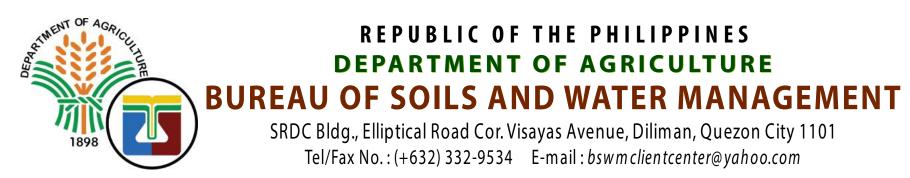
### LAND SUITABILITY MAP

### ROBUSTA, LIBERICA AND EXCELSA COFFEE

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

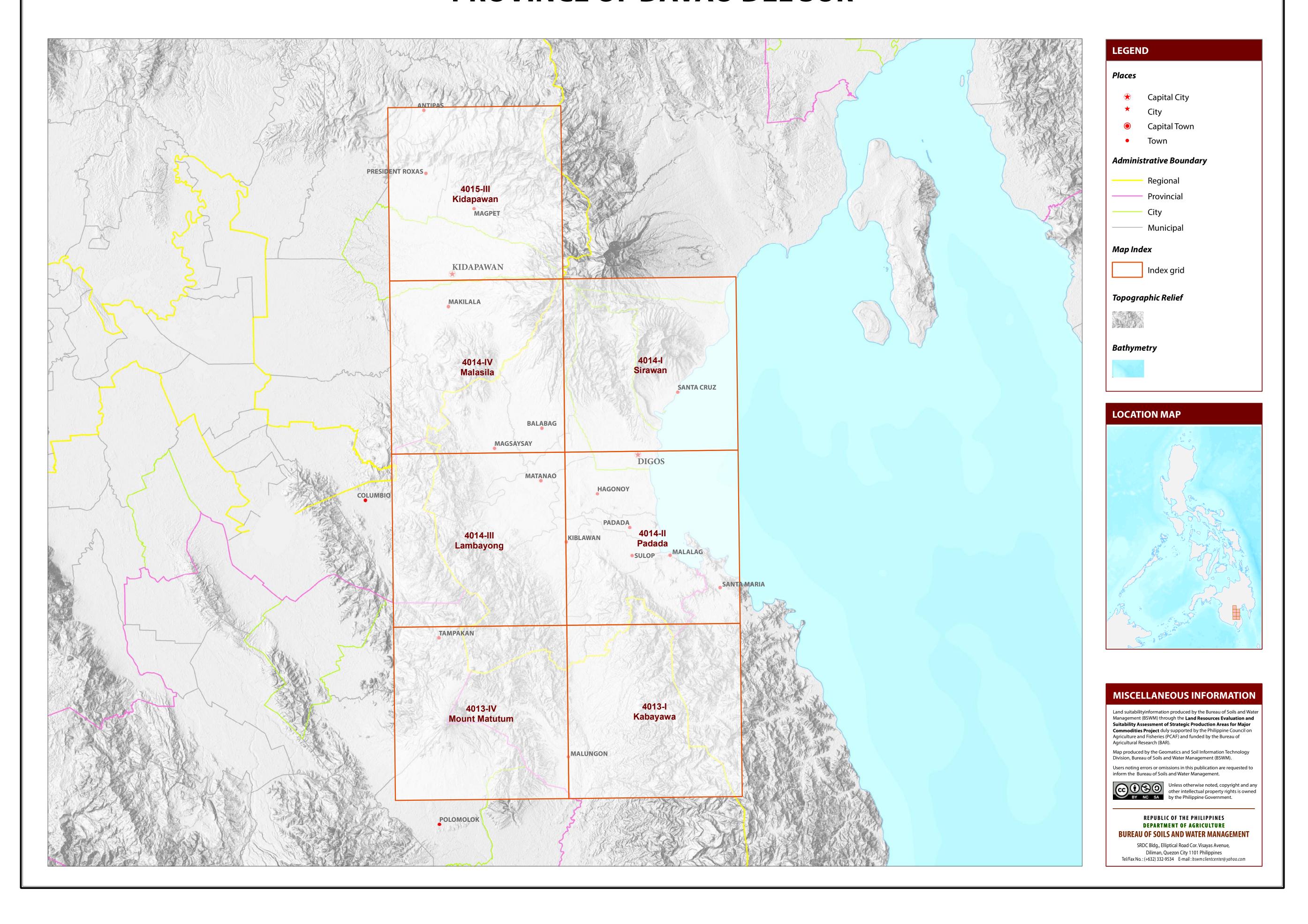
### PROVINCE OF DAVAO DEL SUR





### MAP INDEX

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



## LAND SUITABILITY MAP FOR ROBUSTA, LIBERICA AND EXCELSA COFFEE

### LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS DAVAO DEL SUR, REGION XI

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

		EXPANSION AREA (Ha)					CONFLICT RESOLUTION AREA (Ha)									TOTAL					
MUNICIPALITY	EXISTI	NG COFFI	ЕЕ (На)	TOTAL EXISTING AREA (Ha)	Coco	nut	Shrub unman	•	Grassl unmana	•	Man	go	Bana	na	Cor	'n	Sugar	cane	Other c	rops	POTENTIAL EXPANSION AREA (Ha)
	<b>S1</b>	<b>S2</b>	<b>S</b> 3		<b>S1</b>	<b>S2</b>	S1	<b>S2</b>	<b>S1</b>	<b>S2</b>	S1	<b>S2</b>	S1	<b>S2</b>	<b>S1</b>	<b>S2</b>	<b>S1</b>	<b>S2</b>	<b>S1</b>	<b>S2</b>	AREA (IIa)
BANSALAN	-	199	4,694	4,893	4,705	1,274	4	105	-	-	2,393	129	-	1	24	-	28	-	137	18	8,818
CITY OF DIGOS	-	-	76	76	3,579	-	13	-	39	-	670	-	65	-	47	-	17	-	175	-	4,605
HAGONOY	-	-	-	-	691	-	-	-	-	-	98	-	1,302	16	42	-	13	-	188	77	2,428
KIBLAWAN	-	-	-	-	1,549	-	35	143	162	392	29	-	1,768	-	1,632	-	1,376	-	-	-	7,086
MAGSAYSAY	-	-	-	-	5,435	58	2	7	85	195	423	-	-	-	119	7	-	-	2,034	-	8,365
MALALAG	-	-	-	-	5,603	-	56	-	78	-	127	-	542	-	156	-	21	-	-	-	6,583
MATANAO	-	-	-	-	1,927	-	-	-	145	109	4,038	-	18	-	555	-	706	-	68	-	7,566
PADADA	-	-	-	-	1,672	-	-	-	-	-	30	-	757	-	72	-	-	-	-	-	2,531
SANTA CRUZ	-	-	-	-	5,234	179	-	-	59	9	1	-	211	-	-	-	-	-	877	-	6,569
SULOP	-	-	-	-	5,317	138	146	-	10	-	135	-	1,567	-	160	-	61	-	-	-	7,534
TOTAL	-	199	4,770	4,969	35,713	1,649	256	255	579	704	7,943	129	6,229	17	2,807	7	2,222	-	3,479	94	62,085

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.

#### **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

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

LAND UTILIZAT TYPE	TION SUITABILITY	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
(Robus Excels		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
Liberic	a) S3	>30	<30	S, LS, CSL, SL	VPD,ED	<5.0 -> 7.9	low	severe	severe	many	>2000	<1000 >4500	
SLOPE (%	) )		SOIL DRAINA	AGE	'	SOIL REACTION	N (pH)	'	SOIL TEXT	URE		' -	
0 - 3	- level to gently slopin	ng	ED - ε	excessively drained		< 4.5 - ext	remely acid		Coarse			Fine	
3 - 8	- gently sloping to und	dulating	WD - v	vell drained		4.5 - 5.0 - ver	y strongly acid		S	- sand		SC - sa	ındy clay
8 - 18	- undulating to rolling	5	MWD - r	noderately well drain	ed	5.1 - 5.5 - stro	ongly acid		LS	- loamy sand		SiC - si	lty clay
18 - 30	- rolling to moderately	y steep	SPD -s	omewhat poorly drain	ned	5.6 - 6.0 - me	dium acid		CSL	- coarse sandy loam		C - cl	ay
30 - 50	- steep		PD - p	oorly drained		6.1 - 6.5 - slig	htly acid		SL	- sandy loam		HC - he	eavy clay
> 50	- very steep		VPD - v	ery poorly drained		6.6 - 7.2 - neu	ıtral		Medium				
						7.3 - 7.8 - mil	dly alkaline		FSL	- fine sandy loam			
SOIL DEP	ГН (ст)		<b>SURFACE IM</b>	PEDIMENT		7.9 - 8.4 - mo	derately alkaline		L	- loam			
0 - 30	- very shallow		ROCK OUTCR	OPS		> 8.5 - stro	ongly alkaline		SiL	- silt loam			
30 - 50	- shallow		< 10% - r	one - few						- clay loam			
50 - 100	- moderately deep			ommon						- silty clay loam			

#### LAND LIMITATIONS DESCRIPTION AND COMBINATIONS

- deep to very deep

> 30%

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

LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION
E2-Sh2-Rc2	11	Sh2-Rc3	21	T2-F3-D2	31	T3-F2-D2	41	Tc
El2	12	T2	22	Т3	32	T3-F3-D2		
El2-Sh2-Rc2	13	T2-E3	23	Т3-Е3	33	T3		
El3	14	T2-E3-Rc2	24	T3-E3-Rc2	34	T3-E3		
El3-Sh2-Rc2	15	T2-E3-Sh2-Rc2	25	T3-E3-Sh3-Rc2	35	T3-E3-Rc3		
F2-D2	16	T2-E3-Sh2-Rc3	26	T3-E3-Sh3-Rc3	36	T3-E3-Sh3-Rc3		
F2-Tc	17	T2-El2-E3	27	T3-El2	37	T3-El2-E3		
F3-D2	18	T2-El2-E3-Sh2-Rc2	28	T3-El2-E3	38	T3-El2-E3-Sh3-Rc3		_
Sh2	19	T2-El3-E3-Sh2-Rc2	29	T3-El2-E3-Sh3-Rc2	39	T3-El3-E3-Sh3-Rc3		
Sh2-Rc2	20	T2-F2-D2	<i>30</i>	T3-El3-E3-Sh3-Rc2	40	T3-El3		
	E2-Sh2-Rc2 E12 E12-Sh2-Rc2 E13 E13-Sh2-Rc2 F2-D2 F2-Tc F3-D2 Sh2	E2-Sh2-Rc2       11         El2       12         El2-Sh2-Rc2       13         El3       14         El3-Sh2-Rc2       15         F2-D2       16         F2-Tc       17         F3-D2       18         Sh2       19	E2-Sh2-Rc2       11       Sh2-Rc3         El2       12       T2         El2-Sh2-Rc2       13       T2-E3         El3       14       T2-E3-Rc2         El3-Sh2-Rc2       15       T2-E3-Sh2-Rc2         F2-D2       16       T2-E3-Sh2-Rc3         F2-Tc       17       T2-E12-E3         F3-D2       18       T2-E12-E3-Sh2-Rc2         Sh2       19       T2-E13-E3-Sh2-Rc2	E2-Sh2-Rc2       11       Sh2-Rc3       21         El2       12       T2       22         El2-Sh2-Rc2       13       T2-E3       23         El3       14       T2-E3-Rc2       24         El3-Sh2-Rc2       15       T2-E3-Sh2-Rc2       25         F2-D2       16       T2-E3-Sh2-Rc3       26         F2-Tc       17       T2-E12-E3       27         F3-D2       18       T2-E12-E3-Sh2-Rc2       28         Sh2       19       T2-E13-E3-Sh2-Rc2       29	E2-Sh2-Rc2       11       Sh2-Rc3       21       T2-F3-D2         El2       12       T2       22       T3         El2-Sh2-Rc2       13       T2-E3       23       T3-E3         El3       14       T2-E3-Rc2       24       T3-E3-Rc2         El3-Sh2-Rc2       15       T2-E3-Sh2-Rc2       25       T3-E3-Sh3-Rc2         F2-D2       16       T2-E3-Sh2-Rc3       26       T3-E3-Sh3-Rc3         F2-Tc       17       T2-E12-E3       27       T3-E12         F3-D2       18       T2-E12-E3-Sh2-Rc2       28       T3-E12-E3         Sh2       19       T2-E13-E3-Sh2-Rc2       29       T3-E12-E3-Sh3-Rc2	E2-Sh2-Rc2       11       Sh2-Rc3       21       T2-F3-D2       31         El2       12       T2       22       T3       32         El2-Sh2-Rc2       13       T2-E3       23       T3-E3       33         El3       14       T2-E3-Rc2       24       T3-E3-Rc2       34         El3-Sh2-Rc2       15       T2-E3-Sh2-Rc2       25       T3-E3-Sh3-Rc2       35         F2-D2       16       T2-E3-Sh2-Rc3       26       T3-E3-Sh3-Rc3       36         F2-Tc       17       T2-El2-E3       27       T3-El2       37         F3-D2       18       T2-El2-E3-Sh2-Rc2       28       T3-El2-E3       38         Sh2       19       T2-El3-E3-Sh2-Rc2       29       T3-El2-E3-Sh3-Rc2       39	E2-Sh2-Rc2       11       Sh2-Rc3       21       T2-F3-D2       31       T3-F2-D2         E12       12       T2       22       T3       32       T3-F3-D2         E12-Sh2-Rc2       13       T2-E3       23       T3-E3       33       T3         E13       14       T2-E3-Rc2       24       T3-E3-Rc2       34       T3-E3         E13-Sh2-Rc2       15       T2-E3-Sh2-Rc2       25       T3-E3-Sh3-Rc2       35       T3-E3-Rc3         F2-D2       16       T2-E3-Sh2-Rc3       26       T3-E3-Sh3-Rc3       36       T3-E3-Sh3-Rc3         F2-Tc       17       T2-E12-E3       27       T3-E12       37       T3-E12-E3         F3-D2       18       T2-E12-E3-Sh2-Rc2       28       T3-E12-E3       38       T3-E12-E3-Sh3-Rc3         Sh2       19       T2-E13-E3-Sh2-Rc2       29       T3-E12-E3-Sh3-Rc2       39       T3-E13-E3-Sh3-Rc3	E2-Sh2-Rc2       11       Sh2-Rc3       21       T2-F3-D2       31       T3-F2-D2       41         El2       12       T2       22       T3       32       T3-F3-D2         El2-Sh2-Rc2       13       T2-E3       23       T3-E3       33       T3         El3       14       T2-E3-Rc2       24       T3-E3-Rc2       34       T3-E3         El3-Sh2-Rc2       15       T2-E3-Sh2-Rc2       25       T3-E3-Sh3-Rc2       35       T3-E3-Rc3         F2-D2       16       T2-E3-Sh2-Rc3       26       T3-E3-Sh3-Rc3       36       T3-E3-Sh3-Rc3         F2-Tc       17       T2-E12-E3       27       T3-E12       37       T3-E12-E3         F3-D2       18       T2-E12-E3-Sh2-Rc2       28       T3-E12-E3       38       T3-E12-E3-Sh3-Rc3         Sh2       19       T2-E13-E3-Sh2-Rc2       29       T3-E12-E3-Sh3-Rc2       39       T3-E13-E3-Sh3-Rc3

CODE	LANDUSE	CODE	LANDUSE
4	Corn	105	Fruit trees, mixed
34	Diversified crops	107	Abaca
50	Rootcrops	112	Sugarcane
81	Coffee	116	Coconut
84	Pineapple	126	Grassland
85	Mango	134	Shrubs, unmanaged
89	Durian	137	Rubber (T)
90	Pomelo		
91	Banana		
93	Mangosteen		

- sandy clay loam

#### **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

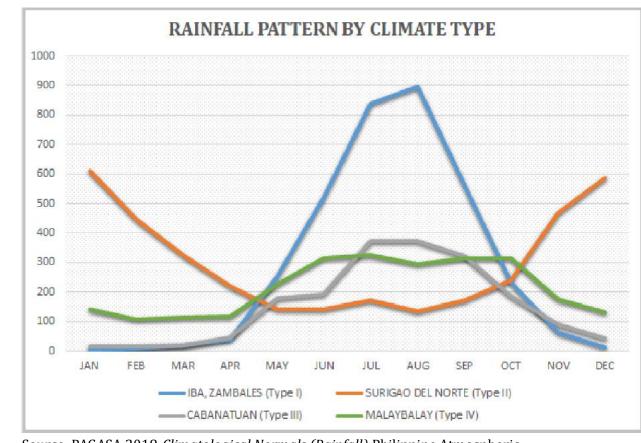
period from December to February. There is not a single dry month. Maximum monthly rainfall occurs during the period from March to May.

as not relevant.

**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 season.

Davao Del Sur is classified as climatic 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>.

