LAND SUITABILITY MAP

ROBUSTA, LIBERICA AND EXCELSA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

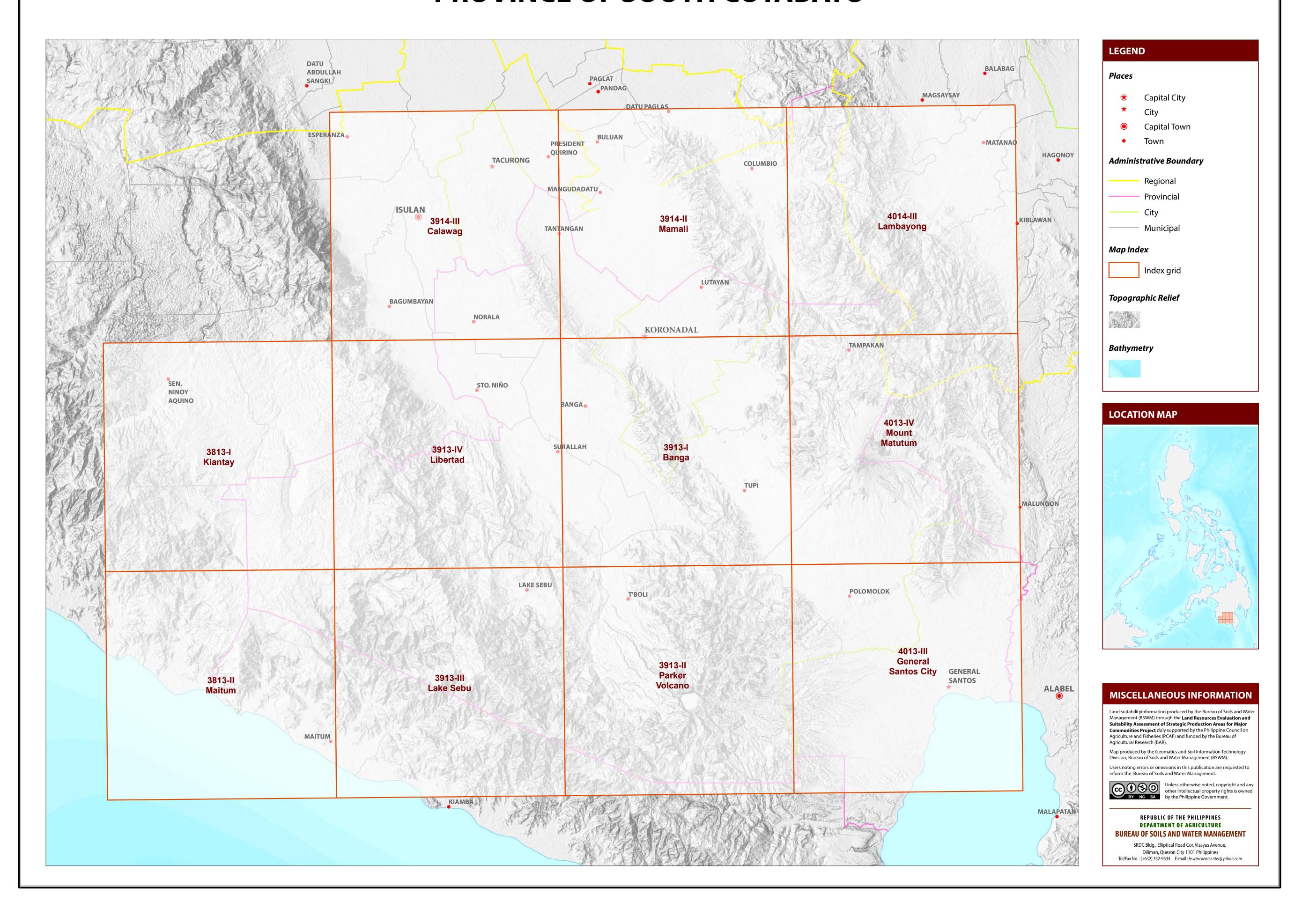
PROVINCE OF SOUTH COTABATO





MAP INDEX

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS PROVINCE OF SOUTH COTABATO



LAND SUITABILITY MAP FOR ROBUSTA, LIBERICA AND EXCELSA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS SOUTH COTABATO, REGION XII

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

						EX	PANSION A	AREA (Ha	1)				CC	NFLICT A	REA (Ha)			TOTAL
MUNICIPALITY	EXISTI	NG COFF	EE (Ha)	TOTAL EXISTING AREA (Ha)	Coco	nut	Shrubl unmana		Grassl unmana		Co	rn	Pinea	pple	Bana	ına	Other	crops	POTENTIAL EXPANSION
	S1	S2	S 3		S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	AREA (Ha)
BANGA	-	-	-	-	623	93	-	-	468	1,246	9,697	395	-	-	5	-	-	-	12,526
CITY OF KORONADAL	-	-	-	-	2,546	70	73	67	692	764	6,413	192	-	-	-	-	-	-	10,817
LAKE SEBU	-	-	-	-	6	516	20	154	755	2,513	1,155	2,827	-	-	-	1	1	_	7,949
NORALA	-	-	-	-	387	120	-	-	380	338	2,071	34	-	-	-	-	-	-	3,329
POLOMOLOK	-	-	-	-	843	769	2	389	11	1,030	8,824	2,407	3,519	4,056	-	-	-	-	21,850
SANTO NIÑO	-	-	-	-	50	-	-	-	19	-	1,875	-	-	-	-	-	-	-	1,944
SURALLAH	-	-	-	-	819	7	99	-	642	219	11,641	153	-	-	-	-	4	-	13,584
TAMPAKAN	-	-	-	-	1,884	-	-	119	384	769	2,990	-	2	-	-	-	-	-	6,148
TANTANGAN	-	-	-	-	588	23	11	8	2,153	726	3,691	85	2	-	4	-	-	-	7,291
T'BOLI	-	-	-	-	93	51	-	158	444	4,593	2,436	2,190	-	-	1	1	-	-	9,967
TUPI	-	-	-	-	3,758	369	-	39	350	1,641	1,931	1,726	4,061	914	-	-	-	-	14,790
TOTAL	-	-	-	-	11,597	2,017	205	935	6,298	13,839	52,724	10,009	7,585	4,971	9	3	4	-	110,195

Note: Delivery of robusta coffee planting materials must be started on the onset of rainy season.

SLOPE (%)

SOIL DEPTH

10 - 30%

> 30%

- common

*establishment of shade trees prior to planting of robusta coffee.

SUITABILITY

RATING

- moderately deep

- deep to very deep

UTILIZATION

50 - 100

AGRONOMIC REQUIREMENT OF ROBUSTA, LIBERICA AND EXCELSA COFFEE PRODUCTION

SOIL TEXTURE

TYP	E	RATING		(cm)		DRAINAGE	(pH)	FERTILITY	CLASS	CLASS	OUTCROPS	(masi)	(mm)	TYPE
Coffe	ee	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		S2	8 - 30	30 - 100	FSL, L, SiL	SPD,PD	5.1 - 5.5 7.3 - 7.8	medilim	moderate	moderate	common	1000-2000	1000-2000	I, II
Liberio	ca)	S3	>30	<30	S, LS, CSL, SL	VPD,ED	<5.0 -> 7.	.9 low	severe	severe	many	>2000	<1000 >4500	
SLOPE (%	%)	,		SOIL DRAIN	AGE		SOIL REAC	CTION (pH)		SOIL TEXTU	RE			•
0 - 3	- level	to gently slopin	g	ED -	excessively drained		< 4.5	- extremely acid		Coarse			Fine	
3 - 8	- gently	y sloping to und	ulating	WD -	well drained		4.5 - 5.0	- very strongly acid		S -	sand		SC -:	sandy clay
8 - 18	- undul	lating to rolling		MWD -	moderately well drain	ed	5.1 - 5.5	- strongly acid		LS -	loamy sand		SiC -:	silty clay
18 - 30	- rollin	g to moderately	steep	SPD -:	somewhat poorly drai	ned	5.6 - 6.0	- medium acid		CSL -	coarse sandy loam		C - 0	clay
30 - 50	- steep			PD -	poorly drained		6.1 - 6.5	- slightly acid		SL -	sandy loam		HC - l	neavy clay
> 50	- very s	steep		VPD -	very poorly drained		6.6 - 7.2	- neutral		Medium				
							7.3 - 7.8	- mildly alkaline		FSL -	fine sandy loam			
SOIL DEF	PTH (cm)		SURFACE IM	IPEDIMENT		7.9 - 8.4	- moderately alkaline		L -	loam			
0 - 30	- very s	shallow		ROCK OUTCE	ROPS		> 8.5	- strongly alkaline		SiL -	silt loam			
30 - 50	- shallo			< 10% - :	none - few			57			clav loam			

REACTION

DRAINAGE

INHERENT FLOODING

CLASS

FERTILITY

EROSION

CLASS

SiCL

ROCK

OUTCROPS

- silty clay loam

- sandy clay loam

ELEVATION

(masl)

CLIMATIC

TYPE

RAINFALL

ELEVA	ΓΙΟΝ		SOIL D	RAINAGE			SOIL DE	PTH		SO	OIL EROSION
El2 -	1000m - 2000m		D2 -	Somewhat	poorly drained to poorl	y drained	Sh2 - S	hallow to	moderately deep (30 - 100	ocm) E2	2 - Moderate erosion
El3 -	> 2000m		D3 -	Very poorly	drained or excessively	drained	Sh3 - V	ery shallo	ow (< 30cm)	E3	3 - Severe erosion
SLOPE/	TOPOGRAPHY		SOIL T	EXTURE			ROCK O	JTCROPS	5	FI	LOODING
Γ2 -	Undulating to moderately	steep	Tc -	Coarse text	ure		Rc2 - C	Common		F2	 Moderate seasonal floodin
ГЗ -	Steep to very steep						Rc3 - N	l any		F3	3 - Severe seasonal flooding
CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LANDUSE
CODE 1	LIMITATION E2-Sh2-Rc2		LIMITATION Sh2-Rc2	CODE 21	LIMITATION T2-E12-E3-Sh2-Rc3	CODE 31	LIMITATION T3-E12-E3-Rc2	CODE 41	LIMITATION T3-E12-E3	CODE 4	LANDUSE Corn
CODE 1 2		11									+
1	E2-Sh2-Rc2	11 12	Sh2-Rc2	21	T2-El2-E3-Sh2-Rc3	31	T3-El2-E3-Rc2	41	T3-El2-E3	4	Corn
1 2	E2-Sh2-Rc2 E2-Sh2-Rc3	11 12 13	Sh2-Rc2 T2	21 22	T2-El2-E3-Sh2-Rc3 T2-El3-E3-Sh2-Rc2	31 32	T3-El2-E3-Rc2 T3-El2-E3-Sh3-Rc2	41 42	T3-El2-E3 T3-El2-E3-Sh3-Rc3	4 81	Corn Coffee
1 2	E2-Sh2-Rc2 E2-Sh2-Rc3 E3-Sh2-Rc3	11 12 13 14	Sh2-Rc2 T2 T2-E3	21 22 23	T2-El2-E3-Sh2-Rc3 T2-El3-E3-Sh2-Rc2 T2-F2-D2	31 32 33	T3-El2-E3-Rc2 T3-El2-E3-Sh3-Rc2 T3-El2-E3-Sh3-Rc3	41 42	T3-El2-E3 T3-El2-E3-Sh3-Rc3	4 81 82	Corn Coffee Cacao
1 2 3 4	E2-Sh2-Rc2 E2-Sh2-Rc3 E3-Sh2-Rc3 E12	11 12 13 14 15	Sh2-Rc2 T2 T2-E3 T2-E3-Rc2	21 22 23 24	T2-El2-E3-Sh2-Rc3 T2-El3-E3-Sh2-Rc2 T2-F2-D2 T3	31 32 33 34	T3-El2-E3-Rc2 T3-El2-E3-Sh3-Rc2 T3-El2-E3-Sh3-Rc3 T3-El3-E3-Sh3-Rc2	41 42	T3-El2-E3 T3-El2-E3-Sh3-Rc3	4 81 82 85	Corn Coffee Cacao Mango
1 2 3 4 5	E2-Sh2-Rc2 E2-Sh2-Rc3 E3-Sh2-Rc3 El2 El2-E2-Sh2-Rc3	11 12 13 14 15 16	Sh2-Rc2 T2 T2-E3 T2-E3-Rc2 T2-E3-Sh2-Rc2	21 22 23 24 25	T2-El2-E3-Sh2-Rc3 T2-El3-E3-Sh2-Rc2 T2-F2-D2 T3 T3-E3	31 32 33 34 35	T3-El2-E3-Rc2 T3-El2-E3-Sh3-Rc2 T3-El2-E3-Sh3-Rc3 T3-El3-E3-Sh3-Rc2 T3-F2-D2	41 42	T3-El2-E3 T3-El2-E3-Sh3-Rc3	4 81 82 85 91	Corn Coffee Cacao Mango Banana
1 2 3 4 5	E2-Sh2-Rc2 E2-Sh2-Rc3 E3-Sh2-Rc3 E12 E12-E2-Sh2-Rc3 E12-E3-Sh2-Rc3	11 12 13 14 15 16 17	Sh2-Rc2 T2 T2-E3 T2-E3-Rc2 T2-E3-Sh2-Rc2 T2-E3-Sh2-Rc3	21 22 23 24 25 26	T2-El2-E3-Sh2-Rc3 T2-El3-E3-Sh2-Rc2 T2-F2-D2 T3 T3-E3 T3-E3-Rc2	31 32 33 34 35 36	T3-El2-E3-Rc2 T3-El2-E3-Sh3-Rc2 T3-El2-E3-Sh3-Rc3 T3-El3-E3-Sh3-Rc2 T3-F2-D2 T3	41 42	T3-El2-E3 T3-El2-E3-Sh3-Rc3	4 81 82 85 91 105	Corn Coffee Cacao Mango Banana Fruit trees, mixed
3 4 5 6 7	E2-Sh2-Rc2 E2-Sh2-Rc3 E3-Sh2-Rc3 El2 El2-E2-Sh2-Rc3 El2-E3-Sh2-Rc3 El2-Sh2-Rc3	11 12 13 14 15 16 17 18	Sh2-Rc2 T2 T2-E3 T2-E3-Rc2 T2-E3-Sh2-Rc2 T2-E3-Sh2-Rc3 T2-E12	21 22 23 24 25 26 27	T2-El2-E3-Sh2-Rc3 T2-El3-E3-Sh2-Rc2 T2-F2-D2 T3 T3-E3 T3-E3-Rc2 T3-E3-Sh3-Rc2	31 32 33 34 35 36 37	T3-E12-E3-Rc2 T3-E12-E3-Sh3-Rc2 T3-E12-E3-Sh3-Rc3 T3-E13-E3-Sh3-Rc2 T3-F2-D2 T3 T3-E3	41 42	T3-El2-E3 T3-El2-E3-Sh3-Rc3	4 81 82 85 91 105 116	Corn Coffee Cacao Mango Banana Fruit trees, mixed Coconut

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

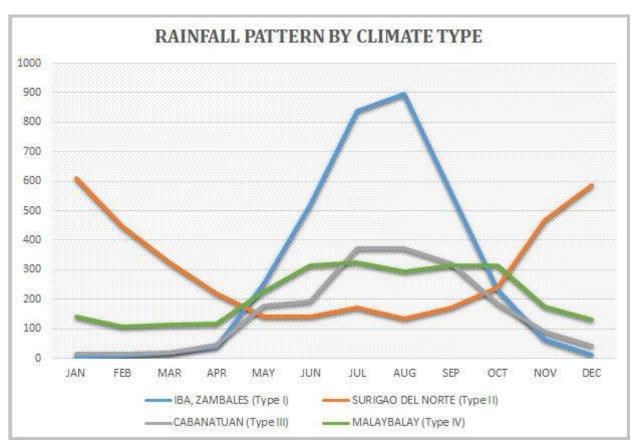
TYPE I: Two pronouced season, dry from November to April and **TYPE II**: No dry season with a very pronounced maximum rain wet during the rest of the year. Maximum rain period is from June to September

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 season.

Small part in the Northern side of South Cotabato is classified as climatic Type III and in the Southern side is Type IV.



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

