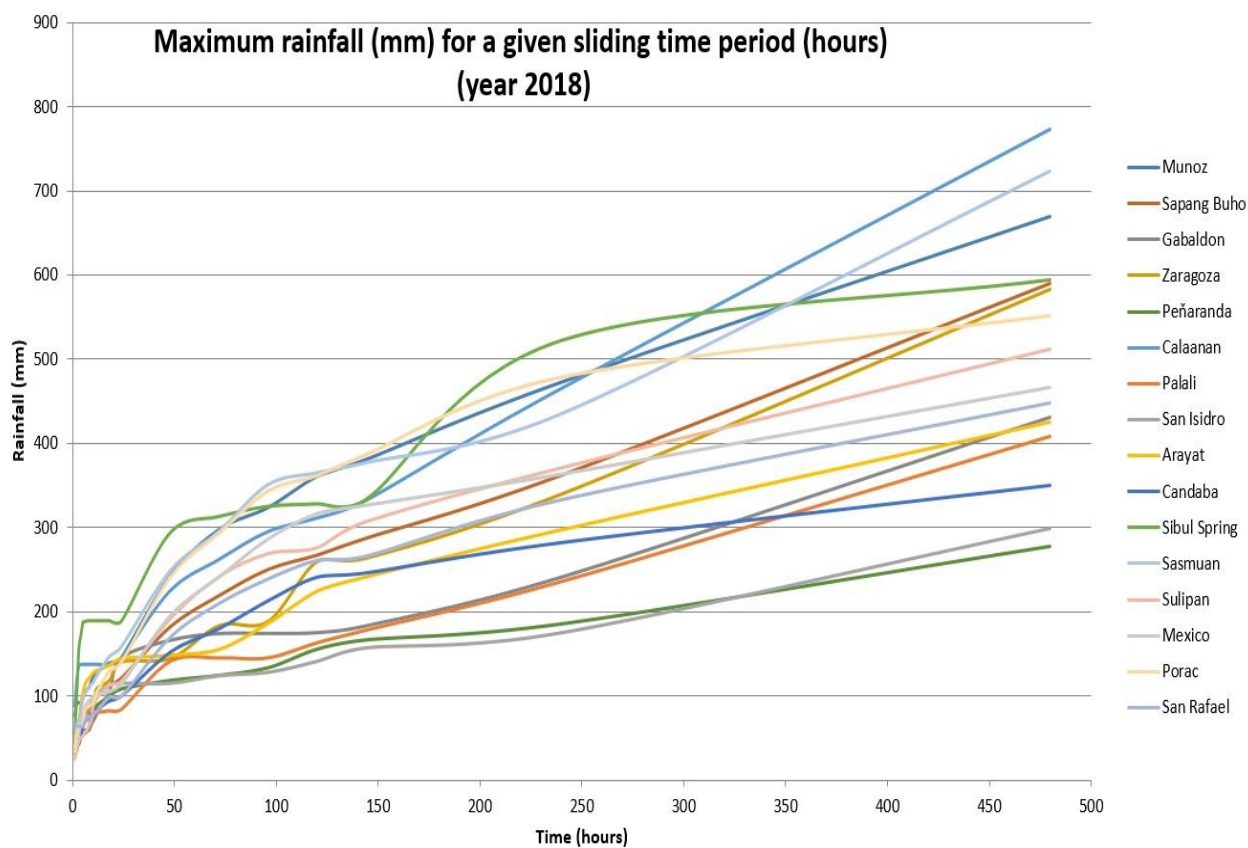


Figure AA-1. The sliding time period per station graph.

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 +	2.50	3.50	4.50
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 +			3.00
Sulipan +	2.60	3.20	3.80

+ for updating of assessment levels

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	$Q = 4.015 (H - (-2.94))^2.961^*$	$0 < H \leq 3.4$
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

Sapang Buho WL % duration in 2018

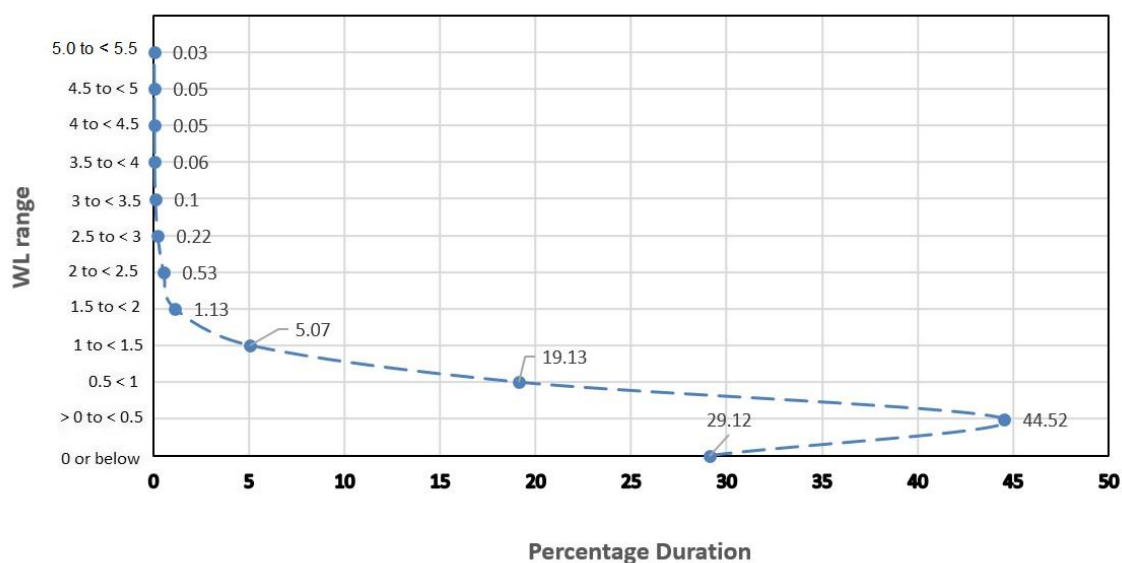


Figure AA-2. Sapang Buho WL percent duration curve (2018)

Arayat WL % duration in 2018

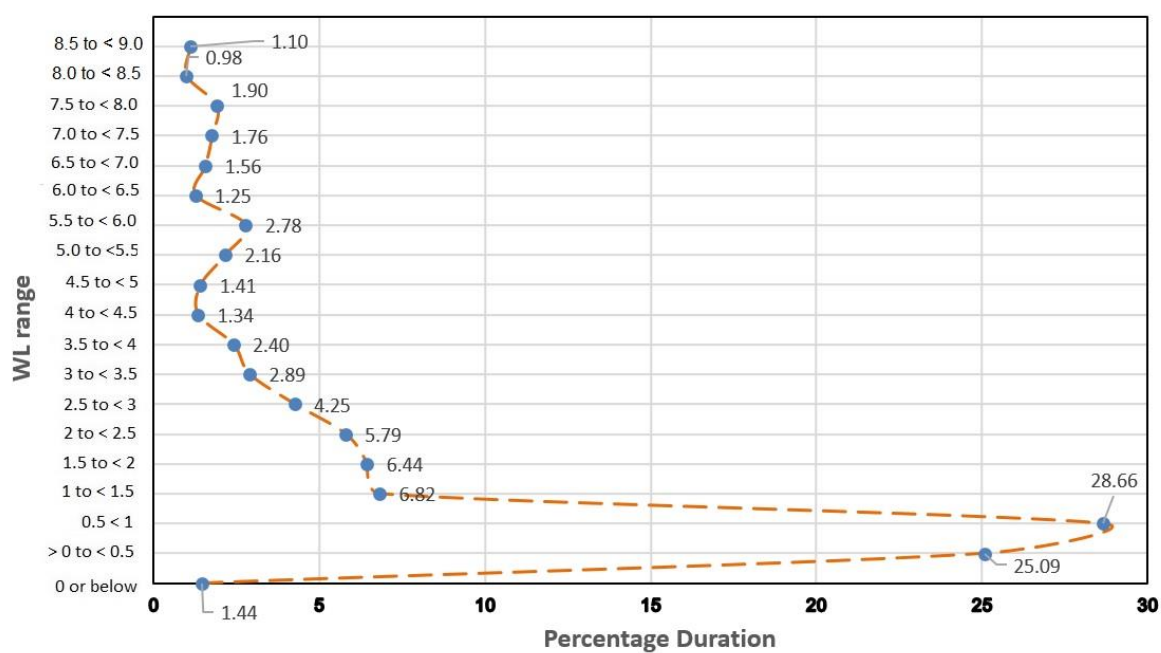


Figure AA-3. Arayat WL percent duration curve (2018)

Sasmuan WL % duration in 2018

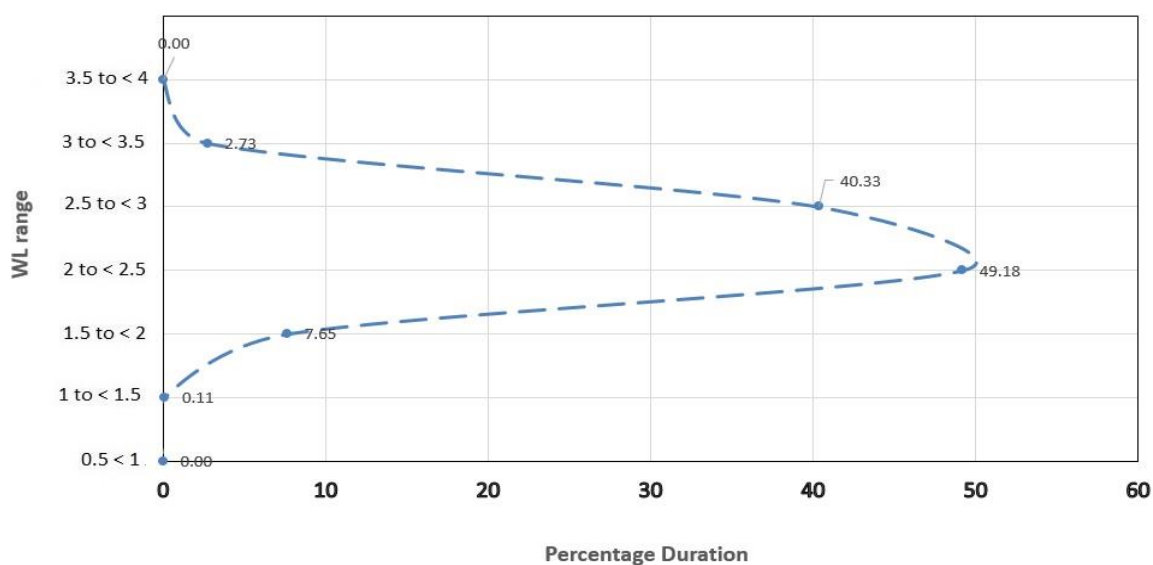


Figure AA-4. Sasmuan WL percent duration curve (2018)

Sulipan WL % duration in 2018

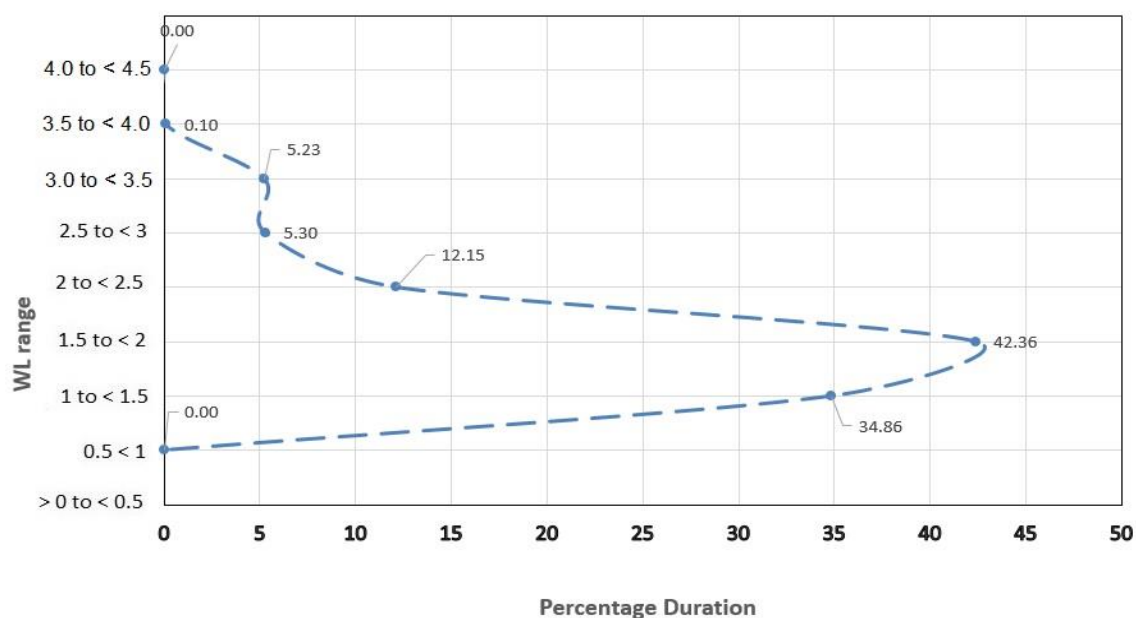
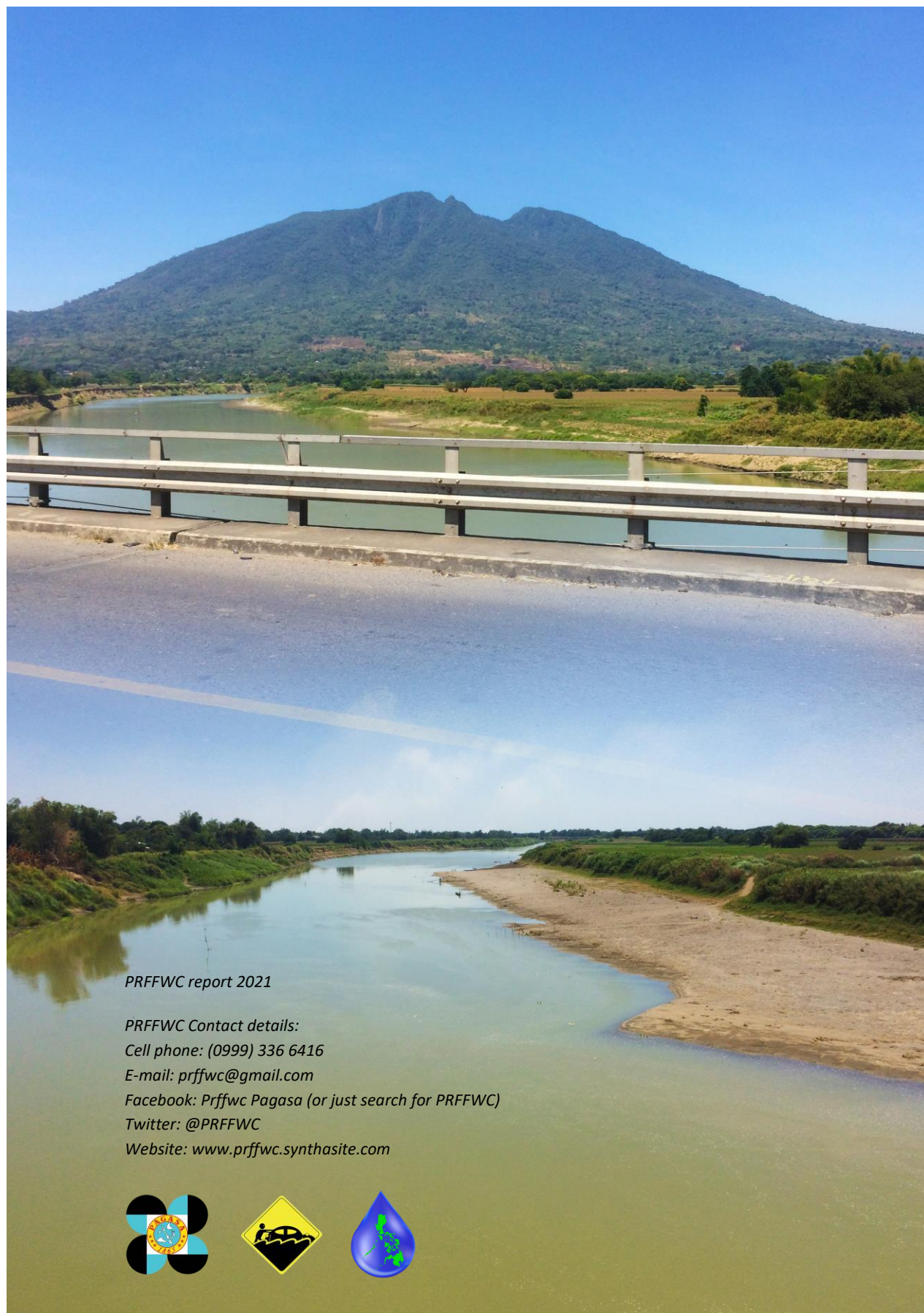


Figure AA-5. Sulipan WL percent duration curve (2018)

Note: The other WL stations were not included in the WL percent duration curves as most of their observations are either erroneous (have been deleted), mostly zero, or basically lots of gaps / breaks.



PRFFWC report 2021

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