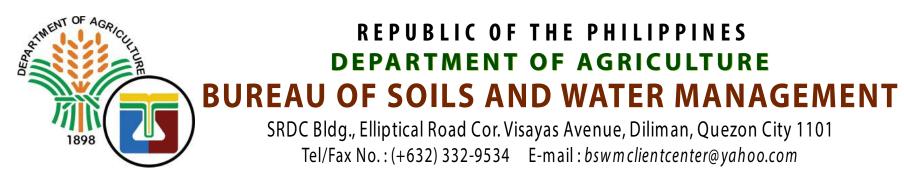
LAND SUITABILITY MAP

ARABICA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

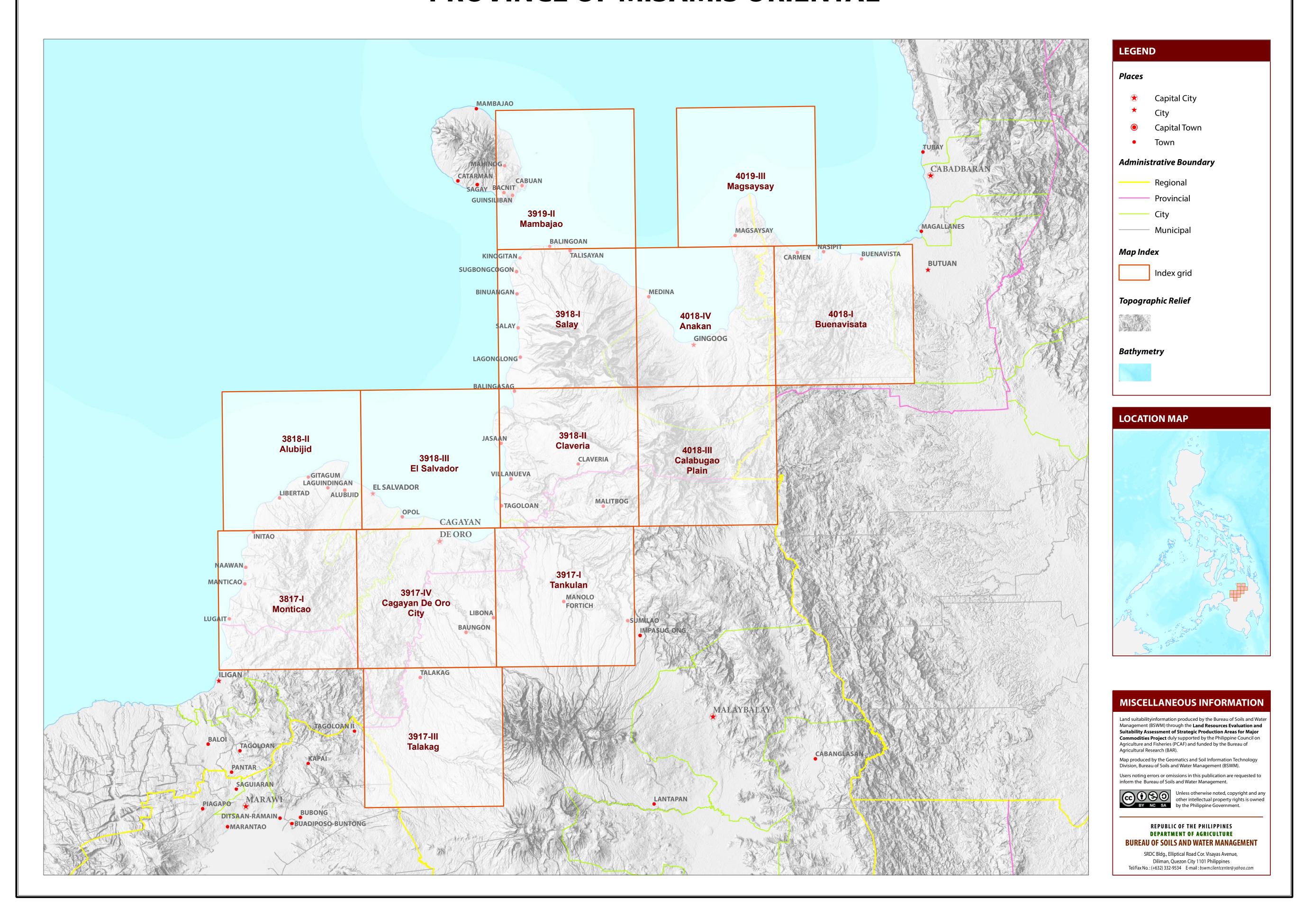
PROVINCE OF MISAMIS ORIENTAL





MAP INDEX

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS PROVINCE OF MISAMIS ORIENTAL



LAND SUITABILITY MAP FOR ARABICA COFFEE

LAND RESOURCES EVALUATION AND SUITABILITY ASSESSMENT OF STRATEGIC PRODUCTION AREAS

MISAMIS ORIENTAL, REGION X

EXTENT OF SUITABILITY FOR ARABICA COFFEE PRODUCTION BY MUNICIPALITY

					EXPANSION AREA (Ha)						CONFLICT RESOLUTION (Ha)						TOTAL
MUNICIPALITY	Existing Coffee (Ha)			TOTAL EXISTING AREA (Ha)	Coconut		Shrubland, unmanaged*		Grassland, unmanaged*		Corn		Banana		Other Crops		POTENTIAL EXPANSION AREAS (Ha)
	S1	S2	S 3	<u> </u>	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	S1	S2	AREAS (IId)
ALUBIJID	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BALINGASAG	-	-	3	3	-	256	-	144	-	25	-	149	-	-	-	-	573
BALINGOAN	-	-	1	1	-	5	-	207	-	1,136	-	-	-	-	-	-	1,348
BINUANGAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CAGAYAN DE ORO CITY	-	-	-	-	-	3	-	369	-	308	-	121	-	-	-	-	800
CITY OF EL SALVADOR	-	1	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-
CLAVERIA	-	2	1	3	-	1,473	3	1,035	-	303	2	9,793	-	-	-	-	12,609
GINGOOG CITY	-	-	-	-	-	783	-	532	-	347	-	1,367	-	-	-	-	3,028
GITAGUM	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
INITAO	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
JASAAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
KINOGUITAN	-	-	1	1	_	96	-	21	-	314	-	48	-	-	-	-	479
LAGONGLONG	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
LAGUINDINGAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LIBERTAD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
LUGAIT	-	-	-	-	_	-	-	-	-	-	-	-	-	-	-	-	-
MAGSAYSAY	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MANTICAO	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
MEDINA	-	-	-	-	-	46	-	50	-	82	-	-	-	-	-	-	178
NAAWAN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OPOL	-	ı	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
SALAY	-	-	1	1	-	207	-	48	-	531	-	40	-	-	-	-	826
SUGBONGCOGON	-		1	1	-	341	_	-	-	376	-	49	-	-	_	-	766
ΓAGOLOAN	-	-	-	-	-	-	-	2	-	7	-	-	-	-	-	-	9
ΓALISAYAN	-	-	-	-	-	-	-	149	-	180	-	-	-	-	-	-	329
VILLANUEVA	-	-	-	-	-	18	-	-	-	2	-	138	-	-	-	-	158
TOTAL	-	2	10	12	-	3,229	3	2,554	-	3,612	2	11,704	-	_	_	-	21,103

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

AGRONOMIC REQUIREMENT OF ARABICA 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
	S1	<8	>100	CL, SiCL, SCL, SC, SiC, C, HC	WD,MWD	5.6 -7.2	high	none-slight	none-slight	none-few	1000-2000	2001-4500	I, III, IV
Coffee (Arabica)	S2	8 - 30	30 - 100	FSL, L, SiL	SPD,PD	5.1 - 5.5 7.3 - 7.8	medium	moderate	moderate	common	500-1000 2000-2500	1000-2000	I, II
	S3	>30	<30	S, LS, CSL, SL	VPD,ED	<5.0 - > 7.9	low	severe	severe	many	<500	<1000	

SLOPE (%	%)	SOIL DR.	AINAGE	SOIL REA	ACTION (pH)	SOIL TE	EXTURE		
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	С	- 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	Mediur	n		
				7.3 - 7.8	- mildly alkaline	FSL	- fine sandy loam		
SOIL DEI	PTH (cm)	SURFAC	E IMPEDIMENT	7.9 - 8.4	- moderately alkaline	L	- loam		
0 - 30	- very shallow	ROCK OU	TCROPS	> 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

ELEVATION	SOIL DRAINAGE	SOIL DEPTH	SOIL EROSION
El2 - 500 - 1000m or 2000 - 2500m El3 - < 500m or > 2500m	D2 - Somewhat poorly drained to poorly drainedD3 - Very poorly drained or excessively drained	Sh2 - Shallow to moderately deep (30 - 100cm) Sh3 - Very shallow (< 30cm)	E2 - Moderate erosionE3 - 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	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LIMITATION	CODE	LANDUSE
1	El2	11	El3-Tc	21	T2-El2-E3-Rc3	31	T2-El3-E3-Sh2-Rc2	41	T3-E12	51	T3-El3-E3-Sh3-Rc3	61	T3-El3	4	Corn
2	El2-E2-Rc3	12	Rc2	22	T2-El2-E3-Sh2-Rc2	32	T2-El3-E3-Sh2-Rc3	42	T3-E12-E3	52	T3-El3-F3-D2	62	T3-El3-E3	51	Cassava
3	El2-E2-Sh2-Rc3	13	Sh2-Rc2	23	T2-El2-E3-Sh2-Rc3	33	T2-El3-F2-D2	43	T3-El2-E3-Rc2	53	T3	63	T3-El3-E3-Sh3-Rc3	81	Coffee
4	El2-Rc2	14	Г2	24	T2-El2-Rc2	34	T2-El3-F3-D2	44	T3-El2-E3-Sh2-Rc3	54	T3-E3	64	T3-El3	82	Cacao
<u>5</u>	El2-Sh2-Rc2	15	Г2-Е3	25	T2-El2-Sh2-Rc2	35	T2-Rc2	45	T3-E12-E3-Sh3-Rc2	55	T3-E3-Rc3			85	Mango
6	El3	16	Г2-Е3-Rc2	26	T2-El2-Sh2-Rc3	36	T2-Sh2-Rc2	46	T3-El2-E3-Sh3-Rc3	56	T3-E3-Sh3-Rc3			116	Coconut
7	El3-F2-D2	17	T2-E3-Sh2-Rc2	27	T2-El3	<i>37</i>	T3	47	T3-El3	<i>57</i>	T3-El2			126	Grassland
8	El3-F2-Tc	18	Г2-Е12	28	T2-El3-E2-Sh2-Rc2	38	T3-E3	48	T3-El3-E3	58	T3-El2-E3			134	Shrubs, unmanaged
9	El3-F3-D2	19	Г2-Е12-Е3	29	T2-El3-E3	39	T3-E3-Rc2	49	T3-El3-E3-Sh2-Rc3	<i>5</i> 9	T3-El2-E3-Rc3				
10	El3-Sh2-Rc2	20	T2-El2-E3-Rc2	30	T2-El3-E3-Rc3	40	T3-E3-Sh3-Rc2	50	T3-El3-E3-Sh3-Rc2	60	T3-El2-E3-Sh3-Rc3				

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.

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.

Marginally Suitable (S3)

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

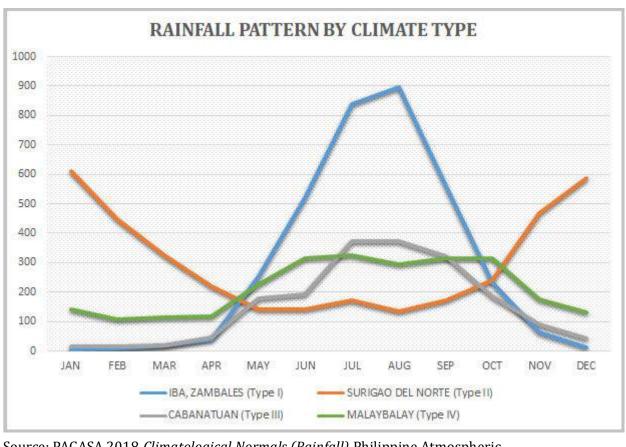
TYPE I: Two pronouced season, dry from November to April and **TYPE II**: No dry season with a very pronounced maximum rain wet during the rest of the year. Maximum rain period is from June to September

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

Western part of Misamis Oriental is classified as climatic Type III and North Eastern part is climatic 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.

