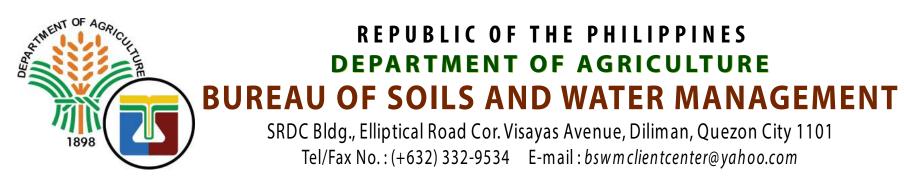
## LAND SUITABILITY MAP

# ROBUSTA, LIBERICA AND EXCELSA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

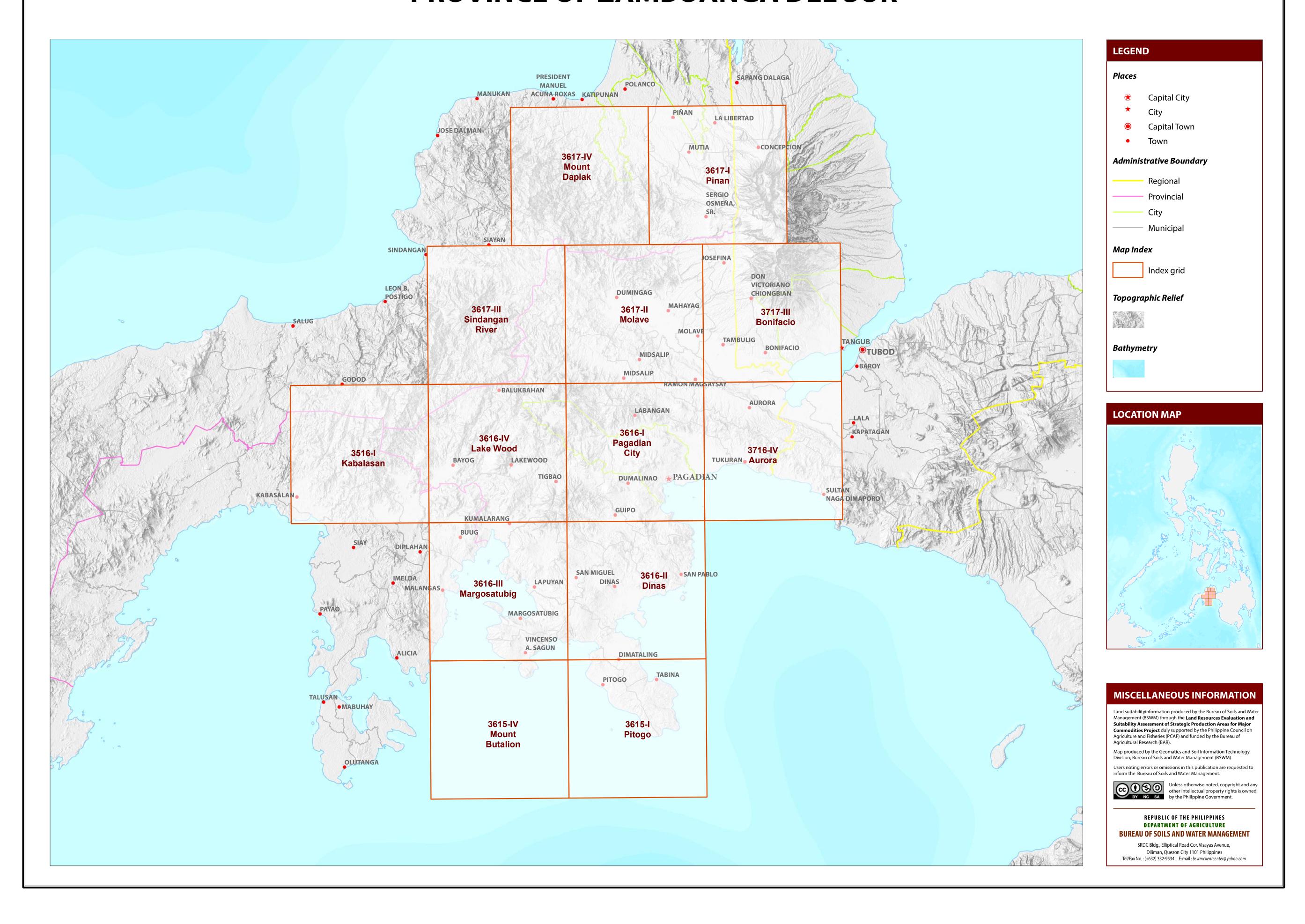
### PROVINCE OF ZAMBOANGA DEL SUR





### **MAP INDEX**

# LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS PROVINCE OF ZAMBOANGA DEL SUR



# LAND SUITABILITY MAP FOR ROBUSTA, LIBERICA AND EXCELSA COFFEE

### LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

### ZAMBOANGA DEL SUR, REGION IX

#### EXTENT OF SUITABILITY FOR ROBUSTA, LIBERICA AND EXCELSA COFFEE PRODUCTION BY MUNICIPALITY

		EXISTING ROBUSTA (Ha)				EX	PANSION	AREA (F	ła)				CONFLIC	T RESOL	UTION A	REA (Ha)			TOTAL.
MUNICIPALITY	EXISTIN				Coconut		Shrubland, unmanaged*	Grassland, unmanaged*	Corn		Mango		Banana		Other crops		TOTAL POTENTIAL EXPANSION		
	<b>S1</b>	<b>S2</b>	<b>S</b> 3		<b>S1</b>	<b>S2</b>	S1	<b>S2</b>	<b>S1</b>	S2	S1	S2	<b>S1</b>	<b>S2</b>	<b>S1</b>	S2	<b>S1</b>	S2	AREA (Ha)
AURORA	-	-	-	-	6,887	1,118	100	7	287	92	1,119	67	-	-	-	_			9,676
BAYOG	-	-	-	-	667	-	234	15	3,430	260	1,070	-	-	-	-	-		-	5,67!
DIMATALING	-	-	-	-	5,214	350	288	2	-	-	441	-	8	-	-	-			6,303
DINAS	-	-	1	1	8,515	-	241	-	144	-	1,385	-	6	-	-	_	ī		10,296
DUMALINAO	-	-	-	-	3,594	3	9	-	403	-	2,856	103	-	-	-	-		-	6,969
DUMINGAG	1	-	19	20	282	-	133	-	7,764	85	1,228	-	-	-	-	-			9,491
GUIPOS	-	-	-	-	953	19	8	1	430	-	2,380	-	-	-	-	-			3,791
JOSEFINA	-	-	-	-	685	702	7	162	-	135	630	1,167	-	-	-	-		-	- 3,488
KUMALARANG	-	-	-	-	1,994	139	10	-	128	134	988	9	-	-	-	-		-	- 3,403
LABANGAN	-	-	-	-	204	-	18	-	1,640	-	2,620	-	-	-	-	-		<u>.</u>	- 4,483
LAKEWOOD	3	-	-	3	2,208	15	126	2	818	59	541	-	-	-	-	-	3	3 .	- 3,771
LAPUYAN	-	-	-	-	7,241	120	413	-	190	-	1,155	-	-	-	-	-		-	9,120
MAHAYAG	-	-	-	-	2,461	-	127	-	656	16	2,649	-	-	-	9	-	2	2 -	- 5,920
MARGOSATUBIG	-	-	-	-	4,285	1	191	-	24	-	514	-	-	-	-	-		-	- 5,015
MIDSALIP	-	-	-	-	49	20	154	-	3,967	182	850	46	-	-	-	-		-	- 5,268
MOLAVE	-	-	-	-	1,877	43	272	-	1	-	3,964	86	-	-	-	-		-	- 6,243
PAGADIAN CITY	-	-	-	-	4,290	29	205	3	976	17	4,245	410	-	-	-	-		-	- 10,174
PITOGO	-	-	-	-	3,432	2,292	-	-	-	-	241	37	-	-	-	-			- 6,001
RAMON MAGSAYSAY	-	-	-	-	4,093	-	49	-	445	-	1,351	-	-	-	-	_			- 5,938
SAN MIGUEL	-	-	-	-	4,052	6	113	-	136	-	1,186	-	-	-	-	-			- 5,494
SAN PABLO	-	_	_	-	4,523	-	-	_	28	-	991	-	2	-	_	_			- 5,545
SOMINOT	-	_	_	-	1,594	128	68	_	2,569	70	607	35	-	-	-	_			- 5,070
TABINA	-	-	-	-	1,111	4,581	-	_	-	-	8	65	-	-	_	2	Į.		- 5,772
TAMBULIG	-	-	_	-	2,690	-	1	-	66	-	2,288	-	-	-	-	_			5,046
TIGBAO	-	-	_	-	1,659	60	72	19		16	1,170	6	1	-	-	_	3	3	3,162
TUKURAN	-	-	-	-	447	-	107	-	3,617	29	1,043	-	-	-	3	-			- 5,245
VINCENZO A. SAGUN	-	-	-	-	4,285	-	-	-	25	-	149	-	1	-	-	_			4,460
TOTAL	4	-	20	23	79,292	9,626	2,944	211	27,901	1,095	37,669	2,031	17	-	11	2	20	<b>)</b> -	160,819

Note: Delivery of robusta coffee planting materials must be started on the onset of rainy season. \*establishment of shade trees prior to planting of robusta coffee.

### AGRONOMIC REQUIREMENT OF ROBUSTA, LIBERICA AND EXCELSA COFFEE PRODUCTION

LAND UTILIZATION TYPE	SUITABILITY RATING	SLOPE (%)	SOIL DEPTH (cm)	SOIL TEXTURE	SOIL DRAINAGE	SOIL REACTION (pH)	INHERENT FERTILITY	FLOODING CLASS	EROSION CLASS	ROCK OUTCROPS	ELEVATION (masl)	ANNUAL RAINFALL (mm)	CLIMATIC TYPE
Coffee	S1	<8	>100	CL, SiCL, SCL, SC, SiC, C, HC	WD,MWD	5.6 -7.2	high	none-slight	none-slight	none-few	<1000	2001-4500	I, III, IV
(Robusta, Excelsa,	S2	8 - 30	30 - 100	FSL, L, SiL	SPD,PD	5.1 - 5.5 7.3 - 7.8	medium	moderate	moderate	common	1000-2000	1000-2000	I, II
Liberica)	S3	>30	<30	S, LS, CSL, SL	VPD,ED	<5.0 -> 7.9	low	severe	severe	many	>2000	<1000 >4500	
<b>SLOPE (%)</b> 0 - 3 - lev	vel to gently slopin		SOIL DRAINA ED - e	AGE xcessively drained	•	SOIL REACTIO	N (pH) remely acid		SOIL TEXTU	RE		Fine	

SLOPE (%	<b>%)</b>	SOIL DRAINAGE	SOIL REACTION (pH)	SOIL TEXTURE	
0 - 3	- level to gently sloping	ED - excessively drained	< 4.5 - extremely acid	Coarse	Fine
3 - 8	- gently sloping to undulating	WD - well drained	4.5 - 5.0 - very strongly acid	S - sand	SC - sandy clay
8 - 18	- undulating to rolling	MWD - moderately well drained	5.1 - 5.5 - strongly acid	LS - loamy sand	SiC - silty clay
18 - 30	- rolling to moderately steep	SPD - somewhat poorly drained	5.6 - 6.0 - medium acid	CSL - coarse sandy loam	C - clay
30 - 50	- steep	PD - poorly drained	6.1 - 6.5 - slightly acid	SL - sandy loam	HC - heavy clay
> 50	- very steep	VPD - very poorly drained	6.6 - 7.2 - neutral	Medium	
			7.3 - 7.8 - mildly alkaline	FSL - fine sandy loam	
SOIL DEI	РТН (ст)	SURFACE IMPEDIMENT	7.9 - 8.4 - moderately alkaline	L - loam	
0 - 30	- very shallow	ROCK OUTCROPS	> 8.5 - strongly alkaline	SiL - silt loam	
30 - 50	- shallow	< 10% - none - few		CL - clay loam	
50 - 100	- moderately deep	10 - 30% - common		SiCL - silty clay loam	
> 100	- deep to very deep	> 30% - many		SCL - sandy clay loam	

### LAND LIMITATIONS DESCRIPTION AND COMBINATIONS

<b>ELEVATION</b> El2 - 1000m - 2000m El3 -> 2000m	<ul> <li>SOIL DRAINAGE</li> <li>D2 - Somewhat poorly drained to poorly drained</li> <li>D3 - Very poorly drained or excessively drained</li> </ul>	SOIL DEPTH Sh2 - Shallow to moderately deep (30 - 100cm) Sh3 - Very shallow (< 30cm)	SOIL EROSION E2 - Moderate erosion E3 - Severe erosion
<ul><li>SLOPE/TOPOGRAPHY</li><li>T2 - Undulating to moderately steep</li><li>T3 - Steep to very steep</li></ul>	SOIL TEXTURE Tc - Coarse texture	ROCK OUTCROPS Rc2 - Common Rc3 - Many	<ul><li>FLOODING</li><li>F2 - Moderate seasonal flooding</li><li>F3 - Severe seasonal flooding</li></ul>

CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION
1	E2-Sh2-Rc2	11	Т2-Е3	21	Т3-Е3	31	Т3-Е3
2	E3-Sh2-Rc3	12	T2-E3-Rc2	22	T3-E3-Rc2	32	T3-E3-Sh3-Rc3
3	El2-Sh2-Rc3	13	T2-E3-Rc3	23	T3-E3-Sh2-Rc3	33	T3-E12-E3-Sh3-Rc3
4	F2-D2	14	T2-E3-Sh2-Rc2	24	T3-E3-Sh3-Rc2	34	T3-El3
5	F2-Tc	15	T2-E3-Sh2-Rc3	25	T3-E3-Sh3-Rc3		
6	F3-D2	16	T2-E12-E3-Sh2-Rc2	26	T3-E12-E3-Sh3-Rc2		
7	Rc2	17	T2-E12-E3-Sh2-Rc3	27	T3-E12-E3-Sh3-Rc3		
8	Sh2-Rc2	18	T2-F2-D2	28	T3-F2-D2		
9	Sh2-Rc3	19	T2-F3-D2	29	T3-F3-D2		
10	Т2	20	т3	30	Т3		

CODE	LANDUSE	CODE	LANDUSE
CODE	EMINDOSE	CODE	
4	Corn	131	Ipil ipil
47	Vegetable	134	Shrubs, unmanaged
81	Coffee	137	Rubber
82	Cacao		
85	Mango		
87	Jackfruit		
91	Banana		
105	Fruit trees, mixed		
116	Coconut		
126	Grassland		

#### **SUITABILITY CLASSES:**

Highly Suitable (S1) Land having no significant limitation to sustained application of a given use, or only minor limitations that will not significantly reduce productivity or benefits and will not raise inputs above an acceptable level.

Marginally Suitable (S3) Land having limitations which in aggregate are severe for sustained application of a given use and will so reduce productivity or benefits, or increase required inputs, that this expenditure will be only marginally justified.

**Moderately Suitable (S2)** Land having limitation which in aggregate are moderately severe for sustained application of a given use; the limitation will reduce productivity or benefits and increase required inputs to the extent that the overall advantage to be gained from the use, although still attractive, will be appreciably inferior to that expected on class S1 land.

**Not Suitable / Not Relevant** Land having limitations which may be surmountable in time but which cannot be corrected with existing knowledge at currently acceptable cost; the limitations are so severe as to preclude successful sustained use of the land in the given manner. Existing forest, shrubland greater than 18% slope, irrigated paddy rice and miscellaneous land types such as built up areas, roads, etc are considered as not relevant.

#### **CLIMATE TYPE**

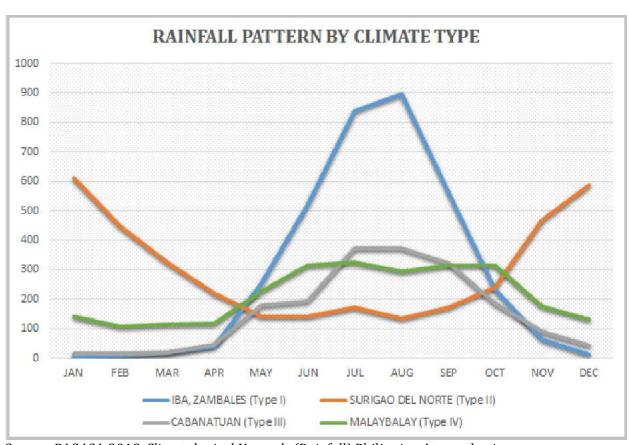
TYPE I: Two pronouced season, dry from November to April and TYPE II: No dry season with a very pronounced maximum rain wet during the rest of the year. Maximum rain period is from June to September

period from December to February. There is not a single dry month. Maximum monthly rainfall occurs during the period from March to May.

**TYPE III:** No very pronounced maximum rain period, with a dry season lasting only from one to three months, either during the period from December to February or from March to May. This type resembles Type I since it has a short dry season.

**TYPE IV**: Rainfall is more or less evenly distributed throughout the year. This type resembles Type II since it has no dry

Eastern part of Zamboanga Del Sur belongs to Type III climate classification and the rest on Wesstern part belongs to Type IV.



Source: PAGASA 2018, Climatological Normals (Rainfall), Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA), accessed 27 July 2018, <a href="https://www1.pagasa.dost.gov.ph/index.php/climate/climatological-normals">https://www1.pagasa.dost.gov.ph/index.php/climate/climatological-normals</a>.

