



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 2020

(June 2020)



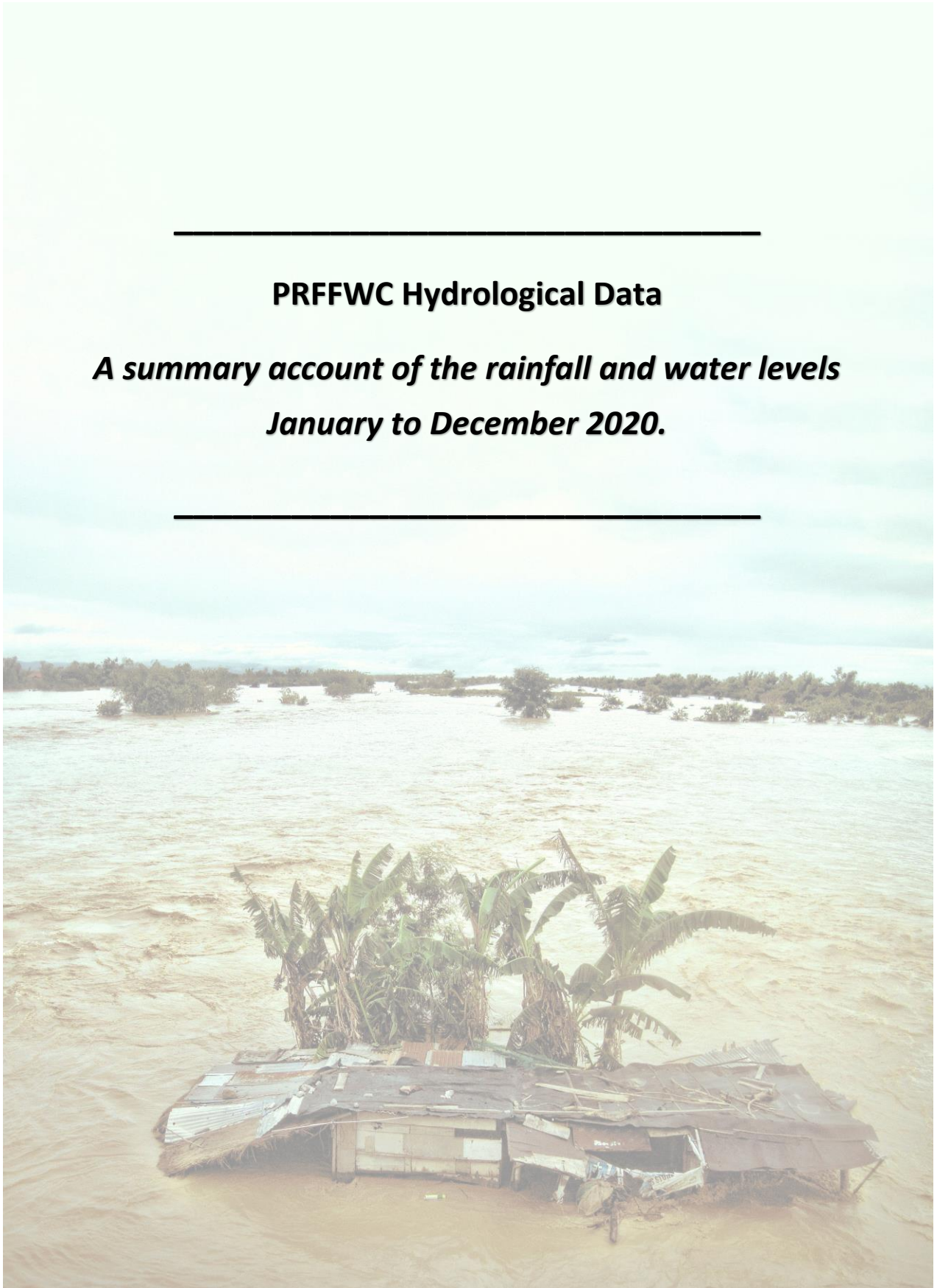
Front / Back Cover:

Upstream view of Pampanga River as seen from San Agustin Bridge in Arayat, Pampanga, Philippines. November 26, 2020 (Just after event T.C. Ulysses)

Photograph: H. Hernando Edited by: M. Joson

PRFFWC Hydrological Data

***A summary account of the rainfall and water levels
January to December 2020.***



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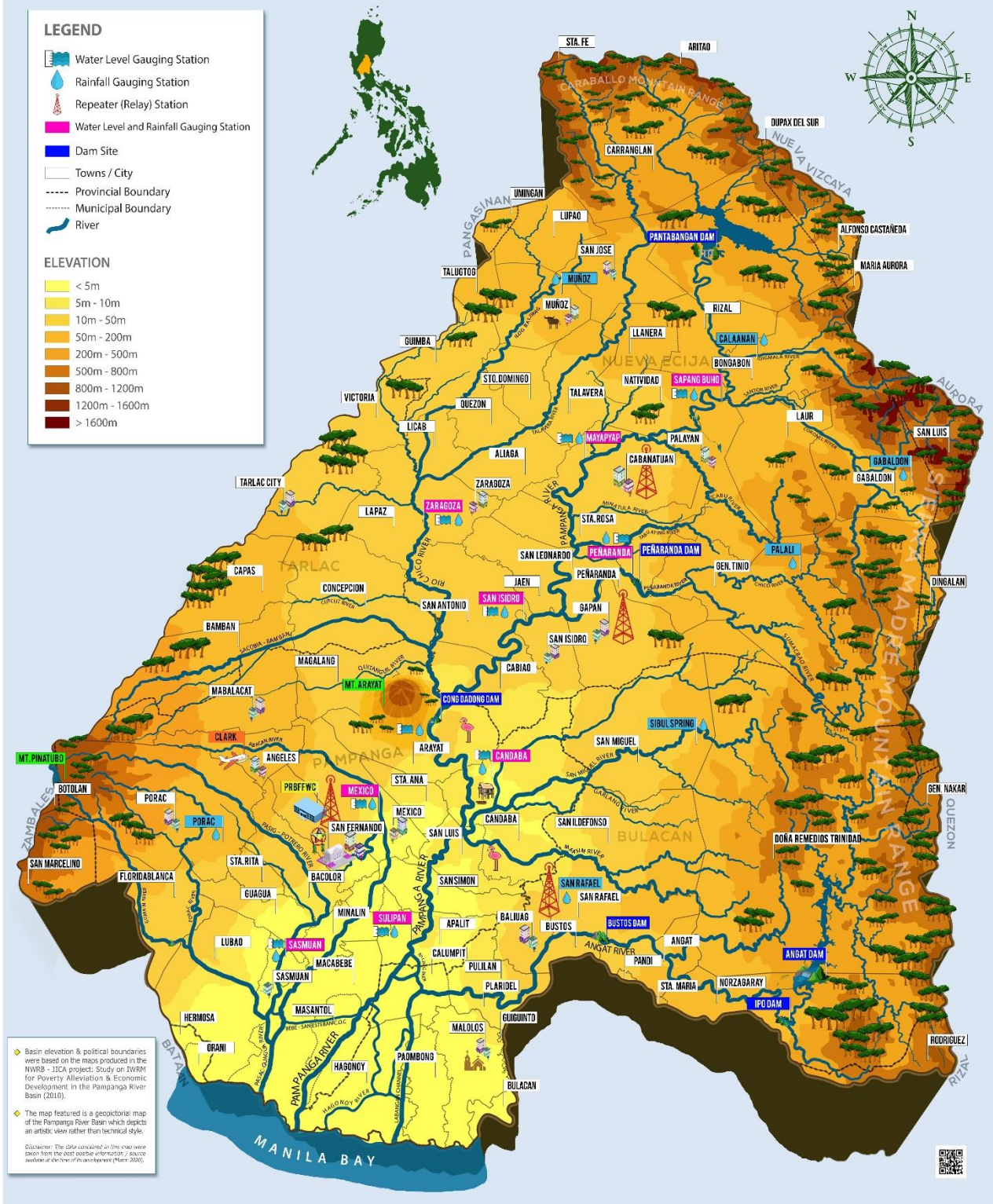
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The PRFFWC Telemetry Tower located in the City of San Fernando, Pampanga

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 Annual Hydrological Data Summary presents a summary of the rainfall and water level data observed and recorded by the telemetry system of the PRFFWC in the year 2020.
- The supervisory terminal of the PRFFWC system is the main data series considered for database buildup.
- The main source for complementing breaks / gaps in the supervisory terminal data series are the telemetry stations' data loggers.
- Data validation and adjustments, particularly WL readings, were at times done by taking pictures of river WL gauges during field trips.
- 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, field surveys, and / or field station instrument validation.
- For further information and clarification on the general buildup of the PRFFWC data series please message 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) 6301 XX			
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
Gabaldon	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 (defunct since 2015)	@ RB-D/S of Gen. Luna Bridge, (Bgys. Mayapyap & Valdefuente) Cabanatuan City, Nueva Ecija	15°30'52"N, 120°57'20"E
Mayapyap (NIA-UPRIIS)		Telemetered RR (transferred Oct. 2019)	In the front lawn within the NIA-UPRIIS Compound, Cabanatuan City	15°28'33"N, 120°57'30"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 18 rainfall stations and 8 water level stations (Mayapyap & San Isidro WL are still non-functional) of the PRFFWC for the year 2020.
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, 2020, and will end at 0800H of 01 January 2021.
3. Accordingly, it follows a 24-hour daily total (or average for WL) which starts at (almost) 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. A zero WL reading does not mean that there is no flow in the river but a limitation of the WL sensor position for its measurement capability such that relatively low flows cannot be monitored.
7. 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;
8. 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;
9. 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.
10. 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.

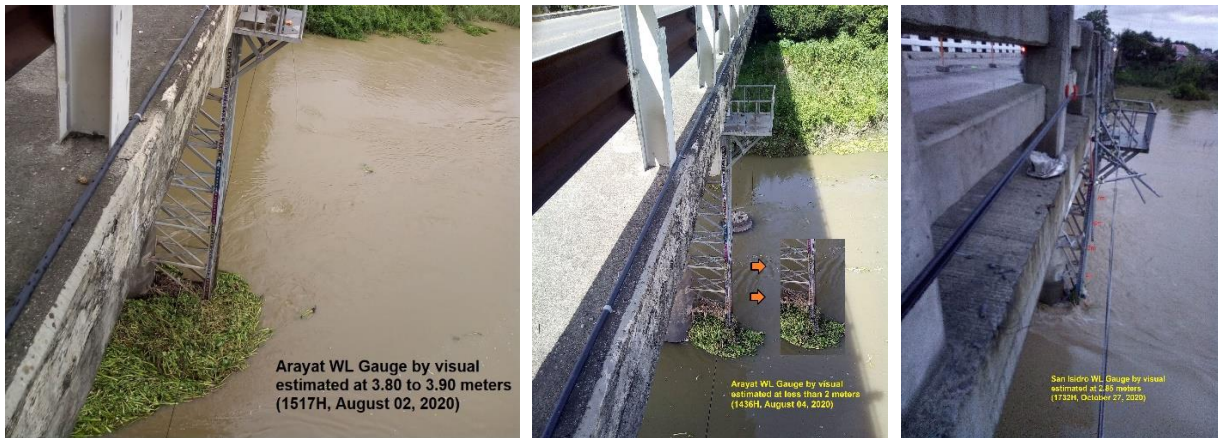
Users noting any errors that they may have encountered in this report are requested to inform the PRFFWC (e-mail: prffwc@gmail.com). Furthermore, users may use the information contained herein at their own risk.

Data Series Issues of 2020

1. January: San Isidro & Mayapyap WL are still non-functional for the whole year; Zaragoza WL of 0.11 m reading for a long period may already be zero or below “0” level, portions of the data series were deleted; portions of Sasmuan WL were adjusted by eye-fit.
2. February: Zaragoza WL of 0.11 m reading for a long period may already be zero or below “0” level, portions of the data series were deleted; portions of Sasmuan WL were adjusted by eye-fit.
3. March: RR & WL data from 1900H, 12 and onwards were taken from data loggers; Sapang Buho WL “shoot-ups” were deleted from the data series; Zaragoza WL of 0.11 m reading for a long period may already be zero or below “0” level, portions of the data series were deleted; portions of Sasmuan WL were adjusted by eye-fit.
4. April: All RR & WL data for the whole month were taken from data loggers; Zaragoza WL of 0.11 m reading for a long period may already be zero or below “0” level, portions of the data series were deleted; portions of Sasmuan WL were adjusted by eye-fit.
5. May: RR & WL data from start of month until 5th of May were logger supplied; Zaragoza WL of 0.11 m reading for a long period may already be zero or below “0” level, portions of the data series were deleted; portions of Sasmuan WL were adjusted by eye-fit.
6. June: RR & WL data for 19 & 20 data were logger supplied; Zaragoza WL of 0.11 m reading for a long period may already be zero or below “0” level, portions of the data series were deleted; Arayat WL on 0900H, 16 may be effects of Cong Dadong Dam which was during Ty. Ambo.
7. July: RR and WL data of U/S stations were taken from the data logger; Arayat WL out of order 0830H, 02 (due to accidental cutting of sensor cable); Candaba WL have sensor problems at end of the month; Zaragoza WL of 0.11 m reading for a long period may already be zero or below “0” level, portions of the data series were deleted.
8. August: Arayat WL sensor cable reconnected 1410H, 19; Candaba WL data that were deemed erroneous were deleted after 1700H, 23 – lots of “data shoot-ups”.
 - Candaba WL validated by picture on 1600H, 02 with gauge at 3.50 m (est.)
 - Candaba WL validated by picture on 1400H, 04 with gauge between 1.50 to 1.70 m (est.)
 - Candaba WL validated by picture on 1100H, 23 with gauge at 3.20 m (est.)
9. September: Candaba WL data unreliable for the whole month and was not included in the dataset; Mayapyap RR was corrected as per data logger.
10. October: Candaba WL cannot go below 3.40 m (est.), a picture at end of the month was taken for WL validation; Porac RR data of 1 hour on 1100H, 28 of “569 mm” was deemed erroneous and was replaced by zero. San Isidro WL of 2.85 m from field survey pic 1700H, 27.
11. November: Sapang Buho WL sensor problems started around 1900H, 30 after event T.C. Ulysses; Zaragoza WL validated by pic on the 14th with estimated telemetry reading higher by +0.10 m but was not adjusted as it falls within threshold limits (+/- 0.20 m).
12. December: Sapang Buho WL was not included in the dataset for the whole month due to intermittent sensor “shoot-ups”; Candaba WL cannot read below 3.40 m (est.) and readings were deleted from the start of the month up to 1300H, 20 and from 2100H, 31 until end of month; Zaragoza WL adjusted by +0.10 only.

Data Validation by pictures (2020)

WL data are validated (and adjusted) by taking SG pictures during field trips. RR data are validated (and breaks / gaps filled-up) by using data logger info.



(L) Arayat WL estimated at 3.80 m (Aug 02) and (Middle) below 2.0 m (Aug 04); (R) San Isidro WL estimated at 2.85 m on Oct. 27.



(L) Candaba WL estimated at 3.50 m (Aug. 02) and (R) at estimated 3.20 m (Aug 23).



(L) Zaragoza WL at a very low stage (estimated below zero, Jun 11), (Middle) and at an estimated 3.50 m stage (Nov. 14), (R) finally at below zero stage (Dec 18).

A. RAINFALL Data Summary Presentation



Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Muñoz											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	10	19	8	11	0
2	0	0	0	0	0	9	0	2	1	57	0	0
3	0	0	0	0	0	0	0	3	0	9	0	0
4	0	0	0	0	0	0	15	3	0	0	0	0
5	0	0	0	0	0	0	4	2	0	0	5	0
6	0	0	0	0	0	0	0	0	20	0	0	0
7	0	0	0	0	0	0	0	7	47	2	2	12
8	0	0	0	0	1	0	3	1	0	0	44	2
9	0	0	0	0	6	0	0	23	25	0	6	0
10	0	0	0	0	1	0	0	0	7	71	2	3
11	0	0	0	6	0	32	4	0	22	29	27	0
12	0	0	0	0	0	2	5	1	0	13	12	0
13	0	0	0	0	1	0	12	48	0	0	0	0
14	0	0	5	0	0	0	0	22	1	5	0	0
15	0	0	0	0	119	0	0	18	12	2	0	0
16	0	0	0	0	0	0	0	10	5	0	0	0
17	0	0	0	0	0	0	0	0	24	0	0	0
18	0	0	0	0	7	0	0	4	0	0	0	12
19	0	0	0	0	11	20	0	17	0	0	0	29
20	0	0	0	0	0	6	0	81	0	107	0	14
21	0	0	0	0	0	0	2	0	26	5	0	1
22	0	0	0	0	2	0	0	4	21	2	0	0
23	0	0	0	0	17	50	54	1	77	59	0	0
24	0	0	0	0	1	0	16	0	2	9	0	28
25	0	0	0	0	0	4	6	0	0	5	0	2
26	0	1	0	0	0	1	0	0	0	17	1	23
27	0	0	0	0	4	0	0	0	7	0	6	3
28	0	0	0	0	10	31	14	0	0	83	2	0
29	0	0	0	0	4	0	19	0	0	1	0	0
30	0		0	0	0	4	6	9	0	7	0	9
31	0		0		0		15	38		0		0

Monthly Total	0	1	5	6	184	159	175	304	316	491	118	138
Average	0.00	0.03	0.16	0.20	5.94	5.30	5.65	9.81	10.53	15.84	3.93	4.45
Max daily rain	0	1	5	6	119	50	54	81	77	107	44	29
Day of Max Daily	1	26	14	11	15	23	23	20	23	20	8	19
No. of Rain days	0	1	1	1	13	10	14	20	16	19	11	12
Max 1-hr rain		1	3	6	55	37	50	44	37	41	15	23
Day of max 1-hr		27	14	11	16	23	23	20	23	28	9	24

Total rain for the year	1897
Total rain days for the year	118

Daily Point Rainfall in millimeters (meteorological day)

2020

Station:

Sapang_Buho

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	25	2	24	19	0
2	0	0	0	0	0	0	1	1	0	15	0	0
3	0	0	0	0	0	0	1	3	0	1	0	0
4	0	0	0	0	0	0	0	3	0	0	0	0
5	0	0	0	0	0	0	5	0	4	0	7	0
6	0	0	0	0	0	0	0	2	0	0	0	0
7	0	0	0	0	0	0	0	12	2	0	6	14
8	0	0	0	0	0	0	0	1	0	9	28	6
9	0	0	0	0	3	0	0	19	0	1	4	0
10	0	0	0	0	2	0	4	0	0	73	9	3
11	0	0	0	0	0	31	3	0	0	3	74	0
12	0	0	0	0	0	5	0	0	0	18	24	0
13	0	0	0	0	0	0	2	8	0	0	0	3
14	0	0	2	0	1	6	0	1	10	2	1	0
15	0	0	0	0	71	0	0	0	11	3	0	0
16	0	0	0	0	0	0	0	3	13	0	0	0
17	0	0	0	0	0	0	0	1	23	2	0	1
18	0	0	0	0	0	0	0	6	0	10	0	17
19	0	0	0	0	6	0	0	22	0	1	0	18
20	0	0	0	0	0	13	0	14	0	177	0	23
21	0	0	0	0	5	0	0	2	0	2	0	2
22	0	0	0	0	0	0	0	0	22	6	0	0
23	0	0	0	0	9	2	7	11	106	12	0	0
24	0	0	0	0	1	0	6	0	5	0	0	0
25	0	0	0	0	0	1	4	0	0	34	0	1
26	0	0	0	0	0	5	0	0	2	9	4	22
27	0	0	0	0	3	9	3	0	0	0	5	7
28	0	0	0	0	8	34	12	0	1	0	8	1
29	0	0	0	0	0	0	43	2	62	4	1	0
30	0		0	0	0	0	20	36	2	0	0	0
31	0		0		0		29	1		0		0

Monthly Total	0	0	2	0	109	106	140	173	265	406	190	118
Average	0.00	0.00	0.06	0.00	3.52	3.53	4.52	5.58	8.83	13.10	6.33	3.81
Max daily rain	0	0	2	0	71	34	43	36	106	177	74	23
Day of Max Daily	1	1	14	1	15	28	29	30	23	20	11	20
No. of Rain days	0	0	1	0	10	9	14	20	14	20	13	13
Max 1-hr rain			1		11	15	23	23	58	28	15	8
Day of max 1-hr			15		16	28	31	30	23	20	11	18

Total rain for the year

1509

Total rain days for the year

114

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Gabaldon											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1	0	0	0	0	0	0	23	8	74	75	0
2	0	0	0	0	0	0	0	1	0	26	0	0
3	0	0	0	0	0	0	2	1	0	4	1	0
4	5	0	0	0	0	0	4	27	29	5	3	0
5	0	0	0	0	0	0	23	9	0	1	1	0
6	0	0	0	0	0	0	0	17	0	1	0	0
7	0	4	0	0	0	0	0	33	29	5	28	45
8	0	0	0	0	0	0	0	0	0	111	125	4
9	0	0	0	0	0	0	0	8	0	11	5	6
10	0	0	0	1	1	2	0	6	0	270	6	14
11	0	0	1	0	0	29	1	1	0	51	306	3
12	0	0	0	0	0	11	1	0	5	3	157	4
13	0	0	0	0	0	0	5	3	0	0	2	5
14	0	0	0	0	2	0	0	7	14	26	1	1
15	0	0	1	0	165	0	0	14	57	13	0	0
16	0	0	0	0	0	0	3	2	74	0	0	0
17	0	0	0	1	0	0	0	8	16	19	0	10
18	0	0	0	5	0	0	0	0	2	7	0	77
19	0	0	0	0	57	25	4	19	0	1	0	90
20	0	0	0	0	5	0	0	22	0	146	0	51
21	0	0	0	0	0	0	4	0	0	5	2	1
22	0	0	0	0	0	0	1	0	18	16	1	7
23	0	10	0	2	17	0	2	1	16	4	0	0
24	7	12	0	0	0	0	0	6	4	23	0	0
25	7	1	0	0	0	45	0	0	0	61	0	3
26	8	4	0	0	0	34	0	13	0	140	22	44
27	0	0	0	0	6	28	0	0	0	22	7	8
28	0	0	0	0	15	30	3	0	0	9	83	0
29	0	0	0	5	0	0	75	1	16	0	8	0
30	0		0	0	0	2	10	60	0	3	2	0
31	0		0		0		18	1		0		0

Monthly Total	28	31	2	14	268	206	156	283	288	1057	835	373
Average	0.90	1.07	0.06	0.47	8.65	6.87	5.03	9.13	9.60	34.10	27.83	12.03
Max daily rain	8	12	1	5	165	45	75	60	74	270	306	90
Day of Max Daily	26	24	11	18	15	25	29	30	16	10	11	19
No. of Rain days	5	5	2	5	8	9	15	23	13	27	19	17
Max 1-hr rain	8	4	1	4	45	25	21	29	26	75	60	15
Day of max 1-hr	26	24	11	29	15	28	30	30	4	11	12	8

Total rain for the year	3541
Total rain days for the year	148

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Zaragoza											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	1	14	20	9	17	0
2	0	0	0	0	0	0	0	1	0	11	0	0
3	0	0	0	0	0	0	0	18	0	13	0	0
4	0	0	0	0	0	0	0	2	0	0	0	0
5	0	0	0	0	0	0	1	0	0	1	6	0
6	0	0	0	0	0	0	0	1	5	0	0	0
7	0	0	0	0	0	0	0	16	2	1	3	20
8	0	0	0	0	0	0	0	6	0	14	13	0
9	0	0	0	1	0	4	48	36	4	1	3	0
10	0	0	0	0	0	0	6	0	1	3	2	1
11	0	0	0	53	0	72	1	0	0	4	56	0
12	0	0	0	0	0	3	0	0	0	0	10	0
13	0	0	0	0	0	28	15	37	0	0	1	0
14	0	0	0	0	0	0	0	1	4	6	0	0
15	0	0	0	17	101	1	0	0	12	0	0	0
16	0	0	0	0	0	0	0	0	1	0	0	0
17	0	0	0	0	9	0	0	3	0	0	0	0
18	0	0	0	0	0	3	0	5	0	1	0	12
19	0	0	0	0	0	1	0	6	0	0	0	18
20	0	0	0	0	0	0	0	25	20	72	0	7
21	0	0	0	0	0	0	26	1	0	9	0	0
22	0	0	0	0	3	0	0	0	51	9	0	0
23	0	0	0	0	15	0	13	14	59	7	0	0
24	0	0	0	0	27	15	1	0	7	37	0	0
25	0	0	0	0	0	0	38	0	0	18	0	1
26	2	1	0	0	40	0	0	33	12	31	3	11
27	0	0	0	0	0	0	0	0	3	8	0	2
28	0	0	0	0	0	7	0	0	0	31	12	0
29	0	0	0	0	2	0	36	0	0	0	0	0
30	0		0	0	0	0	6	15	0	2	0	5
31	0		0		0		21	0		0		0

Monthly Total	2	1	0	71	197	134	213	234	201	288	126	77
Average	0.06	0.03	0.00	2.37	6.35	4.47	6.87	7.55	6.70	9.29	4.20	2.48
Max daily rain	2	1	0	53	101	72	48	37	59	72	56	20
Day of Max Daily	26	26	1	11	15	11	9	13	23	20	11	7
No. of Rain days	1	1	0	3	7	9	13	18	14	21	11	9
Max 1-hr rain	2	1		28	34	30	33	32	48	31	13	6
Day of max 1-hr	26	27		11	16	11	9	26	22	24	12	8

Total rain for the year	1544
Total rain days for the year	107

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Mayapyap											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	18	2	10	19	0
2	0	0	4	0	0	0	0	0	10	13	0	0
3	0	0	1	0	0	0	0	2	0	1	0	0
4	0	0	0	0	0	52	0	7	0	0	0	0
5	0	0	0	0	0	0	2	0	0	0	0	0
6	0	0	0	0	0	0	3	1	0	0	0	0
7	0	0	0	0	0	0	0	1	3	10	5	15
8	0	0	0	0	2	0	0	2	0	38	25	0
9	0	0	0	0	4	0	0	25	0	2	5	0
10	0	0	0	0	16	0	0	1	4	17	26	2
11	0	0	0	3	0	166	4	0	10	3	79	0
12	0	0	0	0	66	0	0	0	0	25	13	0
13	0	0	0	7	0	21	42	36	0	0	0	1
14	0	0	0	0	0	0	1	0	9	4	0	17
15	0	0	0	3	147	5	0	2	12	2	0	0
16	0	0	0	0	0	0	0	40	6	6	0	0
17	0	0	0	0	0	0	0	2	1	0	0	0
18	0	0	0	9	0	0	0	0	1	0	0	16
19	0	0	0	0	0	7	22	3	0	0	0	19
20	0	0	0	0	0	0	0	3	0	122	0	25
21	0	0	0	0	0	0	0	0	0	1	0	1
22	0	0	0	0	0	9	0	0	15	3	0	0
23	0	0	0	0	11	4	4	21	142	0	0	0
24	0	0	0	0	1	3	32	1	20	52	0	0
25	0	0	0	0	0	4	52	0	0	18	0	3
26	6	0	0	0	121	2	7	0	1	30	3	16
27	0	0	0	0	0	2	0	0	3	0	2	3
28	0	0	0	0	0	26	0	0	2	20	22	0
29	0	0	0	0	0	0	44	0	3	2	0	0
30	0		0	0	0	0	16	42	0	0	0	14
31	0		0		0		36	0		0		0

Monthly Total	6	0	5	22	368	301	265	207	244	379	199	132
Average	0.19	0.00	0.16	0.73	11.87	10.03	8.55	6.68	8.13	12.23	6.63	4.26
Max daily rain	6	0	4	9	147	166	52	42	142	122	79	25
Day of Max Daily	26	1	2	18	15	11	25	30	23	20	11	20
No. of Rain days	1	0	2	4	8	12	13	17	17	20	10	12
Max 1-hr rain	6		3	9	68	49	52	32	117	39	22	15
Day of max 1-hr	26		3	18	26	11	25	13	23	24	10	14

Total rain for the year	2128
Total rain days for the year	116

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Peñaranda											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	23	22	8	22	0
2	0	0	0	0	0	0	0	1	8	37	0	0
3	0	0	0	0	0	14	1	1	0	0	0	0
4	0	0	0	0	0	17	0	8	0	0	0	0
5	0	0	0	0	0	0	2	0	0	0	5	0
6	0	0	0	0	0	0	0	4	0	0	0	0
7	0	3	0	0	0	0	0	5	19	48	4	16
8	0	0	0	0	4	0	0	1	0	39	59	0
9	0	0	0	0	9	0	0	28	0	10	4	1
10	0	0	0	0	0	0	0	1	1	13	2	4
11	0	0	0	0	0	76	56	0	2	29	67	0
12	0	0	0	0	1	1	1	0	0	45	11	0
13	0	0	0	0	0	23	17	44	0	0	0	13
14	0	0	0	0	1	0	0	0	23	4	1	0
15	0	0	0	0	87	1	11	0	23	2	0	0
16	0	0	0	0	0	0	0	2	1	0	0	0
17	0	0	0	0	0	0	0	1	0	4	0	4
18	0	0	0	0	0	0	0	3	2	0	0	19
19	0	0	0	0	0	7	0	9	0	0	0	24
20	0	0	0	0	0	3	0	3	0	118	0	32
21	0	0	0	0	0	0	0	0	0	5	0	3
22	0	0	0	0	0	0	0	0	1	0	0	0
23	0	0	0	0	32	15	3	13	113	0	0	0
24	0	0	0	0	5	9	0	0	2	10	0	0
25	0	0	0	0	0	2	1	0	0	15	0	0
26	4	0	0	0	0	2	0	0	33	56	5	22
27	0	0	0	0	0	7	2	0	0	0	4	6
28	0	0	0	0	31	67	0	0	14	20	43	0
29	0	0	0	0	0	0	36	0	43	0	0	0
30	0		0	0	0	0	41	8	0	10	0	0
31	0		0		0		17	0		0		0

Monthly Total	4	3	0	0	170	244	188	155	307	473	227	144
Average	0.13	0.10	0.00	0.00	5.48	8.13	6.06	5.00	10.23	15.26	7.57	4.65
Max daily rain	4	3	0	0	87	76	56	44	113	118	67	32
Day of Max Daily	26	7	1	1	15	11	11	13	23	20	11	20
No. of Rain days	1	1	0	0	8	14	12	17	15	18	12	11
Max 1-hr rain	3	1			30	29	42	38	59	32	28	12
Day of max 1-hr	26	8			28	11	11	13	23	7	9	13

Total rain for the year	1915
Total rain days for the year	109

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Calaanan											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	12	3	80	27	0
2	0	0	0	0	0	0	0	1	0	10	0	0
3	0	0	0	0	0	0	1	42	0	0	0	0
4	2	0	0	0	0	0	0	2	0	4	0	0
5	0	0	0	0	0	0	6	5	0	0	8	0
6	0	0	0	0	0	0	0	2	0	1	0	0
7	0	0	0	0	2	0	0	11	77	6	7	14
8	0	1	0	0	0	0	0	1	0	3	44	7
9	0	0	0	0	0	0	0	21	0	1	5	0
10	0	0	0	0	0	0	0	1	22	83	11	1
11	0	0	0	0	0	40	0	0	0	4	132	0
12	0	0	0	0	0	40	1	0	0	0	59	0
13	0	0	1	0	0	0	5	34	0	0	1	8
14	0	0	0	0	2	0	0	2	13	11	0	0
15	0	0	0	26	87	0	3	4	16	6	0	0
16	0	0	0	0	0	0	0	2	19	0	0	0
17	0	0	0	0	0	0	0	0	3	5	0	1
18	0	0	0	0	8	0	0	3	8	7	0	32
19	0	0	0	0	3	0	1	16	0	1	0	21
20	0	0	0	0	0	0	0	40	0	195	0	20
21	0	0	0	0	18	0	13	0	0	1	0	1
22	0	0	0	0	0	0	0	1	26	2	0	0
23	0	22	0	0	8	13	4	50	59	61	0	0
24	0	3	0	0	6	0	0	3	1	0	0	0
25	0	1	0	0	0	1	0	0	0	71	0	0
26	0	0	0	0	0	6	24	0	0	30	1	33
27	0	0	0	0	10	7	0	4	2	2	8	10
28	0	0	0	0	1	31	1	0	3	0	9	0
29	0	0	0	0	0	1	54	1	35	0	1	0
30	0		0	0	0	0	17	13	19	0	0	0
31	0		0		0		12	18		0		0

Monthly Total	2	27	1	26	145	139	142	289	306	584	313	148
Average	0.06	0.93	0.03	0.87	4.68	4.63	4.58	9.32	10.20	18.84	10.43	4.77
Max daily rain	2	22	1	26	87	40	54	50	77	195	132	33
Day of Max Daily	4	23	13	15	15	11	29	23	7	20	11	26
No. of Rain days	1	4	1	1	10	8	13	24	15	21	13	11
Max 1-hr rain	1	4	1	23	16	16	18	49	48	50	24	17
Day of max 1-hr	5	24	15	15	15	12	26	23	7	1	12	26

Total rain for the year	2122
Total rain days for the year	122

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Palali											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	44	3	82	22	0
2	0	0	0	0	0	0	0	1	0	64	0	0
3	0	0	0	0	0	25	2	3	0	1	7	0
4	0	0	0	0	0	0	2	14	0	5	0	0
5	0	0	0	0	0	0	2	4	2	1	1	0
6	0	0	0	0	0	0	1	10	0	2	0	0
7	0	5	0	0	0	0	0	2	5	29	8	35
8	0	0	9	0	0	0	0	1	0	25	40	2
9	0	0	0	0	1	0	0	13	1	13	4	7
10	0	0	28	0	18	1	0	5	0	87	13	9
11	0	0	0	3	0	40	6	1	0	21	90	0
12	0	0	0	0	0	1	9	0	0	7	2	4
13	0	0	0	0	0	0	33	4	0	0	1	1
14	0	0	0	0	1	0	0	0	12	9	0	0
15	0	0	1	7	99	1	0	0	20	12	0	0
16	0	0	0	0	0	0	23	2	10	0	0	0
17	0	0	1	2	0	0	0	29	20	11	0	1
18	0	0	0	0	1	0	0	0	0	3	0	21
19	0	0	0	0	2	34	0	33	0	2	0	15
20	0	0	0	0	0	0	0	18	0	173	0	46
21	0	0	0	0	20	1	4	0	0	4	0	4
22	0	0	0	0	0	0	0	6	12	0	0	0
23	0	0	0	0	17	3	1	15	15	0	0	0
24	1	1	0	0	0	0	0	0	1	4	0	0
25	0	0	0	0	0	4	1	0	1	18	0	0
26	2	0	0	0	0	6	3	2	0	55	12	19
27	0	0	0	0	0	8	0	0	0	1	3	8
28	0	0	0	0	20	30	5	0	6	0	48	1
29	0	0	0	0	4	0	31	1	39	0	1	0
30	0		1	0	0	0	15	17	0	1	1	0
31	0		0		0		24	0		0		0

Monthly Total	3	6	40	12	183	154	162	225	147	630	253	173
Average	0.10	0.21	1.29	0.40	5.90	5.13	5.23	7.26	4.90	20.32	8.43	5.58
Max daily rain	2	5	28	7	99	40	33	44	39	173	90	46
Day of Max Daily	26	7	10	15	15	11	13	1	29	20	11	20
No. of Rain days	2	2	5	3	10	12	16	21	14	24	15	14
Max 1-hr rain	2	2	14	7	19	26	26	26	26	65	14	29
Day of max 1-hr	26	8	10	15	21	19	13	17	29	1	12	8

Total rain for the year	1988
Total rain days for the year	138

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: San Isidro											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	29	47	6	21	0
2	0	0	0	0	0	0	0	0	15	21	0	0
3	0	0	0	0	0	0	2	1	0	0	0	0
4	0	0	0	0	0	4	0	6	0	0	0	0
5	0	0	0	0	0	0	1	3	0	0	48	0
6	0	0	0	0	0	0	0	1	0	0	0	0
7	0	2	0	0	0	0	0	1	12	10	4	16
8	0	0	0	0	25	0	0	4	0	18	21	0
9	0	0	0	7	9	0	0	33	0	8	3	2
10	0	0	0	0	7	1	0	2	0	3	4	3
11	0	0	0	25	0	53	4	12	0	12	61	0
12	0	0	0	0	18	1	5	0	0	5	40	0
13	0	0	0	0	0	17	6	30	0	0	0	0
14	0	0	0	0	1	0	0	0	49	8	0	0
15	0	0	0	0	87	0	1	0	22	0	0	0
16	0	0	0	0	0	0	0	2	0	0	0	0
17	0	0	0	0	0	0	0	2	0	2	0	7
18	0	0	0	11	1	0	0	0	0	1	0	17
19	0	0	0	0	0	0	0	16	0	0	0	25
20	0	0	0	0	0	3	0	45	0	78	0	21
21	0	0	0	0	0	0	1	0	0	3	0	1
22	0	0	0	0	9	0	0	0	14	1	0	0
23	0	0	0	0	29	0	5	5	97	0	0	0
24	0	0	0	0	24	19	13	0	0	39	0	0
25	0	0	0	0	0	2	36	0	0	14	0	1
26	7	2	0	0	1	0	0	0	26	86	7	34
27	0	0	0	0	0	7	10	0	12	16	2	4
28	0	0	0	0	1	24	0	0	15	7	51	0
29	0	0	0	0	0	0	32	0	8	0	0	0
30	0		0	0	0	0	24	34	0	11	0	0
31	0		0		0		24	0		0		0

Monthly Total	7	4	0	43	212	131	164	226	317	349	262	131
Average	0.23	0.14	0.00	1.43	6.84	4.37	5.29	7.29	10.57	11.26	8.73	4.23
Max daily rain	7	2	0	25	87	53	36	45	97	86	61	34
Day of Max Daily	26	7	1	11	15	11	25	20	23	26	11	26
No. of Rain days	1	2	0	3	12	10	14	17	11	20	11	11
Max 1-hr rain	7	1		10	30	17	34	33	67	33	25	18
Day of max 1-hr	26	8		12	15	13	25	30	23	26	5	26

Total rain for the year	1846
Total rain days for the year	112

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Arayat											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	3	0	11	19	0
2	0	0	0	0	0	0	0	1	7	9	0	0
3	0	0	0	0	0	0	0	0	0	0	1	1
4	0	0	0	0	0	45	0	2	0	0	0	0
5	0	0	0	0	0	0	0	3	0	0	4	0
6	0	0	0	0	0	0	24	2	0	0	0	0
7	0	21	0	0	0	0	0	32	45	23	8	9
8	0	0	0	0	5	0	0	19	0	3	2	1
9	0	0	0	0	11	0	5	32	0	13	1	0
10	0	0	0	0	10	5	14	4	0	3	1	4
11	0	0	0	0	0	24	0	2	0	17	100	0
12	0	0	0	1	0	5	0	0	0	1	14	1
13	0	0	0	0	0	5	41	73	0	0	7	0
14	0	0	1	0	0	0	0	13	14	18	0	0
15	0	0	0	0	50	0	0	0	15	0	0	0
16	0	0	0	0	0	0	0	0	2	0	0	0
17	0	0	0	0	0	0	0	2	0	0	0	13
18	0	0	0	0	0	4	0	0	2	3	0	19
19	0	0	0	0	0	2	0	5	0	0	0	18
20	0	0	0	0	0	0	2	3	1	30	0	6
21	0	0	0	0	0	0	8	0	0	6	0	1
22	0	0	0	0	0	20	0	0	30	1	0	0
23	0	0	0	0	40	0	4	0	26	0	0	0
24	0	0	0	0	3	0	0	0	3	6	0	0
25	0	0	0	0	0	5	27	0	0	24	0	0
26	0	0	0	0	0	0	0	0	3	46	8	32
27	0	0	0	0	0	2	0	0	0	7	1	2
28	0	0	0	0	0	10	0	0	78	0	38	0
29	0	0	0	0	5	2	51	23	16	0	1	4
30	0		0	0	3	1	8	8	0	31	0	0
31	0		0		0		8	0		0		0

Monthly Total	0	21	1	1	127	130	192	227	242	252	205	111
Average	0.00	0.72	0.03	0.03	4.10	4.33	6.19	7.32	8.07	8.13	6.83	3.58
Max daily rain	0	21	1	1	50	45	51	73	78	46	100	32
Day of Max Daily	1	7	14	12	15	4	29	13	28	26	11	26
No. of Rain days	0	1	1	1	8	13	11	17	13	18	14	13
Max 1-hr rain		9	1	1	12	45	26	65	49	25	26	8
Day of max 1-hr		8	15	12	23	5	13	13	28	30	12	26

Total rain for the year	1509
Total rain days for the year	110

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Candaba											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	15	0	16	11	0
2	0	0	0	0	0	0	0	1	0	3	0	0
3	0	0	0	0	1	0	0	0	0	1	0	5
4	0	0	0	0	0	6	0	4	0	0	0	0
5	0	0	0	0	0	0	0	3	3	0	2	0
6	0	0	0	0	0	2	10	3	0	0	0	0
7	0	13	0	0	0	0	0	1	16	3	10	8
8	0	0	0	0	21	0	0	8	0	2	5	1
9	0	0	0	5	0	0	0	55	1	16	3	5
10	0	0	0	0	2	0	11	1	0	28	1	8
11	0	0	0	0	0	26	0	11	0	68	77	0
12	0	0	0	0	0	6	1	0	0	0	13	0
13	0	0	0	0	0	7	11	26	0	0	5	1
14	0	0	0	0	0	0	0	1	8	21	0	0
15	0	0	0	0	51	0	0	1	15	0	0	0
16	0	0	0	0	0	0	2	0	1	0	0	0
17	0	0	0	0	0	0	0	36	0	2	0	16
18	0	0	0	0	0	1	0	7	1	4	0	19
19	0	0	0	0	0	6	0	6	0	0	0	18
20	0	0	0	0	0	0	8	2	0	64	0	10
21	0	0	0	0	0	0	22	1	0	13	0	2
22	0	0	0	0	0	27	0	0	3	1	0	0
23	0	0	0	0	7	18	10	0	45	1	0	0
24	0	0	0	0	0	0	0	0	0	2	0	0
25	0	0	0	0	0	6	0	1	0	40	0	0
26	0	1	0	0	0	1	0	0	9	32	8	36
27	0	0	0	0	9	4	0	0	2	0	0	4
28	0	0	0	0	0	8	1	14	52	1	32	0
29	0	0	0	0	0	2	81	11	1	0	2	0
30	0		0	0	1	0	3	1	0	1	0	0
31	0		0		0		13	14		0		0

Monthly Total	0	14	0	5	92	120	173	223	157	319	169	133
Average	0.00	0.48	0.00	0.17	2.97	4.00	5.58	7.19	5.23	10.29	5.63	4.29
Max daily rain	0	13	0	5	51	27	81	55	52	68	77	36
Day of Max Daily	1	7	1	9	15	22	29	9	28	11	11	26
No. of Rain days	0	2	0	1	7	14	12	23	13	20	12	13
Max 1-hr rain		5		5	20	26	19	31	33	39	19	11
Day of max 1-hr		8		9	8	22	29	17	28	20	12	26

Total rain for the year	1405
Total rain days for the year	117

Daily Point Rainfall in millimeters (meteorological day)

2020

Station:

Sibul_Springs

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	16	4	18	29	0
2	0	0	0	0	0	6	0	2	0	9	0	0
3	0	0	0	0	2	0	2	1	0	0	7	6
4	0	0	0	0	0	0	0	2	0	7	0	0
5	0	0	0	0	0	0	1	17	4	0	46	0
6	0	0	0	0	1	0	4	9	0	0	0	0
7	0	26	0	0	0	0	0	1	11	2	15	36
8	0	3	0	0	11	0	0	2	0	2	25	2
9	0	0	0	0	57	0	11	22	0	27	6	7
10	0	0	0	0	0	1	1	1	0	34	1	20
11	0	0	0	0	0	14	3	32	0	35	126	0
12	0	0	0	0	6	3	2	0	0	30	10	5
13	0	0	0	3	0	29	3	1	0	0	0	15
14	0	0	0	0	5	0	0	3	14	45	0	0
15	0	0	1	0	137	0	21	7	40	1	0	0
16	0	0	0	2	0	0	0	2	0	0	0	0
17	0	0	0	0	0	0	0	5	1	5	0	25
18	0	0	0	0	0	2	0	2	1	5	0	22
19	0	0	0	0	0	27	0	8	0	1	0	20
20	0	0	0	0	0	3	0	34	0	124	0	49
21	0	0	0	0	7	0	3	0	0	7	0	6
22	0	0	0	0	2	0	0	0	30	0	0	0
23	0	2	0	0	55	0	0	2	125	0	0	0
24	0	1	0	0	0	20	3	0	6	27	0	0
25	0	0	0	0	0	4	6	0	0	45	0	0
26	0	0	0	0	0	2	5	0	38	64	7	41
27	0	0	0	0	0	7	2	0	22	0	2	9
28	0	0	0	0	4	92	1	3	1	19	45	0
29	0	0	0	0	1	1	88	0	4	0	5	0
30	0		0	0	0	2	40	26	0	0	0	0
31	0		0		0		6	1		0		0

Monthly Total	0	32	1	5	288	213	202	199	301	507	324	263
Average	0.00	1.10	0.03	0.17	9.29	7.10	6.52	6.42	10.03	16.35	10.80	8.48
Max daily rain	0	26	1	3	137	92	88	34	125	124	126	49
Day of Max Daily	1	7	15	13	15	28	29	20	23	20	11	20
No. of Rain days	0	4	1	2	12	15	18	23	14	20	13	14
Max 1-hr rain		6	1	2	41	51	42	32	61	27	38	14
Day of max 1-hr		8	15	14	15	28	29	11	23	24	6	13

Total rain for the year

2335

Total rain days for the year

136

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Sasmuan											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	16	0	7	12	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	1	0	0	0	0	0	5	3
4	0	0	0	0	0	0	5	1	14	24	2	0
5	0	0	0	0	0	0	0	4	0	0	0	0
6	0	0	0	0	0	0	1	5	13	0	7	0
7	0	10	0	0	0	0	0	1	3	20	15	5
8	0	1	0	37	0	0	9	18	0	3	0	0
9	0	0	0	15	1	0	0	30	0	5	1	0
10	0	0	3	0	1	4	26	39	39	0	0	7
11	0	0	0	0	20	42	2	3	33	36	111	0
12	0	0	0	0	0	14	0	0	2	1	25	0
13	0	0	0	0	0	2	0	8	0	0	0	0
14	0	0	0	0	0	2	0	7	11	7	0	0
15	0	0	0	0	63	0	0	0	8	1	0	0
16	0	0	0	52	0	0	10	0	8	0	0	0
17	0	0	0	0	0	0	17	1	0	0	0	8
18	0	0	0	0	0	4	0	0	24	0	0	14
19	0	0	0	0	1	1	15	14	0	0	0	4
20	0	0	0	0	0	0	0	1	0	20	0	0
21	0	0	0	0	0	0	21	1	4	12	0	0
22	0	0	0	0	0	4	0	0	0	7	0	0
23	0	0	0	0	21	3	34	3	5	31	0	0
24	1	0	0	0	0	18	22	0	27	22	0	0
25	0	0	0	0	0	4	9	0	25	22	0	0
26	0	1	0	0	0	0	0	0	34	2	11	14
27	0	0	0	0	0	20	1	0	18	0	0	3
28	0	0	0	0	0	18	25	0	0	0	30	0
29	15	0	0	0	32	0	93	0	0	0	3	13
30	0		0	0	3	0	13	0	0	0	0	2
31	0		0		0		17	0		0		0

Monthly Total	16	12	3	104	143	136	320	152	268	220	222	73
Average	0.52	0.41	0.10	3.47	4.61	4.53	10.32	4.90	8.93	7.10	7.40	2.35
Max daily rain	15	10	3	52	63	42	93	39	39	36	111	14
Day of Max Daily	29	7	10	16	15	11	29	10	10	11	11	18
No. of Rain days	2	3	1	3	9	13	17	16	16	16	11	10
Max 1-hr rain	13	4	3	37	32	21	34	28	38	28	40	6
Day of max 1-hr	29	8	11	16	29	11	30	10	10	21	12	26

Total rain for the year	1669
Total rain days for the year	117

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Sulipan											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	42	0	9	16	0
2	0	0	0	0	0	26	0	0	0	1	0	0
3	0	0	0	0	2	0	1	0	0	0	0	6
4	0	0	0	0	0	0	5	2	0	0	6	0
5	0	0	0	0	0	0	10	3	0	0	0	0
6	0	0	0	0	0	2	5	9	0	0	0	0
7	0	13	0	0	0	0	0	1	6	6	23	16
8	0	0	2	0	0	1	0	20	0	2	1	0
9	0	0	0	6	25	7	0	52	1	9	1	1
10	0	0	15	0	0	9	0	3	3	2	1	8
11	0	0	0	0	0	24	0	0	1	73	191	3
12	0	0	0	0	0	3	0	0	0	1	24	0
13	0	0	0	1	0	11	0	12	0	0	0	0
14	0	0	0	0	0	3	0	2	5	10	0	0
15	0	0	0	0	56	0	1	0	9	0	0	0
16	0	0	0	0	0	0	0	0	6	0	0	0
17	0	0	0	0	0	0	7	29	0	2	0	2
18	0	0	0	1	0	1	0	0	0	2	0	19
19	0	0	0	0	0	16	0	11	0	0	0	7
20	0	0	0	0	0	0	0	5	0	28	0	0
21	0	0	0	0	0	0	20	3	0	23	0	0
22	0	0	0	0	0	0	0	0	2	6	1	0
23	0	0	0	0	26	1	17	0	38	0	0	5
24	2	0	0	0	6	4	0	0	0	24	0	0
25	0	0	0	0	0	46	36	0	6	35	0	0
26	0	0	0	0	0	2	0	0	21	4	9	21
27	1	0	0	0	1	15	3	0	37	0	2	8
28	0	0	0	0	0	16	23	0	2	33	31	0
29	6	0	0	0	9	15	186	1	0	0	5	82
30	0		0	0	6	0	4	0	39	4	0	0
31	0		0		0		18	0		0		0

Monthly Total	9	13	17	8	131	202	336	195	176	274	311	178
Average	0.29	0.45	0.55	0.27	4.23	6.73	10.84	6.29	5.87	8.84	10.37	5.74
Max daily rain	6	13	15	6	56	46	186	52	39	73	191	82
Day of Max Daily	29	7	10	9	15	25	29	9	30	11	11	29
No. of Rain days	3	1	2	3	8	18	14	15	14	19	13	12
Max 1-hr rain	6	5	8	6	24	33	67	31	39	29	63	43
Day of max 1-hr	29	8	11	9	9	25	30	1	30	28	12	30

Total rain for the year	1850
Total rain days for the year	122

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Mexico											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	7	0	8	0	5	7	0
2	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	1	0	3
4	0	0	0	0	0	4	3	2	0	0	0	0
5	0	0	0	0	0	0	1	1	0	0	0	0
6	0	0	0	0	0	0	1	3	0	0	0	0
7	0	4	0	0	2	0	0	0	5	0	12	8
8	0	0	0	0	11	0	0	29	0	6	2	5
9	0	0	0	0	2	0	3	30	0	19	0	0
10	0	0	0	0	0	0	11	15	0	50	0	6
11	0	0	0	0	0	31	1	1	1	58	98	5
12	0	0	0	0	3	4	0	0	0	0	18	0
13	0	0	0	0	0	5	1	18	0	0	0	0
14	0	0	14	0	0	0	0	13	7	18	0	0
15	0	0	0	0	44	4	8	0	11	1	0	0
16	0	0	0	0	1	0	0	2	0	1	0	0
17	0	0	0	0	0	0	5	0	0	0	0	15
18	0	0	0	0	0	0	0	2	4	2	0	11
19	0	0	0	0	0	11	0	2	0	0	0	14
20	0	0	0	0	0	0	10	1	0	37	0	0
21	0	0	0	0	0	0	11	0	0	4	0	0
22	0	0	0	0	0	35	0	0	14	1	0	0
23	0	0	0	0	9	2	10	0	11	1	0	0
24	0	0	0	0	0	25	11	0	9	9	0	0
25	0	0	0	0	0	21	1	0	0	14	0	0
26	0	0	0	0	0	0	0	0	38	9	9	28
27	0	0	0	0	0	1	0	0	5	0	0	3
28	0	0	0	0	0	19	39	1	1	8	31	0
29	0	0	0	0	1	6	72	0	0	1	1	3
30	0		0	0	0	0	17	0	6	9	0	0
31	0		0		0		15	5		0		0

Monthly Total	0	4	14	0	73	175	220	133	112	254	178	101
Average	0.00	0.14	0.45	0.00	2.35	5.83	7.10	4.29	3.73	8.19	5.93	3.26
Max daily rain	0	4	14	0	44	35	72	30	38	58	98	28
Day of Max Daily	1	7	14	1	15	22	29	9	26	11	11	26
No. of Rain days	0	1	1	0	8	14	18	16	12	20	8	11
Max 1-hr rain		2	12		14	25	26	14	21	42	29	11
Day of max 1-hr		8	14		15	22	28	9	26	10	12	26

Total rain for the year	1264
Total rain days for the year	109

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: Porac											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	1	0	10	5	7	10	0
2	0	0	0	0	0	0	0	1	0	0	0	0
3	0	0	0	0	0	0	0	0	27	1	0	18
4	0	0	0	0	0	0	3	1	0	6	0	0
5	0	0	0	0	0	0	1	1	0	0	0	0
6	0	0	0	0	0	0	0	2	1	0	0	0
7	0	8	0	0	0	24	0	0	11	2	8	7
8	0	0	0	0	0	0	0	30	1	25	1	0
9	0	0	0	0	27	9	5	77	19	11	0	0
10	0	0	0	0	23	0	0	22	0	16	6	5
11	0	0	0	0	21	30	0	0	22	27	83	1
12	2	0	0	11	0	7	0	0	0	6	39	0
13	0	0	0	0	0	3	1	5	0	0	0	0
14	0	0	0	0	0	0	0	1	12	10	0	0
15	0	0	0	8	41	0	0	1	8	0	0	0
16	0	0	0	0	1	0	9	0	10	7	0	0
17	0	0	0	0	0	0	0	6	0	0	0	5
18	0	0	0	0	0	20	0	0	2	1	0	10
19	0	0	0	0	0	1	0	49	0	0	0	7
20	0	0	0	0	0	0	7	2	0	19	0	0
21	0	0	0	0	0	0	21	0	0	29	0	0
22	0	0	0	0	0	3	0	1	1	24	0	0
23	0	0	0	0	7	1	24	0	10	1	0	7
24	0	0	0	0	7	5	2	0	119	7	0	0
25	0	0	0	0	0	1	1	0	0	6	0	0
26	0	2	0	0	0	4	7	0	25	14	8	23
27	0	0	0	0	0	0	0	0	0	1	0	2
28	0	0	0	0	0	5	15	0	1	1	30	0
29	0	0	0	0	10	2	31	3	11	0	0	0
30	0		0	0	0	0	29	0	0	7	0	0
31	0		0		0		5	6		0		0

Monthly Total	2	10	0	19	137	116	161	218	285	228	185	85
Average	0.06	0.34	0.00	0.63	4.42	3.87	5.19	7.03	9.50	7.35	6.17	2.74
Max daily rain	2	8	0	11	41	30	31	77	119	29	83	23
Day of Max Daily	12	7	1	12	15	11	29	9	24	21	11	26
No. of Rain days	1	2	0	2	8	15	15	17	17	22	8	10
Max 1-hr rain	1	4		11	23	20	14	42	83	16	33	17
Day of max 1-hr	13	8		12	10	18	23	19	24	8	12	3

Total rain for the year	1446
Total rain days for the year	117

Daily Point Rainfall in millimeters (meteorological day)

2020	Station: San_Rafael											
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0	0	0	0	0	0	0	4	0	10	22	0
2	0	0	0	0	0	0	13	0	0	0	0	0
3	0	0	0	0	0	3	9	0	2	0	0	7
4	0	0	0	0	0	18	6	7	0	0	0	0
5	0	0	0	0	0	0	1	1	1	0	0	0
6	0	0	0	0	0	0	29	11	0	0	0	0
7	0	22	0	0	11	2	0	1	6	1	40	8
8	0	1	0	0	0	0	0	5	44	4	3	7
9	0	0	0	7	2	0	0	40	0	15	4	2
10	0	0	0	0	6	4	10	5	0	57	2	28
11	0	0	0	0	0	50	0	8	3	71	206	0
12	0	0	0	0	0	11	23	0	0	1	18	17
13	0	0	0	2	0	15	3	0	1	0	0	0
14	0	0	0	0	1	0	0	3	18	20	0	0
15	0	0	0	0	81	1	0	0	11	0	0	0
16	0	0	0	5	0	0	0	0	0	1	0	0
17	0	0	0	0	0	0	0	0	0	4	0	12
18	0	0	0	0	0	1	0	14	3	5	0	29
19	0	0	0	0	0	24	0	9	0	0	0	19
20	0	0	0	0	0	0	44	1	0	90	0	0
21	0	0	0	0	10	0	16	2	0	19	0	1
22	0	0	0	0	0	0	0	0	16	2	0	0
23	0	0	0	0	30	0	13	0	58	0	0	0
24	0	0	0	0	0	1	10	0	0	20	0	0
25	0	0	0	0	0	6	2	0	1	58	0	0
26	0	1	0	0	4	3	4	0	1	8	7	37
27	0	0	0	0	0	3	26	0	0	0	2	16
28	0	0	0	0	0	12	3	0	44	8	24	0
29	0	0	0	0	4	5	59	4	0	1	8	17
30	0		0	0	0	0	2	0	0	0	0	0
31	0		0		0		8	1		0		0

Monthly Total	0	24	0	14	149	159	281	116	209	395	336	200
Average	0.00	0.83	0.00	0.47	4.81	5.30	9.06	3.74	6.97	12.74	11.20	6.45
Max daily rain	0	22	0	7	81	50	59	40	58	90	206	37
Day of Max Daily	1	7	1	9	15	11	29	9	23	20	11	26
No. of Rain days	0	3	0	3	9	16	19	16	14	19	11	13
Max 1-hr rain		5		5	16	17	41	13	40	29	66	17
Day of max 1-hr		7		9	23	4	20	18	23	20	12	10

Total rain for the year	1883
Total rain days for the year	123

Daily Point Rainfall in millimeters (meteorological day)

2020	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	0.0	4.8	0.0	5.3	10.4	0.0
2	0.0	0.0	0.0	0.0	0.0	0.3	0.0	2.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.3	0.0	1.5	0.0	0.0	2.0	3.8	0.8
4	0.0	0.0	0.0	0.0	0.0	1.5	4.8	1.3	1.0	61.5	0.0	0.5
5	0.0	0.0	0.0	0.0	0.0	0.0	1.0	3.0	0.3	0.0	0.0	0.0
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.0	0.0	0.0	0.0
7	0.0	8.4	0.0	0.0	7.6	0.0	0.0	0.8	4.6	3.0	11.4	11.2
8	0.0	0.0	0.0	3.3	0.0	0.0	8.1	28.7	4.3	6.4	3.3	2.3
9	0.0	0.0	0.0	0.0	2.0	0.0	1.0	32.8	44.5	12.2	0.5	0.5
10	0.0	0.0	0.0	0.0	18.5	0.0	17.5	12.2	6.6	6.1	0.3	7.9
11	0.0	0.0	0.0	0.0	0.8	18.5	0.0	0.0	20.6	18.3	117.1	1.5
12	0.0	0.0	0.0	2.8	0.0	9.4	0.0	0.0	0.0	0.3	19.8	0.3
13	0.0	0.0	0.0	0.0	0.0	18.3	3.3	30.2	0.0	0.0	0.0	0.0
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	13.5	10.7	0.0	0.0
15	0.0	0.0	0.0	7.4	53.8	2.0	1.0	0.0	10.2	0.3	0.0	0.0
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.1	15.7	18.5	0.0	0.0
17	0.0	0.0	0.0	0.0	0.0	0.0	7.6	0.0	0.0	0.0	0.0	10.4
18	0.0	0.0	0.0	0.0	0.0	8.4	2.0	0.0	0.0	1.0	0.0	11.7
19	0.0	0.0	0.0	0.0	0.0	1.0	1.0	3.3	0.0	0.0	0.0	12.7
20	0.0	0.0	0.0	0.0	0.0	0.0	5.8	2.0	0.0	13.5	0.0	0.3
21	0.0	0.0	0.0	0.0	0.0	0.0	19.8	0.3	0.8	7.6	0.0	0.0
22	0.0	0.0	0.0	0.0	0.0	31.8	0.3	0.0	10.2	8.4	0.0	0.0
23	0.0	0.0	0.0	0.0	12.7	0.5	55.1	0.0	10.4	6.1	0.0	0.0
24	1.5	0.0	0.0	0.0	0.5	56.4	7.1	0.0	9.7	23.1	0.0	0.0
25	0.0	0.3	0.0	0.0	1.0	1.8	24.1	0.0	9.1	5.8	0.0	0.0
26	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	13.7	11.4	10.4	32.3
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0	2.3
28	0.0	0.0	0.0	0.0	0.3	28.4	40.1	0.0	1.3	3.3	1.3	0.0
29	3.8	0.0	0.0	0.0	6.9	0.0	61.0	2.8	1.0	0.5	4.6	0.0
30	0.0		0.0	0.0	0.0	4.3	20.3	0.0	0.0	21.3	0.3	0.0
31	0.0		0.0		0.0		21.8	0.8		0.0		0.0

Monthly Total	5.3	9.1	0.0	13.5	104.4	182.6	304.5	153.9	186.2	246.6	183.1	94.5
Average	0.17	0.32	0.00	0.45	3.37	6.09	9.82	4.97	6.21	7.96	6.10	3.05
Max daily rain	3.8	8.4	0.0	7.4	53.8	56.4	61.0	32.8	44.5	61.5	117.1	32.3
Day of Max Daily	29	7		15	15	24	29	9	9	4	11	26
No. of Rain days	2	3	0	3	11	14	21	17	20	23	12	14
Max 1-hr rain	3.8	6.1		5.8	18.5	38.4	50.5	23.1	44.5		38.9	8.9
Day of max 1-hr	29	8		15	10	24	23	16	9		12	26

Total rain for the year	1483.9
Total rain days for the year	140

Table 1.

Monthly Rainfall Summary for 2020															
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	0	1	5	6	184	159	175	304	316	491	118	138	1897	118	119
Sapang Buho	0	0	2	0	109	106	140	173	265	406	190	118	1509	114	177
Gabalton	28	31	2	14	268	206	156	283	288	1057	835	373	3541	148	306
Zaragoza	2	1	0	71	197	134	213	234	201	288	126	77	1544	107	101
Mayapyap	6	0	5	22	368	301	265	207	244	379	199	132	2128	116	166
Peñaranda	4	3	0	0	170	244	188	155	307	473	227	144	1915	109	118
Calaanan	2	27	1	26	145	139	142	289	306	584	313	148	2122	122	195
Palali	3	6	40	12	183	154	162	225	147	630	253	173	1988	138	173
San Isidro	7	4	0	43	212	131	164	226	317	349	262	131	1846	112	97
Arayat	0	21	1	1	127	130	192	227	242	252	205	111	1509	110	100
Candaba	0	14	0	5	92	120	173	223	157	319	169	133	1405	117	81
Sibul Spring	0	32	1	5	288	213	202	199	301	507	324	263	2335	136	137
Sasmuan	16	12	3	104	143	136	320	152	268	220	222	73	1669	117	111
Sulipan	9	13	17	8	131	202	336	195	176	274	311	178	1850	122	191
Mexico	0	4	14	0	73	175	220	133	112	254	178	101	1264	109	98
Porac	2	10	0	19	137	116	161	218	285	228	185	85	1446	117	119
San Rafael	0	24	0	14	149	159	281	116	209	395	336	200	1883	123	206
PRFFWC	5.3	9.1	0.0	13.5	104.4	182.6	304.5	153.9	186.2	246.6	183.1	94.5	1483.9	140	117.1

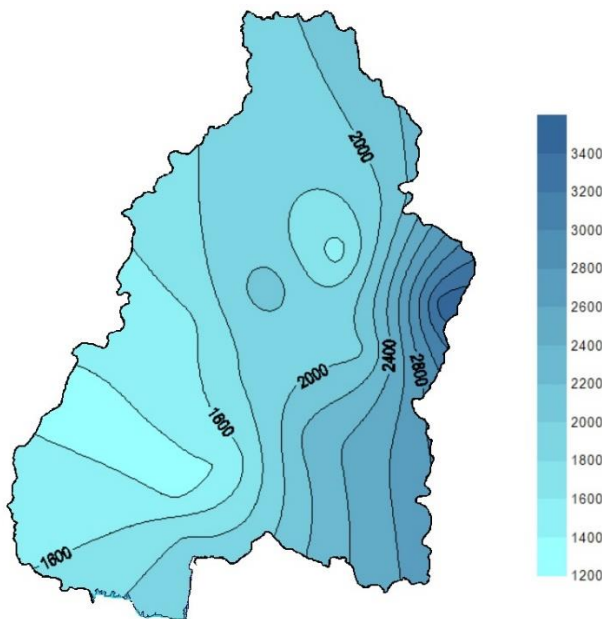


Figure 1a. The estimated Isohyet annual rainfall for year 2020 in the Pampanga River Basin

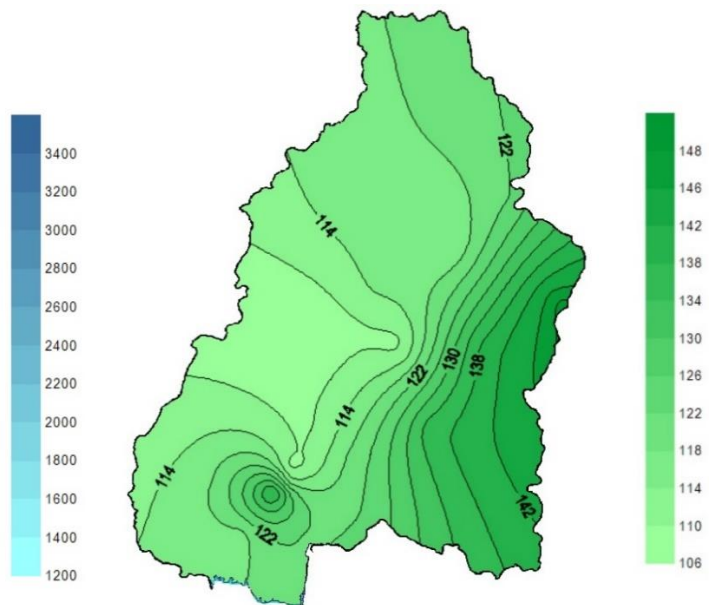


Figure 1b. Estimated rainfall days distribution (2020) in the Pampanga River Basin

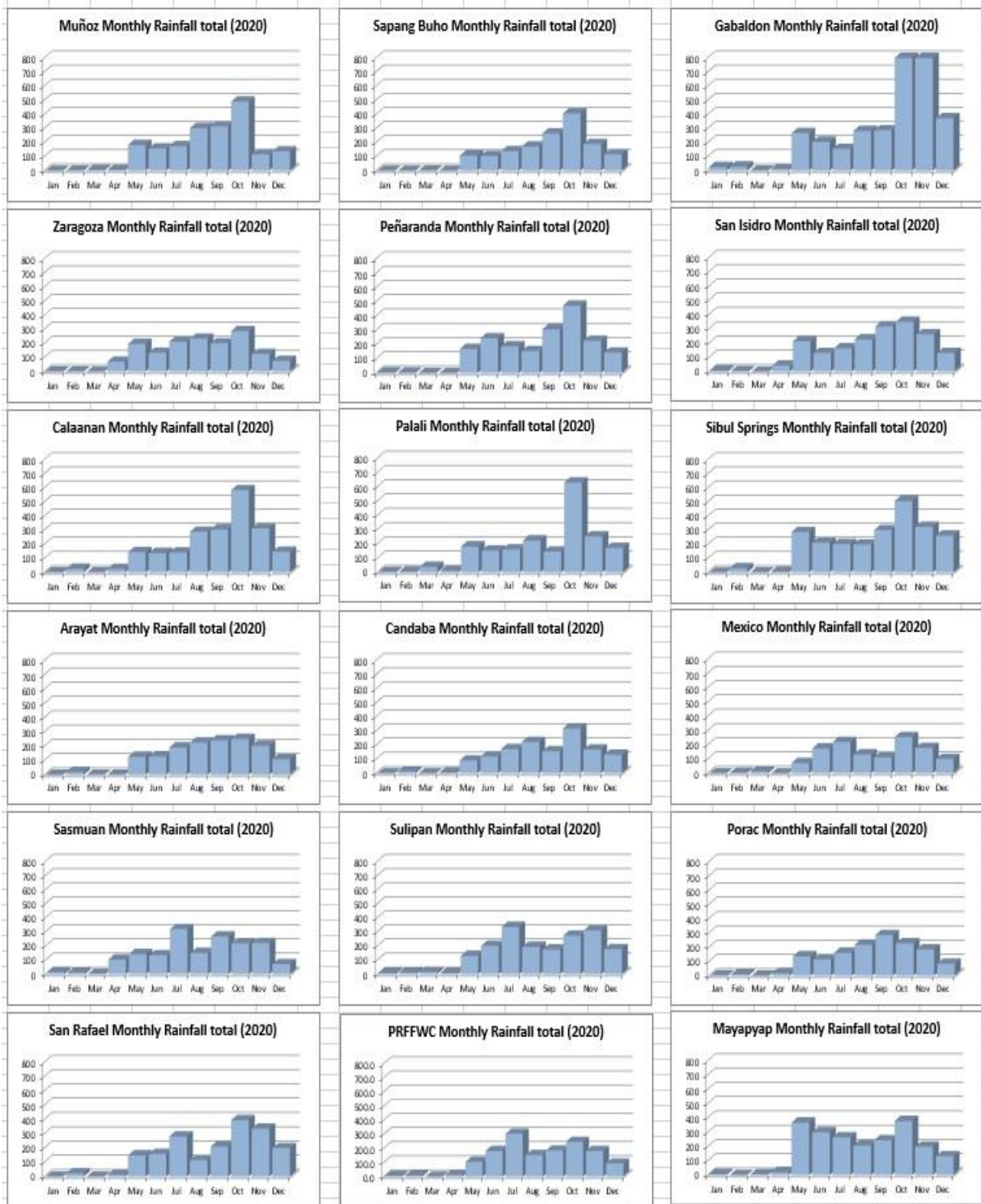


Figure 2. Monthly Rainfall distribution (hyetograph) of each monitoring station of PRFFWC within the Pampanga River Basin for the year 2020.

B. WATER LEVEL Data Summary Presentation



San Isidro RR-WL
telemetry Station
(March 02, 2020)



Candaba WL Gauge
(March 11, 2020)



Candaba RR-WL Telemetry Station
(March 11, 2020)



Sibul Spring RR
Telemetry Station
(June 13, 2020)



Coronel River Valley at Gabaldon, Nueva Ecija.
(March 03, 2020) Photo by PRFFWC Maintenance Team

Water Level in meters (Daily Average)

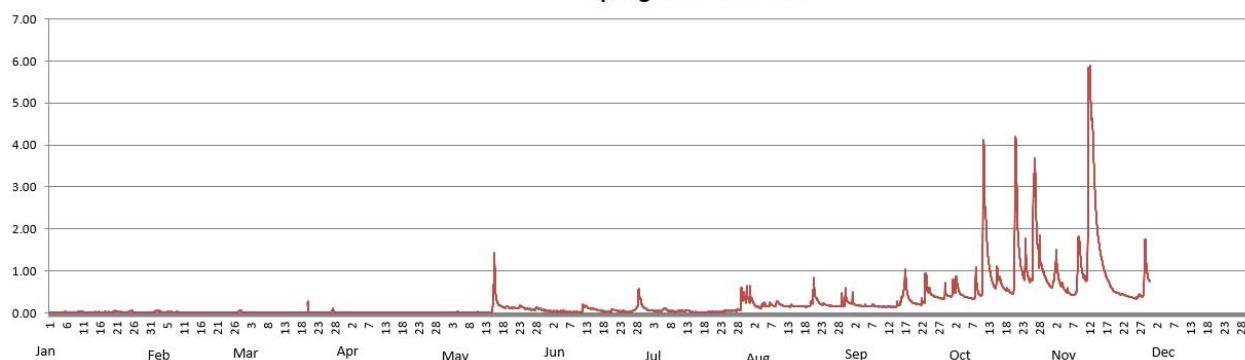
2020

Station: **Sapang_Buho**

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.00	0.01	0.00	0.00	0.00	0.04	0.08	0.35	0.23	0.52	0.87	
2	0.00	0.05	0.00	0.00	0.00	0.03	0.06	0.23	0.19	0.65	1.08	
3	0.00	0.04	0.00	0.00	0.00	0.03	0.05	0.15	0.18	0.58	0.69	
4	0.00	0.02	0.00	0.00	0.01	0.02	0.04	0.14	0.17	0.43	0.58	
5	0.01	0.02	0.00	0.00	0.01	0.03	0.04	0.17	0.17	0.41	0.54	
6	0.01	0.01	0.01	0.00	0.01	0.03	0.10	0.17	0.16	0.36	0.45	
7	0.01	0.00	0.01	0.00	0.00	0.02	0.05	0.20	0.17	0.35	0.44	
8	0.01	0.02	0.01	0.00	0.01	0.02	0.04	0.17	0.16	0.54	0.96	
9	0.02	0.00	0.01	0.00	0.01	0.01	0.03	0.24	0.15	0.52	1.37	
10	0.03	0.00	0.00	0.00	0.01	0.01	0.04	0.20	0.15	0.74	0.88	
11	0.02	0.00	0.00	0.00	0.01	0.08	0.05	0.17	0.14	2.91	2.02	
12	0.01	0.00	0.00	0.00	0.00	0.16	0.04	0.16	0.15	1.36	5.24	
13	0.00	0.00	0.00	0.00	0.00	0.11	0.06	0.17	0.14	0.83	3.67	
14	0.01	0.00	0.00	0.01	0.00	0.10	0.03	0.17	0.15	0.62	2.10	
15	0.02	0.00	0.00	0.01	0.51	0.09	0.02	0.15	0.21	0.89	1.45	
16	0.02	0.00	0.00	0.00	0.42	0.07	0.01	0.16	0.40	0.71	1.07	
17	0.02	0.00	0.00	0.00	0.18	0.05	0.01	0.16	0.72	0.57	0.83	
18	0.02	0.00	0.00	0.00	0.14	0.03	0.01	0.15	0.35	0.55	0.66	
19	0.02	0.00	0.01	0.00	0.14	0.03	0.02	0.20	0.26	0.47	0.53	
20	0.02	0.00	0.05	0.00	0.12	0.07	0.02	0.44	0.22	2.16	0.48	
21	0.04	0.00	0.00	0.00	0.13	0.06	0.02	0.35	0.20	2.19	0.46	
22	0.02	0.00	0.00	0.00	0.11	0.04	0.02	0.23	0.23	1.11	0.44	
23	0.01	0.00	0.00	0.00	0.14	0.04	0.02	0.21	0.60	1.07	0.40	
24	0.02	0.00		0.00	0.14	0.03	0.04	0.19	0.54	0.93	0.38	
25	0.04	0.00		0.00	0.10	0.03	0.05	0.18	0.43	0.79	0.36	
26	0.02	0.00	0.00	0.00	0.09	0.04	0.05	0.17	0.39	2.92	0.36	
27	0.00	0.04	0.04	0.00	0.08	0.08	0.05	0.16	0.36	1.65	0.42	
28	0.00	0.01	0.01	0.00	0.11	0.29	0.07	0.16	0.34	1.22	0.64	
29	0.00	0.00	0.00	0.00	0.10	0.24	0.21	0.18	0.43	0.92	1.19	
30	0.00		0.00	0.00	0.07	0.11	0.36	0.35	0.40	0.74	0.78	
31	0.00		0.00		0.05		0.36	0.24		0.63		

Max WL observed	0.05	0.07	0.28	0.02	1.44	0.57	0.65	0.85	1.05	4.21	5.89	
Day of Max WL	21	3	24	15	16	29	31	21	17	21	12	

Sapang Buho WL 2020



Water Level in meters (Daily Average)

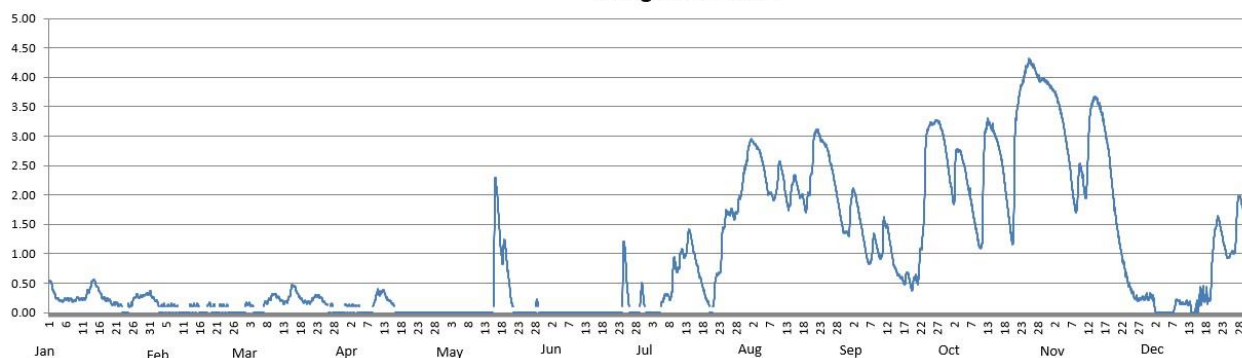
2020

Station: **Zaragoza**

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.53	0.27	0.13	0.13				2.83	1.88	2.22	3.80	0.28
2	0.38	0.21	0.14	0.13				2.92	2.03	1.97	3.71	0.10
3	0.25	0.15	0.13	0.13				2.84	1.79	2.73	3.53	0.00
4	0.22	0.12	0.11	0.12				2.76	1.48	2.73	3.28	0.00
5	0.21	0.12	0.11	0.12			0.14	2.67	1.32	2.64	3.12	0.00
6	0.23	0.12					0.23	2.29	0.89	2.26	2.61	0.00
7	0.23	0.12	0.16				0.30	2.04	0.92	1.98	2.12	0.00
8	0.20	0.13	0.18				0.26	1.98	1.27	1.67	1.77	0.09
9	0.23	0.11	0.26	0.15			0.72	2.00	1.06	1.36	2.31	0.21
10	0.23		0.31	0.30			0.75	2.44	0.95	1.12	2.35	0.17
11	0.23		0.27	0.33			0.90	2.41	1.49	2.08	2.04	0.15
12	0.29	0.10	0.22	0.36			1.01	2.04	1.43	3.16	2.95	0.16
13	0.39	0.12	0.18	0.26			1.07	1.81	1.10	3.20	3.55	0.08
14	0.54	0.13	0.21	0.20			1.36	2.12	0.80	3.09	3.65	0.01
15	0.48	0.13	0.36	0.15	0.10		1.10	2.29	0.67	2.95	3.56	0.11
16	0.36		0.45	0.11	1.73		0.86	2.06	0.60	2.75	3.38	0.23
17	0.26		0.33		1.67		0.63	1.99	0.52	2.43	3.08	0.27
18	0.22	0.15	0.24		0.97		0.43	1.79	0.66	1.97	2.75	0.26
19	0.21	0.13	0.19		1.12		0.24	1.99	0.46	1.52	2.22	0.45
20	0.14	0.12	0.18		0.62		0.15	2.42	0.55	1.46	1.71	1.24
21	0.15	0.11	0.18		0.21		0.18	3.04	0.57	3.29	1.30	1.56
22	0.13	0.14	0.25				0.58	3.06	1.01	3.72	0.97	1.44
23	0.13	0.13	0.28				0.68	2.93	1.76	3.93	0.73	1.17
24		0.13	0.26			0.94	1.31	2.86	3.05	4.14	0.51	0.95
25	0.11		0.19			0.49	1.65	2.72	3.21	4.27	0.37	0.99
26	0.17		0.14			0.12	1.69	2.47	3.22	4.20	0.25	1.03
27	0.27		0.14				1.70	2.19	3.26	4.08	0.22	1.68
28	0.27		0.13		0.13		1.67	1.88	3.17	3.97	0.24	1.93
29	0.27				0.19	0.31	1.90	1.54	2.97	3.97	0.25	1.71
30	0.31					0.26	2.18	1.37	2.63	3.93	0.25	1.57
31	0.33						2.51	1.35		3.87		1.70

Max WL observed	0.56	0.36	0.47	0.40	2.30	1.20	2.67	3.12	3.28	4.32	3.85	1.98
Day of Max WL	14	1	16	11	16	24	Aug 01	22	27	25	1	28

Zaragoza WL 2020

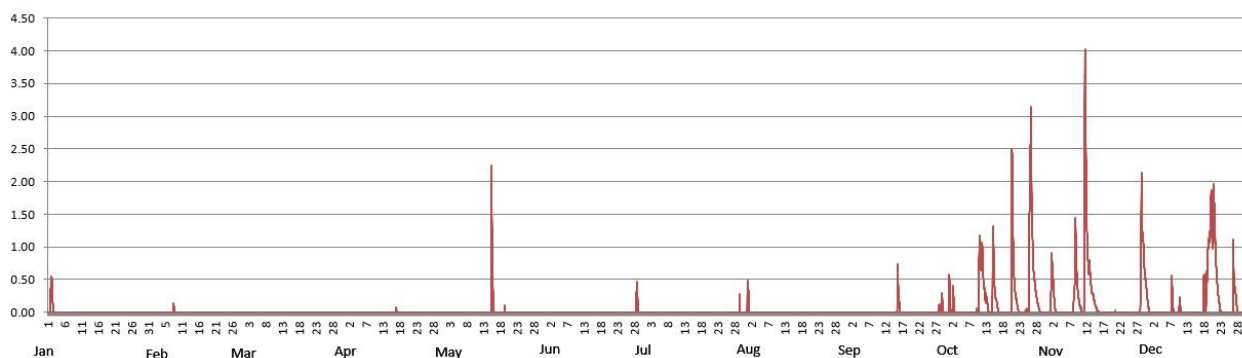


Water Level in meters (Daily Average)

2020		Station: Peñaranda										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.13	0.32	0.03
2	0.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.28	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	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	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.18
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.57	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.27	0.08	0.06
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.95	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29	1.45	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.52	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.22	0.00
15	0.00	0.00	0.00	0.00	0.61	0.00	0.00	0.00	0.05	0.49	0.04	0.00
16	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.20	0.06	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.29
19	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	1.07
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	0.00	1.40
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.00	1.02
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.19
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	0.07	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.06	0.00	0.25
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.31
28	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00	0.01	0.15	0.28	0.01
29	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.03	0.01	1.17	0.00
30	0.00		0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.38	0.00
31	0.00		0.00		0.00		0.00	0.00		0.00		0.00

Max WL observed	0.55	0.13	0.00	0.07	2.24	0.47	0.28	0.49	0.73	3.15	4.02	1.96
Day of Max WL	2	8		17	16	29	30	1	16	26	12	21

Peñaranda WL 2020

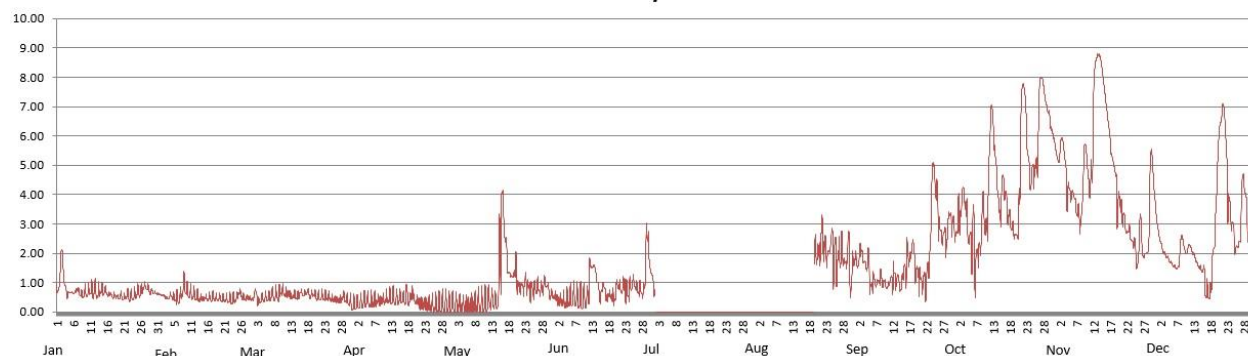


Water Level in meters (Daily Average)

2020		Station: Arayat										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.81	0.58	0.43	0.25	0.27	0.50	0.84		1.62	2.65	5.20	3.11
2	1.85	0.55	0.63	0.27	0.27	0.37		3.80	2.09	3.38	5.84	2.43
3	1.00	0.45	0.33	0.31	0.24	0.36			1.71	4.07	5.21	2.06
4	0.62	0.53	0.47	0.35	0.22	0.33			1.71	3.37	4.00	1.89
5	0.64	0.50	0.46	0.36	0.22	0.36			1.32	2.94	4.02	1.80
6	0.67	0.45	0.47	0.34	0.21	0.43			1.13	2.53	3.85	1.58
7	0.75	0.49	0.57	0.33	0.23	0.47			1.01	1.60	3.37	1.51
8	0.57	0.88	0.56	0.35	0.23	0.43			1.08	2.08	3.31	2.08
9	0.63	0.73	0.57	0.35	0.26	0.41			0.99	3.42	5.41	2.36
10	0.66	0.61	0.69	0.38	0.29	0.44			0.87	2.86	4.78	2.04
11	0.74	0.57	0.61	0.43	0.31	0.54			1.10	5.12	4.52	2.25
12	0.74	0.50	0.59	0.45	0.40	1.57			1.18	6.63	7.90	1.99
13	0.64	0.43	0.52	0.47	0.37	1.52	1.08		1.10	5.14	8.72	1.71
14	0.71	0.43	0.52	0.43	0.31	0.94			0.82	3.64	8.49	1.50
15	0.68	0.46	0.52	0.46	1.65	0.57			1.38	4.25	7.61	1.43
16	0.60	0.47	0.64	0.43	3.58	0.84			1.76	3.91	6.64	0.68
17	0.59	0.47	0.62	0.63	2.36	0.50			1.87	3.29	5.56	0.61
18	0.53	0.45	0.65	0.43	1.32	0.56			2.14	2.87	4.93	1.84
19	0.49	0.47	0.56	0.52	1.21	0.46		2.12	1.37	2.62	3.67	3.81
20	0.54	0.42	0.58	0.37	1.44	0.89		2.03	1.12	3.42	3.60	6.17
21	0.48	0.43	0.50	0.25	0.87	0.80		2.59	1.05	7.42	3.18	6.91
22	0.57	0.42	0.51	0.25	0.85	0.92		2.27	1.12	7.04	2.72	5.55
23	0.49	0.38	0.49	0.21	0.96	0.65		1.94	2.15	5.01	2.58	3.64
24	0.53	0.45	0.48	0.20	0.87	0.86		2.46	4.88	4.69	2.39	2.92
25	0.65	0.65	0.44	0.19	0.76	1.02		1.91	4.08	4.87	1.66	2.15
26	0.65	0.52	0.41	0.19	0.77	0.78		1.76	2.85	6.44	2.87	2.36
27	0.84	0.44	0.38	0.21	0.83	0.74		2.02	2.59	7.93	1.93	4.29
28	0.82	0.47	0.42	0.25	0.76	0.83		1.69	2.51	7.29	2.03	3.90
29	0.68	0.52	0.47	0.25	1.00	2.51		2.08	3.30	6.81	4.62	2.98
30	0.67		0.37	0.24	0.76	1.50		1.08	2.95	6.18	4.42	2.61
31	0.62		0.24		0.57			1.79		5.69		2.33

Max WL observed	2.11	1.39	0.96	0.95	4.14	3.03	1.25	3.80	5.11	8.01	8.81	7.10
Day of Max WL	2	9	11	17	17	29	1	2	24	21	14	22

Arayat WL 2020

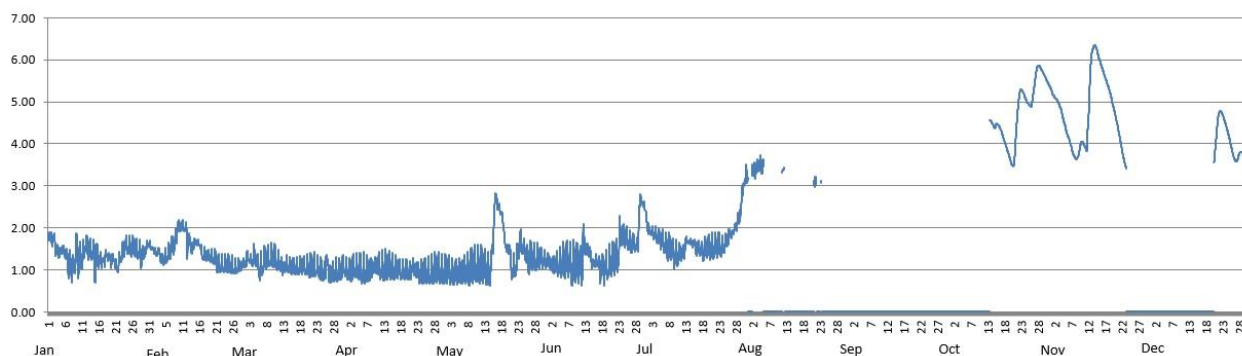


Water Level in meters (Daily Average)

2020		Station: Candaba										
Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1.81	1.50	1.13	0.96	0.96	1.21	2.13	3.15			5.18	
2	1.73	1.43	1.26	0.94	0.95	1.13	1.93	3.41			5.06	
3	1.52	1.42	1.21	1.01	0.92	1.11	1.85	3.41			4.91	
4	1.44	1.25	1.28	1.02	0.90	1.08	1.77	3.51			4.64	
5	1.46	1.27	1.21	0.99	0.91	1.10	1.73	3.48			4.48	
6	1.38	1.39	1.03	0.93	0.92	1.13	1.64				4.08	
7	1.19	1.50	1.20	0.93	0.94	1.17	1.52				3.81	
8	1.00	1.67	1.24	0.93	0.94	1.08	1.48				3.66	
9	1.44	2.00	1.27	1.03	0.98	1.10	1.33				3.83	
10	1.25	2.00	1.24	1.05	1.01	1.09	1.36				4.03	
11	1.31	1.99	1.14	0.99	1.03	1.11	1.40	3.38			3.97	
12	1.57	1.66	1.10	0.99	1.02	1.64	1.40	3.40			5.08	
13	1.44	1.52	1.03	1.00	0.99	1.46	1.68	3.48		4.54	6.20	
14	1.44	1.64	1.06	1.01	0.97	1.27	1.66			4.43	6.29	
15	1.28	1.63	1.02	1.01	1.35	1.15	1.61			4.46	6.03	
16	1.23	1.44	1.03	1.01	2.57	1.19	1.49			4.37	5.78	
17	1.19	1.34	1.02	0.97	2.52	1.00	1.48			4.14	5.54	
18	1.30	1.31	1.06	0.96	2.29	1.06	1.43			3.89	5.31	
19	1.29	1.30	1.06	0.96	1.69	1.04	1.49	3.35		3.64	4.99	
20	1.22	1.26	1.07	0.92	1.50	1.11	1.47			3.53	4.65	3.83
21	1.15	1.08	1.00	1.06	1.07	1.19	1.51	3.10		4.41	4.26	4.56
22	1.17	1.08	1.01	0.98	1.05	1.28	1.53			5.19	3.83	4.76
23	1.37	1.07	1.02	0.87	1.42	1.80	1.54	3.14		5.22	3.50	4.56
24	1.59	1.06	0.95	0.87	1.62	1.74	1.55			5.02		4.28
25	1.53	1.04	0.89	0.87	1.43	1.72	1.67			4.91		3.94
26	1.52	1.01	1.13	0.88	1.17	1.62	1.83			5.17		3.65
27	1.48	1.03	0.86	0.90	1.25	1.62	1.87			5.71		3.65
28	1.42	1.06	0.88	0.94	1.23	1.59	2.05			5.84		3.80
29	1.29	1.07	0.90	0.95	1.27	2.55	2.25			5.70		3.70
30			0.92	0.93	1.26	2.52	2.85			5.53		3.56
31			1.03		1.21		3.19			5.37		3.46

Max WL observed	1.90	2.19	1.65	1.50	2.83	2.79	3.52	3.72		5.87	6.34	4.79
Day of Max WL	2	10	10	13	17	29	Aug 01	16		28	14	22

Candaba WL 2020



Water Level in meters (Daily Average)

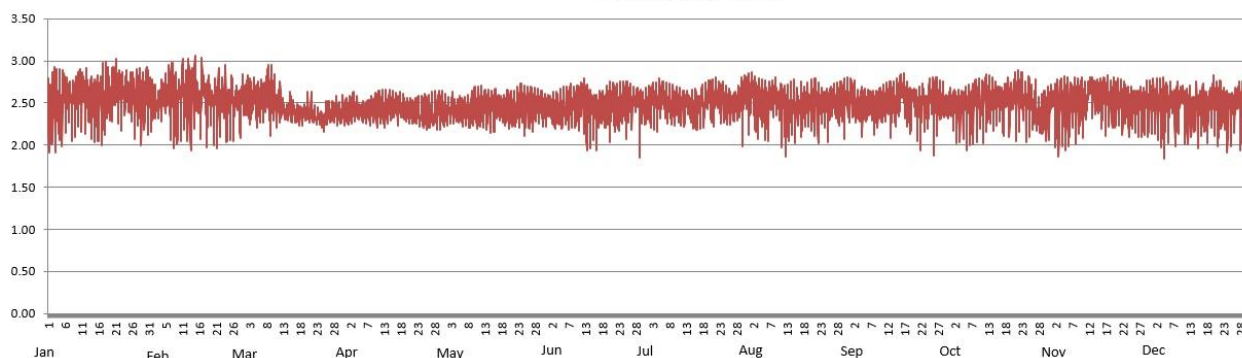
2020

Station: **Sasmuan**

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	2.47	2.46	2.55	2.36	2.39	2.47	2.49	2.61	2.58	2.49	2.56	2.50
2	2.48	2.52	2.53	2.41	2.40	2.41	2.49	2.66	2.47	2.50	2.44	2.50
3	2.50	2.49	2.54	2.42	2.46	2.41	2.50	2.53	2.46	2.43	2.46	2.52
4	2.48	2.61	2.59	2.42	2.40	2.43	2.54	2.51	2.46	2.45	2.48	2.48
5	2.50	2.60	2.55	2.41	2.40	2.43	2.55	2.52	2.48	2.46	2.47	2.46
6	2.66	2.66	2.55	2.38	2.38	2.46	2.54	2.51	2.54	2.45	2.45	2.45
7	2.58	2.57	2.53	2.40	2.38	2.48	2.52	2.52	2.51	2.46	2.52	2.54
8	2.57	2.55	2.69	2.40	2.37	2.49	2.50	2.61	2.46	2.51	2.50	2.50
9	2.60	2.49	2.53	2.40	2.42	2.48	2.52	2.58	2.50	2.52	2.55	2.47
10	2.68	2.59	2.53	2.43	2.46	2.47	2.51	2.57	2.51	2.46	2.49	2.56
11	2.69	2.56	2.48	2.41	2.48	2.57	2.52	2.50	2.52	2.58	2.52	2.41
12	2.67	2.64	2.46	2.44	2.47	2.63	2.49	2.43	2.56	2.54	2.71	2.44
13	2.57	2.53	2.41	2.42	2.47	2.46	2.53	2.40	2.50	2.47	2.60	2.43
14	2.50	2.71	2.37	2.45	2.49	2.48	2.48	2.43	2.50	2.56	2.62	2.44
15	2.53	2.55	2.43	2.47	2.53	2.48	2.42	2.38	2.60	2.54	2.60	2.41
16	2.48	2.60	2.40	2.45	2.48	2.42	2.44	2.44	2.66	2.47	2.55	2.45
17	2.50	2.60	2.37	2.45	2.47	2.43	2.49	2.43	2.64	2.49	2.55	2.44
18	2.53	2.54	2.36	2.43	2.47	2.41	2.48	2.47	2.52	2.60	2.51	2.47
19	2.59	2.54	2.37	2.42	2.47	2.51	2.55	2.48	2.56	2.47	2.52	2.58
20	2.58	2.48	2.41	2.39	2.47	2.51	2.55	2.54	2.52	2.62	2.51	2.52
21	2.70	2.58	2.39	2.37	2.42	2.54	2.53	2.59	2.44	2.57	2.50	2.47
22	2.64	2.51	2.35	2.37	2.44	2.47	2.59	2.53	2.50	2.62	2.50	2.48
23	2.59	2.52	2.33	2.36	2.51	2.53	2.55	2.52	2.43	2.51	2.47	2.49
24	2.64	2.41	2.31	2.39	2.50	2.55	2.54	2.54	2.53	2.54	2.45	2.43
25	2.60	2.54	2.26	2.36	2.40	2.51	2.55	2.48	2.62	2.48	2.46	2.36
26	2.59	2.42	2.36	2.40	2.47	2.53	2.52	2.54	2.52	2.45	2.43	2.45
27	2.50	2.55	2.38	2.36	2.48	2.56	2.53	2.52	2.44	2.37	2.50	2.57
28	2.58	2.51	2.39	2.40	2.48	2.58	2.52	2.50	2.45	2.36	2.49	2.49
29	2.56	2.54	2.36	2.42	2.49	2.50	2.58	2.54	2.47	2.39	2.54	2.45
30	2.62		2.37	2.41	2.47	2.46	2.60	2.56	2.46	2.42	2.48	2.53
31	2.59		2.40		2.47		2.65	2.53		2.46		2.49

Max WL observed	3.03	3.06	2.95	2.66	2.73	2.79	2.84	2.86	2.85	2.89	2.83	2.83
Day of Max WL	21	14	8	12	24	12	Aug 01	2	17	225	18	20

Sasmuan WL 2020



Water Level in meters (Daily Average)

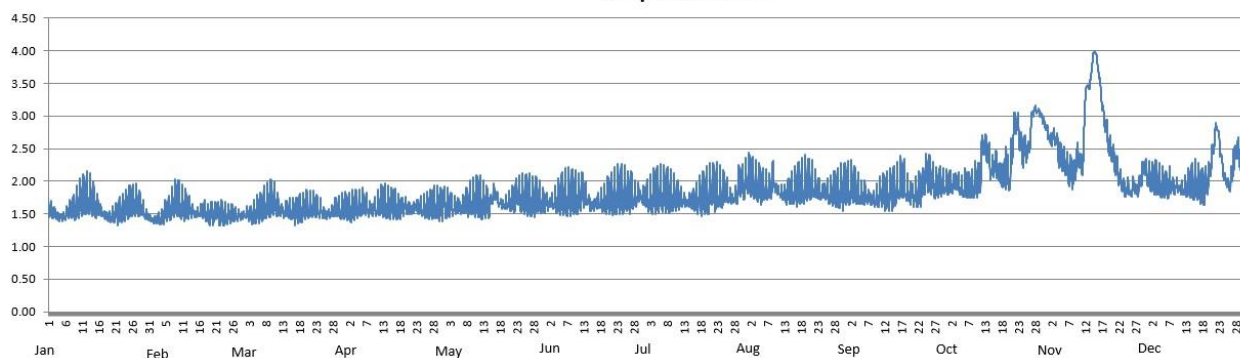
2020

Station: **Sulipan**

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1.57	1.41	1.47	1.57	1.66	1.66	1.71	2.01	1.86	1.90	2.65	2.06
2	1.53	1.40	1.50	1.58	1.64	1.66	1.70	1.99	1.87	1.94	2.68	2.01
3	1.49	1.42	1.48	1.59	1.62	1.67	1.72	1.94	1.82	1.99	2.59	1.98
4	1.46	1.45	1.51	1.60	1.60	1.67	1.75	1.90	1.80	1.98	2.36	1.97
5	1.46	1.48	1.53	1.61	1.60	1.68	1.76	1.88	1.78	1.93	2.32	1.95
6	1.49	1.57	1.56	1.61	1.58	1.72	1.79	1.86	1.78	1.90	2.23	1.91
7	1.54	1.61	1.60	1.59	1.61	1.74	1.78	1.86	1.75	1.87	2.13	1.90
8	1.58	1.66	1.63	1.55	1.61	1.75	1.77	1.87	1.72	1.88	2.09	1.93
9	1.62	1.65	1.64	1.59	1.67	1.75	1.77	2.02	1.72	1.97	2.30	1.89
10	1.66	1.60	1.64	1.59	1.67	1.76	1.75	1.88	1.78	1.96	2.31	1.91
11	1.71	1.58	1.60	1.61	1.69	1.79	1.72	1.82	1.79	2.20	2.37	1.89
12	1.74	1.57	1.55	1.62	1.69	1.83	1.72	1.79	1.78	2.55	3.35	1.89
13	1.71	1.54	1.52	1.63	1.67	1.76	1.70	1.78	1.79	2.42	3.49	1.91
14	1.66	1.51	1.53	1.62	1.64	1.67	1.69	1.82	1.78	2.20	3.84	1.92
15	1.60	1.51	1.53	1.63	1.68	1.63	1.67	1.84	1.84	2.24	3.93	1.94
16	1.57	1.52	1.53	1.63	1.80	1.65	1.68	1.84	1.88	2.21	3.59	1.90
17	1.50	1.54	1.52	1.59	1.73	1.66	1.73	1.89	1.91	2.11	3.14	1.84
18	1.47	1.49	1.56	1.58	1.67	1.66	1.71	1.89	1.91	2.06	2.83	1.89
19	1.45	1.49	1.57	1.62	1.63	1.68	1.74	1.91	1.82	2.10	2.55	1.99
20	1.47	1.48	1.59	1.56	1.65	1.70	1.77	1.91	1.81	2.18	2.41	2.28
21	1.49	1.54	1.59	1.55	1.65	1.72	1.83	1.92	1.79	2.74	2.23	2.62
22	1.52	1.47	1.58	1.61	1.66	1.75	1.80	1.87	1.78	2.87	2.06	2.78
23	1.57	1.46	1.57	1.58	1.75	1.77	1.84	1.82	1.87	2.61	1.96	2.40
24	1.59	1.46	1.55	1.58	1.73	1.78	1.80	1.83	2.04	2.44	1.86	2.09
25	1.62	1.46	1.52	1.56	1.71	1.81	1.82	1.82	2.10	2.45	1.85	1.96
26	1.65	1.47	1.50	1.56	1.71	1.75	1.79	1.79	1.98	2.68	1.87	2.01
27	1.64	1.46	1.50	1.59	1.71	1.76	1.75	1.80	1.93	3.06	1.86	2.35
28	1.61	1.47	1.52	1.61	1.69	1.76	1.75	1.81	1.89	3.09	1.93	2.47
29	1.58	1.46	1.55	1.61	1.72	1.81	1.86	1.84	1.92	3.04	2.10	2.40
30	1.48		1.55	1.63	1.71	1.75	1.92	1.82	1.93	2.93	2.17	2.31
31	1.45		1.57		1.67		1.91	1.86		2.80		2.11

Max WL observed	2.16	2.03	2.03	1.96	2.13	2.27	2.35	2.44	2.48	3.17	3.99	2.90
Day of Max WL	13	9	10	13	27	23	Aug 01	2	25	28	15	22

Sulipan WL 2020



Water Level in meters (Daily Average)

2020		Station: Mexico										
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	0.08	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00
3	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00
4	0.03	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.04	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.06	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.05	0.00	0.03	0.01	0.01	0.01	0.00	0.04	0.00	0.00	0.00	0.00
8	0.05	0.09	0.02	0.14	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
9	0.05	0.05	0.00	0.02	0.18	0.00	0.00	0.62	0.00	0.00	0.00	0.00
10	0.06	0.05	0.00	0.00	0.14	0.00	0.00	0.10	0.00	0.29	0.00	0.00
11	0.07	0.09	0.05	0.00	0.03	0.00	0.00	0.00	0.00	0.03	0.09	0.00
12	0.13	0.08	0.01	0.14	0.02	0.00	0.00	0.00	0.00	0.00	1.49	0.00
13	0.13	0.06	0.01	0.07	0.00	0.00	0.00	0.06	0.00	0.00	0.72	0.00
14	0.05	0.06	0.03	0.01	0.00	0.00	0.20	0.24	0.04	0.01	0.59	0.00
15	0.00	0.05	0.06	0.29	0.08	0.00	0.00	0.23	0.00	0.01	0.54	0.00
16	0.00	0.06	0.01	0.05	0.04	0.00	0.00	0.01	0.00	0.00	0.51	0.00
17	0.00	0.05	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.47	0.00
18	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.45	0.00
19	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.37	0.01
20	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.30	0.00
21	0.02	0.00	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.09	0.26	0.00
22	0.02	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.08	0.16	0.19	0.00
23	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.01	0.14	0.00
24	0.01	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.25	0.01	0.00
25	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00
26	0.08	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.30	0.00	0.02
27	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.03	0.08
28	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.03	0.05	0.08	0.00
29	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.28	0.00
30	0.00		0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.15	0.00	0.00
31	0.00		0.00		0.00		0.06	0.01		0.04		0.00

Max WL observed	0.16	0.21	0.15	0.97	0.63	0.06	0.96	1.29	0.32	1.06	2.27	0.33
Day of Max WL	13	8	11	15	10	8	31	9	24	11	12	27

Mexico WL 2020

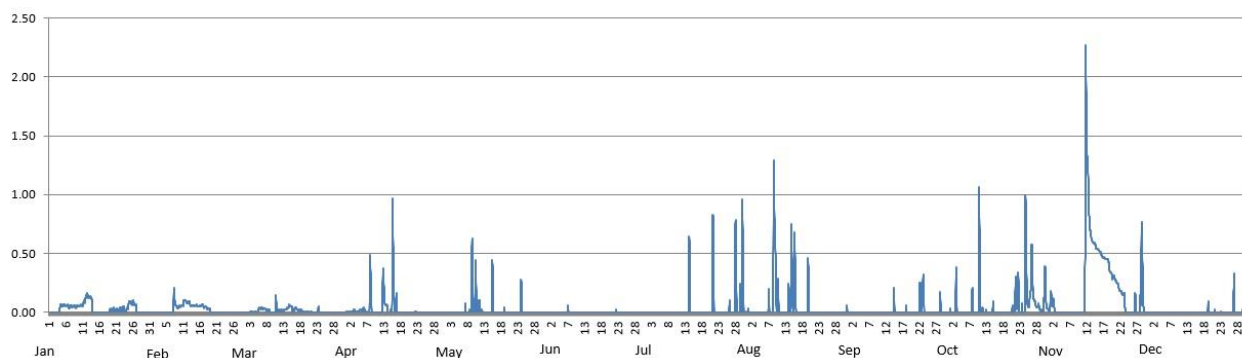


Table 2.0 Maximum WL recorded per station for the year 2020

Station	January	February	March	April	May	June	July	August	September	October	November	December
Sapang Buho	0.05	0.07	0.28	0.02	1.44	0.57	0.65	0.85	1.05	4.21	5.89	
Zaragoza	0.56	0.36	0.47	0.40	2.30	1.20	2.67	3.12	3.28	4.32	3.85	1.98
Mayapyap												
Penaranda	0.55	0.13	0.00	0.07	2.24	0.47	0.28	0.49	0.73	3.15	4.02	1.96
San Isidro												
Arayat	2.11	1.39	0.96	0.95	4.14	3.03	1.25	3.80	5.11	8.01	8.81	7.10
Candaba	1.90	2.19	1.65	1.50	2.83	2.79	3.52	3.72		5.87	6.34	4.79
Sasmuan	3.03	3.06	2.95	2.66	2.73	2.79	2.84	2.86	2.85	2.89	2.83	2.83
Sulipan	2.16	2.03	2.03	1.96	2.13	2.27	2.35	2.44	2.48	3.17	3.99	2.90
Mexico	0.16	0.21	0.15	0.97	0.63	0.06	0.96	1.29	0.32	1.06	2.27	0.33



C. ANNEX

Table A-1.

Maximum Rainfall for a given sliding time period during the year 2020																	
Sliding time period (minimum time period of 1 hour)	Rainfall Stations																
	Munoz	Sapang Buho	Gabaldon	Mayapyap	Zaragoza	Peñaranda	Calaanan	Palali	San Isidro	Arayat	Candaba	Sibul Spring	Sasmuan	Sulipan	Mexico	Porac	San Rafael
1 hr	55	58	75	117	48	59	50	65	67	65	39	61	40	67	42	83	66
2 hrs	80	79	118	139	61	99	76	71	88	77	52	107	67	106	47	102	104
3 hrs	84	97	173	140	77	110	77	75	94	77	52	118	81	121	60	119	137
4 hrs	90	101	200	141	82	113	102	77	96	78	52	124	96	145	71	119	154
5 hrs	95	104	237	160	86	113	120	83	96	78	54	124	100	168	79	119	160
6 hrs	99	115	254	165	89	113	133	94	96	83	57	124	103	173	89	119	165
7 hrs	103	126	262	166	90	113	145	112	96	91	61	124	104	178	95	119	172
8 hrs	106	138	263	166	92	113	151	123	96	93	63	124	107	182	97	119	176
9 hrs	108	148	263	166	97	113	163	137	96	94	65	124	109	186	99	119	182
10 hrs	110	151	263	166	99	113	171	148	96	96	67	124	110	191	101	119	184
11 hrs	114	163	264	166	100	113	177	155	97	98	74	124	112	195	104	119	187
12 hrs	117	170	292	166	101	114	184	158	97	100	79	125	113	196	105	119	193
18 hrs	119	177	378	166	101	118	195	173	97	105	81	137	129	203	112	119	207
24 hrs	119	178	406	166	101	119	196	175	102	111	86	148	134	211	115	129	224
48 hrs (2 days)	119	180	464	187	115	123	197	179	126	120	96	161	136	216	116	130	226
72 hrs (3 days)	137	189	471	187	117	145	205	184	146	122	112	166	139	250	128	153	229
96 hrs (4 days)	173	198	536	213	135	148	260	189	155	122	114	199	162	273	149	154	232
120 hrs (5 days)	182	206	611	213	141	175	260	193	162	130	118	221	165	276	151	155	273
144 hrs (6 days)	201	232	629	229	172	188	352	205	205	142	142	242	165	276	151	165	273
240 hrs (10 days)	288	273	634	248	222	250	373	325	246	182	161	287	230	329	173	174	273
480 hrs (20 days)	412	362	967	368	265	435	488	547	375	271	297	469	349	439	265	279	390
Meteorological day (8 am to 8 am)	119	177	306	166	101	118	195	173	97	100	81	137	111	191	98	119	206
Max monthly total	491	406	1057	379	288	473	584	630	349	252	319	507	320	336	254	285	395

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

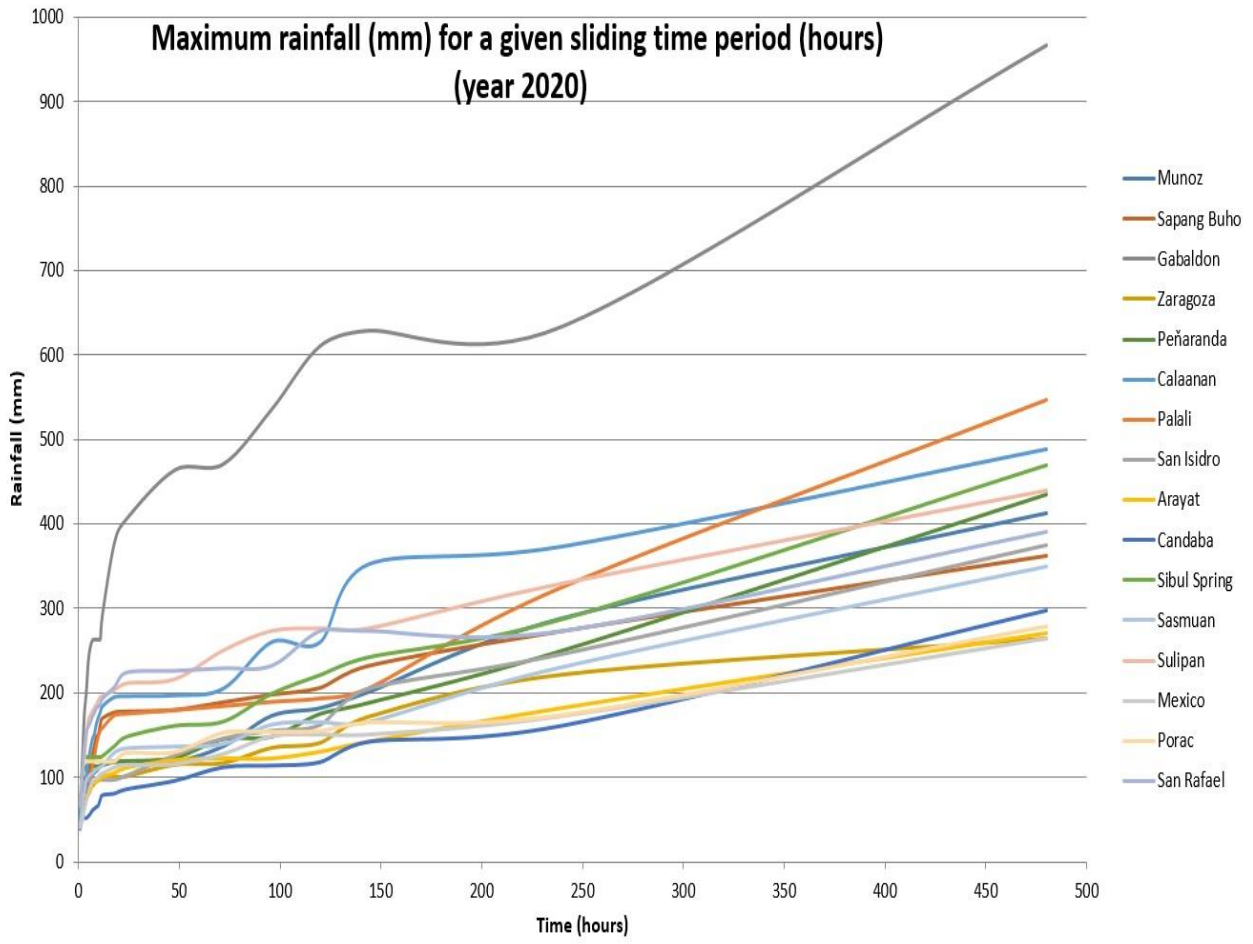


Figure AA-1. The sliding time period per station graph.

Table A-2. PRFFWC Existing Flood Warning Assessment Levels (SG in meters) as of 2020

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
Peñaranda +	2.50	3.50	4.00
San Isidro	3.20	4.50	6.00
Arayat	5.00	6.00	8.50
Candaba	3.00	4.50	5.00
Mexico +	2.00	2.50	3.00
Sasmuan +			3.00
Sulipan	2.60	3.20	3.80

+ for updating of assessment levels

(Red text) Mayapyap WL is still out of order (assessment levels may be adjusted)

(Blue text) Peñaranda & Mexico WL initial assessment levels (for updating)

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	$Q = 4.015 (H - (-2.94))^2 \cdot 2.961^*$	$0 < H \leq 3.4$
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 on a regular basis.

Water Level Percent Duration Curves of some stations

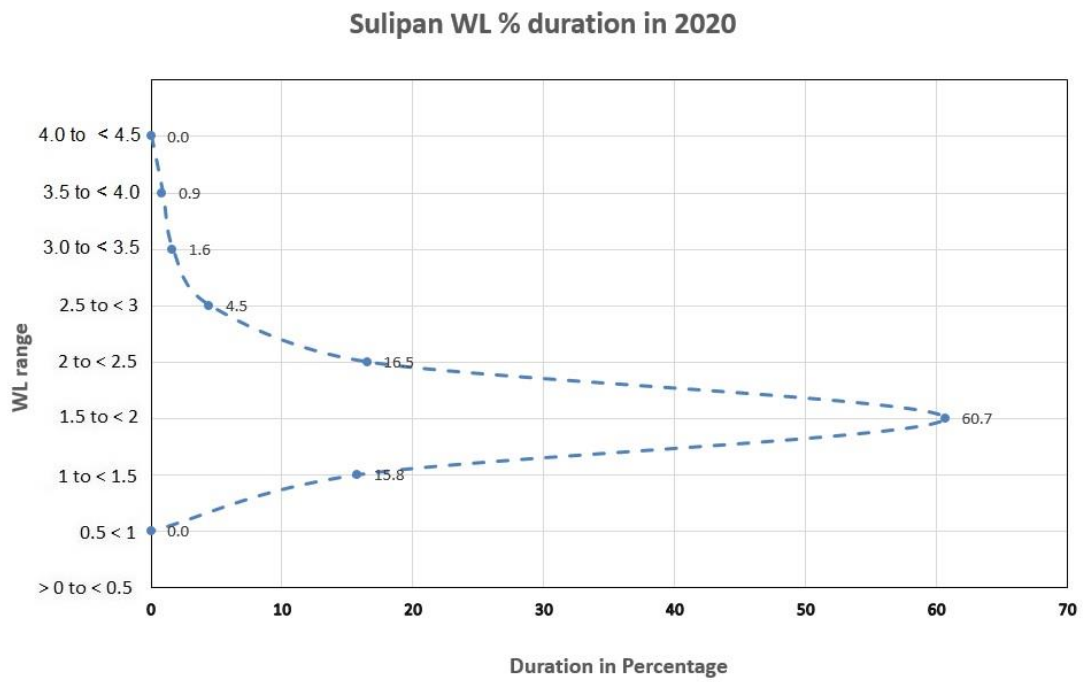


Figure AA-2. Sulipan WL percent duration curve (2020)

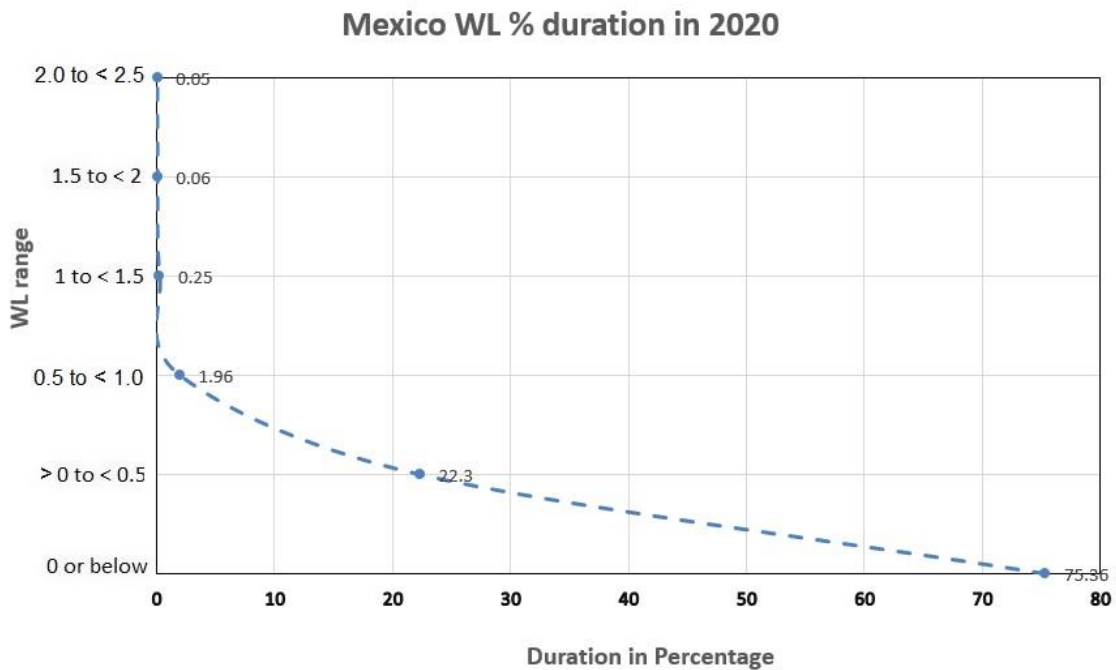


Figure AA-3. Mexico WL percent duration curve (2020)

Note: WL percent duration curves for most of the streamgaging stations for the year 2020 were not included due to considerable data breaks and gaps, and / or zero value represents more than 50% of observations.



Republic of the Philippines
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Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)

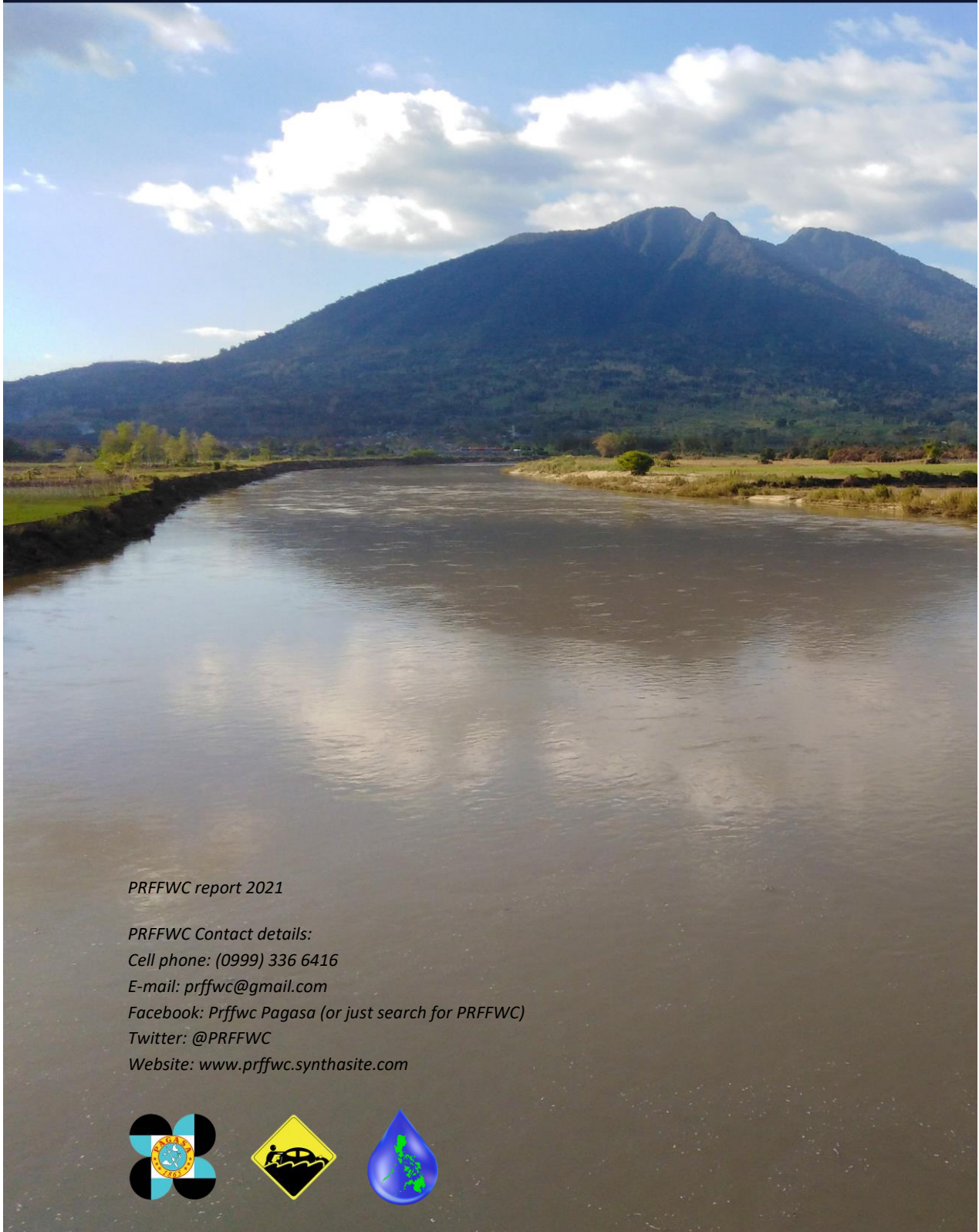
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